

SPECIFICATIONS

TW030WA21/22 30 mm textile tweeter, 4/8 ohm

TW030WA21 and TW030WA22 are tweeters designed for applications requiring the highest level of performance, with extended and linear high frequency response, smooth off-axis response, and excellent batch-to-batch consistency.

FEATURES

- Graphene reinforced textile dome with increased high-frequency extension, consistency, and temperature rating
- 30 mm design with controlled off-axis and power response, high power handling, and low resonance frequency
- Innovative design of Internal volumes for low resonance frequency and distortion
- Optimized dome shape for improved high frequency cutoff
- Vented voice coil former reducing 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



NOMINAL SPECIFICATIONS

Notes	Parameter	Value		Unit
		TW030WA21	TW030WA22	
	Nominal size	30	30	[mm]
	Nominal impedance	4	8	[ohm]
	Recommended frequency range	2 - 25	2 - 25	[kHz]
1, 4	Sensitivity, 2.83V/1m (average SPL in range 5 - 20 kHz)	93	91	[dB]
2	Power handling, short term, IEC 268-5, 2.5 kHz@12dB/oct.	800	800	[W]
2	Power handling, long term, IEC 268-5, 2.5 kHz@12dB/oct.	200	200	[W]
2	Power handling, continuous, IEC 268-5, 2.5 kHz@12dB/oct.	65	65	[W]
	Effective radiating area, S _d	11.5	11.5	[cm ²]
3, 4, 6	Resonance frequency (free air, no baffle), F _s	750	780	[kHz]
	Moving mass, incl. air (free air, no baffle), M _{ms}	0.45	0.42	[g]
3	Force factor, B _{xl}	2.05	2.6	[N/A]
3, 4, 6	Suspension compliance, C _{ms}	0.10	0.10	[mm/N]
3, 4, 6	Equivalent air volume, V _{as}	19	19	[mlit.]
3, 4, 6	Mechanical resistance, R _{ms}	0.26	0.27	[Ns/m]
3, 4, 6	Mechanical Q, Q _{ms}	8.2	7.6	[-]
3, 4, 6	Electrical Q, Q _{es}	1.78	2.05	[-]
3, 4, 6	Total Q, Q _{ts}	1.46	1.62	[-]
4	Voice coil resistance, R _{DC}	3.6	6.6	[ohm]
5	Voice coil inductance, L _e (measured at 1 kHz)			[μH]
	Voice coil inside diameter	30	30	[mm]
	Voice coil winding height	1.7	1.7	[mm]
	Air gap height	2.5	2.5	[mm]
	Theoretical linear motor stroke, X _{max}	±0.4	±0.4	[mm]
	Magnet weight	172	172	[g]
	Total unit net weight excl. packaging	400	400	[g]
3, 4, 5	K _{rm}			[mohm]
3, 4, 5	E _{rm}			[-]
3, 4, 5	K _{xm}			[mH]
3, 4, 5	E _{xm}			[-]

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.

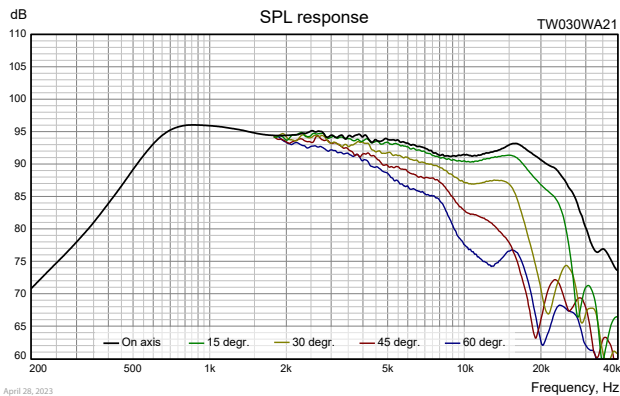
Note 4 Measured at 25 deg. C

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.

