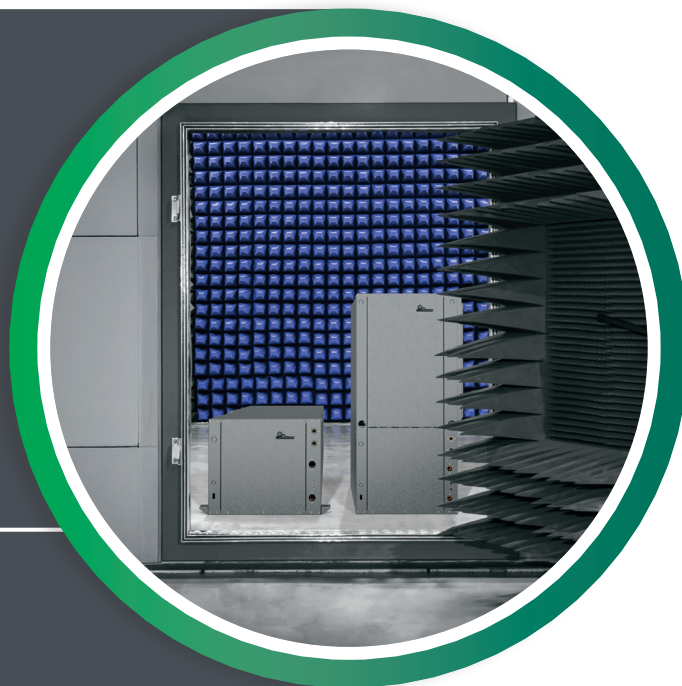




SOUND PERFORMANCE

GUIDE



For All Tranquility Products
COMMERCIAL

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32	Revision History

ClimateMaster works continually to improve its products. As a result, the design and specifications of each product at the time of order may be changed without notice and may not be as described herein. Please contact ClimateMaster's Customer Service Department at (405) 815-3000 for specific information on the current design and specifications. Statements and other information contained herein are not express warranties and do not form the basis of any bargain between the parties, but are merely ClimateMaster's opinion or commendation of its products.

Sound Explained

Models:
Tranquility
Product Line

WHAT IS NOISE?

What is Noise? Sound becomes noise when it is unwanted, unpleasant, uncontrolled, or simply too loud. The human response to noise is—at best—unpredictable. However, research has developed a basic criteria using level and spectrum shape.

Before proceeding it is necessary to define a few basic terms. More detailed terms and definitions can be found in ASHRAE Fundamentals Chapter 7.

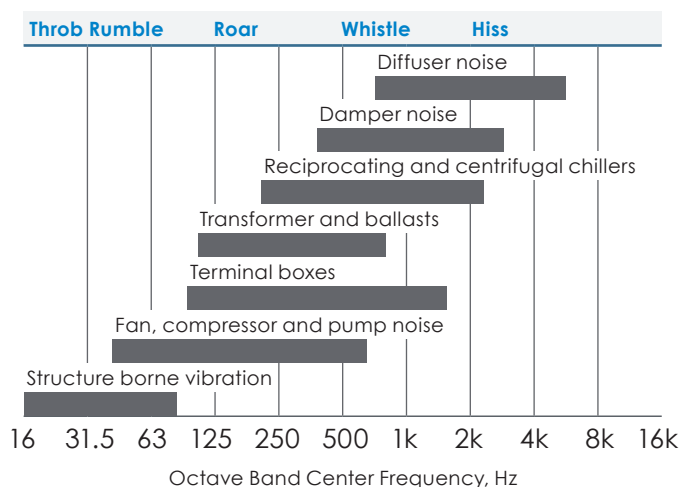
Frequency or Hz - number of oscillations (or cycles) per unit time frame completed by a vibrating object. The international unit for frequency is cycles per second (or Hertz or Hz)

Frequency Spectrum - Frequency spectrum is the audible range of frequencies. The audible human hearing is defined as the 20 Hz–20 kHz range for complete music, but is often shortened to a more practical range of 50 Hz–5 kHz in noise measurements.

Decibel (dB) - The decibel is the accepted unit of measure for comparing power or pressure ratios. It describes a ratio of several different phenomena. Numerically, the dB is 10 times the base 10 logarithm of the ratio of any two like quantities. Differences of 3–5 dB in sound power are barely perceptible, but an increase of 10 dB is perceived as twice as loud.

½ Octave or Octave band - The Octave band is a frequency band with upper band limit twice that of the lower band limit. The octave can further be subdivided into three equal parts. Figure 1 shows full octave center frequencies:

Figure 1: Frequency Spectrum



WHAT IS SOUND POWER (LW)?

Sound power (LW) represents the energy radiated from the source. The energy is radiated directly from the source and the ambient acoustic conditions are not taken into account. This is an absolute number. Sound power is often referenced by building designers because it is a certifiable quantity. It is often used in conjunction with standard building materials to predict sound pressure levels in a newly designed building environment. In essence if sound power can be measured, then the sound pressure performance can be predicted for any known building interior using common engineering techniques. The most common measurement of sound power is typically accomplished in one of two ways: The Free-Field method or the Reverberant Field Method.

In the Free-Field method a unit is placed in a reverberation free 'Free-Field' room (anechoic chamber) and the sound pressure level is measured using ⅓ or full octave band segments at various documented distances from the source. This SPL measurement can be numerically corrected (for distance from the source) to render a pure sound power level of the source. This sound measurement is the 'purest' since it does not include any assumptions for room size or furnishings. This measurement is made difficult due to the expense of creating a true Free-Field environment. For example to achieve acoustic damping at 70 Hz the 'trap' must be 4 feet in length!

In the more common reverberant field method the sound source is located in a known reverberant room utilizing reflective floors, ceilings, and walls. Sound pressure levels are then recorded at a measured distance both from the source and the reverberant walls, ceilings and floors. Then this SPL measurement can be numerically corrected (for distance from the source, and surface reverberation characteristics) to render a pure sound power level of the source equipment. This method is the easiest test to perform since a reverberant room is easier to construct:

Sound Explained

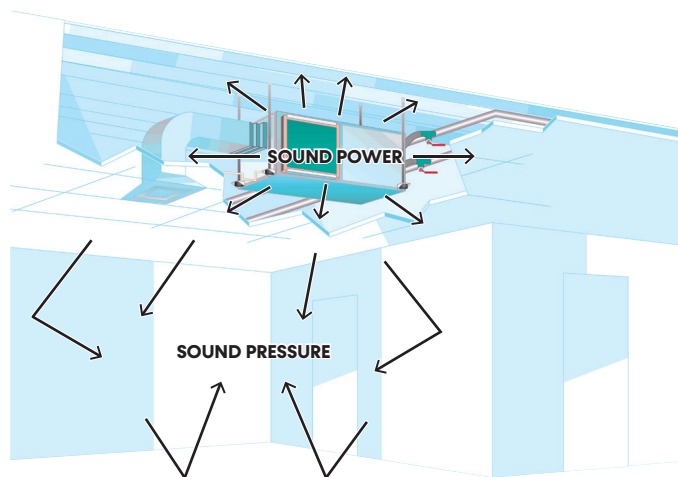
Table 1: Typical Sound Pressure Levels

Sound Source	Sound Pressure Level dB re 20 uPa	Subjective Reaction
Military jet takeoff at 100 ft	140	Extreme Danger
Artillery fire at 10 ft 130	130	
Passenger jet takeoff at 100 ft	120	Threshold of pain
Loud rock concert	110	Threshold of comfort
Subway Station platform	100	
Unmuffled large diesel engine	90	Very loud
Computer printer room	80	
Freight train at 100 ft	70	
Conversational speech at 3 ft	60	
Window air conditioner	50	Moderate
Quiet residential area	40	
Whispered conversation	30	
Buzzing insect at 3 ft	20	
Threshold of hearing	10	Faint
Threshold of youthful hearing	0	Threshold of hearing

WHAT IS SOUND PRESSURE (LP)?

Sound Pressure (LP) represents the sound as it approaches a listener and is greatly dependent upon room volume, furnishings and surface treatment. Designers are often asked to convert Sound Power to predict Sound Pressure as it effects the room's occupants. Sound pressure levels are useful when trying to predict the operating equipment's 'real' effects on the environment.

Figure 2: Sound Power vs. Sound Pressure



Sound pressure can be easily measured in a representative room using simple equipment or can be predicted for any room using the sound power level corrected for room volume and surface furnishings of the room.

The two major single-number criteria used for assessment of WSHP systems are the A-Weighted sound level (dBA) and noise criterion (NC) curves.

A-WEIGHTED SOUND LEVEL

The A-Weighted sound pressure level (LA) is used when a single number is desired to state the design noise goal in an occupational environment. This scale usually uses the measured noise in the design environment and is most sensitive to the 700-4000 Hz range. A handheld instrument set to measure the A-weighting (dBA) can determine the value with a single measurement. This scale is best for comparing sources with similar sound spectrums. The dBA is most often used when measuring the occupational hazard for continuous exposure to high SPL's.

Sound Explained

Models:
Tranquility
Product Line

C-WEIGHTED SOUND LEVEL

The C-Weighted sound pressure level (LA) is used when a single number is desired to state the design goal. This scale most often uses wide spectrum measurements (i.e. music) in occupational environments and is sensitive to the wide 50-5000 Hz range. The extended lower-frequency range is important for the measurement of rumble. A handheld instrument set to measure the C-weighting (dBC) can determine the value with a single measurement. The C-weighting most often measures non-hazardous noise in occupational and recreational environments such as offices or music concerts where the sound source is more full spectrum.

NOISE CRITERION (NC) CURVES

As humans, we hear through our own instruments—our ears. As such, it is necessary to include the coloration of the sound spectrum that our ears are sensitive to. Human hearing is most sensitive at around 1000 Hz. NC curves attempt to provide a smooth curve of response by factoring in these effects on human hearing to allow increased levels of lower frequencies versus higher frequencies.

These curves define the limits of the octave noise band spectrum (63–8000 Hz) that a noise source must not exceed in order for it to achieve a level of occupant acceptance. For example, private offices are often designed with an NC-35 design goal. The background noise level meets this criterion as long as no portion of its spectrum lies above the designated NC-35 line. Architectural environments are often designed with NC requirements for each major use area.

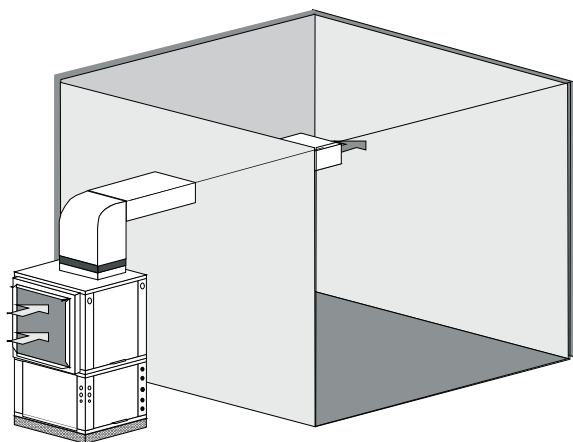
Sound Explained

AHRI 260 SOUND STANDARD

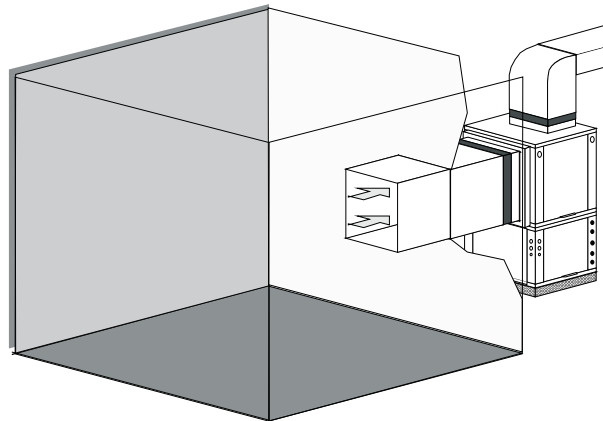
AHRI 260 Sound Rating of Ducted Air Moving and Conditioning Equipment was established in 2000. The standard helps provide guidance to the industry, including manufacturers, acousticians, engineers, architects, contractors, and building owners. The standard includes water source heat pumps and outlines test procedures for 5 applications:

- Ducted discharge tests
- Ducted inlet tests
- Free inlet (or discharge) combined with case radiated tests
- Case radiated tests
- Free inlet or free discharge

