beyma

PROFESSIONAL LOUDSPEAKERS
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12WR400

LOW FREQUENCY TRANSDUCER
WR Series

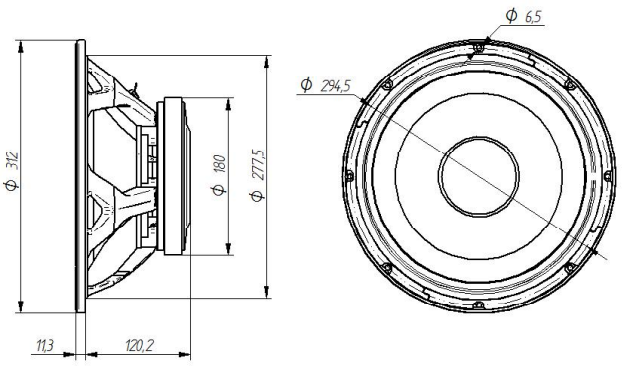
KEY FEATURES

- High power handling: 800 W program power
- 3” copper wire voice coil
- High sensitivity: 97 dB (1W / 1m)
- FEA optimized ceramic magnetic circuit
- Designed with MMSS technology for high control, linearity and low harmonic distortion
- Waterproof cone treatment on both sides of the cone
- Extended controlled displacement: X_{max} ± 6,3 mm
- X_{damage} ± 30 mm
- Low harmonic distortion and linear response
- Wide range of applications of low and mid-low frequencies

TECHNICAL SPECIFICATIONS

Nominal diameter	300 mm	12 in
Rated impedance		8 Ω
Minimum impedance		6,5 Ω
Power capacity*		400 W_{AES}
Program power		800 W
Sensitivity	97 dB	1W / 1m @ Z_N
Frequency range		45 - 5.000 Hz
Recom. enclosure vol.	30 / 100 l	1,06 / 3,53 ft^3
Voice coil diameter	77 mm	3 in
Bl factor		18 N/A
Moving mass		0,062 kg
Voice coil length		16 mm
Air gap height		8 mm
X_{damage} (peak to peak)		30 mm

DIMENSION DRAWINGS



THIELE-SMALL PARAMETERS**

Resonant frequency, f_s	42 Hz
D.C. Voice coil resistance, R_e	5,8 Ω
Mechanical Quality Factor, Q_{ms}	5,6
Electrical Quality Factor, Q_{es}	0,30
Total Quality Factor, Q_{ts}	0,28
Equivalent Air Volume to C_{ms}, V_{as}	91,1 l
Mechanical Compliance, C_{ms}	229 μm / N
Mechanical Resistance, R_{ms}	2,9 kg / s
Efficiency, η_0	2,2 %
Effective Surface Area, S_d	0,053 m^2
Maximum Displacement, X_{max} * **	6,3 mm
Displacement Volume, V_d	334 cm^3
Voice Coil Inductance, L_e @ 1 kHz	1 mH

MOUNTING INFORMATION

Overall diameter	312 mm	12,28 in
Bolt circle diameter	294,5 mm	11,59 in
Baffle cutout diameter:		
- Front mount	278 mm	10,94 in
Depth	130 mm	5,12 in
Net weight	5,5 kg	12,12 lb
Shipping weight	6 kg	13,23 lb

Notes:

* The power capacity is determined according to AES2-1984 (r2003) standard. Program power is defined as the transducer’s ability to handle normal music program material.

** T-S parameters are measured after an exercise period using a preconditioning power test. The measurements are carried out with a velocity-current laser transducer and will reflect the long term parameters (once the loudspeaker has been working for a short period of time).

*** The X_{max} is calculated as $(L_{vc} - H_{ag})/2 + (H_{ag}/3,5)$, where L_{vc} is the voice coil length and H_{ag} is the air gap height.

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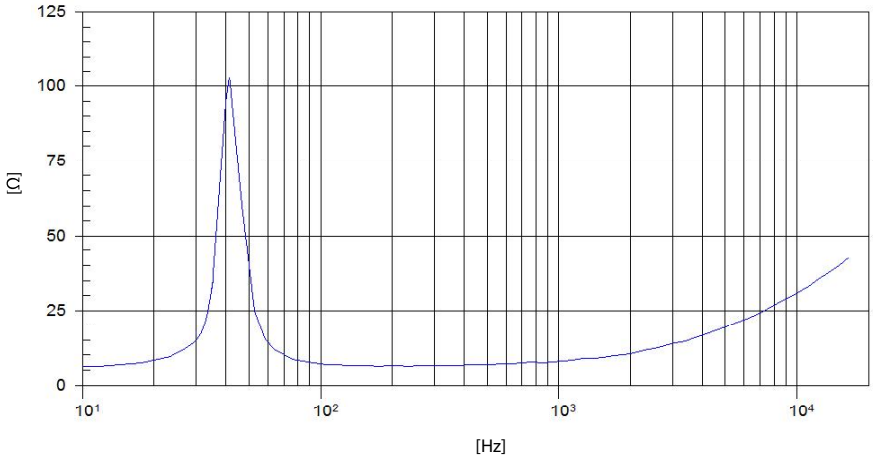
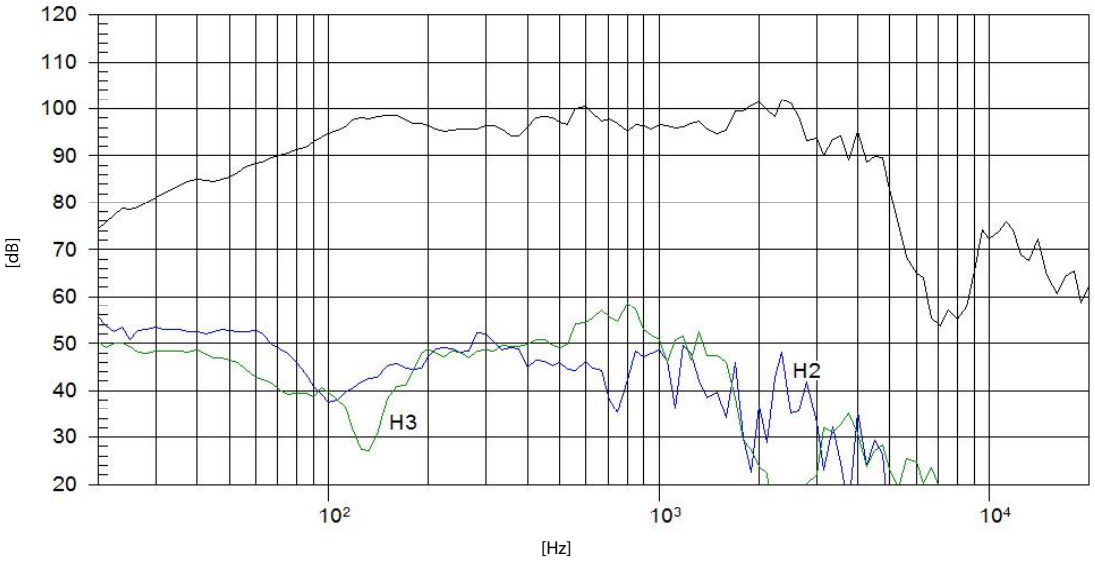
FREE AIR IMPEDANCE CURVE



FREQUENCY RESPONSE AND DISTORTION



Note: On axis frequency response measured with loudspeaker standing on infinite baffle in anechoic chamber, 1W @ 1m

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