SPECIFICATIONS

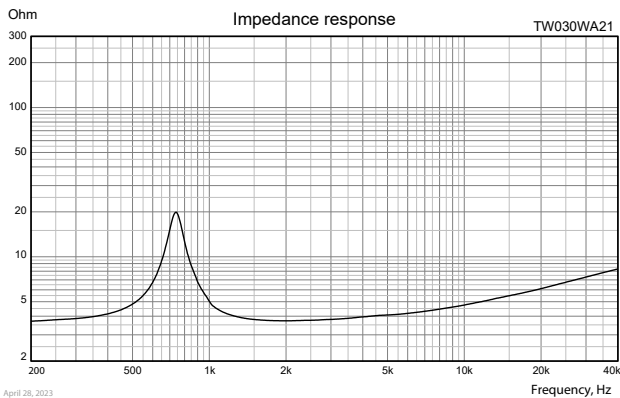
TW030WA21/22 30 mm textile tweeter, 4/8 ohm



Download TW030WA09 on-axis SPL response as .txt file

Measuring conditions, SPL

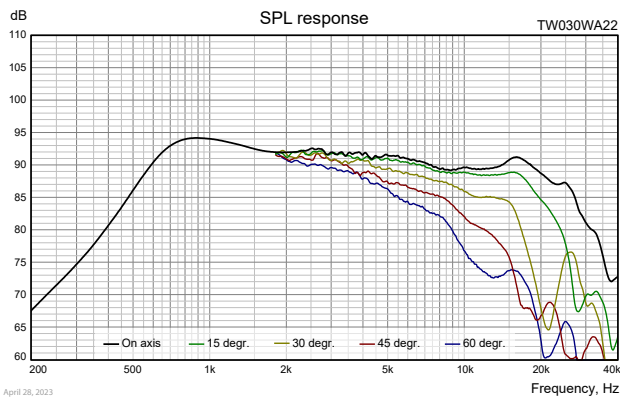
Driver mounting: Flush in infinite baffle, back side open (no cabinet)
 Microphone distance: 1.0 m
 Input signal: 2.83 VRMS LogChirp, 64k, Hanning/2
 Smoothing: 1/6 oct.



Download TW030WA09 Impedance response as .txt file

Measuring conditions, impedance

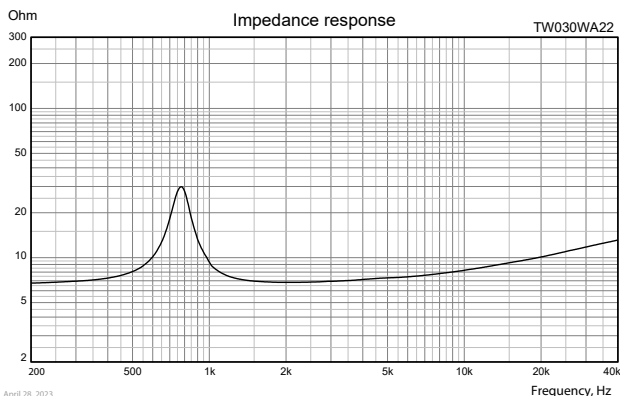
Driver mounting: Free air, no baffle, back side open (no cabinet)
 Input signal: Stepped sine wave, semi-current-drive, nominal current 2 mA
 Smoothing: None



Download TW030WA10 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: 1/6 oct.



