SPECIFICATIONS

TW022WA04 22 mm chambered neodymium textile tweeter, 4 ohm

TW022WA04 is a compact 22 mm neodymium tweeter for applications where small size is important, while requiring the highest level of performance

The best of two worlds?
The design with 22 mm voice coil and wide surround caters for both applications that would normally require traditional ¾" tweeters and those, where 1" tweeters would usually be used.
Featured with a rear chamber these compact tweeters offer very low resonance frequency.

FEATURES

- 22 mm design for optimal compromise between on- and off-axis frequency response, resonance frequency, and power handling
- Rear chamber for low resonance frequency and reduced distortion
- Outside ring neodymium magnet for lower resonance frequency and distortion
- Precision-coated textile diaphragm for improved consistency and high-frequency extension
- Optimized dome shape for ultra high frequency cutoff
- Vented voice coil former for reduced distortion and compression
- Copper-clad aluminium voice coil wire offering lower moving mass for improved efficiency and transient response
- Build-in cavities under dome/edge to equalize pressure for lower distortion and lower resonance frequency
- Flexible lead wires for higher power handling and larger excursion
- Gold plated terminals to prevent oxidation and ensure long-term reliable connection
- Delivered with foam gasket attached for hassle-free mounting and secure cabinet sealing (TW022WA04 only)

NOMINAL SPECIFICATIONS

Notes	Parameter	Value	Unit
	Nominal size	22	[mm]
	Nominal impedance	4	[ohm]
	Recommended frequency range	2 - 30	[kHz]
1, 4	Sensitivity, 2.83V/1m (average SPL in range 5 - 20 kHz)	89.5	[dB]
2	Power handling, short term, IEC 268-5, 2.5 kHz@12dB/oct.		[W]
2	Power handling, long term, IEC 268-5, 2.5 kHz@12dB/oct.	65	[W]
2	Power handling, continuous, IEC 268-5, 2.5 kHz@12dB/oct.	20	[W]
	Effective radiating area, S_d	6.1	[cm^2]
3, 4, 6	Resonance frequency (free air, no baffle), F_s	825	[Hz]
	Moving mass, incl. air (free air, no baffle), M_{ms}	0.26	[g]
3	Force factor, Bxl	1.60	[N/A]
3, 4, 6	Suspension compliance, C_{ms}	0.144	[mm/N]
3, 4, 6	Equivalent air volume, V_{as}	7.6	[mlit.]
3, 4, 6	Mechanical resistance, R_{ms}	0.92	[Ns/m]
3, 4, 6	Mechanical Q, Q_{ms}	1.4	[-]
3, 4, 6	Electrical Q, Q_{es}	1.9	[-]
3, 4, 6	Total Q, Q_{ts}	0.80	[-]
4	Voice coil resistance, R_{DC}	3.6	[ohm]
5	Voice coil inductance, L_e (measured at 1 kHz)	40	[µH]
	Voice coil inside diameter	22	[mm]
	Voice coil winding height	1.6	[mm]
	Air gap height	2.5	[mm]
	Theoretical linear motor stroke, Xmax	±0.45	[mm]
	Magnet weight		[g]
	Total unit net weight excl. packaging	0.06	[kg]
3, 4, 5	K_{rm}	3.2	[mohm]
3, 4, 5	E_{rm}	1.12	[-]
3, 4, 5	K_{xm}	3.2	[mH]
3, 4, 5	E_{xm}	0.56	[-]

Note 1 *Measured in infinite baffle.*
Note 2 *Tested in free air (no cabinet, no baffle).*
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 Measured before burn in. The unit is not burned in before shipping.