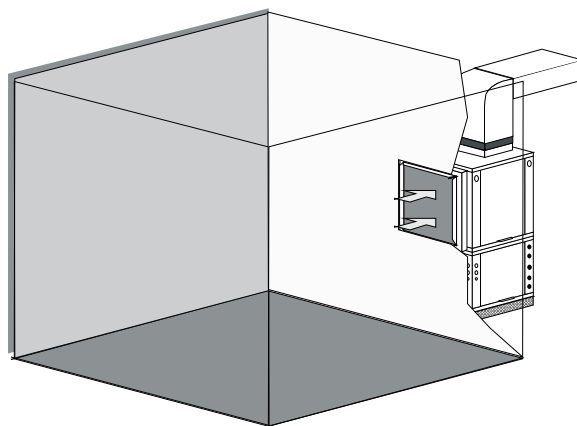
Ducted Discharge



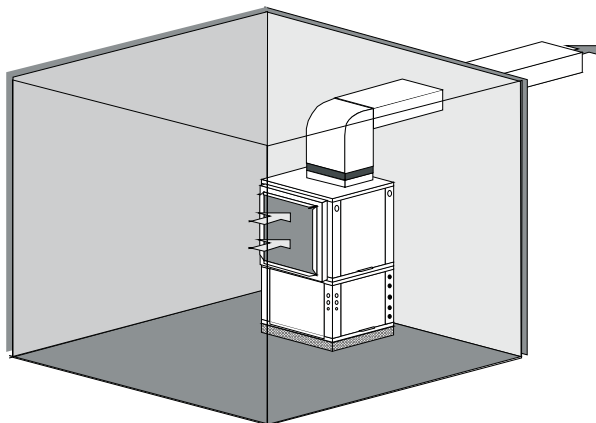
Ducted Inlet



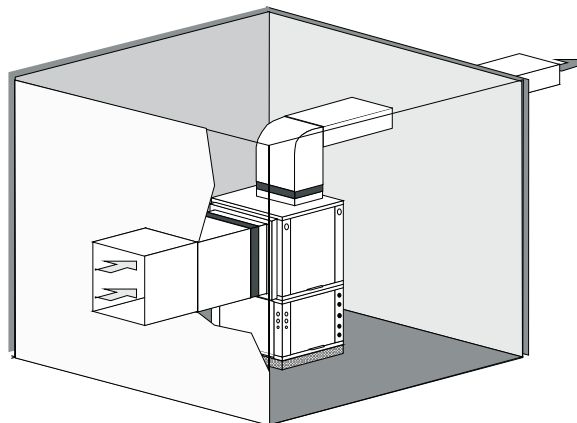
Free Inlet



Free Inlet and Case Radiated



Casing Radiated



Sound Explained

Models:
Tranquility
Product Line

ClimateMaster tests the Tranquility product line using the ducted discharge test and free inlet and case radiated test. These tests are most representative of the field applications for this product line. A representative model of each cabinet size was put through both tests running low- and high-speed fan settings in the cooling, heating, and fan-only modes. Sound performance can be predicted for related models using guidelines set forth in AHRI 260.

Note: If data from two manufacturers is compared using different test procedures, results are not comparable.

To ensure a high degree of accuracy and credibility for these sound tests, ClimateMaster tests its product lines using the third party, ITS (Intertec Testing Services) in New York—a partner with ETL. ClimateMaster follows ARI in choosing ITS to verify industry standards of unit performance. In their AMCA-300-rated test labs, ITS carries out reverberated sound tests and a mapping of sound performance for ClimateMaster units.

ClimateMaster uses this octave-band sound power data from ITS and standard engineering practices to mathematically predict sound performance for the entire Tranquility product line.

AHRI 350 SOUND STANDARD

AHRI 350 Sound Standard is AHRI's sound performance rating of non-ducted indoor air-conditioning and heat pump equipment. Like AHRI 260, this standard helps provide guidance to the HVAC industry, including manufacturers, acousticians, engineers, architects, contractors, and building owners. Both standards provide a sound-power rating standard that can be used to estimate sound pressure levels in a space. However, AHRI 350 was specifically created for vertical-stack-type products commonly found high-rise residential and lodging buildings. It also tests in a semi-installed environment with a sheet-rock enclosure that more realistically represents actual applications.

SOUND PERFORMANCE COMPARISONS

Sound performance comparisons should *only* be made with equivalent data. Comparing sound performance data tested to AHRI 260 with sound performance data tested to AHRI 350 is not permissible. Comparisons with data not listed as conforming with AHRI 260 or 350 respectively should not be performed.

SM Series – Standard and with UltraQuiet Construction

SM Vertical Stack Series – Standard and with UltraQuiet construction

Tested in accordance with AHRI 350

Octave Band Sound Power Level, (dB re 1pW)

Model	Mode	Free Inlet & Case Radiated							Free Inlet & Case Radiated with UltraQuiet Construction						
		Octave Band Frequency, Hz							Octave Band Frequency, Hz						
		125	250	500	1000	2000	4000	8000	125	250	500	1000	2000	4000	8000
SM 06	Fan Only: Min. Airflow	53	45	46	37	30	30	34	53	45	46	37	30	30	34
	Fan Only: Max. Airflow	55	49	49	41	35	34	35	55	49	49	41	35	34	35
	Cooling: Min. Airflow	57	52	52	45	40	38	38	57	52	52	45	40	38	38
	Cooling: Max. Airflow	55	48	46	38	31	30	34	53	46	44	37	31	30	34
	Heating: Min. Airflow	57	50	48	42	35	33	35	55	48	46	41	35	33	35
	Heating: Max. Airflow	58	53	51	45	40	38	37	56	51	49	44	40	38	37
	Heating: Low Speed	57	49	47	40	34	31	34	55	47	45	39	34	31	34
	Heating: Med Speed	59	51	50	43	38	34	34	57	49	48	42	38	34	34
	Heating: High Speed	59	53	52	46	41	38	37	57	51	50	45	41	38	37
SM 09	Fan Only: Low Speed	53	45	46	37	31	30	34	53	45	46	37	31	30	34
	Fan Only: Med Speed	55	49	49	42	36	34	35	55	49	49	42	36	34	35
	Fan Only: High Speed	57	52	52	45	40	38	37	57	52	52	45	40	38	37
	Cooling: Low Speed	56	45	45	38	29	30	34	54	43	43	37	29	30	34
	Cooling: Med Speed	57	49	48	41	35	33	35	55	47	46	40	35	33	35
	Cooling: High Speed	58	51	51	45	40	37	37	56	49	49	44	40	37	37
	Heating: Low Speed	60	48	48	42	33	31	34	58	46	46	41	33	31	34
	Heating: Med Speed	59	50	50	44	37	33	34	57	48	48	43	37	33	34
	Heating: High Speed	59	52	52	46	40	37	36	57	50	50	45	40	37	36
SM 12	Fan Only: Low Speed	60	57	55	48	45	46	40	60	57	55	48	45	46	40
	Fan Only: Med Speed	61	58	57	50	47	48	42	61	58	57	50	47	48	42
	Fan Only: High Speed	63	60	58	52	49	49	44	63	60	58	52	49	49	44
	Cooling: Low Speed	60	57	55	49	45	46	40	58	55	53	48	45	46	40
	Cooling: Med Speed	62	59	57	50	46	47	42	60	57	55	49	46	47	42
	Cooling: High Speed	62	60	58	52	48	49	44	60	58	56	51	48	49	44
	Heating: Low Speed	61	57	55	49	45	46	40	59	55	53	48	45	46	40
	Heating: Med Speed	62	58	57	50	46	47	42	60	56	55	49	46	47	42
	Heating: High Speed	62	59	58	51	48	49	43	60	57	56	50	48	49	43
SM 15	Fan Only: Low Speed	60	57	55	48	45	46	40	60	57	55	48	45	46	40
	Fan Only: Med Speed	61	58	57	50	47	47	42	61	58	57	50	47	47	42
	Fan Only: High Speed	63	60	58	52	49	49	44	63	60	58	52	49	49	44
	Cooling: Low Speed	60	57	55	48	45	46	40	58	55	53	47	45	46	40
	Cooling: Med Speed	61	59	57	50	47	47	42	59	57	55	49	47	47	42
	Cooling: High Speed	63	60	58	51	48	49	44	61	58	56	50	48	49	44
	Heating: Low Speed	63	59	56	50	45	45	40	61	57	54	49	45	45	40
	Heating: Med Speed	63	59	57	51	46	47	41	61	57	55	50	46	47	41
	Heating: High Speed	64	60	58	52	48	49	43	62	58	56	51	48	49	43

Table continued on next page

SM Series – Standard and with UltraQuiet Construction

Models:
Tranquility
Product Line

SM Vertical Stack Series – Standard and with UltraQuiet construction

Tested in accordance with AHRI 350

Octave Band Sound Power Level, (dB re 1pW)

Table continued from previous page

Model	Mode	Free Inlet & Case Radiated							Free Inlet & Case Radiated with UltraQuiet Construction						
		Octave Band Frequency, Hz							Octave Band Frequency, Hz						
		125	250	500	1000	2000	4000	8000	125	250	500	1000	2000	4000	8000
SM 18	Fan Only: Low Speed	53	50	46	41	36	33	34	53	50	46	41	36	33	34
	Fan Only: Med Speed	56	54	50	46	43	39	35	56	54	50	46	43	39	35
	Fan Only: High Speed	62	59	56	52	50	47	41	62	59	56	52	50	47	41
	Cooling: Low Speed	54	51	49	44	37	33	34	52	49	47	43	37	33	34
	Cooling: Med Speed	57	54	51	47	41	38	35	55	52	49	46	41	38	35
	Cooling: High Speed	62	59	55	52	48	45	39	60	57	53	51	48	45	39
	Heating: Low Speed	70	53	50	47	42	38	36	68	51	48	46	42	38	36
	Heating: Med Speed	69	55	52	48	44	41	37	67	53	50	47	44	41	37
SM 24	Heating: High Speed	69	60	56	53	51	48	45	67	58	54	52	51	48	45
	Fan Only: Low Speed	64	61	57	54	52	49	47	64	61	57	54	52	49	47
	Fan Only: Med Speed	68	65	60	57	56	53	48	68	65	60	57	56	53	48
	Fan Only: High Speed	74	71	63	59	55	55	50	74	71	63	59	55	55	50
	Cooling: Low Speed	65	62	55	51	46	45	39	63	60	53	50	46	45	39
	Cooling: Med Speed	69	65	57	53	49	49	43	67	63	55	52	49	49	43
	Cooling: High Speed	74	71	63	59	55	55	50	72	69	61	58	55	55	50
	Heating: Low Speed	70	62	56	51	46	46	40	68	60	54	50	46	46	40
SM 30	Heating: Med Speed	71	65	58	53	49	49	44	69	63	56	52	49	49	44
	Heating: High Speed	75	71	63	58	55	55	50	73	69	61	57	55	55	50
	Fan Only: Low Speed	64	61	57	54	52	49	47	64	61	57	54	52	49	47
	Fan Only: Med Speed	68	65	60	57	56	53	48	68	65	60	57	56	53	48
	Fan Only: High Speed	74	71	63	59	55	55	50	74	71	63	59	55	55	50
	Cooling: Low Speed	65	62	55	51	46	45	39	63	60	53	50	46	45	39
	Cooling: Med Speed	69	65	57	53	49	49	43	67	63	55	52	49	49	43
	Cooling: High Speed	74	71	63	59	55	55	50	72	69	61	58	55	55	50
SM 36	Heating: Low Speed	70	62	56	51	46	46	40	68	60	54	50	46	46	40
	Heating: Med Speed	71	65	58	53	49	49	44	69	63	56	52	49	49	44
	Heating: High Speed	75	71	63	58	55	55	50	73	69	61	57	55	55	50
	Fan Only: Low Speed	64	61	57	54	52	49	47	64	61	57	54	52	49	47
	Fan Only: Med Speed	68	65	60	57	56	53	48	68	65	60	57	56	53	48
	Fan Only: High Speed	74	71	66	63	62	60	57	74	71	66	63	62	60	57
	Cooling: Low Speed	64	61	57	53	51	48	45	62	59	55	52	51	48	45
	Cooling: Med Speed	68	64	60	57	54	52	46	66	62	58	56	54	52	46
SM 36	Cooling: High Speed	73	71	64	61	59	58	54	71	69	62	60	59	58	54
	Heating: Low Speed	68	62	57	53	51	49	44	66	60	55	52	51	49	44
	Heating: Med Speed	70	64	60	56	55	53	48	68	62	58	55	55	53	48
	Heating: High Speed	74	71	64	61	60	59	54	72	69	62	60	60	59	54