Download TW030WA10 Impedance response as .txt file

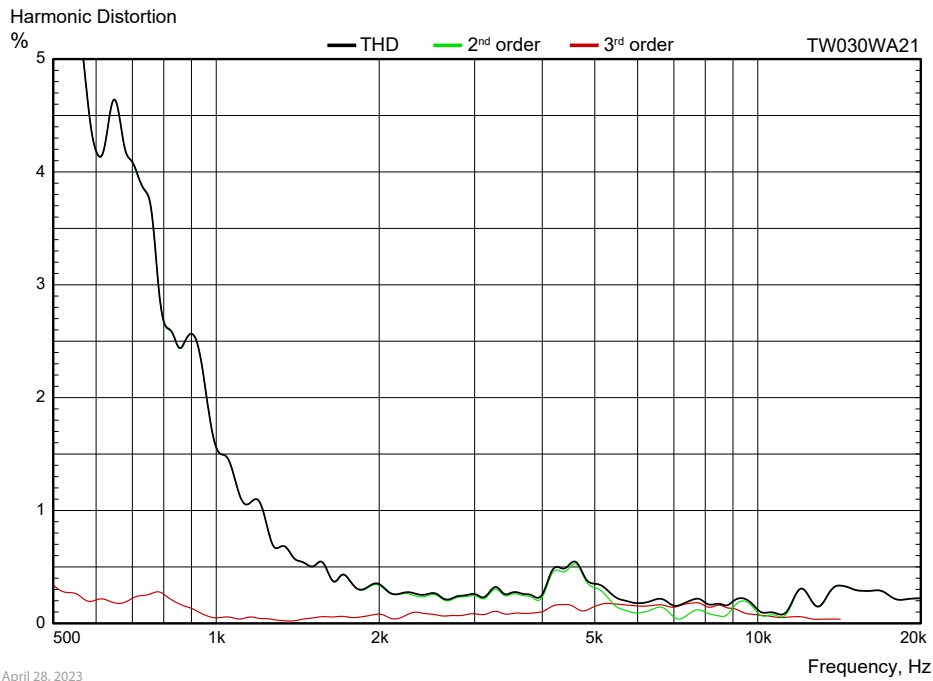
Measuring conditions, impedance

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

SPECIFICATIONS



TW030WA21/22 30 mm textile tweeter, 4/8 ohm



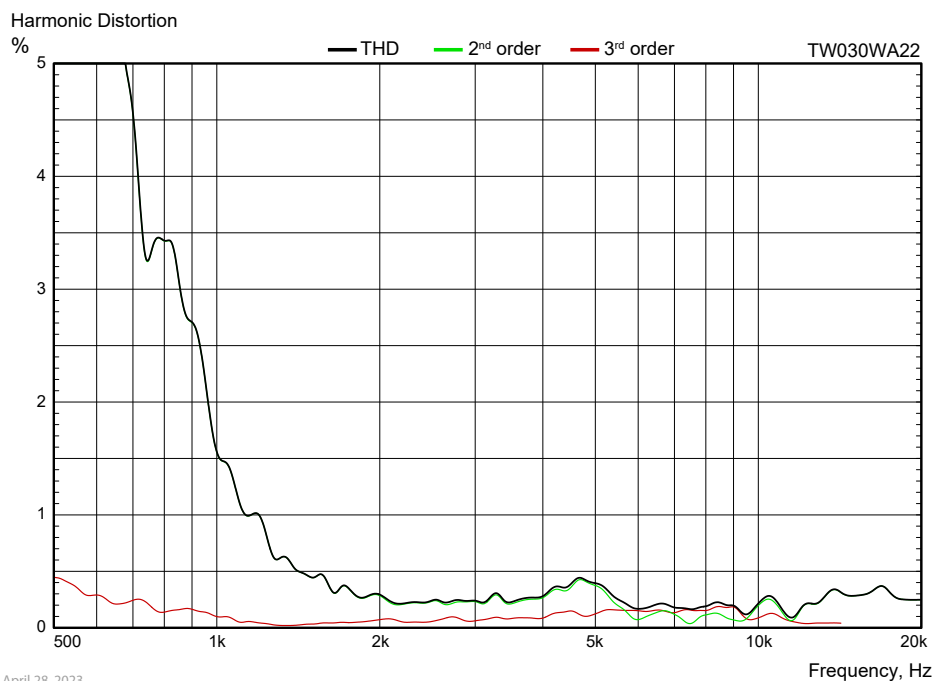
Measuring conditions, Harmonic Distortion

Driver mounting: Infinite baffle

Microphone distance: 0.5 m

Input signal: Stepped sine wave, 2.0 VRMS (TW030WA09) / 2.83 VRMS (TW030WA10)

