SPECIFICATIONS

TW030WA11/12 30 mm textile tweeter with waveguide, 4/8 ohm

TW030WA11 and TW030WA12 are tweeters designed for the most demanding applications, where low resonance frequency, high sensitivity and power handling, controlled dispersion, and a very wide frequency range are required.

FEATURES

- Featuring waveguide face plate for controlled dispersion, offering optimized off-axis and power response
- 30 mm voice coil design with high power handling, and low resonance frequency
- Copper clad center pole yielding very low voice coil inductance for reduced distortion and increased high frequency output
- Internal volumes for low 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

NOMINAL SPECIFICATIONS

Notes	Parameter	Value		Unit
		TW030WA11	TW030WA12	
	Nominal size	30	30	[mm]
	Nominal impedance	4	8	[ohm]
	Recommended frequency range	1.5 - 25	1.5 - 25	[kHz]
1, 4	Sensitivity, 2.83V/1m (average SPL in range 5 - 20 kHz)	93.5	91	[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.			[W]
2	Power handling, continuous, IEC 268-5, 2.5 kHz@12dB/oct.	45	45	[W]
	Effective radiating area, S_d	11.5	11.5	[cm²]
3, 4, 6	Resonance frequency (free air, no baffle), F_s	410	425	[kHz]
	Moving mass, incl. air (free air, no baffle), M_{ms}	0.43	0.40	[g]
3	Force factor, Bxl	1.7	2.0	[N/A]
3, 4, 6	Suspension compliance, C_{ms}	0.35	0.35	[mm/N]
3, 4, 6	Equivalent air volume, V_{as}	66	66	[mlit.]
3, 4, 6	Mechanical resistance, R_{ms}	0.57	0.57	[Ns/m]
3, 4, 6	Mechanical Q, Q_{ms}	1.9	1.9	[-]
3, 4, 6	Electrical Q, Q_{es}	1.34	1.74	[-]
3, 4, 6	Total Q, Q_{ts}	0.79	0.90	[-]
4	Voice coil resistance, R_{DC}	3.5	6.5	[ohm]
5	Voice coil inductance, L_e (measured at 20 kHz)	23	35	[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, Xmax	±0.4	±0.4	[mm]
	Magnet weight			[g]
	Total unit net weight excl. packaging	0.70	0.70	[kg]
3, 4, 5	K_{rm}	2.9	2.8	[mohm]
3, 4, 5	E_{rm}	0.50	0.53	[-]
3, 4, 5	K_{xm}	58	424	[mH]
3, 4, 5	E_{xm}	0.20	0.036	[-]

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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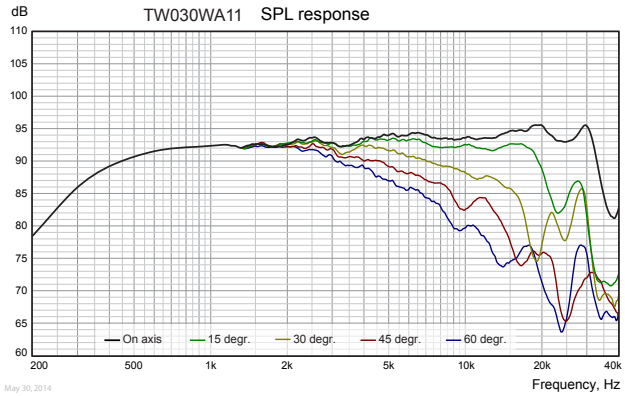
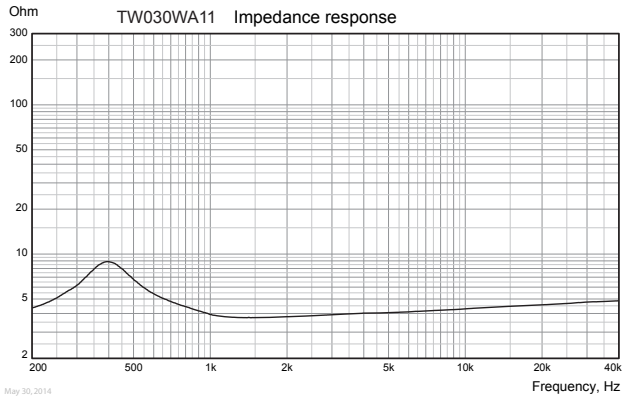
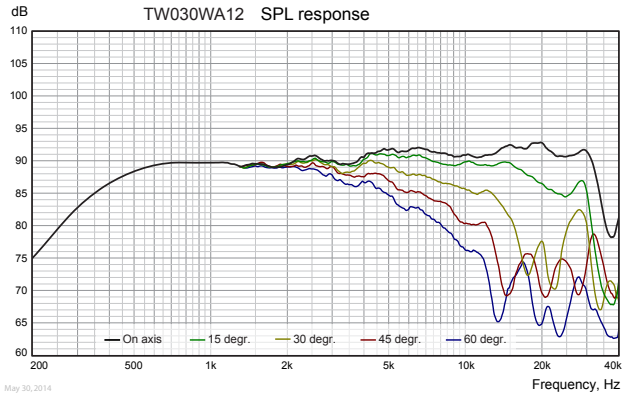


Measuring conditions, SPL
Driver mounting: Flush in infinite baffle, back side open (no cabinet)
Microphone distance: 1.0 m
Input signal: 2.83 VRMS stepped sine wave
Smoothing: 1/6 oct.



