SPECIFICATIONS

TW030WA13/14 30 mm chambered neodymium textile tweeter, 4/8 ohm

TW030WA13 and TW030WA14 are true high-end tweeters designed for the most demanding applications featuring an array of performance improving details that participate in obtaining low resonance frequency, low distortion and very high frequency extension.

FEATURES

- Precision textile dome ensuring extended response and very good consistency
- 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
- Vented through to a damped rear chamber for low resonance frequency and low distortion
- Internal volumes for low resonance frequency and low distortion
- Optimized dome shape for ultra high frequency cut-off
- Rear heat sink for increased long term power handling
- 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
- Built-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
		TW030WA13	TW030WA14	
	Nominal size	30	30	[mm]
	Nominal impedance	4	8	[ohm]
	Recommended frequency range	2 - 30	2 - 30	[kHz]
1, 4	Sensitivity, 2.83V/1m (average SPL in range 5 - 20 kHz)	93.5	90.5	[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.			[W]
2	Power handling, continuous, IEC 268-5, 2.5 kHz@12dB/oct.	35	35	[W]
	Effective radiating area, S_d	11.5	11.5	[cm²]
3, 4, 6	Resonance frequency (free air, no baffle), F_s	690	715	[kHz]
	Moving mass, incl. air (free air, no baffle), M_{ms}	0.43	0.40	[g]
3	Force factor, Bxl	1.95	2.25	[N/A]
3, 4, 6	Suspension compliance, C_{ms}	0.124	0.124	[mm/N]
3, 4, 6	Equivalent air volume, V_{as}	23	23	[mlit.]
3, 4, 6	Mechanical resistance, R_{ms}	0.76	0.76	[Ns/m]
3, 4, 6	Mechanical Q, Q_{ms}	2.45	2.37	[-]
3, 4, 6	Electrical Q, Q_{es}	1.72	2.31	[-]
3, 4, 6	Total Q, Q_{ts}	1.01	1.17	[-]
4	Voice coil resistance, R_{DC}	3.5	6.5	[ohm]
5	Voice coil inductance, L_e (measured at 10 kHz)	33	59	[µH]
	Voice coil inside diameter	30.4	30.4	[mm]
	Voice coil winding height	1.7	1.7	[mm]
	Air gap height	3.0	3.0	[mm]
	Theoretical linear motor stroke, Xmax	±0.65	±0.65	[mm]
	Magnet weight			[g]
	Total unit net weight excl. packaging	0.13	0.13	[kg]
3, 4, 5	K_{rm}	4.1	4.4	[mohm]
3, 4, 5	E_{rm}	0.48	0.48	[-]
3, 4, 5	K_{xm}	197	726	[mH]
3, 4, 5	E_{xm}	0.11	0.0	[-]

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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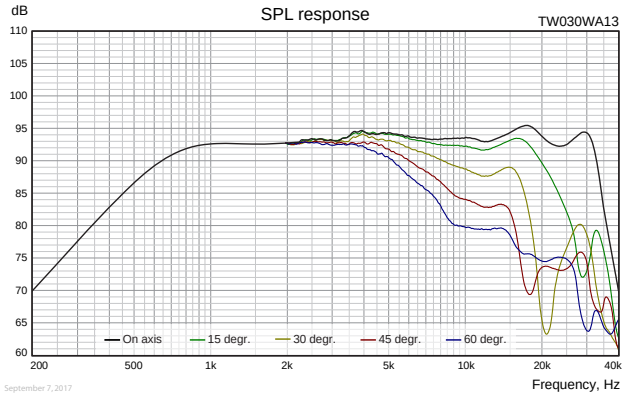
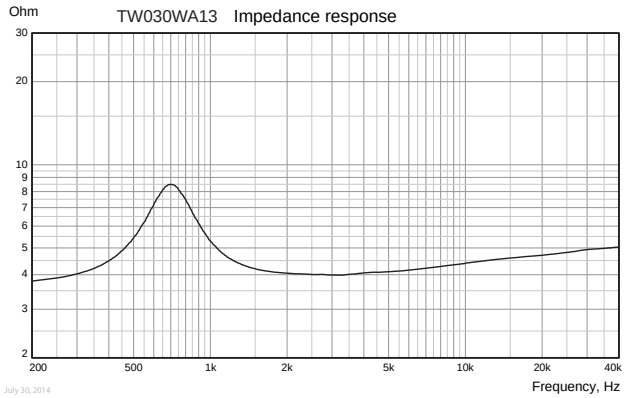
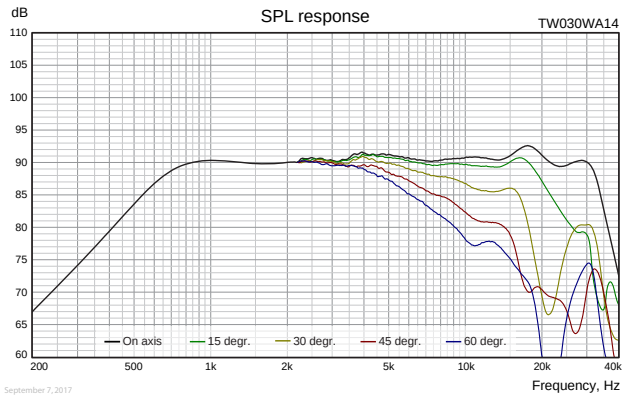