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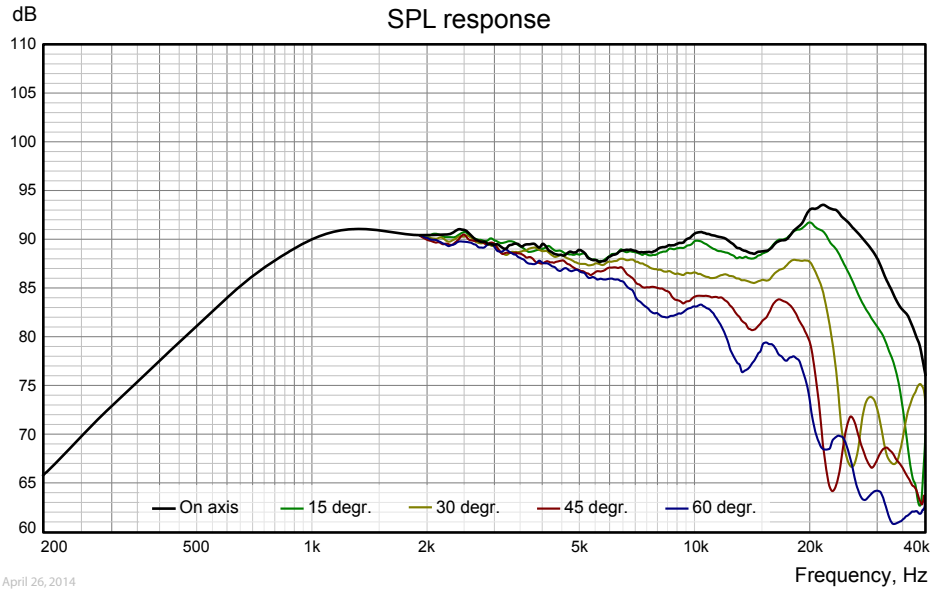
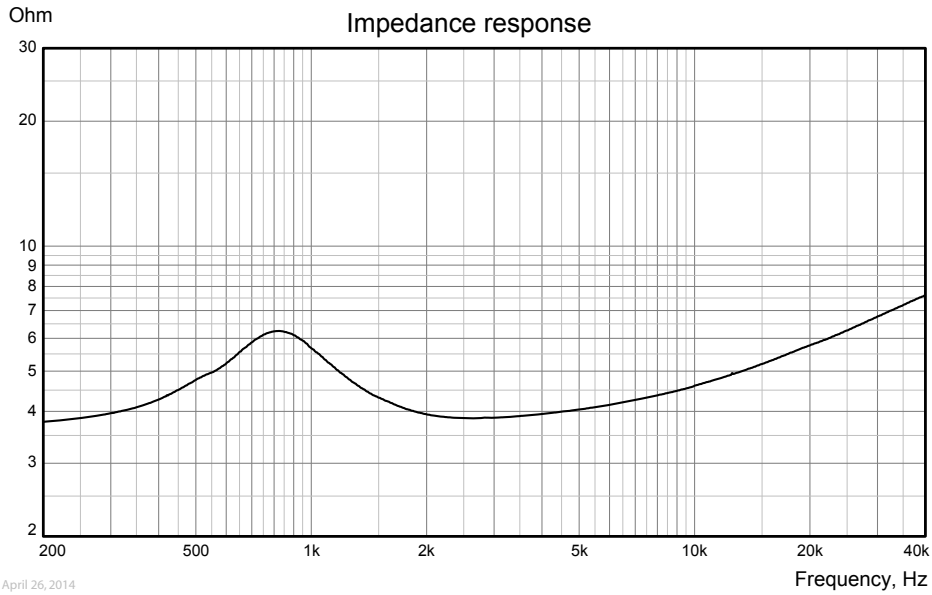


Measuring conditions, SPL
Driver mounting: Flush in infinite baffle, back side open (no cabinet)
Microphone distance: 1.0 m
Input signal: 2.83 VRMS stepped sine wave
Smoothing: 1/6 oct.

