

# SPECIFICATIONS



## SW263WA01/03 10¼" die cast, alu cone suwoofers, 8/4 ohm

SW263WA01 and SW263WA03 are woofers designed for dedicated subwoofer applications. They work equally well for high-end hi-fi, high quality home theater systems, and top multimedia setups.

The extremely rigid aluminium cone, the long linear throw, exaggerated ventilation, and the special dynamic linearization short circuiting rings together makes up for an unusually linear and low-distortion woofer. Even at very high signal levels, the unit behaves controlled and without distortion.

Due to low mechanical losses SW263WA01 masters equally well low level details and extreme dynamic requirements.



### FEATURES

- Extremely rigid aluminium cone to ensure piston motion at high levels and for better heat transfer at high continuous power levels
- Die cast alu chassis with additional spacers for optimal ventilation and increased stroke
- Vented cone neck for reduced distortion and compression
- Vented chassis for lower air flow speed reducing audible distortion
- Heavy-duty black fiber glass voice coil bobbin to reduce mechanical losses resulting in better dynamic performance and low-level details
- Large motor system with 2" voice coil diameter and huge dual 145mm magnet for better control and efficiency
- Black-plated magnet structure steel parts for increased heat dissipation and power handling
- Upper and lower built-in alu field stabilizing rings for reduced high-level distortion
- 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 small-cabinet performance Gold plated terminals to ensure long-term trouble free connection

### NOMINAL SPECIFICATIONS

| Notes | Parameter  | SW263WA03      |               | SW263WA01      |               | Unit               |
|-------|--|----------------|---------------|----------------|---------------|--------------------|
|       |  | Before burn-in | After burn-in | Before burn-in | After burn-in |                    |
|       | Nominal size   | 10¼            |               | 10¼            |               | [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)         | 86             |               | 84             |               | [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 | 200            |               | 200            |               | [W]                |
|       | Effective radiating area, S <sub>d</sub>                       | 314            |               | 314            |               | [cm <sup>2</sup> ] |
| 3, 6  | Resonance frequency (free air, no baffle), F <sub>s</sub>      | 29             | 27            | 23             | 20.5          | [Hz]               |
|       | Moving mass, incl. air (free air, no baffle), M <sub>ms</sub>  | 173            |               | 159            |               | [g]                |
| 3     | Force factor, B <sub>xl</sub>                                  | 14.2           |               | 18.7           |               | [N/A]              |
| 3, 6  | Suspension compliance, C <sub>ms</sub>                         | 0.18           | 0.20          | 0.29           | 0.38          | [mm/N]             |
| 3, 6  | Equivalent air volume, V <sub>as</sub>                         | 25             | 28            | 40.6           | 53            | [lit.]             |
| 3, 6  | Mechanical resistance, R <sub>ms</sub>                         | 3.3            | 3.4           | 2.1            | 2.1           | [Ns/m]             |
| 3, 6  | Mechanical Q, Q <sub>ms</sub>                                  | 9.4            | 8.8           | 11.4           | 10.0          | [-]                |
| 3, 6  | Electrical Q, Q <sub>es</sub>                                  | 0.52           | 0.50          | 0.42           | 0.37          | [-]                |
| 3, 6  | Total Q, Q <sub>ts</sub>                                       | 0.50           | 0.47          | 0.41           | 0.36          | [-]                |
| 4     | Voice coil resistance, R <sub>DC</sub>                         | 3.4            |               | 6.3            |               | [ohm]              |
| 5     | Voice coil inductance, L <sub>e</sub> (measured at 1 kHz)      | 1.5            |               | 2.5            |               | [mH]               |
|       | Voice coil inside diameter                                     | 51             |               | 51             |               | [mm]               |
|       | Voice coil winding height                                      | 32             |               | 32             |               | [mm]               |
|       | Air gap height   | 8              |               | 8              |               | [mm]               |
|       | Theoretical linear motor stroke, X <sub>max</sub>              | ±12            |               | ±12            |               | [mm]               |
|       | Magnet weight  | 2.7            |               | 2.7            |               | [g]                |
|       | Total unit net weight excl. packaging                          | 6.2            |               | 6.2            |               | [kg]               |
| 3, 5  | K <sub>rm</sub>  | 5.7            |               | 10.1           |               | [mohm]             |
| 3, 5  | E <sub>rm</sub>  | 0.76           |               | 0.75           |               | [-]                |
| 3, 5  | K <sub>xm</sub>  | 11.2           |               | 15.2           |               | [mH]               |
| 3, 5  | E <sub>xm</sub>  | 0.75           |               | 0.77           |               | [-]                |

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.

