SPECIFICATIONS

SW275BD01/02 10¾” die cast, composite cone subwoofers, 4/8 ohm

10¾” Ultra-High Performance Subwoofer Unit. When nothing but the most extreme in bass output and performance is required. Very low distortion from below 20 Hz.

FEATURES

- Extreme overhung voice coil with ±16mm of linear stroke to ensure lowest distortion at very high drive levels
- FEA optimized suspension for improved symmetry and lower distortion
- Very large motor structure with 2½” voice coil for better control and power handling
- Balanced Drive motor for optimal drive force symmetry resulting in largely reduced even order harmonic distortion
- Venting through holes in cone neck for reduced distortion and compression
- Rigid Foamed Paper cone to ensure piston motion even at high levels - for reduced distortion
- Dual-spider design for higher mechanical durability and high-excursion stability
- Rigid die cast alu chassis with extensive venting for lower air flow speed reducing audible distortion
- Vented center pole with dual flares for reduced noise level at large cone excursions
- Heavy-duty fiber glass voice coil former to reduce mechanical losses resulting in better dynamic performance and low-level details
- Built-in alu field-stabilizing ring for reduced distortion at high levels
- Low-loss suspension (high Qm) for better reproduction of details and dynamics
- Black plated motor parts for better heat transfer to the surrounding air
- Conex spider for better durability under extreme conditions
- Gold plated terminals to ensure long-term trouble free connection
- Delivered with foam gasket attached for hassle-free mounting and secure cabinet sealing

NOMINAL SPECIFICATIONS

Notes	Parameter	SW275BD01		SW275BD02		Unit
		Before burn-in	After burn-in	Before burn-in	After burn-in	
	Nominal size	10¾		10¾		[inch.]
	Nominal impedance	4		8		[ohm]
	Recommended max. upper frequency limit	400		400		[Hz]
1, 3	Sensitivity, 2.83V/1m (calculated from T/S parameters)	85		82		[dB]
2	Power handling, short term, IEC 268-5, no additional filtering					[W]
2	Power handling, long term, IEC 268-5, no additional filtering					[W]
2	Power handling, continuous, IEC 268-5, no additional filtering	250		250		[W]
	Effective radiating area, S_d	314		314		[cm²]
3, 6	Resonance frequency (free air, no baffle), F_S	30.8		31.6		[Hz]
	Moving mass, incl. air (free air, no baffle), M_{MS}	121		115		[g]
3	Force factor, Bxl	12.1		15.2		[N/A]
3, 6	Suspension compliance, C_{MS}	0.22		0.22		[mm/N]
3, 6	Equivalent air volume, V_{AS}	31		31		[lit.]
3, 6	Mechanical resistance, R_{MS}	1.85		1.85		[Ns/m]
3, 6	Mechanical Q, Q_{MS}	12.7		12.4		[-]
3, 6	Electrical Q, Q_{ES}	0.59		0.70		[-]
3, 6	Total Q, Q_{TS}	0.57		0.67		[-]
4	Voice coil resistance, R_{DC}	3.7		7.1		[ohm]
5	Voice coil inductance, L_E (measured at 1 kHz)	0.94		1.74		[mH]
	Voice coil inside diameter	64		64		[mm]
	Voice coil winding height	39		39		[mm]
	Air gap height	7		7		[mm]
	Theoretical linear motor stroke, Xmax	±16		±16		[mm]
	Magnet weight					[kg]
	Total unit net weight excl. packaging	8		8		[kg]
3, 5	K_{rm}	16		51		[mohm]
3, 5	E_{rm}	0.52		0.44		[-]
3, 5	K_{xm}	2.4		3.5		[mH]
3, 5	E_{xm}	0.87		0.87		[-]

Note 1 *Measured in infinite baffle.*

Note 2 *Tested in free air (no cabinet).*

Note 3 *Measured using a semi-constant current source, nominal level 2 mA.*

Note 4 *Measured at 25 deg. C*

Note 5 *It is generally a rough simplification to assume that loudspeaker transducer voice coils exhibit the characteristics of an inductor. Instead it is a far more accurate approach to use the more advanced model often referred to as the “Wright empirical model”, also used in LEAP-4 as the TSL model (www.linearx.com), involving parameters K_{rm}, E_{rm}, K_{xm}, and E_{xm}.* This more accurate transducer model is described in a technical paper **here at our web site.**

Note 6 After burn-in specifications are measured 12 hours after exciting the transducer by a 20 Hz sine wave for 2 hours at level 10/14.1 V_{RMS} (4/8 ohm version). The unit is not burned in before shipping.

