SPECIFICATIONS

SW280WA03/04 11” low profile, alu cone subwoofers, 4/8 ohm

SW280WA03 and SW280WA04 are woofers designed for dedicated sub bass applications. They work equally well for high-end hi-fi, high quality home theater systems, and top multimedia setups. Innovative, very shallow design, with motor structure mounted “inside” the cone. Recommended for high end audio applications, where build-in depth is limited. Typical applications are for high performance in-wall and theater systems.

FEATURES

- New innovative design with cone wrapped around the motor structure to reduce overall dept
- Rigid alu cone to ensure piston motion at high drive levels
- Venting through holes in spider ring reduced distortion and compression
- Vented chassis for lower air flow speed reducing audible distortion
- Internal alu ring for stabilizing the magnetic field leading, to lower high-SPL distortion
- Vented heavy-duty black fiber glass voice coil bobbin to reduce mechanical losses resulting in better dynamic performance and low-level details
- Large motor structure with 1.5” voice coil diameter and 135 mm magnet for better control and efficiency
- Black-anodized magnet structure steel parts for increased heat dissipation and power handling
- Long linear stroke motor for reduced distortion at high levels
- Linear suspension with specially designed CONEX damper (spider) for long durability under extreme operating conditions
- 4-layer voice coil for increased control and better performance in small volumes

NOMINAL SPECIFICATIONS

Notes	Parameter	SW280WA03		SW280WA04		Unit
		Before burn-in	After burn-in	Before burn-in	After burn-in	
	Nominal size	11		11		[inch.]
	Nominal impedance	4		8		[ohm]
	Recommended max. upper frequency limit	300		300		[Hz]
1, 3	Sensitivity, 2.83V/1m (calculated from T/S parameters)	88.5		85.5		[dB]
2	Power handling, short term, IEC 268-5, no additional filtering	2,000		2,000		[W]
2	Power handling, long term, IEC 268-5, no additional filtering	400		400		[W]
2	Power handling, continuous, IEC 268-5, no additional filtering	200		200		[W]
	Effective radiating area, S_d	321		321		[cm²]
3, 6	Resonance frequency (free air, no baffle), F_S	34.5	34.0	35.0	34.5	[Hz]
	Moving mass, incl. air (free air, no baffle), M_{MS}	105		102		[g]
3	Force factor, Bxl	12.5		15.5		[N/A]
3, 6	Suspension compliance, C_{MS}	0.20	0.21	0.20	0.21	[mm/N]
3, 6	Equivalent air volume, V_{AS}	29.7	30.5	29.7	30.5	[lit.]
3, 6	Mechanical resistance, R_{MS}	2.2	2.2	2.2	2.2	[Ns/m]
3, 6	Mechanical Q, Q_{MS}	10.3	10.2	10.1	10.1	[-]
3, 6	Electrical Q, Q_{ES}	0.48	0.47	0.57	0.57	[-]
3, 6	Total Q, Q_{TS}	0.46	0.45	0.54	0.54	[-]
4	Voice coil resistance, R_{DC}	3.3		6.2		[ohm]
5	Voice coil inductance, L_e (measured at 1 kHz)					[mH]
	Voice coil inside diameter	39		39		[mm]
	Voice coil winding height	17		17		[mm]
	Air gap height	5		5		[mm]
	Theoretical linear motor stroke, Xmax	±6		±6		[mm]
	Magnet weight	1.4		1.4		[kg]
	Total unit net weight excl. packaging	3.9		3.9		[kg]
3, 5	K_{rm}					[mohm]
3, 5	E_{rm}					[-]
3, 5	K_{xm}					[mH]
3, 5	E_{xm}					[-]