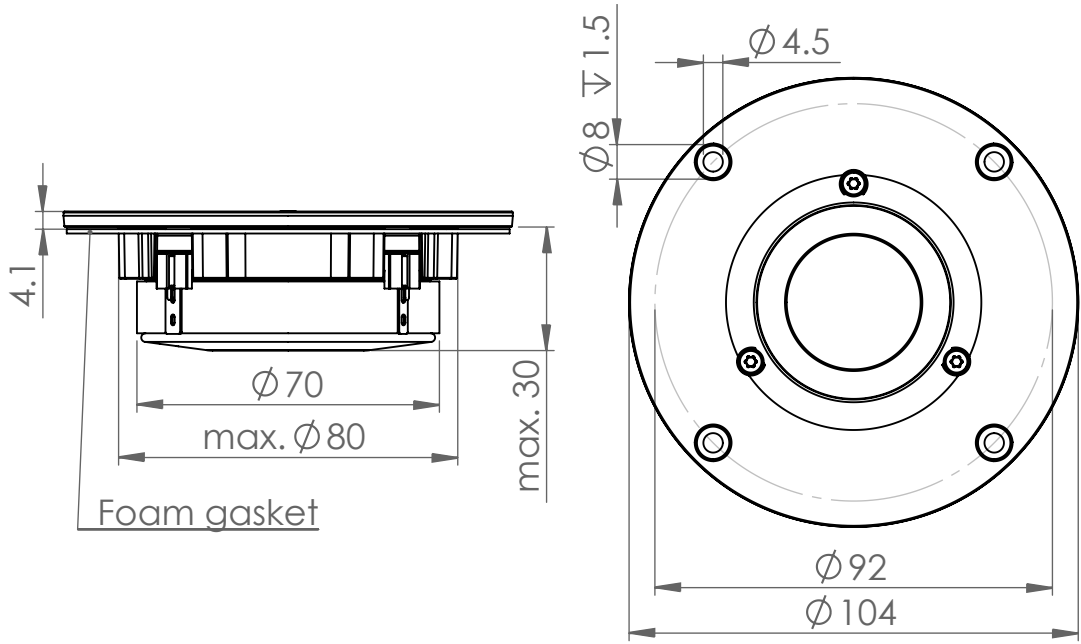
Smoothing: 1/12 oct.



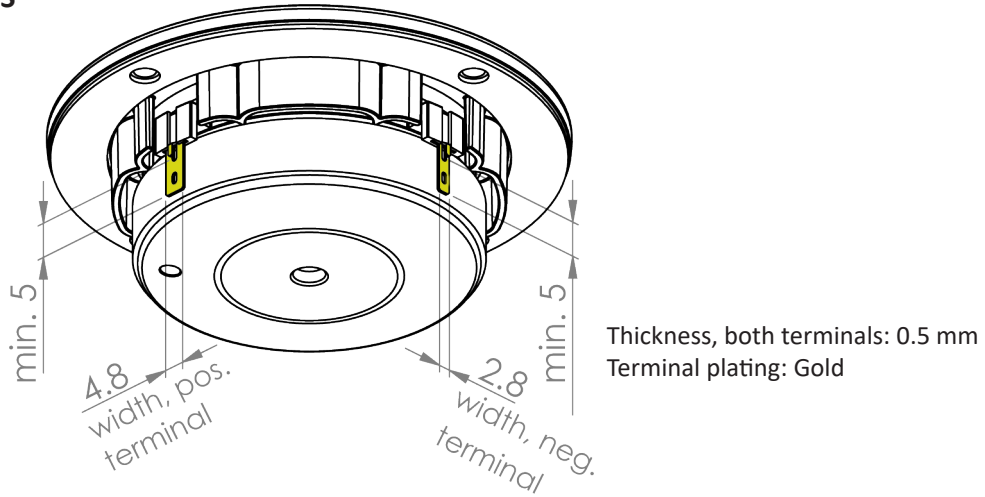
SPECIFICATIONS

TW030WA21/22 30 mm textile tweeter, 4/8 ohm

OUTLINE DRAWING (nominal dimensions)



CONNECTIONS



PACKAGING AND ORDERING INFORMATION

Part no. TW030WA21-01	4 ohm, individual packaging (one piece per box)
Part no. TW030WA21-02	4 ohm, bulk packaging
Part no. TW030WA22-01	8 ohm, individual packaging (one piece per box)
Part no. TW030WA22-02	8 ohm, bulk packaging

Latest update: Apr. 28, 2023