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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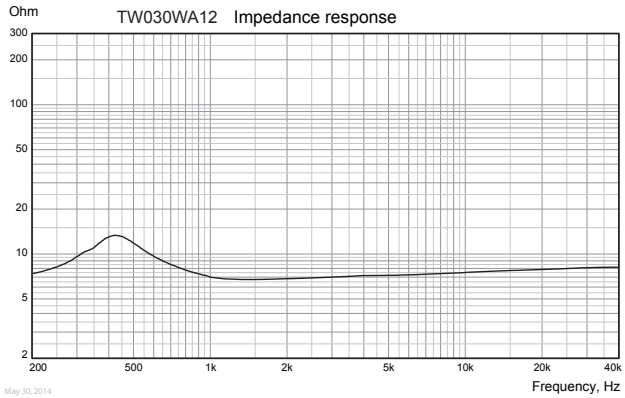

Measuring conditions, impedance
Driver mounting: Free air, no baffle, back side open (no cabinet)
Input signal: Stepped sine wave, semi-current-drive, nominal current 2 mA
Smoothing: None

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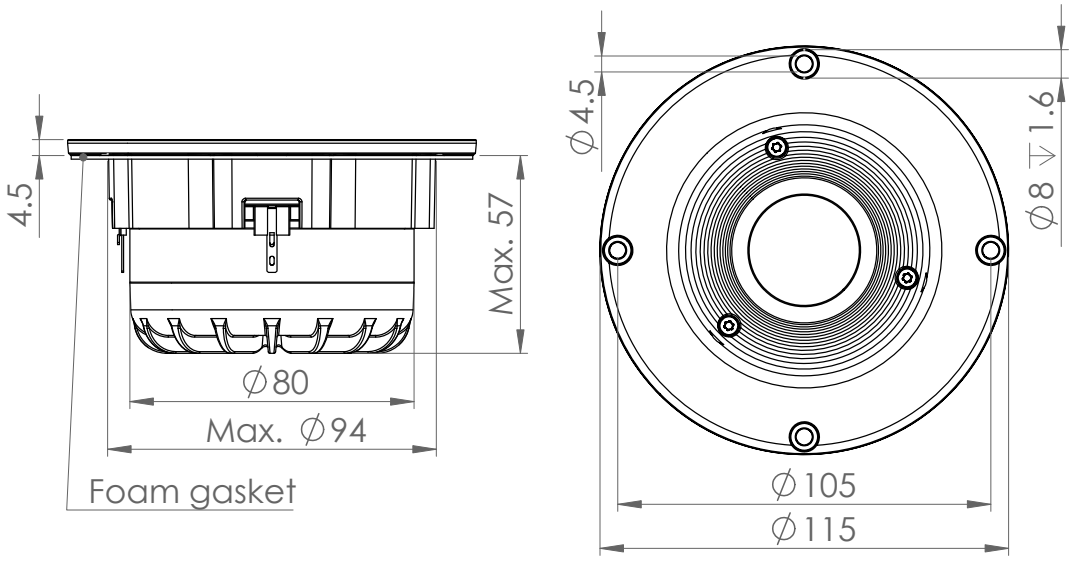
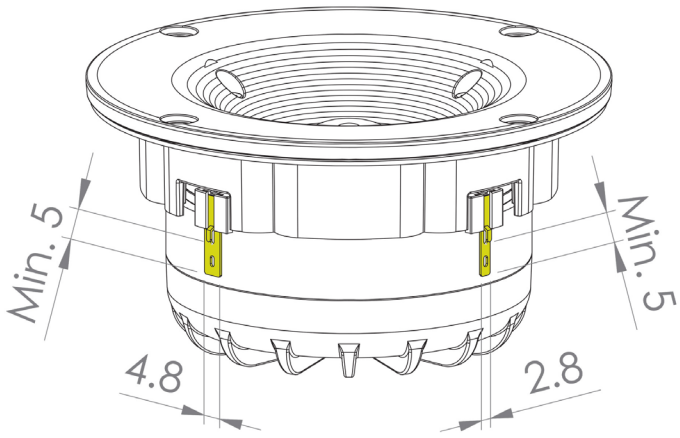
OUTLINE DRAWING (nominal dimensions)

Dimensions in mm



May 30, 2014

CONNECTIONS



Thickness, both terminals: 0.5 mm
Terminal plating: Gold

PACKAGING AND ORDERING INFORMATION

Part no. TW030WA11-01	4 ohm, individual packaging (one piece per box)
Part no. TW030WA11-02	4 ohm, bulk packaging
Part no. TW030WA12-01	8 ohm, individual packaging (one piece per box)
Part no. TW030WA12-02	8 ohm, bulk packaging

Latest update: September 11, 2014