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.*

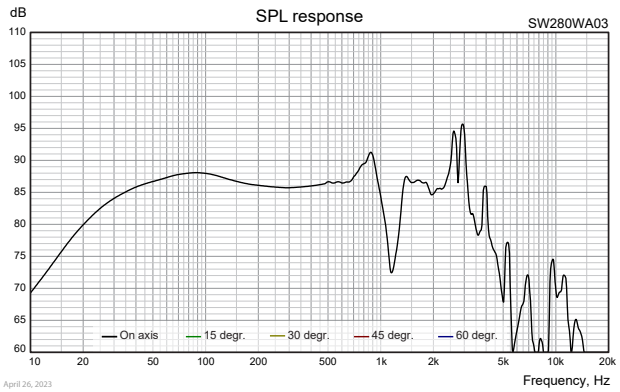
Note 4 *Measured at 25 deg. C*

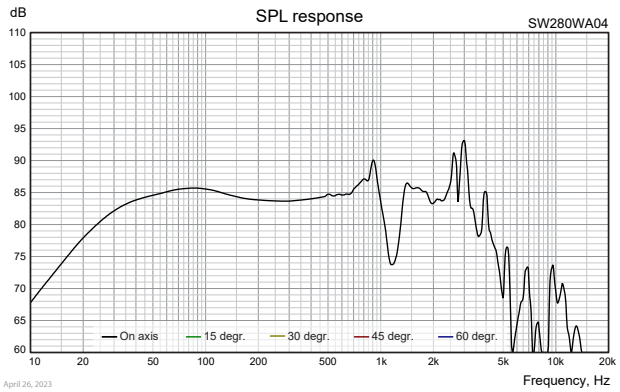
Note 5 *It is generally a rough simplification to assume that loudspeaker transducer voice coils exhibit the characteristics of an inductor. Instead it is a far more accurate approach to use the more advanced model often referred to as the “Wright empirical model”, also used in LEAP-4 as the TSL model (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.**

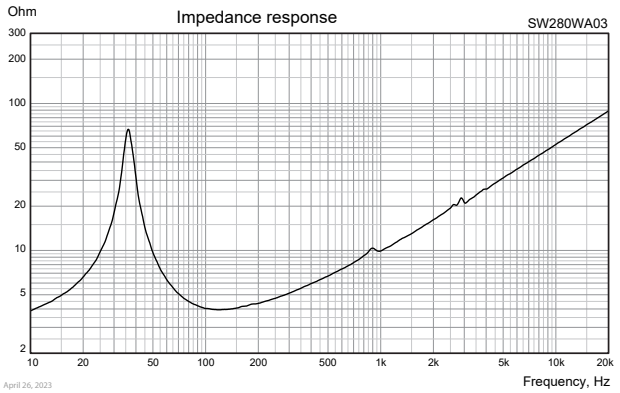
Note 6 After-burn-in specifications are measured at least 12 hours after exciting the transducer by a sine wave at the frequency of Fs for 2 hours at level 17/19 VRMS (4/8 ohm version). The unit is not burned in before shipping.

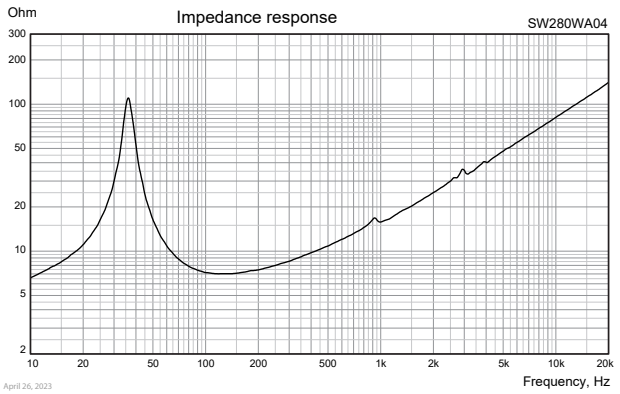
SPECIFICATIONS

SW280WA03/04 11” low profile, alu cone subwoofers, 4/8 ohm









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 SW280WA03 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 VRMS LogChirp, 64k, Hanning/2
Smoothing: 1/12 oct.