SE Series – Standard

SE Premier Two-stage Series – Standard

Tested in accordance with AHRI 260

Octave Band Sound Power Level, (dB re 1pW)

Model	Mode	Ducted Discharge							Free Air Inlet Combined with Casing (Cabinet) Radiated						
		Octave Band Frequency, Hz							Octave Band Frequency, Hz						
		125	250	500	1000	2000	4000	8000	125	250	500	1000	2000	4000	8000
SE006	Fan Only: Min. Airflow	54	45	37	36	31	30	33	58	48	43	36	30	30	34
	Fan Only: Max. Airflow	61	56	45	45	41	39	35	67	59	51	45	41	40	38
	Cooling: Min. Airflow	52	43	37	35	29	30	34	63	59	49	40	32	33	37
	Cooling: Max. Airflow	61	54	45	45	40	38	35	68	59	52	45	41	40	39
	Heating: Min. Airflow	57	48	41	40	34	31	33	63	52	49	41	36	34	35
	Heating: Max. Airflow	62	55	46	46	42	39	35	67	58	53	46	42	40	39
SE009	Fan Only: Min. Airflow	58	54	48	47	43	41	36	62	57	52	46	42	40	38
	Fan Only: Max. Airflow	61	56	51	51	46	44	39	64	60	55	49	45	43	41
	Cooling: Min. Airflow	61	54	48	47	43	41	36	67	58	61	54	46	44	41
	Cooling: Max. Airflow	64	57	51	51	46	45	40	69	61	61	54	47	46	43
	Heating: Min. Airflow	60	55	49	48	43	41	36	67	59	62	56	50	48	44
	Heating: Max. Airflow	64	58	51	51	47	45	39	68	60	59	56	50	48	47
SE012	Fan Only: Min. Airflow	63	57	51	53	48	46	42	66	58	54	52	46	45	42
	Fan Only: Max. Airflow	64	61	54	57	53	51	47	67	64	58	56	50	50	47
	Cooling: Min. Airflow	64	57	51	52	48	46	41	66	59	56	52	46	46	43
	Cooling: Max. Airflow	67	63	54	58	53	52	48	68	64	59	57	51	51	48
	Heating: Min. Airflow	63	57	51	53	49	47	42	69	59	57	53	47	45	43
	Heating: Max. Airflow	66	62	54	58	53	52	48	68	63	59	57	50	50	48
SE018	Fan Only: Min. Airflow	48	51	49	46	42	42	33	53	51	51	41	40	38	30
	Fan Only: Max. Airflow	52	56	62	54	51	52	45	60	58	56	50	49	47	40
	Cooling: Min. Airflow	49	50	45	45	43	42	32	60	53	52	48	45	41	34
	Cooling: Max. Airflow	51	55	61	53	50	50	42	62	58	58	54	53	48	42
	Heating: Min. Airflow	50	50	51	46	43	42	33	67	55	52	48	48	42	36
	Heating: Max. Airflow	51	57	61	54	50	51	44	67	59	58	54	53	49	42

Table continued on next page

SE Series – Standard

Models:
Tranquility
Product Line

SE Premier Two-stage Series – Standard

Tested in accordance with AHRI 260

Octave Band Sound Power Level, (dB re 1pW)

Table continued from previous page

Model	Mode	Ducted Discharge							Free Air Inlet Combined with Casing (Cabinet) Radiated						
		Octave Band Frequency, Hz							Octave Band Frequency, Hz						
		125	250	500	1000	2000	4000	8000	125	250	500	1000	2000	4000	8000
SE024	Fan Only	49	49	48	44	37	36	35	56	52	53	45	42	37	32
	Cooling: Min. Airflow	45	46	53	46	43	42	34	54	48	55	49	44	39	34
	Cooling: Max. Airflow	49	51	51	48	44	43	36	61	55	56	50	48	43	36
	Heating: Min. Airflow	49	49	55	48	46	56	39	62	51	58	53	47	43	40
	Heating: Max. Airflow	55	53	54	50	46	45	35	67	58	60	52	47	45	38
SE036	Fan Only	54	51	50	46	39	35	33	58	53	48	42	40	34	30
	Cooling: Min. Airflow	57	53	53	51	46	43	36	61	55	52	48	44	40	35
	Cooling: Max. Airflow	60	56	57	55	51	50	41	63	57	55	50	45	43	37
	Heating: Min. Airflow	60	55	55	52	48	44	36	65	58	57	50	44	42	39
	Heating: Max. Airflow	64	58	59	57	53	61	43	68	59	57	53	48	46	42
SE048	Fan Only	62	55	54	50	43	41	40	62	58	53	46	43	39	35
	Cooling: Min. Airflow	60	57	57	54	50	49	43	63	57	57	52	47	45	41
	Cooling: Max. Airflow	60	58	59	57	53	53	45	72	63	61	53	50	46	43
	Heating: Min. Airflow	64	59	57	55	51	50	38	68	60	60	54	49	47	45
	Heating: Max. Airflow	64	60	61	59	55	65	49	71	64	63	53	48	47	45
SE060	Fan Only	56	53	52	50	44	41	33	62	56	51	46	42	39	31
	Cooling: Min. Airflow	62	59	59	56	52	51	44	66	60	64	53	50	48	41
	Cooling: Max. Airflow	65	60	60	58	54	53	46	68	64	65	55	52	50	44
	Heating: Min. Airflow	66	64	62	60	57	55	49	68	64	62	56	54	52	46
	Heating: Max. Airflow	70	68	66	65	62	60	54	72	68	66	61	59	58	52
SE072	Fan Only	56	51	56	51	46	42	37	63	55	50	47	43	42	35
	Cooling: Min. Airflow	62	57	65	58	55	52	46	66	61	58	57	52	51	43
	Cooling: Max. Airflow	68	64	70	66	62	60	55	70	67	63	61	59	59	52
	Heating: Min. Airflow	64	59	67	60	56	53	47	67	62	60	56	53	53	46
	Heating: Max. Airflow	69	67	72	69	63	61	56	72	68	64	63	60	61	55

SE Series – with UltraQuiet Construction**SE Premier Series – with UltraQuiet construction**

Tested in accordance with AHRI 260

Octave Band Sound Power Level, (dB re 1pW)

Model	Mode	Ducted Discharge							Free Air Inlet Combined with Casing (Cabinet) Radiated						
		Octave Band Frequency, Hz							Octave Band Frequency, Hz						
		125	250	500	1000	2000	4000	8000	125	250	500	1000	2000	4000	8000
SE006	Fan Only: Min. Airflow	54	45	37	36	31	30	33	Option not available						
	Fan Only: Max. Airflow	61	56	45	45	41	39	35							
	Cooling: Min. Airflow	50	41	36	33	28	28	32							
	Cooling: Max. Airflow	58	51	43	43	38	36	33							
	Heating: Min. Airflow	55	46	39	38	32	30	31							
	Heating: Max. Airflow	59	52	44	44	40	37	33							
SE009	Fan Only: Min. Airflow	58	54	48	47	43	41	36							
	Fan Only: Max. Airflow	61	56	51	51	46	44	39							
	Cooling: Min. Airflow	58	52	46	45	41	39	34							
	Cooling: Max. Airflow	60	54	48	48	44	43	38							
	Heating: Min. Airflow	57	53	46	45	41	39	35							
	Heating: Max. Airflow	61	55	49	48	44	42	37							
SE012	Fan Only: Min. Airflow	63	57	51	53	48	46	42							
	Fan Only: Max. Airflow	64	61	54	57	53	51	47							
	Cooling: Min. Airflow	61	54	48	50	45	44	39							
	Cooling: Max. Airflow	63	60	52	55	51	49	46							
	Heating: Min. Airflow	60	54	48	50	46	44	40							
	Heating: Max. Airflow	62	59	52	55	51	49	45							
SE018	Fan Only: Min. Airflow	48	51	49	46	42	42	33	52	51	49	40	37	36	30
	Fan Only: Max. Airflow	52	56	62	54	51	52	45	59	56	53	46	44	42	37
	Cooling: Min. Airflow	47	48	43	43	41	40	30	59	50	51	46	42	37	29
	Cooling: Max. Airflow	48	52	58	50	48	48	40	60	56	57	51	49	45	38
	Heating: Min. Airflow	48	48	48	44	41	40	31	66	52	50	46	45	38	31
	Heating: Max. Airflow	48	54	58	51	48	48	42	65	56	56	51	49	45	41

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SE Series – with UltraQuiet Construction

Models:
Tranquility
Product Line

SE Premier Series – with UltraQuiet construction

Tested in accordance with AHRI 260

Octave Band Sound Power Level, (dB re 1pW)

Table continued from previous page

Model	Mode	Ducted Discharge							Free Air Inlet Combined with Casing (Cabinet) Radiated						
		Octave Band Frequency, Hz							Octave Band Frequency, Hz						
		125	250	500	1000	2000	4000	8000	125	250	500	1000	2000	4000	8000
SE024	Fan Only	49	49	48	44	37	36	35	55	52	51	43	39	35	32
	Cooling: Min. Airflow	43	44	50	44	41	40	32	52	45	54	46	40	36	30
	Cooling: Max. Airflow	47	48	48	46	42	41	34	60	52	55	47	45	39	31
	Heating: Min. Airflow	47	47	52	46	44	53	37	60	49	57	50	44	40	38
	Heating: Max. Airflow	52	50	51	48	44	43	33	65	55	59	50	44	41	33
SE036	Fan Only	54	51	50	46	39	35	33	57	53	46	40	37	32	30
	Cooling: Min. Airflow	54	50	50	48	44	41	34	60	52	51	45	41	36	30
	Cooling: Max. Airflow	57	53	54	52	48	48	39	61	54	53	47	42	39	33
	Heating: Min. Airflow	57	52	52	49	46	42	34	63	55	56	47	41	38	34
	Heating: Max. Airflow	61	55	56	54	50	58	41	66	57	56	50	45	42	40
SE048	Fan Only	62	55	54	50	43	41	40	61	58	51	44	40	37	35
	Cooling: Min. Airflow	57	54	54	51	48	47	41	61	54	56	49	43	42	36
	Cooling: Max. Airflow	57	55	56	54	50	50	43	70	60	59	50	47	42	38
	Heating: Min. Airflow	61	56	54	52	48	48	36	66	58	59	51	46	44	44
	Heating: Max. Airflow	61	57	58	56	52	62	47	69	61	61	51	45	43	40
SE060	Fan Only	56	53	52	50	44	41	33	61	56	49	44	39	36	31
	Cooling: Min. Airflow	59	56	56	53	49	48	42	64	57	62	50	47	44	36
	Cooling: Max. Airflow	62	57	57	55	51	50	44	66	61	64	52	48	47	40
	Heating: Min. Airflow	63	61	59	57	54	52	47	67	61	61	54	51	48	41
	Heating: Max. Airflow	67	65	63	62	59	57	51	70	66	64	58	55	54	51
SE072	Fan Only	Data Not Available At This Time							62	56	48	45	40	39	35
	Cooling: Min. Airflow								64	58	57	55	49	47	38
	Cooling: Max. Airflow								68	65	62	58	55	55	48
	Heating: Min. Airflow								66	59	58	53	50	49	41
	Heating: Max. Airflow								70	65	62	60	57	57	53

SZ Series – Standard

SZ Versatile Two-stage Series – Standard

Tested in accordance with AHRI 260

Octave Band Sound Power Level, (dB re 1pW)