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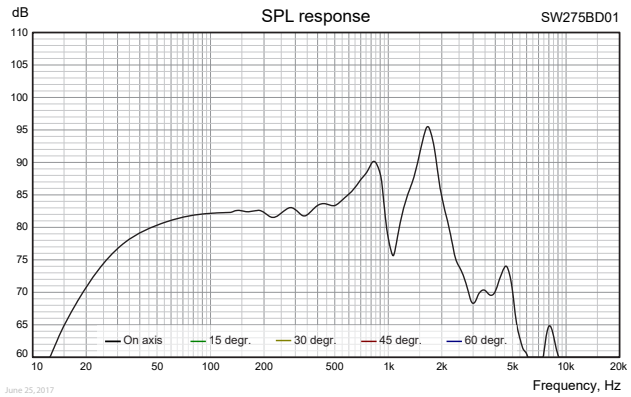

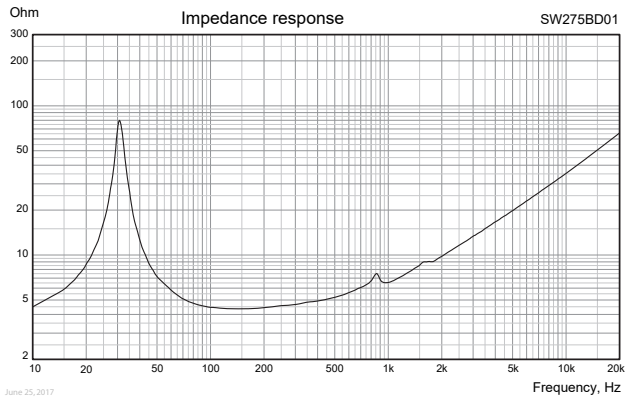

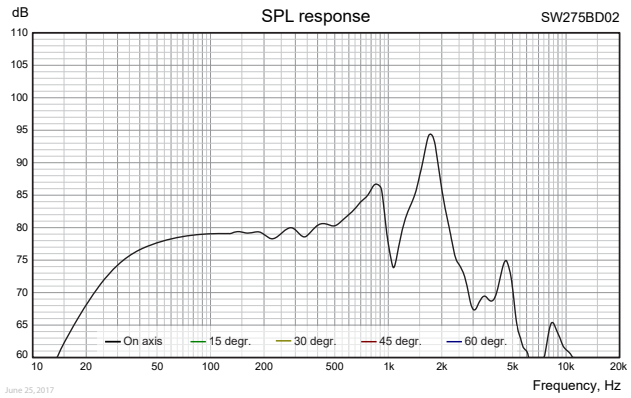

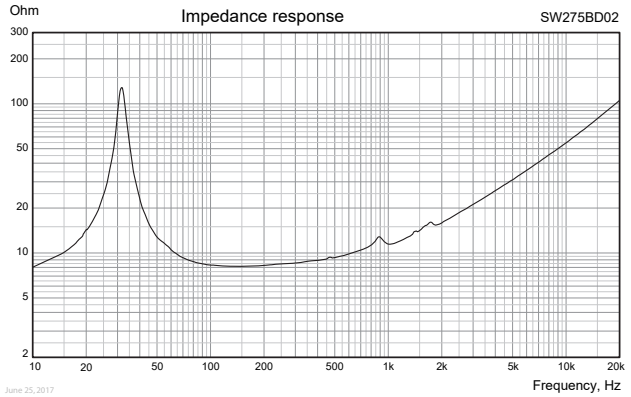

Important!
Please observe that graphs on the left side of this page and the below text files for download are actual measurements of the drivers measured in infinite baffle and without any enclosure. Measuring the drivers in a finite baffle (like the baffle of most speaker cabinets) and in any size of enclosure will lead to different response curves.

Download SW275BD01 on-axis SPL response as .txt file

Measuring conditions, SPL
Driver mounting: Flush in infinite baffle, back side open (no cabinet)
Microphone distance: 1.0 m
Input signal: 2.83 V_{RMS} stepped sine wave
Smoothing: 1/6 oct.