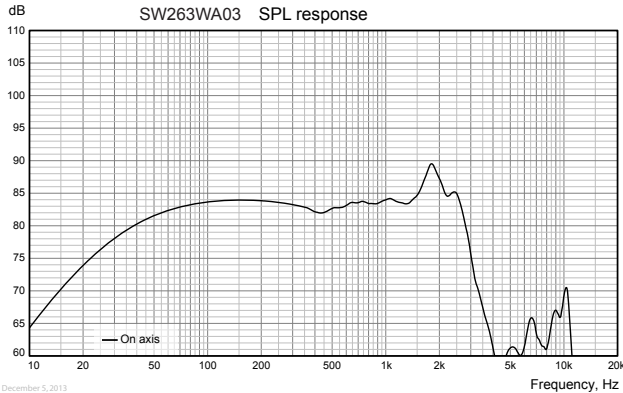
Note 4 Measured at 25 deg. C

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](http://www.linearx.com)), involving parameters K<sub>rm</sub>, E<sub>rm</sub>, K<sub>xm</sub>, and E<sub>xm</sub>. This more accurate transducer model is described in a technical paper [here at our web site](#).

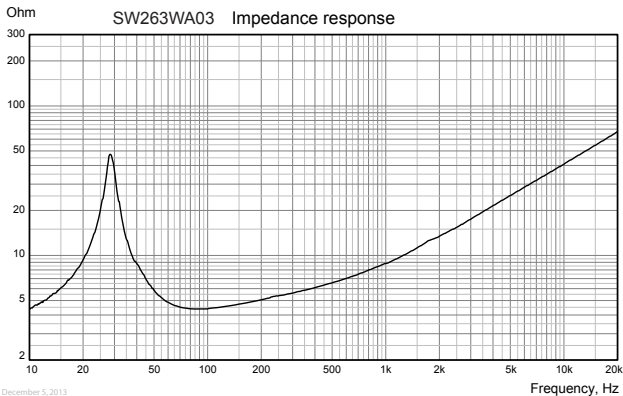
Note 6 After burn-in specifications are measured 12 hours after exiting the transducer by a 20 Hz sine wave for 2 hours at level 10/14.1 V<sub>RMS</sub> (4/8 ohm version). The unit is not burned in before shipping.

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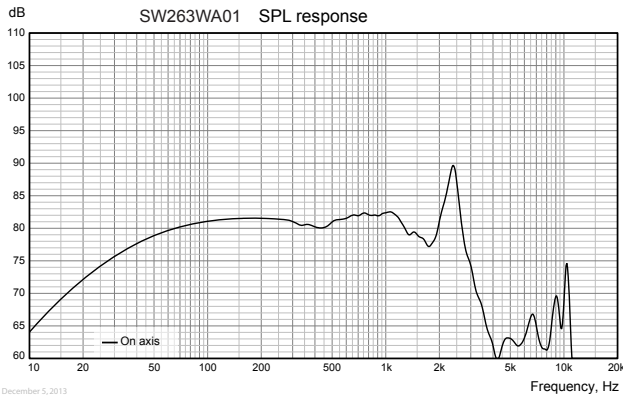
## SW263WA01/03 10¼" die cast, alu cone suwoofers, 8/4 ohm



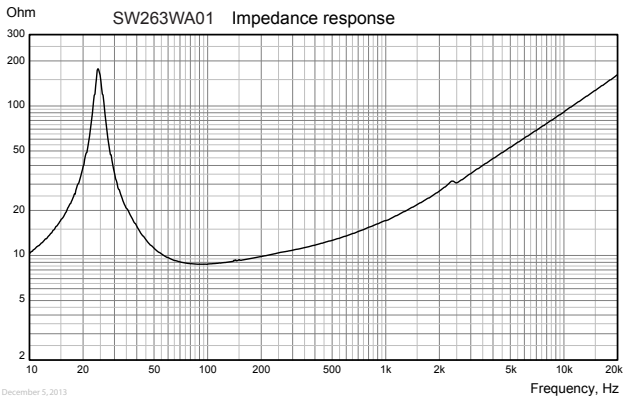
Measuring conditions, SPL  
 Driver mounting: Flush in infinite baffle, back side open (no cabinet)  
 Microphone distance: 1.0 m  
 Input signal: 2.83 VRMS stepped sine wave  
 Smoothing: 1/6 oct.