Model	Mode	Ducted Discharge							Free Air Inlet Combined with Casing (Cabinet) Radiated						
		Octave Band Frequency, Hz							Octave Band Frequency, Hz						
		125	250	500	1000	2000	4000	8000	125	250	500	1000	2000	4000	8000
SZ018	Fan Only: Min. Airflow	44	44	43	41	37	31	19	50	49	48	44	39	30	26
	Fan Only: Max. Airflow	48	48	48	47	45	41	29	53	52	51	49	45	38	28
	Cooling: Min. Airflow	44	44	43	42	39	33	20	52	51	49	46	41	32	26
	Cooling: Max. Airflow	49	49	48	48	46	42	31	53	53	52	50	46	39	29
	Heating: Min. Airflow	32	31	29	25	19	12	14	33	32	30	26	19	11	14
	Heating: Max. Airflow	47	47	47	46	45	42	30	50	50	49	47	44	38	25
SZ024	Fan Only: Min. Airflow	51	51	50	47	44	37	27	54	53	52	49	43	34	24
	Fan Only: Max. Airflow	57	57	56	56	54	50	40	58	58	57	55	52	46	35
	Cooling: Min. Airflow	50	50	49	48	46	41	30	58	57	55	52	45	36	28
	Cooling: Max. Airflow	55	55	55	55	55	52	41	60	59	58	56	53	46	36
	Heating: Min. Airflow	35	34	32	30	25	18	15	38	37	35	31	25	16	14
	Heating: Max. Airflow	54	54	54	54	54	52	41	57	57	56	55	52	47	35
SZ036	Fan Only: Min. Airflow	49	49	49	48	46	41	31	52	52	51	49	45	39	28
	Fan Only: Max. Airflow	55	55	55	55	54	51	42	58	58	57	55	53	48	38
	Cooling: Min. Airflow	49	49	49	48	47	43	32	55	54	53	51	47	40	31
	Cooling: Max. Airflow	55	55	55	54	54	51	41	59	58	58	56	53	48	39
	Heating: Min. Airflow	37	36	35	33	28	22	15	41	40	38	35	29	20	15
	Heating: Max. Airflow	54	54	54	54	54	51	41	58	58	57	56	53	48	39
SZ048	Fan Only: Min. Airflow	52	52	52	52	51	47	36	55	55	54	52	49	42	31
	Fan Only: Max. Airflow	64	64	63	63	62	59	50	67	67	66	64	61	54	45
	Cooling: Min. Airflow	54	54	54	54	53	50	40	59	58	57	55	51	44	34
	Cooling: Max. Airflow	63	63	63	62	61	59	50	68	68	67	65	61	54	45
	Heating: Min. Airflow	38	37	37	35	32	26	15	41	40	39	36	31	23	15
	Heating: Max. Airflow	61	61	61	61	60	57	48	64	64	63	61	58	52	42
SZ060	Fan Only: Min. Airflow	51	50	49	46	40	31	23	54	53	52	49	43	34	26
	Fan Only: Max. Airflow	57	56	55	53	49	41	31	60	59	58	56	52	44	34
	Cooling: Min. Airflow	34	32	29	24	16	6	12	37	35	32	27	19	9	15
	Cooling: Max. Airflow	56	56	55	53	49	41	31	59	59	58	56	52	44	34
	Heating: Min. Airflow	56	55	53	50	44	35	26	59	58	56	53	47	38	29
	Heating: Max. Airflow	59	58	57	54	50	42	32	62	61	60	57	53	45	35
SZ072	Fan Only: Min. Airflow	54	54	53	52	50	45	34	57	56	55	52	47	39	28
	Fan Only: Max. Airflow	63	63	62	62	60	57	47	63	63	62	60	56	50	40
	Cooling: Min. Airflow	56	56	55	54	50	45	34	60	59	57	55	50	42	33
	Cooling: Max. Airflow	65	65	64	63	61	57	47	64	63	62	60	57	50	41
	Heating: Min. Airflow	41	40	39	37	33	26	15	44	43	41	38	32	23	15
	Heating: Max. Airflow	63	62	62	61	60	57	47	63	62	61	59	56	50	40

SZ Series – with UltraQuiet Construction

Models:
Tranquility
Product Line

SZ Versatile Two-stage Series – with UltraQuiet construction

Tested in accordance with AHRI 260

Octave Band Sound Power Level, (dB re 1pW)

Model	Mode	Ducted Discharge							Free Air Inlet Combined with Casing (Cabinet) Radiated						
		Octave Band Frequency, Hz							Octave Band Frequency, Hz						
		125	250	500	1000	2000	4000	8000	125	250	500	1000	2000	4000	8000
SZ018	Fan Only: Min. Airflow	41	41	40	38	34	28	16	47	46	45	41	36	27	23
	Fan Only: Max. Airflow	45	45	45	44	42	38	26	50	49	48	46	42	35	25
	Cooling: Min. Airflow	41	41	40	39	36	30	17	49	48	46	43	38	29	23
	Cooling: Max. Airflow	46	46	45	45	43	39	28	50	50	49	47	43	36	26
	Heating: Min. Airflow	29	28	26	22	16	9	11	30	29	27	23	16	8	11
	Heating: Max. Airflow	44	44	44	43	42	39	27	47	47	46	44	41	35	22
SZ024	Fan Only: Min. Airflow	48	48	47	44	41	34	24	51	50	49	46	40	31	21
	Fan Only: Max. Airflow	54	54	53	53	51	47	37	55	55	54	52	49	43	32
	Cooling: Min. Airflow	47	47	46	45	43	38	27	55	54	52	49	42	33	25
	Cooling: Max. Airflow	52	52	52	52	52	49	38	57	56	55	53	50	43	33
	Heating: Min. Airflow	32	31	29	27	22	15	12	35	34	32	28	22	13	11
	Heating: Max. Airflow	51	51	51	51	51	49	38	54	54	53	52	49	44	32
SZ036	Fan Only: Min. Airflow	46	46	46	45	43	38	28	49	49	48	46	42	36	25
	Fan Only: Max. Airflow	52	52	52	52	51	48	39	55	55	54	52	50	45	35
	Cooling: Min. Airflow	46	46	46	45	44	40	29	52	51	50	48	44	37	28
	Cooling: Max. Airflow	52	52	52	51	51	48	38	56	55	55	53	50	45	36
	Heating: Min. Airflow	34	33	32	30	25	19	12	38	37	35	32	26	17	12
	Heating: Max. Airflow	51	51	51	51	51	48	38	55	55	54	53	50	45	36
SZ048	Fan Only: Min. Airflow	49	49	49	49	48	44	33	52	52	51	49	46	39	28
	Fan Only: Max. Airflow	61	61	60	60	59	56	47	64	64	63	61	58	51	42
	Cooling: Min. Airflow	51	51	51	51	50	47	37	56	55	54	52	48	41	31
	Cooling: Max. Airflow	60	60	60	59	58	56	47	65	65	64	62	58	51	42
	Heating: Min. Airflow	35	34	34	32	29	23	12	38	37	36	33	28	20	12
	Heating: Max. Airflow	58	58	58	58	57	54	45	61	61	60	58	55	49	39
SZ060	Fan Only: Min. Airflow	47	46	45	43	39	31	17	50	49	48	46	42	34	20
	Fan Only: Max. Airflow	53	53	52	51	49	44	31	56	56	55	54	52	47	34
	Cooling: Min. Airflow	31	30	28	23	16	7	12	34	33	31	26	19	10	15
	Cooling: Max. Airflow	52	52	52	51	50	46	33	55	55	55	54	53	49	36
	Heating: Min. Airflow	52	51	50	47	43	34	22	55	54	53	50	46	37	25
	Heating: Max. Airflow	57	56	55	54	50	44	34	60	59	58	57	53	47	37
SZ072	Fan Only: Min. Airflow	51	51	50	49	47	42	31	54	53	52	49	44	36	25
	Fan Only: Max. Airflow	60	60	59	59	57	54	44	60	60	59	57	53	47	37
	Cooling: Min. Airflow	53	53	52	51	47	42	31	57	56	54	52	47	39	30
	Cooling: Max. Airflow	62	62	61	60	58	54	44	61	60	59	57	54	47	38
	Heating: Min. Airflow	38	37	36	34	30	23	12	41	40	38	35	29	20	12
	Heating: Max. Airflow	60	59	59	58	57	54	44	60	59	58	56	53	47	37

SY Series – Standard

SY Compact Two-stage Series – Standard

Tested in accordance with AHRI 260

Octave Band Sound Power Level, (dB re 1pW)

Model	Mode	Ducted Discharge							Free Air Inlet Combined with Casing (Cabinet) Radiated						
		Octave Band Frequency, Hz							Octave Band Frequency, Hz						
		125	250	500	1000	2000	4000	8000	125	250	500	1000	2000	4000	8000
SY018	Fan Only: Min. Airflow	44	44	43	41	37	31	19	50	49	48	44	39	30	26
	Fan Only: Max. Airflow	48	48	48	47	45	41	29	53	52	51	49	45	38	28
	Cooling: Min. Airflow	44	44	43	42	39	33	20	52	51	49	46	41	32	26
	Cooling: Max. Airflow	49	49	48	48	46	42	31	53	53	52	50	46	39	29
	Heating: Min. Airflow	32	31	29	25	19	12	14	33	32	30	26	19	11	14
	Heating: Max. Airflow	47	47	47	46	45	42	30	50	50	49	47	44	38	25
SY024	Fan Only: Min. Airflow	51	51	50	47	44	37	27	54	53	52	49	43	34	24
	Fan Only: Max. Airflow	57	57	56	56	54	50	40	58	58	57	55	52	46	35
	Cooling: Min. Airflow	50	50	49	48	46	41	30	58	57	55	52	45	36	28
	Cooling: Max. Airflow	55	55	55	55	55	52	41	60	59	58	56	53	46	36
	Heating: Min. Airflow	35	34	32	30	25	18	15	38	37	35	31	25	16	14
	Heating: Max. Airflow	54	54	54	54	54	52	41	57	57	56	55	52	47	35
SY036	Fan Only: Min. Airflow	49	49	49	48	46	41	31	52	52	51	49	45	39	28
	Fan Only: Max. Airflow	55	55	55	55	54	51	42	58	58	57	55	53	48	38
	Cooling: Min. Airflow	49	49	49	48	47	43	32	55	54	53	51	47	40	31
	Cooling: Max. Airflow	55	55	55	54	54	51	41	59	58	58	56	53	48	39
	Heating: Min. Airflow	37	36	35	33	28	22	15	41	40	38	35	29	20	15
	Heating: Max. Airflow	54	54	54	54	54	51	41	58	58	57	56	53	48	39
SY048	Fan Only: Min. Airflow	52	52	52	52	51	47	36	55	55	54	52	49	42	31
	Fan Only: Max. Airflow	64	64	63	63	62	59	50	67	67	66	64	61	54	45
	Cooling: Min. Airflow	54	54	54	54	53	50	40	59	58	57	55	51	44	34
	Cooling: Max. Airflow	63	63	63	62	61	59	50	68	68	67	65	61	54	45
	Heating: Min. Airflow	38	37	37	35	32	26	15	41	40	39	36	31	23	15
	Heating: Max. Airflow	61	61	61	61	60	57	48	64	64	63	61	58	52	42
SY060	Fan Only: Min. Airflow	51	50	49	46	40	31	23	54	53	52	49	43	34	26
	Fan Only: Max. Airflow	57	56	55	53	49	41	31	60	59	58	56	52	44	34
	Cooling: Min. Airflow	34	32	29	24	16	6	12	37	35	32	27	19	9	15
	Cooling: Max. Airflow	56	56	55	53	49	41	31	59	59	58	56	52	44	34
	Heating: Min. Airflow	56	55	53	50	44	35	26	59	58	56	53	47	38	29
	Heating: Max. Airflow	59	58	57	54	50	42	32	62	61	60	57	53	45	35
SY072	Fan Only: Min. Airflow	54	54	53	52	50	45	34	57	56	55	52	47	39	28
	Fan Only: Max. Airflow	63	63	62	62	60	57	47	63	63	62	60	56	50	40
	Cooling: Min. Airflow	56	56	55	54	50	45	34	60	59	57	55	50	42	33
	Cooling: Max. Airflow	65	65	64	63	61	57	47	64	63	62	60	57	50	41
	Heating: Min. Airflow	41	40	39	37	33	26	15	44	43	41	38	32	23	15
	Heating: Max. Airflow	63	62	62	61	60	57	47	63	62	61	59	56	50	40

SY Series – with UltraQuiet Construction

Models:
Tranquility
Product Line

SY Compact Two-stage Series – with UltraQuiet construction

Tested in accordance with AHRI 260

Octave Band Sound Power Level, (dB re 1pW)