Download SW280WA04 on-axis SPL response as .txt file

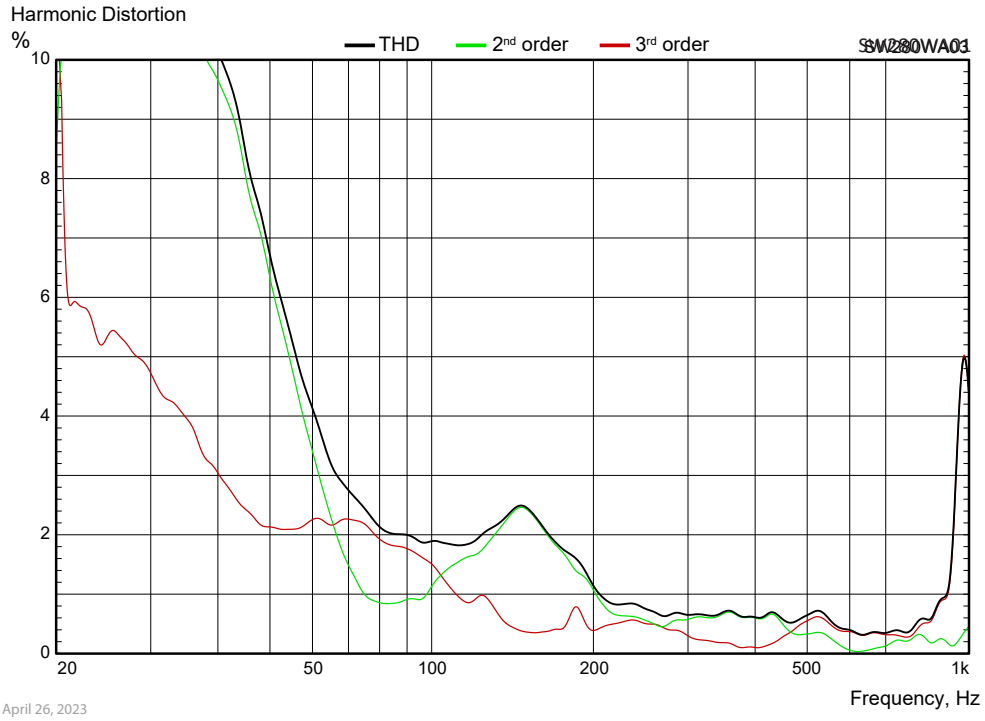
Download SW280WA03 Impedance response as .txt file

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

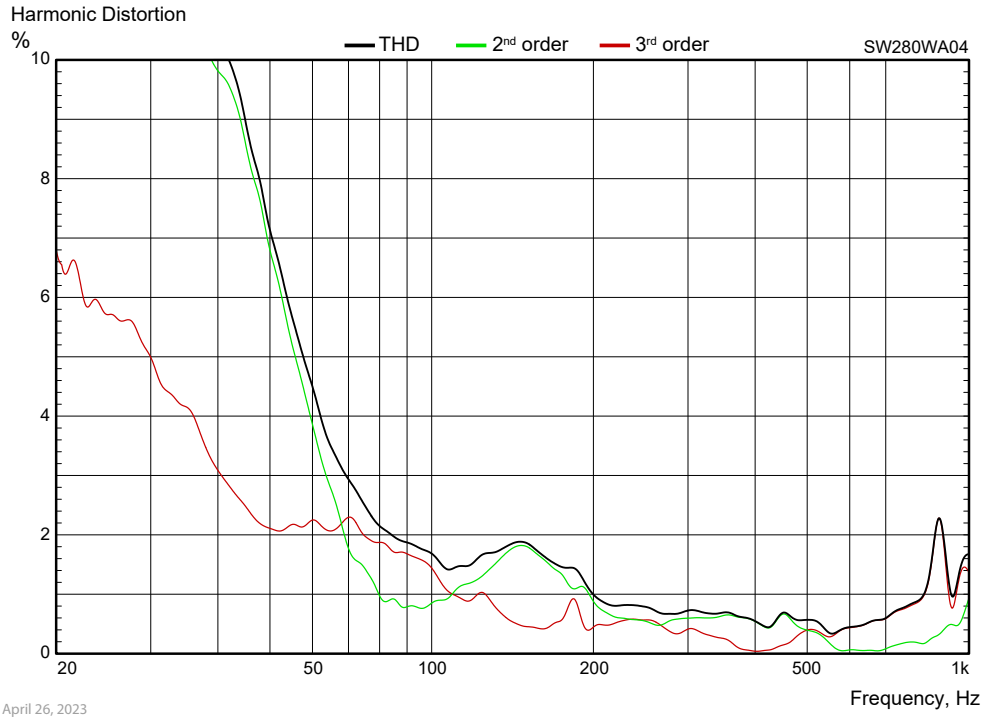
Download SW280WA04 Impedance response as .txt file

For more information please visit www.Wavecor.com

SW280WA03/04 11” low profile, alu cone subwoofers, 4/8 ohm



Measuring conditions, Harmonic Distortion
Driver mounting: In sealed, heavily stuffed enclosure, internal volume 10 lit.
Microphone distance: 0.5 m
Input signal: Stepped sine wave, 9.2 VRMS (SW280WA03) / 12.3 VRMS (SW280WA04)
Smoothing: 1/12 oct.