Download SW275BD01 impedance response as .txt file

Measuring conditions, impedance
Driver mounting: Free air, no baffle, back side open (no cabinet)
Input signal: Stepped sine wave, semi-current-drive, nominal current 2 mA
Smoothing: None

Download SW275BD02 on-axis SPL response as .txt file

Measuring conditions, SPL
Driver mounting: Flush in infinite baffle, back side open (no cabinet)
Microphone distance: 1.0 m
Input signal: 2.83 V_{RMS} stepped sine wave
Smoothing: 1/6 oct.

Download SW275BD02 impedance response as .txt file

Measuring conditions, impedance
Driver mounting: Free air, no baffle, back side open (no cabinet)
Input signal: Stepped sine wave, semi-current-drive, nominal current 2 mA
Smoothing: None

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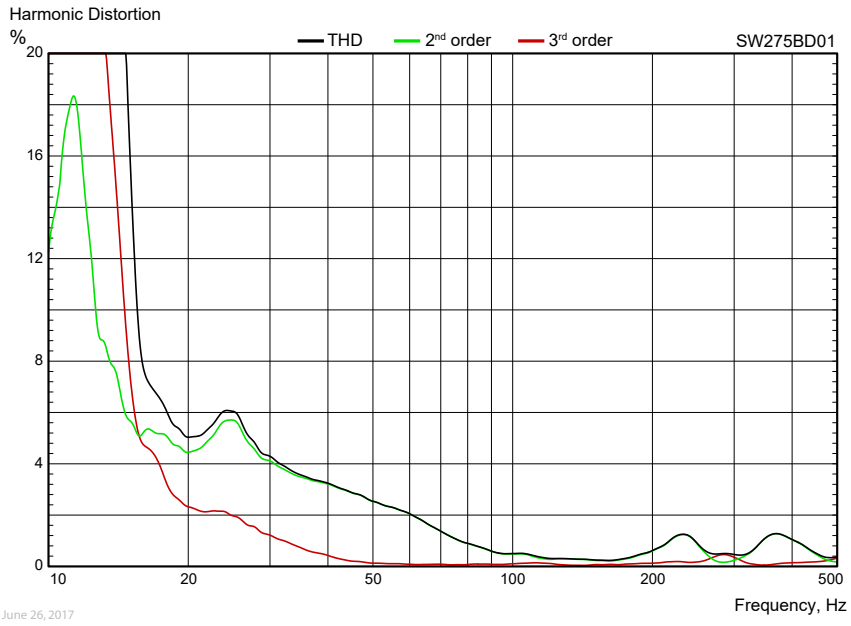
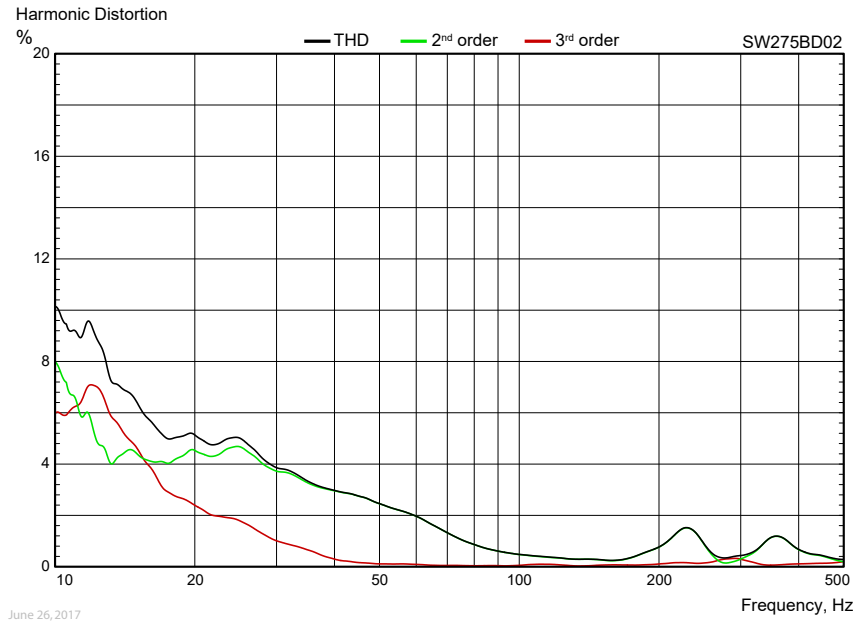
HARMONIC DISTORTION



Measuring conditions, Harmonic Distortion
Driver mounting: In sealed, heavily stuffed enclosure, internal volume 25 lit.
Microphone distance: 0.5 m
Input signal: Stepped sine wave, 11 VRMS (SW275BD01) / 15.5 VRMS (SW275BD02)
Smoothing: 1/6 oct.