Model	Mode	Ducted Discharge							Free Air Inlet Combined with Casing (Cabinet) Radiated						
		Octave Band Frequency, Hz							Octave Band Frequency, Hz						
		125	250	500	1000	2000	4000	8000	125	250	500	1000	2000	4000	8000
SY018	Fan Only: Min. Airflow	41	41	40	38	34	28	16	47	46	45	41	36	27	23
	Fan Only: Max. Airflow	45	45	45	44	42	38	26	50	49	48	46	42	35	25
	Cooling: Min. Airflow	41	41	40	39	36	30	17	49	48	46	43	38	29	23
	Cooling: Max. Airflow	46	46	45	45	43	39	28	50	50	49	47	43	36	26
	Heating: Min. Airflow	29	28	26	22	16	9	11	30	29	27	23	16	8	11
	Heating: Max. Airflow	44	44	44	43	42	39	27	47	47	46	44	41	35	22
SY024	Fan Only: Min. Airflow	48	48	47	44	41	34	24	51	50	49	46	40	31	21
	Fan Only: Max. Airflow	54	54	53	53	51	47	37	55	55	54	52	49	43	32
	Cooling: Min. Airflow	47	47	46	45	43	38	27	55	54	52	49	42	33	25
	Cooling: Max. Airflow	52	52	52	52	52	49	38	57	56	55	53	50	43	33
	Heating: Min. Airflow	32	31	29	27	22	15	12	35	34	32	28	22	13	11
	Heating: Max. Airflow	51	51	51	51	51	49	38	54	54	53	52	49	44	32
SY036	Fan Only: Min. Airflow	46	46	46	45	43	38	28	49	49	48	46	42	36	25
	Fan Only: Max. Airflow	52	52	52	52	51	48	39	55	55	54	52	50	45	35
	Cooling: Min. Airflow	46	46	46	45	44	40	29	52	51	50	48	44	37	28
	Cooling: Max. Airflow	52	52	52	51	51	48	38	56	55	55	53	50	45	36
	Heating: Min. Airflow	34	33	32	30	25	19	12	38	37	35	32	26	17	12
	Heating: Max. Airflow	51	51	51	51	51	48	38	55	55	54	53	50	45	36
SY048	Fan Only: Min. Airflow	49	49	49	49	48	44	33	52	52	51	49	46	39	28
	Fan Only: Max. Airflow	61	61	60	60	59	56	47	64	64	63	61	58	51	42
	Cooling: Min. Airflow	51	51	51	51	50	47	37	56	55	54	52	48	41	31
	Cooling: Max. Airflow	60	60	60	59	58	56	47	65	65	64	62	58	51	42
	Heating: Min. Airflow	35	34	34	32	29	23	12	38	37	36	33	28	20	12
	Heating: Max. Airflow	58	58	58	58	57	54	45	61	61	60	58	55	49	39
SY060	Fan Only: Min. Airflow	47	46	45	43	39	31	17	50	49	48	46	42	34	20
	Fan Only: Max. Airflow	53	53	52	51	49	44	31	56	56	55	54	52	47	34
	Cooling: Min. Airflow	31	30	28	23	16	7	12	34	33	31	26	19	10	15
	Cooling: Max. Airflow	52	52	52	51	50	46	33	55	55	55	54	53	49	36
	Heating: Min. Airflow	52	51	50	47	43	34	22	55	54	53	50	46	37	25
	Heating: Max. Airflow	57	56	55	54	50	44	34	60	59	58	57	53	47	37
SY072	Fan Only: Min. Airflow	51	51	50	49	47	42	31	54	53	52	49	44	36	25
	Fan Only: Max. Airflow	60	60	59	59	57	54	44	60	60	59	57	53	47	37
	Cooling: Min. Airflow	53	53	52	51	47	42	31	57	56	54	52	47	39	30
	Cooling: Max. Airflow	62	62	61	60	58	54	44	61	60	59	57	54	47	38
	Heating: Min. Airflow	38	37	36	34	30	23	12	41	40	38	35	29	20	12
	Heating: Max. Airflow	60	59	59	58	57	54	44	60	59	58	56	53	47	37

SR Series – Standard

SR Versatile Single-stage Series – Standard

Tested in accordance with AHRI 260

Octave Band Sound Power Level, (dB re 1pW)

Model	Mode	Ducted Discharge							Free Air Inlet Combined with Casing (Cabinet) Radiated						
		Octave Band Frequency, Hz							Octave Band Frequency, Hz						
		125	250	500	1000	2000	4000	8000	125	250	500	1000	2000	4000	8000
SR006	Fan Only: Min. Airflow	61	50	43	39	37	34	33	61	50	43	39	37	34	33
	Fan Only: Max. Airflow	65	57	48	45	43	41	37	65	57	48	45	43	41	37
	Cooling: Min. Airflow	64	50	43	40	37	34	33	64	50	43	40	37	34	33
	Cooling: Max. Airflow	67	57	48	46	43	41	37	67	57	48	46	43	41	37
	Heating: Min. Airflow	63	51	44	40	38	35	34	63	51	44	40	38	35	34
	Heating: Max. Airflow	66	57	48	45	42	41	36	66	57	48	45	42	41	36
SR009	Fan Only: Min. Airflow	69	63	55	54	51	51	47	69	63	55	54	51	51	47
	Fan Only: Max. Airflow	68	63	55	54	51	51	47	68	63	55	54	51	51	47
	Cooling: Min. Airflow	67	62	54	54	51	50	47	67	62	54	54	51	50	47
	Cooling: Max. Airflow	69	64	56	55	52	52	48	69	64	56	55	52	52	48
	Heating: Min. Airflow	67	61	54	53	51	50	46	67	61	54	53	51	50	46
	Heating: Max. Airflow	69	64	56	54	52	51	48	69	64	56	54	52	51	48
SR012	Fan Only: Min. Airflow	68	59	54	52	48	47	42	68	59	54	52	48	47	42
	Fan Only: Max. Airflow	68	63	55	54	51	50	46	68	63	55	54	51	50	46
	Cooling: Min. Airflow	66	58	54	52	48	46	42	66	58	54	52	48	46	42
	Cooling: Max. Airflow	69	63	56	55	51	51	46	69	63	56	55	51	51	46
	Heating: Min. Airflow	67	59	54	52	49	47	42	67	59	54	52	49	47	42
	Heating: Max. Airflow	70	63	55	53	51	50	45	70	63	55	53	51	50	45
SR012	Fan Only: Min. Airflow	63	57	50	52	48	46	40	63	57	50	52	48	46	40
	Fan Only: Max. Airflow	69	58	52	54	50	49	44	69	58	52	54	50	49	44
	Cooling: Min. Airflow	67	58	50	51	48	46	40	67	58	50	51	48	46	40
	Cooling: Max. Airflow	69	58	52	54	51	50	44	69	58	52	54	51	50	44
	Heating: Min. Airflow	66	58	51	52	48	46	40	66	58	51	52	48	46	40
	Heating: Max. Airflow	69	58	53	54	50	49	43	69	58	53	54	50	49	43
SR018	Fan Only: Min. Airflow	62	57	54	51	51	47	41	62	57	54	51	51	47	41
	Fan Only: Max. Airflow	70	58	54	53	54	50	44	70	58	54	53	54	50	44
	Cooling: Min. Airflow	67	58	53	51	51	47	40	67	58	53	51	51	47	40
	Cooling: Max. Airflow	70	59	53	54	54	50	44	70	59	53	54	54	50	44
	Heating: Min. Airflow	67	58	54	51	51	47	41	67	58	54	51	51	47	41
	Heating: Max. Airflow	69	58	54	53	53	49	43	69	58	54	53	53	49	43
SR024	Fan Only: Min. Airflow	49	49	48	48	46	41	28	54	53	51	47	41	31	22
	Fan Only: Max. Airflow	53	53	53	53	53	51	39	55	55	54	54	52	47	29
	Cooling: Min. Airflow	49	49	49	48	45	40	28	53	52	51	47	41	31	24
	Cooling: Max. Airflow	53	53	53	53	53	50	38	56	56	55	52	48	41	31
	Heating: Min. Airflow	49	49	48	47	45	41	28	51	50	48	45	40	30	19
	Heating: Max. Airflow	52	52	52	53	53	51	39	54	54	53	51	47	40	28

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SR Series – Standard

Models:
Tranquility
Product Line

SR Versatile Single-stage Series – Standard

Tested in accordance with AHRI 260

Octave Band Sound Power Level, (dB re 1pW)

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Model	Mode	Ducted Discharge							Free Air Inlet Combined with Casing (Cabinet) Radiated						
		Octave Band Frequency, Hz							Octave Band Frequency, Hz						
		125	250	500	1000	2000	4000	8000	125	250	500	1000	2000	4000	8000
SR030	Fan Only: Min. Airflow	68	60	61	59	59	58	51	63	60	57	55	54	50	42
	Fan Only: Max. Airflow	72	61	59	59	60	58	51	65	62	58	57	55	51	43
	Cooling: Min. Airflow	67	60	59	58	59	57	50	63	61	57	56	54	50	42
	Cooling: Max. Airflow	71	62	59	60	60	58	51	66	63	58	57	55	52	43
	Heating: Min. Airflow	70	60	61	58	59	58	51	68	61	57	56	54	50	43
	Heating: Max. Airflow	73	61	60	59	60	58	51	69	63	58	57	55	51	43
SR036	Fan Only: Min. Airflow	52	51	51	50	49	45	35	53	52	51	49	44	37	26
	Fan Only: Max. Airflow	56	56	56	56	56	54	45	57	57	56	54	51	46	36
	Cooling: Min. Airflow	52	52	52	51	50	46	36	56	55	54	51	45	37	30
	Cooling: Max. Airflow	55	56	56	56	56	54	45	58	58	57	55	52	46	38
	Heating: Min. Airflow	50	50	50	50	49	47	35	52	51	50	48	44	37	27
	Heating: Max. Airflow	55	55	55	56	56	55	45	58	57	56	55	51	46	37
SR042	Fan Only: Min. Airflow	56	55	54	53	50	45	35	55	55	53	50	44	35	26
	Fan Only: Max. Airflow	62	61	61	61	59	56	49	63	62	61	58	54	46	37
	Cooling: Min. Airflow	55	55	54	53	51	46	37	57	57	55	51	45	36	32
	Cooling: Max. Airflow	59	59	59	59	59	57	48	62	61	60	58	54	46	37
	Heating: Min. Airflow	53	53	53	52	50	46	36	55	54	53	50	44	35	23
	Heating: Max. Airflow	59	59	59	59	59	57	48	62	61	60	58	53	46	36
SR048	Fan Only: Min. Airflow	56	56	55	54	51	46	34	58	57	55	52	45	36	26
	Fan Only: Max. Airflow	60	59	59	58	57	53	42	60	59	58	55	50	41	31
	Cooling: Min. Airflow	58	58	57	55	52	46	36	59	58	56	53	46	36	29
	Cooling: Max. Airflow	61	61	60	59	57	52	42	61	60	59	56	51	42	33
	Heating: Min. Airflow	58	57	56	55	52	46	35	56	55	54	51	45	36	24
	Heating: Max. Airflow	61	61	60	59	57	53	42	60	59	58	55	50	42	31
SR060	Fan Only: Min. Airflow	72	65	64	64	64	64	58	70	65	61	58	56	53	46
	Fan Only: Max. Airflow	78	71	66	69	67	66	61	74	71	64	63	60	58	51
	Cooling: Min. Airflow	73	64	64	63	63	63	57	70	65	60	58	55	52	45
	Cooling: Max. Airflow	78	71	65	69	66	66	61	71	70	63	63	61	57	50
	Heating: Min. Airflow	73	65	65	64	64	64	58	72	66	61	58	56	51	44
	Heating: Max. Airflow	78	71	66	70	66	66	61	73	71	64	63	59	56	50

SR Series – with UltraQuiet Construction**SR Versatile Single-stage Series – with UltraQuiet construction**

Tested in accordance with AHRI 260

Octave Band Sound Power Level, (dB re 1pW)