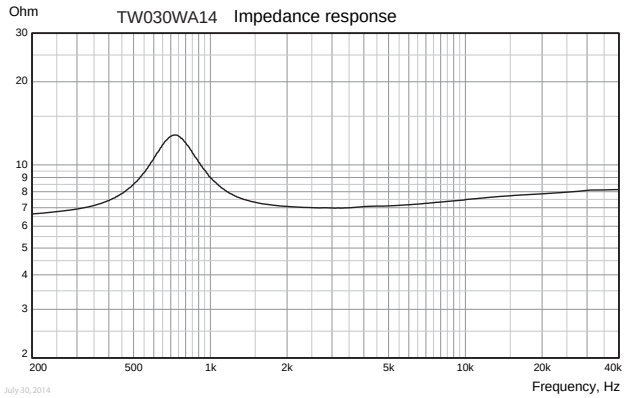
Measuring conditions, SPL
Driver mounting: Flush in infinite baffle, back side open (no cabinet)
Microphone distance: 1.0 m
Input signal: 2.83 VRMS stepped sine wave
Smoothing: 1/6 oct.



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



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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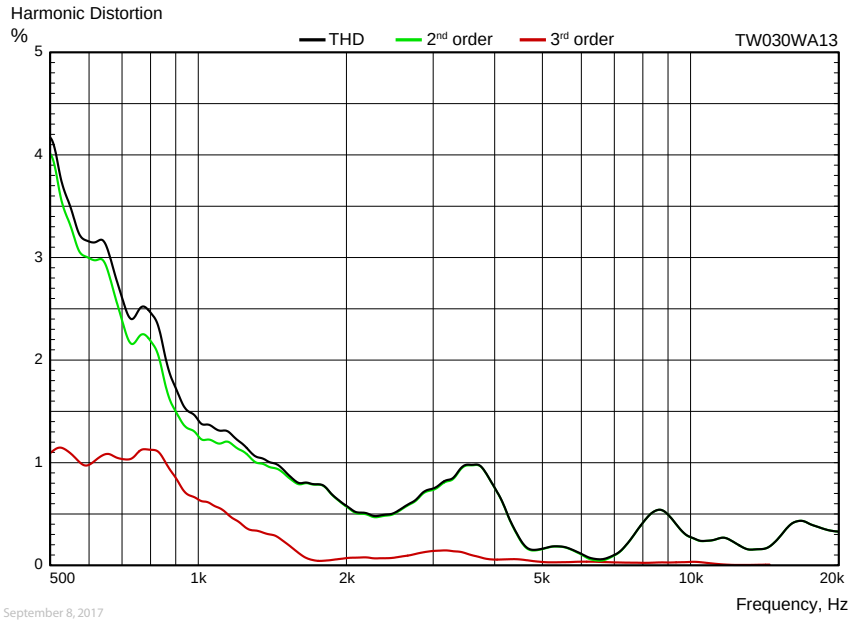
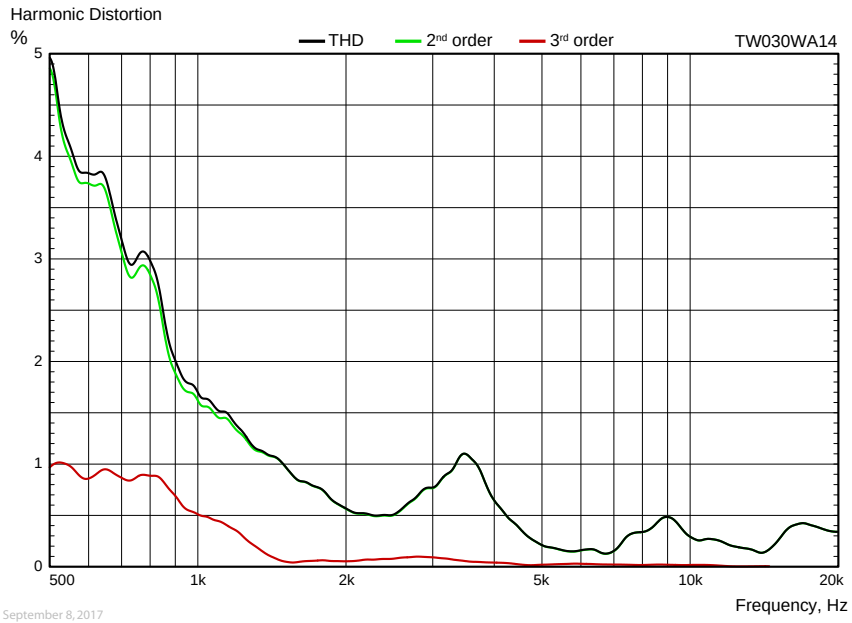
HARMONIC DISTORTION