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



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

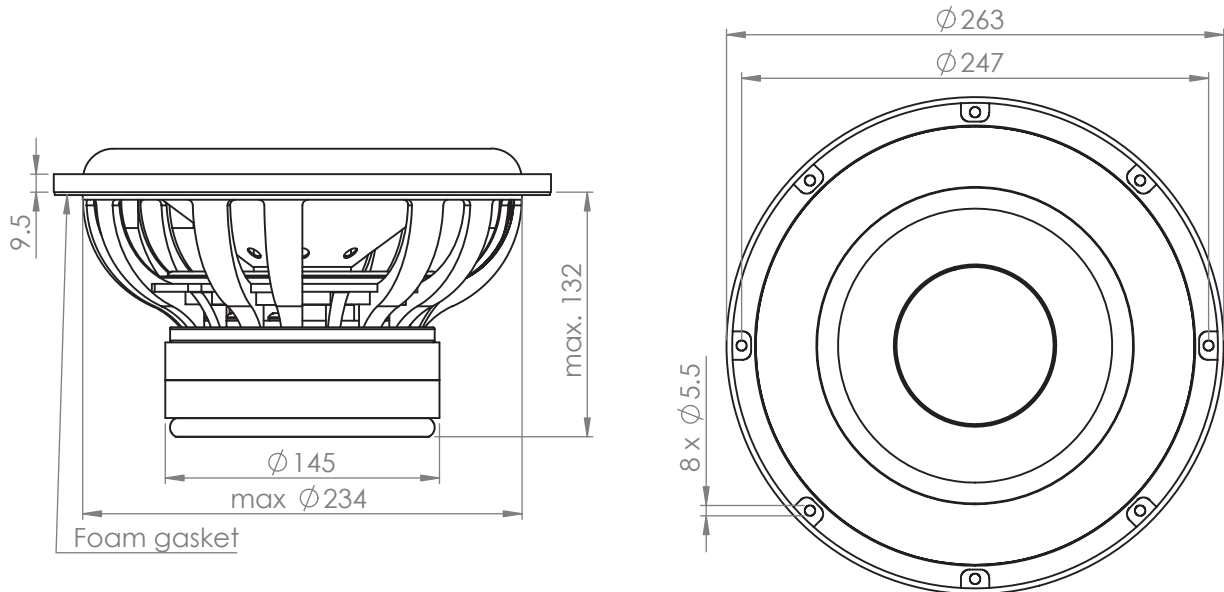


Measuring conditions, impedance  
 Driver mounting: Free air, no baffle, back side open (no cabinet)  
 Input signal: Stepped sine wave, semi-current-drive, nominal current 2 mA  
 Smoothing: None

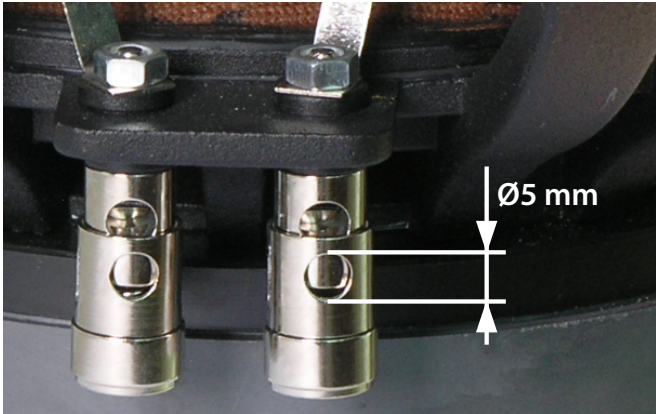
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### OUTLINE DRAWING (nominal dimensions)



### CONNECTIONS



### PACKAGING AND ORDERING INFORMATION

|                       |   |
|-----------------------|---|
| Part no. SW263WA03-01 | 4 ohm version, individual packaging (one piece per box) |
| Part no. SW263WA01-01 | 8 ohm version, individual packaging (one piece per box) |

Latest update: Oct. 9, 2014