Model	Mode	Ducted Discharge							Free Air Inlet Combined with Casing (Cabinet) Radiated						
		Octave Band Frequency, Hz							Octave Band Frequency, Hz						
		125	250	500	1000	2000	4000	8000	125	250	500	1000	2000	4000	8000
SR006	Fan Only: Min. Airflow	62	57	54	51	51	47	41	62	57	54	51	51	47	41
	Fan Only: Max. Airflow	70	58	54	53	54	50	44	70	58	54	53	54	50	44
	Cooling: Min. Airflow	67	58	53	51	51	47	40	67	58	53	51	51	47	40
	Cooling: Max. Airflow	70	59	53	54	54	50	44	70	59	53	54	54	50	44
	Heating: Min. Airflow	67	58	54	51	51	47	41	67	58	54	51	51	47	41
	Heating: Max. Airflow	69	58	54	53	53	49	43	69	58	54	53	53	49	43
SR009	Fan Only: Min. Airflow	60	49	43	38	36	33	33	57	47	44	38	32	29	34
	Fan Only: Max. Airflow	64	56	48	44	42	41	36	61	54	50	45	40	34	35
	Cooling: Min. Airflow	63	49	43	38	36	33	33	61	51	46	42	33	33	34
	Cooling: Max. Airflow	66	56	47	44	42	41	37	63	56	51	47	40	36	35
	Heating: Min. Airflow	62	50	44	39	37	34	34	61	52	46	42	34	32	36
	Heating: Max. Airflow	65	56	48	44	42	40	36	61	58	53	47	41	38	33
SR012	Fan Only: Min. Airflow	68	62	54	52	51	50	46	62	58	54	50	45	40	38
	Fan Only: Max. Airflow	67	63	55	53	51	50	47	64	60	58	52	47	43	40
	Cooling: Min. Airflow	66	61	54	53	50	50	46	64	59	56	51	45	41	37
	Cooling: Max. Airflow	67	63	55	53	51	51	48	64	61	57	53	47	43	40
	Heating: Min. Airflow	66	60	54	52	50	50	46	64	60	56	51	46	41	40
	Heating: Max. Airflow	68	63	56	53	51	51	47	64	62	57	52	47	43	38
SR012	Fan Only: Min. Airflow	67	58	53	50	48	46	41	61	54	49	48	42	37	35
	Fan Only: Max. Airflow	67	62	55	52	51	50	45	63	59	53	53	46	42	38
	Cooling: Min. Airflow	65	57	54	50	47	46	41	63	57	51	48	42	37	41
	Cooling: Max. Airflow	68	62	55	53	51	50	46	66	61	53	53	46	42	42
	Heating: Min. Airflow	66	58	53	50	48	46	41	66	57	52	48	43	38	42
	Heating: Max. Airflow	69	61	55	52	50	49	45	66	60	54	52	46	42	39
SR018	Fan Only: Min. Airflow	60	56	50	51	48	46	40	54	50	47	44	39	36	35
	Fan Only: Max. Airflow	67	56	52	53	50	49	44	62	58	51	50	47	43	38
	Cooling: Min. Airflow	64	56	50	50	48	46	40	64	58	52	46	43	39	35
	Cooling: Max. Airflow	66	55	52	53	50	49	44	63	60	55	53	48	45	37
	Heating: Min. Airflow	63	56	51	51	48	46	40	64	60	54	49	45	42	39
	Heating: Max. Airflow	66	56	53	53	50	49	44	63	61	56	53	49	44	36
SR024	Fan Only: Min. Airflow	60	56	54	50	51	47	41	55	50	46	44	40	36	36
	Fan Only: Max. Airflow	68	56	54	52	54	50	44	61	58	52	51	47	43	37
	Cooling: Min. Airflow	64	56	53	50	51	47	40	64	57	53	47	43	40	35
	Cooling: Max. Airflow	67	56	53	53	54	50	44	63	60	56	54	50	46	38
	Heating: Min. Airflow	64	56	54	50	51	47	41	64	59	53	49	44	42	41
	Heating: Max. Airflow	66	56	54	52	53	49	43	63	60	56	54	49	45	36

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SR Series – with UltraQuiet Construction

Models:
Tranquility
Product Line

SR Versatile Single-stage Series – with UltraQuiet construction

Tested in accordance with AHRI 260

Octave Band Sound Power Level, (dB re 1pW)

Table continued from previous page

Model	Mode	Ducted Discharge							Free Air Inlet Combined with Casing (Cabinet) Radiated						
		Octave Band Frequency, Hz							Octave Band Frequency, Hz						
		125	250	500	1000	2000	4000	8000	125	250	500	1000	2000	4000	8000
SR030	Fan Only: Min. Airflow	66	58	61	57	59	58	51	61	57	55	52	51	48	41
	Fan Only: Max. Airflow	70	59	60	58	60	58	51	64	62	57	56	53	50	42
	Cooling: Min. Airflow	64	58	59	57	59	57	50	63	58	56	52	51	48	40
	Cooling: Max. Airflow	68	60	59	59	60	57	51	65	61	58	55	54	51	42
	Heating: Min. Airflow	67	58	61	57	59	58	51	68	60	56	53	51	48	45
	Heating: Max. Airflow	69	59	60	57	59	57	51	68	61	58	55	53	50	41
SR036	Fan Only: Min. Airflow	49	48	48	47	46	42	32	50	49	48	46	41	34	23
	Fan Only: Max. Airflow	53	53	53	53	53	51	42	54	54	53	51	48	43	33
	Cooling: Min. Airflow	49	49	49	48	47	43	33	53	52	51	48	42	34	27
	Cooling: Max. Airflow	52	53	53	53	53	51	42	55	55	54	52	49	43	35
	Heating: Min. Airflow	47	47	47	47	46	44	32	49	48	47	45	41	34	24
	Heating: Max. Airflow	52	52	52	53	53	52	42	55	54	53	52	48	43	34
SR042	Fan Only: Min. Airflow	53	52	51	50	47	42	32	52	52	50	47	41	32	23
	Fan Only: Max. Airflow	59	58	58	58	56	53	46	60	59	58	55	51	43	34
	Cooling: Min. Airflow	52	52	51	50	48	43	34	54	54	52	48	42	33	29
	Cooling: Max. Airflow	56	56	56	56	56	54	45	59	58	57	55	51	43	34
	Heating: Min. Airflow	50	50	50	49	47	43	33	52	51	50	47	41	32	20
	Heating: Max. Airflow	56	56	56	56	56	54	45	59	58	57	55	50	43	33
SR048	Fan Only: Min. Airflow	53	53	52	51	48	43	31	55	54	52	49	42	33	23
	Fan Only: Max. Airflow	57	56	56	55	54	50	39	57	56	55	52	47	38	28
	Cooling: Min. Airflow	55	55	54	52	49	43	33	56	55	53	50	43	33	26
	Cooling: Max. Airflow	58	58	57	56	54	49	39	58	57	56	53	48	39	30
	Heating: Min. Airflow	55	54	53	52	49	43	32	53	52	51	48	42	33	21
	Heating: Max. Airflow	58	58	57	56	54	50	39	57	56	55	52	47	39	28
SR060	Fan Only: Min. Airflow	70	63	64	63	64	64	58	69	64	59	56	54	52	44
	Fan Only: Max. Airflow	76	69	66	68	67	66	61	73	70	62	61	58	56	49
	Cooling: Min. Airflow	69	62	64	62	63	62	56	68	63	58	56	53	51	44
	Cooling: Max. Airflow	75	68	65	68	66	66	61	69	69	61	60	59	55	48
	Heating: Min. Airflow	70	63	65	63	64	64	58	70	65	59	55	54	49	42
	Heating: Max. Airflow	74	69	66	68	66	66	61	71	70	62	60	57	54	47

SC Series – Standard

SC Compact Single-stage Series – Standard

Tested in accordance with AHRI 260

Octave Band Sound Power Level, (dB re 1pW)

Model	Mode	Ducted Discharge							Free Air Inlet Combined with Casing (Cabinet) Radiated						
		Octave Band Frequency, Hz							Octave Band Frequency, Hz						
		125	250	500	1000	2000	4000	8000	125	250	500	1000	2000	4000	8000
SC006	Fan Only: Min. Airflow	61	50	43	39	37	34	33	61	50	43	39	37	34	33
	Fan Only: Max. Airflow	65	57	48	45	43	41	37	65	57	48	45	43	41	37
	Cooling: Min. Airflow	64	50	43	40	37	34	33	64	50	43	40	37	34	33
	Cooling: Max. Airflow	67	57	48	46	43	41	37	67	57	48	46	43	41	37
	Heating: Min. Airflow	63	51	44	40	38	35	34	63	51	44	40	38	35	34
	Heating: Max. Airflow	66	57	48	45	42	41	36	66	57	48	45	42	41	36
SC009	Fan Only: Min. Airflow	69	63	55	54	51	51	47	69	63	55	54	51	51	47
	Fan Only: Max. Airflow	68	63	55	54	51	51	47	68	63	55	54	51	51	47
	Cooling: Min. Airflow	67	62	54	54	51	50	47	67	62	54	54	51	50	47
	Cooling: Max. Airflow	69	64	56	55	52	52	48	69	64	56	55	52	52	48
	Heating: Min. Airflow	67	61	54	53	51	50	46	67	61	54	53	51	50	46
	Heating: Max. Airflow	69	64	56	54	52	51	48	69	64	56	54	52	51	48
SC012	Fan Only: Min. Airflow	68	59	54	52	48	47	42	68	59	54	52	48	47	42
	Fan Only: Max. Airflow	68	63	55	54	51	50	46	68	63	55	54	51	50	46
	Cooling: Min. Airflow	66	58	54	52	48	46	42	66	58	54	52	48	46	42
	Cooling: Max. Airflow	69	63	56	55	51	51	46	69	63	56	55	51	51	46
	Heating: Min. Airflow	67	59	54	52	49	47	42	67	59	54	52	49	47	42
	Heating: Max. Airflow	70	63	55	53	51	50	45	70	63	55	53	51	50	45
SC012	Fan Only: Min. Airflow	63	57	50	52	48	46	40	63	57	50	52	48	46	40
	Fan Only: Max. Airflow	69	58	52	54	50	49	44	69	58	52	54	50	49	44
	Cooling: Min. Airflow	67	58	50	51	48	46	40	67	58	50	51	48	46	40
	Cooling: Max. Airflow	69	58	52	54	51	50	44	69	58	52	54	51	50	44
	Heating: Min. Airflow	66	58	51	52	48	46	40	66	58	51	52	48	46	40
	Heating: Max. Airflow	69	58	53	54	50	49	43	69	58	53	54	50	49	43
SC018	Fan Only: Min. Airflow	62	57	54	51	51	47	41	62	57	54	51	51	47	41
	Fan Only: Max. Airflow	70	58	54	53	54	50	44	70	58	54	53	54	50	44
	Cooling: Min. Airflow	67	58	53	51	51	47	40	67	58	53	51	51	47	40
	Cooling: Max. Airflow	70	59	53	54	54	50	44	70	59	53	54	54	50	44
	Heating: Min. Airflow	67	58	54	51	51	47	41	67	58	54	51	51	47	41
	Heating: Max. Airflow	69	58	54	53	53	49	43	69	58	54	53	53	49	43
SC024	Fan Only: Min. Airflow	49	49	48	48	46	41	28	54	53	51	47	41	31	22
	Fan Only: Max. Airflow	53	53	53	53	53	51	39	55	55	54	54	52	47	29
	Cooling: Min. Airflow	49	49	49	48	45	40	28	53	52	51	47	41	31	24
	Cooling: Max. Airflow	53	53	53	53	53	50	38	56	56	55	52	48	41	31
	Heating: Min. Airflow	49	49	48	47	45	41	28	51	50	48	45	40	30	19
	Heating: Max. Airflow	52	52	52	53	53	51	39	54	54	53	51	47	40	28

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SC Series – Standard

Models:
Tranquility
Product Line

SC Compact Single-stage Series – Standard

Tested in accordance with AHRI 260

Octave Band Sound Power Level, (dB re 1pW)