Measuring conditions, Harmonic Distortion
Driver mounting: Infinite baffle
Microphone distance: 0.5 m
Input signal: Stepped sine wave, 2.0 VRMS (TW030WA13) / 2.83 VRMS (TW030WA14)
Smoothing: 1/6 oct.



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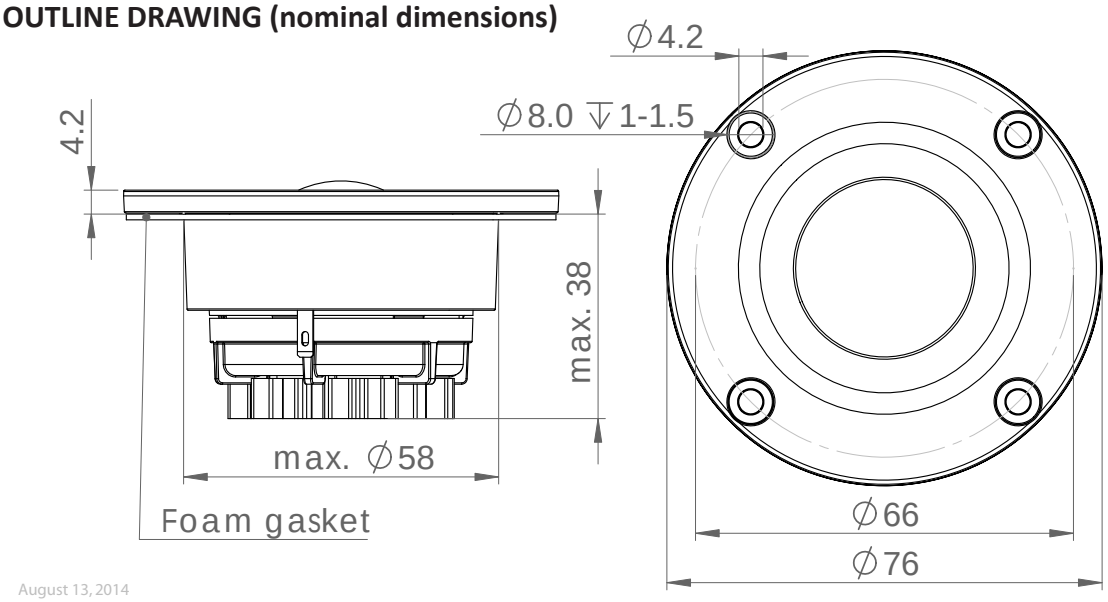
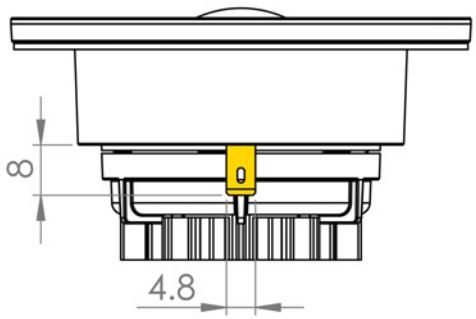
OUTLINE DRAWING (nominal dimensions)



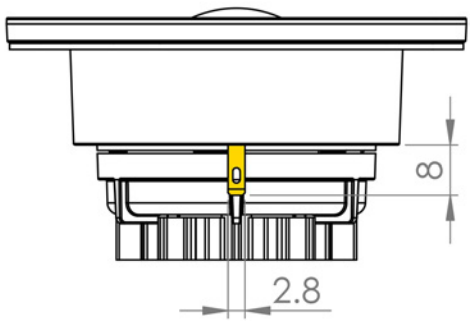
August 13, 2014

CONNECTIONS

Positive terminal



Negative terminal



Thickness, both terminals: 0.5 mm
Terminal plating: Gold

PACKAGING AND ORDERING INFORMATION

Part no. TW030WA13-01	4 ohm, individual packaging (one pair per box)
Part no. TW030WA13-02	4 ohm, bulk (industrial) packaging
Part no. TW030WA14-01	8 ohm, individual packaging (one pair per box)
Part no. TW030WA14-02	8 ohm, bulk (industrial) packaging

Latest update: September 10, 2017