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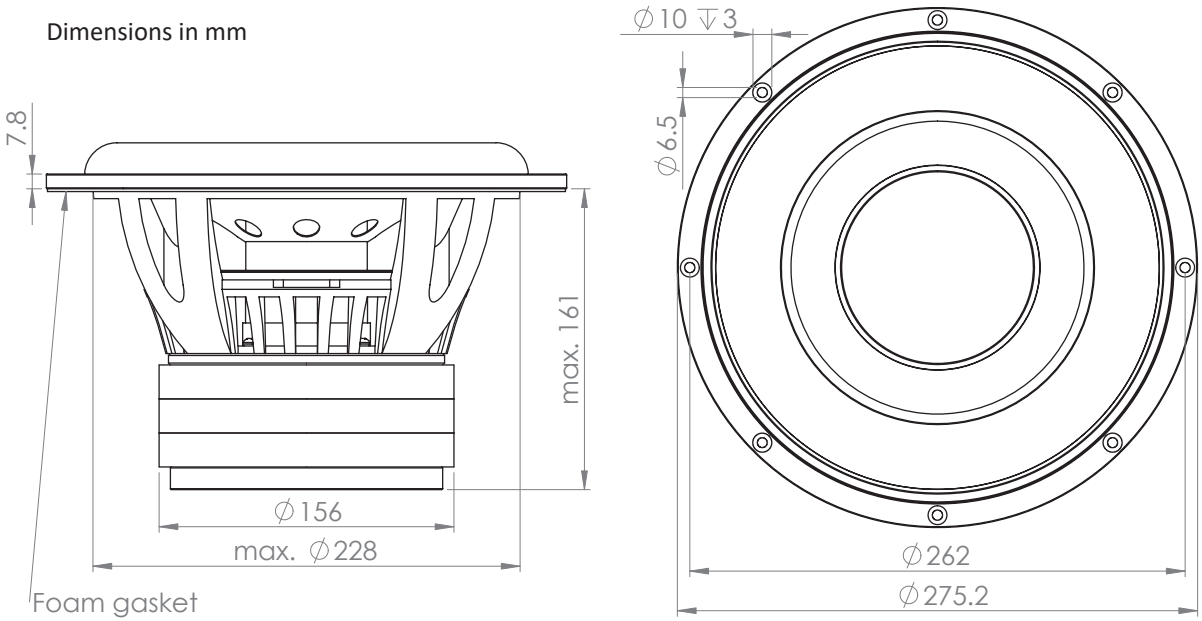
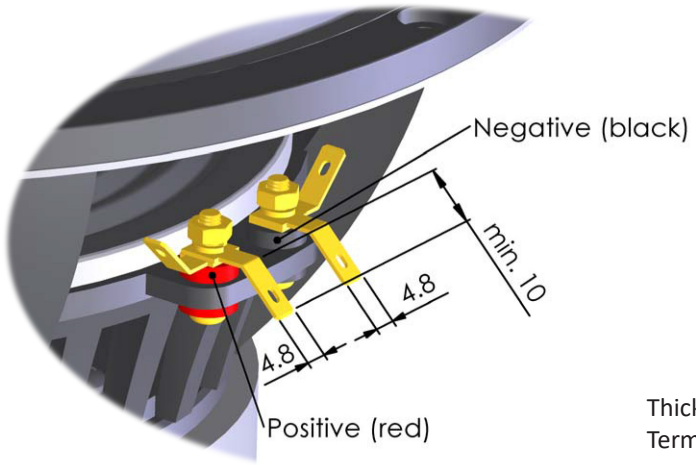
OUTLINE DRAWING (nominal dimensions)

Dimensions in mm



CONNECTIONS



Thickness, both terminals: 0.8 mm
Terminal plating: Gold

PACKAGING AND ORDERING INFORMATION

Part no. SW275BD01-01	4 ohm version, individual packaging (one piece per box)
Part no. SW275BD02-01	8 ohm version, individual packaging (one piece per box)

Latest update: March 1, 2024