Table continued from previous page

Model	Mode	Ducted Discharge							Free Air Inlet Combined with Casing (Cabinet) Radiated						
		Octave Band Frequency, Hz							Octave Band Frequency, Hz						
		125	250	500	1000	2000	4000	8000	125	250	500	1000	2000	4000	8000
SC030	Fan Only: Min. Airflow	68	60	61	59	59	58	51	63	60	57	55	54	50	42
	Fan Only: Max. Airflow	72	61	59	59	60	58	51	65	62	58	57	55	51	43
	Cooling: Min. Airflow	67	60	59	58	59	57	50	63	61	57	56	54	50	42
	Cooling: Max. Airflow	71	62	59	60	60	58	51	66	63	58	57	55	52	43
	Heating: Min. Airflow	70	60	61	58	59	58	51	68	61	57	56	54	50	43
	Heating: Max. Airflow	73	61	60	59	60	58	51	69	63	58	57	55	51	43
SC036	Fan Only: Min. Airflow	52	51	51	50	49	45	35	53	52	51	49	44	37	26
	Fan Only: Max. Airflow	56	56	56	56	56	54	45	57	57	56	54	51	46	36
	Cooling: Min. Airflow	52	52	52	51	50	46	36	56	55	54	51	45	37	30
	Cooling: Max. Airflow	55	56	56	56	56	54	45	58	58	57	55	52	46	38
	Heating: Min. Airflow	50	50	50	50	49	47	35	52	51	50	48	44	37	27
	Heating: Max. Airflow	55	55	55	56	56	55	45	58	57	56	55	51	46	37
SC042	Fan Only: Min. Airflow	56	55	54	53	50	45	35	55	55	53	50	44	35	26
	Fan Only: Max. Airflow	62	61	61	61	59	56	49	63	62	61	58	54	46	37
	Cooling: Min. Airflow	55	55	54	53	51	46	37	57	57	55	51	45	36	32
	Cooling: Max. Airflow	59	59	59	59	59	57	48	62	61	60	58	54	46	37
	Heating: Min. Airflow	53	53	53	52	50	46	36	55	54	53	50	44	35	23
	Heating: Max. Airflow	59	59	59	59	59	57	48	62	61	60	58	53	46	36
SC048	Fan Only: Min. Airflow	56	56	55	54	51	46	34	58	57	55	52	45	36	26
	Fan Only: Max. Airflow	60	59	59	58	57	53	42	60	59	58	55	50	41	31
	Cooling: Min. Airflow	58	58	57	55	52	46	36	59	58	56	53	46	36	29
	Cooling: Max. Airflow	61	61	60	59	57	52	42	61	60	59	56	51	42	33
	Heating: Min. Airflow	58	57	56	55	52	46	35	56	55	54	51	45	36	24
	Heating: Max. Airflow	61	61	60	59	57	53	42	60	59	58	55	50	42	31
SC060	Fan Only: Min. Airflow	72	65	64	64	64	64	58	70	65	61	58	56	53	46
	Fan Only: Max. Airflow	78	71	66	69	67	66	61	74	71	64	63	60	58	51
	Cooling: Min. Airflow	73	64	64	63	63	63	57	70	65	60	58	55	52	45
	Cooling: Max. Airflow	78	71	65	69	66	66	61	71	70	63	63	61	57	50
	Heating: Min. Airflow	73	65	65	64	64	64	58	72	66	61	58	56	51	44
	Heating: Max. Airflow	78	71	66	70	66	66	61	73	71	64	63	59	56	50
SC041	Fan Only: Min. Airflow	68	61	54	58	53	53	45	70	62	61	58	54	50	41
	Fan Only: Max. Airflow	69	64	56	61	56	55	48	73	65	62	60	57	54	44
	Cooling: Min. Airflow	68	61	54	58	54	53	45	70	63	61	60	55	51	42
	Cooling: Max. Airflow	70	65	56	61	56	56	49	73	65	63	62	58	54	45
	Heating: Min. Airflow	67	62	54	57	52	51	44	72	65	61	58	55	50	44
	Heating: Max. Airflow	69	64	57	61	55	55	47	74	66	63	61	57	53	44

SC Series – with UltraQuiet Construction**SC Compact Single-stage Series – with UltraQuiet construction**

Tested in accordance with AHRI 260

Octave Band Sound Power Level, (dB re 1pW)

Model	Mode	Ducted Discharge							Free Air Inlet Combined with Casing (Cabinet) Radiated						
		Octave Band Frequency, Hz							Octave Band Frequency, Hz						
		125	250	500	1000	2000	4000	8000	125	250	500	1000	2000	4000	8000
SC006	Fan Only: Min. Airflow	62	57	54	51	51	47	41	62	57	54	51	51	47	41
	Fan Only: Max. Airflow	70	58	54	53	54	50	44	70	58	54	53	54	50	44
	Cooling: Min. Airflow	67	58	53	51	51	47	40	67	58	53	51	51	47	40
	Cooling: Max. Airflow	70	59	53	54	54	50	44	70	59	53	54	54	50	44
	Heating: Min. Airflow	67	58	54	51	51	47	41	67	58	54	51	51	47	41
	Heating: Max. Airflow	69	58	54	53	53	49	43	69	58	54	53	53	49	43
SC009	Fan Only: Min. Airflow	60	49	43	38	36	33	33	57	47	44	38	32	29	34
	Fan Only: Max. Airflow	64	56	48	44	42	41	36	61	54	50	45	40	34	35
	Cooling: Min. Airflow	63	49	43	38	36	33	33	61	51	46	42	33	33	34
	Cooling: Max. Airflow	66	56	47	44	42	41	37	63	56	51	47	40	36	35
	Heating: Min. Airflow	62	50	44	39	37	34	34	61	52	46	42	34	32	36
	Heating: Max. Airflow	65	56	48	44	42	40	36	61	58	53	47	41	38	33
SC012	Fan Only: Min. Airflow	68	62	54	52	51	50	46	62	58	54	50	45	40	38
	Fan Only: Max. Airflow	67	63	55	53	51	50	47	64	60	58	52	47	43	40
	Cooling: Min. Airflow	66	61	54	53	50	50	46	64	59	56	51	45	41	37
	Cooling: Max. Airflow	67	63	55	53	51	51	48	64	61	57	53	47	43	40
	Heating: Min. Airflow	66	60	54	52	50	50	46	64	60	56	51	46	41	40
	Heating: Max. Airflow	68	63	56	53	51	51	47	64	62	57	52	47	43	38
SC012	Fan Only: Min. Airflow	67	58	53	50	48	46	41	61	54	49	48	42	37	35
	Fan Only: Max. Airflow	67	62	55	52	51	50	45	63	59	53	53	46	42	38
	Cooling: Min. Airflow	65	57	54	50	47	46	41	63	57	51	48	42	37	41
	Cooling: Max. Airflow	68	62	55	53	51	50	46	66	61	53	53	46	42	42
	Heating: Min. Airflow	66	58	53	50	48	46	41	66	57	52	48	43	38	42
	Heating: Max. Airflow	69	61	55	52	50	49	45	66	60	54	52	46	42	39
SC018	Fan Only: Min. Airflow	60	56	50	51	48	46	40	54	50	47	44	39	36	35
	Fan Only: Max. Airflow	67	56	52	53	50	49	44	62	58	51	50	47	43	38
	Cooling: Min. Airflow	64	56	50	50	48	46	40	64	58	52	46	43	39	35
	Cooling: Max. Airflow	66	55	52	53	50	49	44	63	60	55	53	48	45	37
	Heating: Min. Airflow	63	56	51	51	48	46	40	64	60	54	49	45	42	39
	Heating: Max. Airflow	66	56	53	53	50	49	44	63	61	56	53	49	44	36
SC024	Fan Only: Min. Airflow	60	56	54	50	51	47	41	55	50	46	44	40	36	36
	Fan Only: Max. Airflow	68	56	54	52	54	50	44	61	58	52	51	47	43	37
	Cooling: Min. Airflow	64	56	53	50	51	47	40	64	57	53	47	43	40	35
	Cooling: Max. Airflow	67	56	53	53	54	50	44	63	60	56	54	50	46	38
	Heating: Min. Airflow	64	56	54	50	51	47	41	64	59	53	49	44	42	41
	Heating: Max. Airflow	66	56	54	52	53	49	43	63	60	56	54	49	45	36

Table continued on next page

SC Series – with UltraQuiet Construction

Models:
Tranquility
Product Line

SC Compact Single-stage Series – with UltraQuiet construction

Tested in accordance with AHRI 260

Octave Band Sound Power Level, (dB re 1pW)

Table continued from previous page

Model	Mode	Ducted Discharge							Free Air Inlet Combined with Casing (Cabinet) Radiated						
		Octave Band Frequency, Hz							Octave Band Frequency, Hz						
		125	250	500	1000	2000	4000	8000	125	250	500	1000	2000	4000	8000
SC030	Fan Only: Min. Airflow	66	58	61	57	59	58	51	61	57	55	52	51	48	41
	Fan Only: Max. Airflow	70	59	60	58	60	58	51	64	62	57	56	53	50	42
	Cooling: Min. Airflow	64	58	59	57	59	57	50	63	58	56	52	51	48	40
	Cooling: Max. Airflow	68	60	59	59	60	57	51	65	61	58	55	54	51	42
	Heating: Min. Airflow	67	58	61	57	59	58	51	68	60	56	53	51	48	45
	Heating: Max. Airflow	69	59	60	57	59	57	51	68	61	58	55	53	50	41
SC036	Fan Only: Min. Airflow	49	48	48	47	46	42	32	50	49	48	46	41	34	23
	Fan Only: Max. Airflow	53	53	53	53	53	51	42	54	54	53	51	48	43	33
	Cooling: Min. Airflow	49	49	49	48	47	43	33	53	52	51	48	42	34	27
	Cooling: Max. Airflow	52	53	53	53	53	51	42	55	55	54	52	49	43	35
	Heating: Min. Airflow	47	47	47	47	46	44	32	49	48	47	45	41	34	24
	Heating: Max. Airflow	52	52	52	53	53	52	42	55	54	53	52	48	43	34
SC042	Fan Only: Min. Airflow	53	52	51	50	47	42	32	52	52	50	47	41	32	23
	Fan Only: Max. Airflow	59	58	58	58	56	53	46	60	59	58	55	51	43	34
	Cooling: Min. Airflow	52	52	51	50	48	43	34	54	54	52	48	42	33	29
	Cooling: Max. Airflow	56	56	56	56	56	54	45	59	58	57	55	51	43	34
	Heating: Min. Airflow	50	50	50	49	47	43	33	52	51	50	47	41	32	20
	Heating: Max. Airflow	56	56	56	56	56	54	45	59	58	57	55	50	43	33
SC048	Fan Only: Min. Airflow	53	53	52	51	48	43	31	55	54	52	49	42	33	23
	Fan Only: Max. Airflow	57	56	56	55	54	50	39	57	56	55	52	47	38	28
	Cooling: Min. Airflow	55	55	54	52	49	43	33	56	55	53	50	43	33	26
	Cooling: Max. Airflow	58	58	57	56	54	49	39	58	57	56	53	48	39	30
	Heating: Min. Airflow	55	54	53	52	49	43	32	53	52	51	48	42	33	21
	Heating: Max. Airflow	58	58	57	56	54	50	39	57	56	55	52	47	39	28
SC060	Fan Only: Min. Airflow	70	63	64	63	64	64	58	69	64	59	56	54	52	44
	Fan Only: Max. Airflow	76	69	66	68	67	66	61	73	70	62	61	58	56	49
	Cooling: Min. Airflow	69	62	64	62	63	62	56	68	63	58	56	53	51	44
	Cooling: Max. Airflow	75	68	65	68	66	66	61	69	69	61	60	59	55	48
	Heating: Min. Airflow	70	63	65	63	64	64	58	70	65	59	55	54	49	42
	Heating: Max. Airflow	74	69	66	68	66	66	61	71	70	62	60	57	54	47
SC041	Fan Only: Min. Airflow	66	61	54	58	51	50	42	71	63	60	57	54	49	39
	Fan Only: Max. Airflow	68	62	55	60	53	52	44	73	64	62	60	55	51	41
	Cooling: Min. Airflow	66	60	53	57	51	49	41	70	62	61	58	54	48	40
	Cooling: Max. Airflow	69	61	54	59	52	51	43	74	64	62	60	56	50	42
	Heating: Min. Airflow	66	61	53	58	51	50	41	72	64	60	58	54	49	45
	Heating: Max. Airflow	68	62	54	59	52	51	42	73	65	62	59	55	51	45

SB Series – Standard

SB Compact High-capacity Series – Standard

Tested in accordance with AHRI 260

Octave Band Sound Power Level, (dB re 1pW)