Download on-axis SPL 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 Impedance response as .txt file



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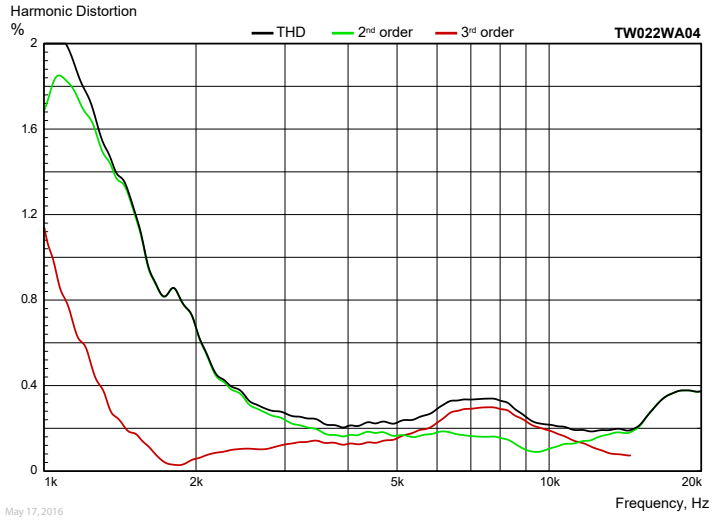
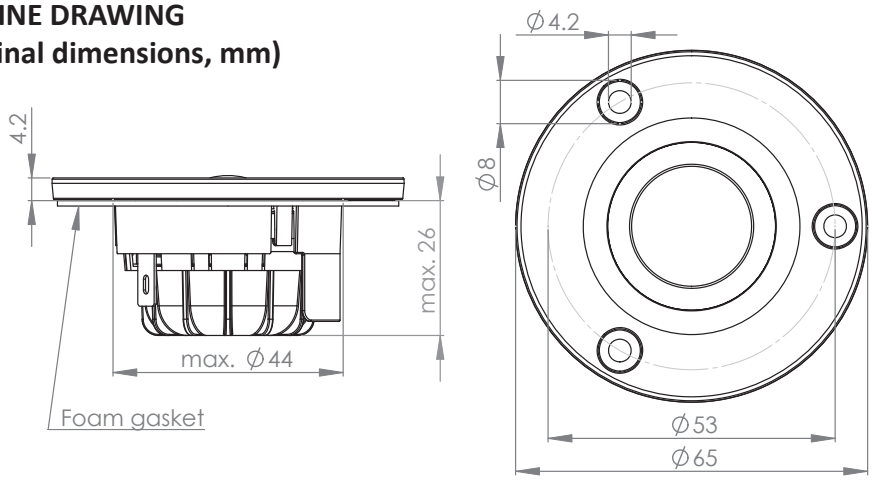
HARMONIC DISTORTION

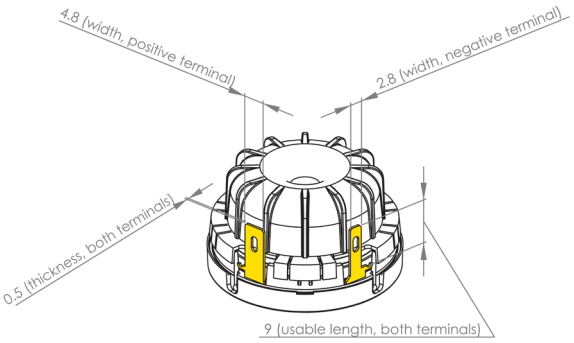


Measuring conditions, harmonic distortion
Driver mounting: In "infinite" baffle
Microphone distance: 0.5 m
Input signal: Stepped sine wave, 2.83 VRMS
Smoothing: 1/6 oct.

OUTLINE DRAWING (nominal dimensions, mm)



CONNECTIONS



PACKAGING AND ORDERING INFORMATION

Part no. TW022WA04-01	Packed in pairs (two pieces per box)
Part no. TW022WA04-02	Bulk packaging

Latest update: Apr. 21, 2018