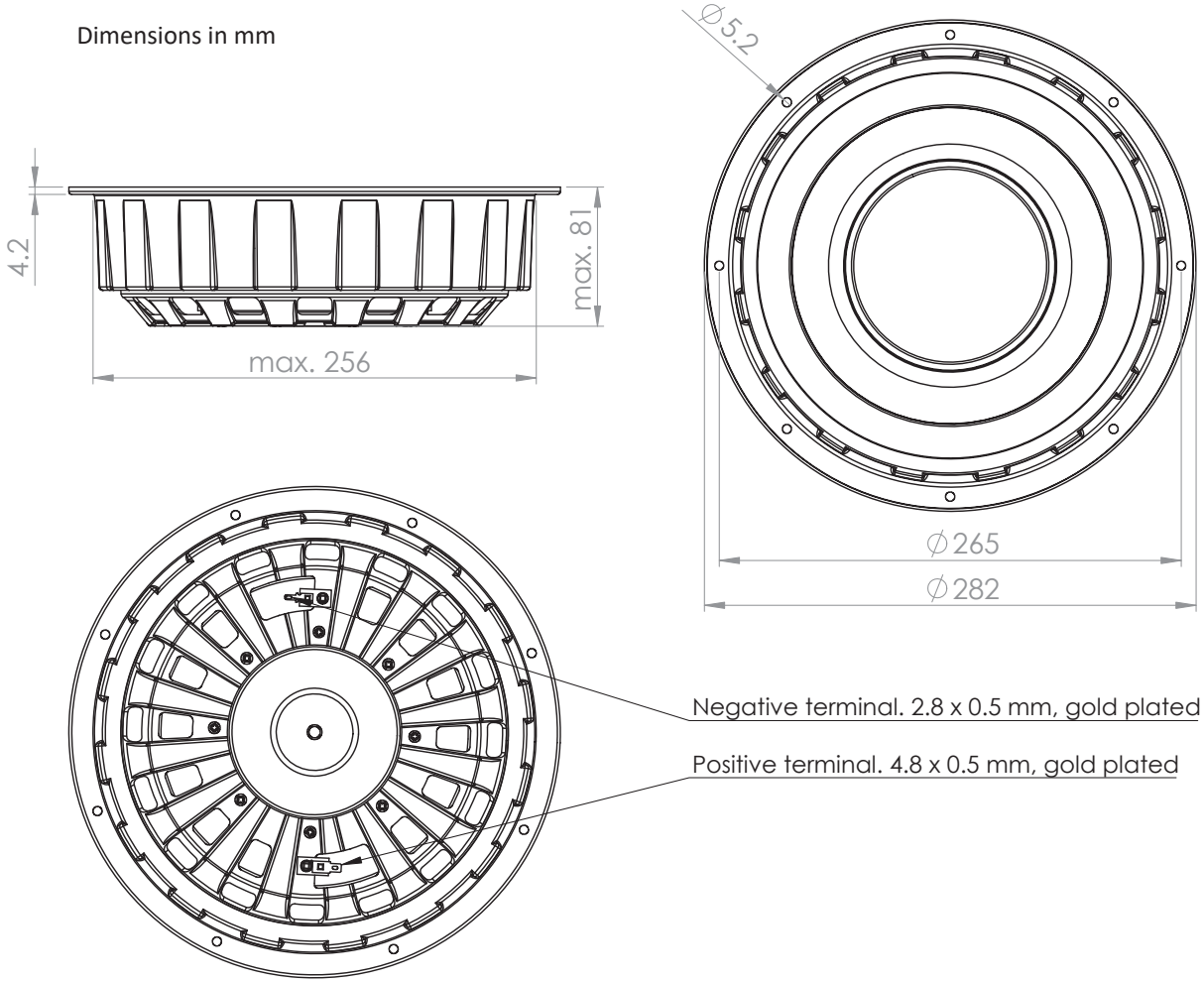


SPECIFICATIONS

SW280WA03/04 11” low profile, alu cone subwoofers, 4/8 ohm

OUTLINE DRAWING (nominal dimensions)

Dimensions in mm



PACKAGING AND ORDERING INFORMATION

Part no. SW280WA03-01	4 ohm version, individual packaging (one piece per box)
Part no. SW280WA04-01	8 ohm version, individual packaging (one piece per box)

Latest update: April 26, 2023