Model	Mode	Ducted Discharge							Free Air Inlet Combined with Casing (Cabinet) Radiated						
		Octave Band Frequency, Hz							Octave Band Frequency, Hz						
		125	250	500	1000	2000	4000	8000	125	250	500	1000	2000	4000	8000
SB072	Fan Only	74	66	70	63	63	63	54	77	69	71	67	62	57	46
	Cooling: Part Load	75	67	71	63	63	63	55	78	69	71	68	63	57	46
	Cooling: Full Load	76	68	72	64	64	64	55	80	70	72	68	63	58	47
	Heating: Part Load	75	67	71	63	63	63	54	78	69	71	68	63	57	46
	Heating: Full Load	76	68	72	64	64	64	54	80	70	72	68	63	58	47
SB096	Fan Only	78	73	76	72	71	71	60	79	73	74	70	65	62	52
	Cooling: Part Load	79	73	76	72	71	71	60	80	73	74	71	66	63	52
	Cooling: Full Load	80	74	77	73	72	72	61	81	74	75	71	66	63	53
	Heating: Part Load	79	73	76	72	71	71	60	80	73	74	71	66	63	52
	Heating: Full Load	80	74	77	73	72	72	61	81	74	75	71	66	63	53
SB120	Fan Only	78	75	77	77	74	74	66	79	75	74	72	68	66	58
	Cooling: Part Load	79	76	78	78	75	75	66	80	76	74	73	70	67	60
	Cooling: Full Load	80	77	79	79	76	76	67	81	77	75	74	71	68	61
	Heating: Part Load	79	76	78	78	75	75	66	80	76	74	73	70	67	60
	Heating: Full Load	80	77	79	79	76	76	67	81	77	75	74	71	68	61
SB168	Fan Only	78	76	79	76	76	75	68	79	78	75	74	73	73	66
	Cooling: Part Load	78	76	79	76	76	75	69	79	78	75	74	73	73	66
	Cooling: Full Load	79	76	79	76	76	75	69	80	78	75	74	73	73	66
	Heating: Part Load	78	76	79	77	76	75	68	80	78	75	75	73	73	66
	Heating: Full Load	78	76	79	77	76	75	68	80	78	75	74	73	73	66
SB192	Fan Only	77	77	80	76	76	74	67	81	77	75	74	74	74	66
	Cooling: Part Load	77	77	80	76	76	75	68	82	78	75	74	73	73	66
	Cooling: Full Load	78	78	80	76	76	75	68	83	78	75	74	76	75	68
	Heating: Part Load	77	78	80	76	76	75	68	82	77	74	73	72	72	64
	Heating: Full Load	78	78	80	77	76	75	68	83	77	74	73	72	72	65
SB240	Fan Only	80	82	82	82	80	80	74	84	82	77	78	77	76	70
	Cooling: Part Load	80	82	82	82	81	80	75	84	82	78	78	77	77	70
	Cooling: Full Load	81	82	82	82	81	80	75	85	82	78	79	78	77	71
	Heating: Part Load	80	82	82	82	80	80	74	85	82	78	78	77	77	70
	Heating: Full Load	81	82	82	82	80	80	74	85	82	78	78	77	77	70
SB300	Fan Only	84	77	76	76	72	69	63	87	82	77	76	74	73	65
	Cooling: Part Load	84	78	76	76	72	69	64	88	82	77	76	74	73	67
	Cooling: Full Load	85	79	77	77	73	70	64	88	82	77	77	74	73	67
	Heating: Part Load	84	79	76	76	72	69	63	87	83	77	76	75	73	66
	Heating: Full Load	85	79	77	77	72	69	64	88	83	77	76	75	74	67

SB Series – with UltraQuiet Construction

Models:
Tranquility
Product Line

SE Compact High-capacity Series – with UltraQuiet construction

Tested in accordance with AHRI 260

Octave Band Sound Power Level, (dB re 1pW)

Model	Mode	Ducted Discharge							Free Air Inlet Combined with Casing (Cabinet) Radiated						
		Octave Band Frequency, Hz							Octave Band Frequency, Hz						
		125	250	500	1000	2000	4000	8000	125	250	500	1000	2000	4000	8000
SB072	Fan Only	73	64	67	58	60	60	50	76	68	70	66	61	56	44
	Cooling: Part Load	74	65	68	58	60	60	51	77	68	70	67	62	56	44
	Cooling: Full Load	75	66	69	59	61	61	51	79	69	71	67	62	57	45
	Heating: Part Load	74	65	68	58	60	60	50	77	68	70	67	62	56	44
	Heating: Full Load	75	66	69	59	61	61	51	79	69	71	67	62	57	45
SB096	Fan Only	77	72	75	71	70	70	59	78	72	73	69	64	61	51
	Cooling: Part Load	78	72	75	71	70	70	59	79	72	73	70	65	62	51
	Cooling: Full Load	79	73	76	72	71	71	60	80	73	74	70	65	62	52
	Heating: Part Load	78	72	75	71	70	70	59	79	72	73	70	65	62	51
	Heating: Full Load	79	73	76	72	71	71	60	80	73	74	70	65	62	52
SB120	Fan Only	77	74	76	76	73	73	65	78	74	73	71	67	65	57
	Cooling: Part Load	78	75	77	77	74	74	65	79	75	73	72	69	66	59
	Cooling: Full Load	79	76	78	78	75	75	66	80	76	74	73	70	67	60
	Heating: Part Load	78	75	77	77	74	74	65	79	76	73	72	69	66	59
	Heating: Full Load	79	76	78	78	75	75	66	80	77	74	73	70	67	60
SB168	Fan Only	77	75	77	75	75	73	67	78	77	74	73	72	72	65
	Cooling: Part Load	77	75	78	75	75	73	68	78	77	74	73	72	72	65
	Cooling: Full Load	78	75	78	75	75	74	68	79	77	74	73	72	72	65
	Heating: Part Load	77	75	78	75	75	74	67	79	77	74	74	72	72	65
	Heating: Full Load	77	75	78	76	75	74	67	79	77	74	73	72	72	65
SB192	Fan Only	76	76	79	75	75	73	66	79	76	74	73	73	72	65
	Cooling: Part Load	76	76	79	75	75	73	67	81	77	74	72	72	72	64
	Cooling: Full Load	77	76	79	75	75	74	67	82	77	74	72	75	73	67
	Heating: Part Load	76	76	79	75	75	74	67	81	76	73	71	71	70	63
	Heating: Full Load	77	76	79	75	75	73	67	82	76	72	71	71	71	63
SB240	Fan Only	79	80	81	81	79	80	73	83	81	76	77	76	75	69
	Cooling: Part Load	79	81	81	81	80	79	74	83	81	76	77	76	75	69
	Cooling: Full Load	80	81	81	81	79	80	73	84	81	77	78	77	76	69
	Heating: Part Load	79	81	81	81	79	79	73	83	81	76	77	76	75	69
	Heating: Full Load	80	81	81	81	79	78	73	84	81	77	77	76	76	69
SB300	Fan Only	83	76	75	75	71	68	62	86	81	76	75	73	72	64
	Cooling: Part Load	83	77	75	75	71	68	63	86	81	76	75	73	72	65
	Cooling: Full Load	84	78	76	76	72	69	63	87	81	76	76	73	72	66
	Heating: Part Load	83	78	75	75	71	68	62	86	82	76	75	73	72	65
	Heating: Full Load	84	78	75	76	71	68	63	86	82	76	75	74	72	66

SD Series – Standard

SD Console Series – Standard

Tested in accordance with AHRI 350

Octave Band Sound Power Level, (dB re 1pW)

Model	Mode	Ducted Discharge							Free Air Inlet Combined with Casing (Cabinet) Radiated						
		Octave Band Frequency, Hz							Octave Band Frequency, Hz						
		125	250	500	1000	2000	4000	8000	125	250	500	1000	2000	4000	8000
SD08	Fan Only: Low Speed	47	46	43	40	35	28	30	55	45	41	38	33	27	31
	Fan Only: High Speed	50	50	48	43	40	33	32	55	52	49	46	43	35	34
	Cooling: Low Speed	56	58	44	41	36	29	30	55	66	43	43	35	29	35
	Cooling: High Speed	58	59	49	44	40	33	31	60	66	50	47	42	35	34
	Heating: Low Speed	51	54	44	40	36	27	29	58	56	43	43	35	33	34
	Heating: High Speed	54	53	48	44	39	32	31	56	61	49	47	42	36	35
SD12	Fan Only: Low Speed	50	51	51	43	39	32	31	51	52	46	43	39	31	30
	Fan Only: High Speed	55	56	55	48	45	39	37	60	63	56	54	51	46	43
	Cooling: Low Speed	55	60	50	43	39	32	31	63	62	47	45	40	32	33
	Cooling: High Speed	56	58	55	49	45	39	37	65	65	56	54	51	46	43
	Heating: Low Speed	65	56	51	43	39	32	31	62	60	49	47	41	34	37
	Heating: High Speed	60	57	56	48	44	39	37	64	65	56	54	51	46	44
SD16	Fan Only: Low Speed	53	52	55	46	40	32	31	54	55	56	48	44	37	34
	Fan Only: High Speed	58	57	56	51	45	39	36	61	63	58	55	52	47	45
	Cooling: Low Speed	62	54	48	43	36	30	30	56	58	56	48	45	37	34
	Cooling: High Speed	61	54	49	46	40	33	31	62	64	58	55	52	47	45
	Heating: Low Speed	61	56	47	44	35	34	32	59	58	56	48	44	37	34
	Heating: High Speed	60	56	50	47	40	36	33	64	63	58	54	52	46	45
SD18	Fan Only: Low Speed	55	58	58	51	46	39	34	47	44	38	36	31	25	28
	Fan Only: High Speed	58	61	57	55	50	44	39	60	59	56	54	52	47	44
	Cooling: Low Speed	60	57	58	52	47	39	34	71	56	48	52	40	31	32
	Cooling: High Speed	62	62	57	55	50	44	39	69	61	57	54	52	47	44
	Heating: Low Speed	63	57	64	48	43	36	32	68	58	52	50	39	38	34
	Heating: High Speed	63	59	57	51	47	41	39	70	60	56	55	53	47	44

SD Series – with UltraQuiet Construction

Models:
Tranquility
Product Line

SD Console Series – with UltraQuiet construction

Tested in accordance with AHRI 350

Octave Band Sound Power Level, (dB re 1pW)

Model	Mode	Ducted Discharge							Free Air Inlet Combined with Casing (Cabinet) Radiated						
		Octave Band Frequency, Hz							Octave Band Frequency, Hz						
		125	250	500	1000	2000	4000	8000	125	250	500	1000	2000	4000	8000
SD08	Fan Only: Low Speed	47	46	43	40	35	28	30	Data Not Available At This Time						
	Fan Only: High Speed	50	50	48	43	40	33	32							
	Cooling: Low Speed	53	55	42	39	34	28	29							
	Cooling: High Speed	55	56	47	42	38	31	29							
	Heating: Low Speed	48	51	42	38	34	26	28							
	Heating: High Speed	51	50	46	42	37	30	29							
SD12	Fan Only: Low Speed	50	51	51	43	39	32	31							
	Fan Only: High Speed	55	56	55	48	45	39	37							
	Cooling: Low Speed	52	57	48	41	37	30	30							
	Cooling: High Speed	53	55	52	46	42	37	35							
	Heating: Low Speed	62	53	48	41	37	31	29							
	Heating: High Speed	57	54	53	46	42	37	35							
SD16	Fan Only: Low Speed	53	52	55	46	40	32	31							
	Fan Only: High Speed	58	57	56	51	45	39	36							
	Cooling: Low Speed	59	51	45	41	34	28	28							
	Cooling: High Speed	58	52	46	44	38	31	29							
	Heating: Low Speed	58	53	45	42	33	33	30							
	Heating: High Speed	57	53	47	45	38	34	31							
SD18	Fan Only: Low Speed	55	58	58	51	46	39	34							
	Fan Only: High Speed	58	61	57	55	50	44	39							
	Cooling: Low Speed	57	54	55	49	44	37	32							
	Cooling: High Speed	59	59	54	52	48	42	37							
	Heating: Low Speed	60	54	61	46	41	34	30							
	Heating: High Speed	60	56	54	48	45	39	37							

Data Not Available At This Time

SW Water-to-water Series – Standard and with UltraQuiet Technology

Tested in accordance with AHRI 260

Octave Band Sound Power Level, (dB re 1pW)

Model	Mode		Free Inlet & Case Radiated								
			Octave Band Frequency, Hz								
			63	125	250	500	1000	2000	4000	8000	dBA
SW036	Heating	PWL	63.8	57.0	49.1	49.5	50.8	45.1	40.3	39.8	54.0
	Cooling	PWL	65.2	57.0	53.2	51.0	48.8	42.7	38.0	39.3	53.3
SW060	Heating	PWL	67.4	61.3	53.9	46.1	39.0	36.4	31.0	31.8	54.0
	Cooling	PWL	69.3	57.8	55.4	47.4	39.7	32.5	30.1	31.7	54.4
SW120	Heating	PWL	69.3	63.9	56.4	48.9	40.3	38.6	31.8	32.5	56.3
	Cooling	PWL	71.0	59.0	58.0	49.0	42.4	37.0	29.1	32.7	57.5

Notes

Models:
Tranquility
Product Line

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Revision History

Date	Item	Action
04/18/25	First Published	



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