



Code: DR-12-004-8R-B2-C0001

REDCATT 12NPM 12-inch neodymium professional mid-woofer: 450 W AES, 98 dB sensitivity, 8 Ω , Fs 49 Hz, 76 mm voice coil. Full T/S parameters, datasheet, 2D drawing and STEP CAD file.

KEY FEATURES

- ✓ Carbon fiber loaded paper cone
- ✓ Very high efficiency
- ✓ Lightweight mechanical structure

QUICK SPECS

Impedance
8 Ω

Sensitivity
98.00 dB

Magnet
Neodymium

Program Power
900 W

Fs
49.00 Hz

Voice Coil
76 mm

 [Datasheet \(PDF\)](#)

 [2D Drawing](#)

 [3D Model \(STEP\)](#)

Design Notes

The 12NPM is a high efficiency, (98 dB 1watt / 1 meter) 12-inch mid bass woofer with incredibly linear frequency response characteristics, extreme high power handling capability while generating low harmonic distortion artifacts.-

The 12NPM uses a lightweight carbon fiber loaded cone assembly along with a precision double roll constant geometry surround. This combination provides remarkable strength, high efficiency and a excursion linearity of 18.2mm.

consistent, high integrity magnetic flux gap, ultra low distortion characteristic and high efficiency cooling system. The magnetic circuit design is optimized to generate the minimum amount of flux modulation, providing exceptional stability.

Specifications

GENERAL SPECS

Nominal Diameter	12"
Rated Impedance	8 Ohm
Magnet	Neodymium
Basket Material	Aluminum

POWER HANDLING

AES Power	450 W
Continuous Power	900 W
Peak Power	1800 W

VOICE COIL

Diameter	76 mm
Winding Wire	CCAW
Former	Glass Fiber
Winding Height	18.6 mm

Resonant Frequency (Hz)	48.00 Hz
Re	4.70 Ω
Qes	0.320
Qms	9.95
Qts	0.310
Vas	63.60 liters
Sd	531.00 cm ²
Mms	65.60 grams
Rms	2.03
Cms	0.1610
Bl	17.30 T·m
Le	0.650 mH
Sensitivity	98.00 dB

General Material

Table

Cone/Dome Material	Paper GF
Spider	Nomex
T-Plate	10.5 mm
Xmax (peak)	4.05 mm
Xmech	14.55 mm
Overall Diameter	315.00 mm
Bolt Circle Diameter	298.00 mm
Baffle Cutout Dia.	285.00 mm
Mounting Holes	8
Depth (flange to rear)	142.50 mm
Net Weight	4.10 kg
Packaging Dimensions	360×360×200 mm

ORDERING CODES

Product Code DR-12-004-8R-B2-C0001

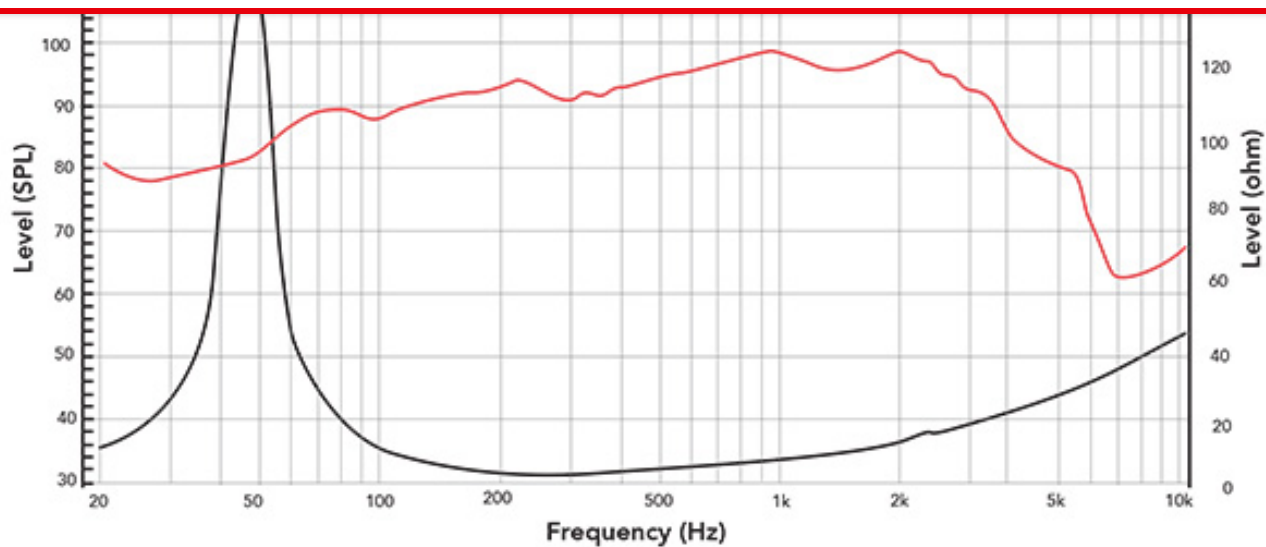
DOWNLOADS

 Datasheet (PDF)
  2D Drawing (PDF)
  3D Model (STEP)

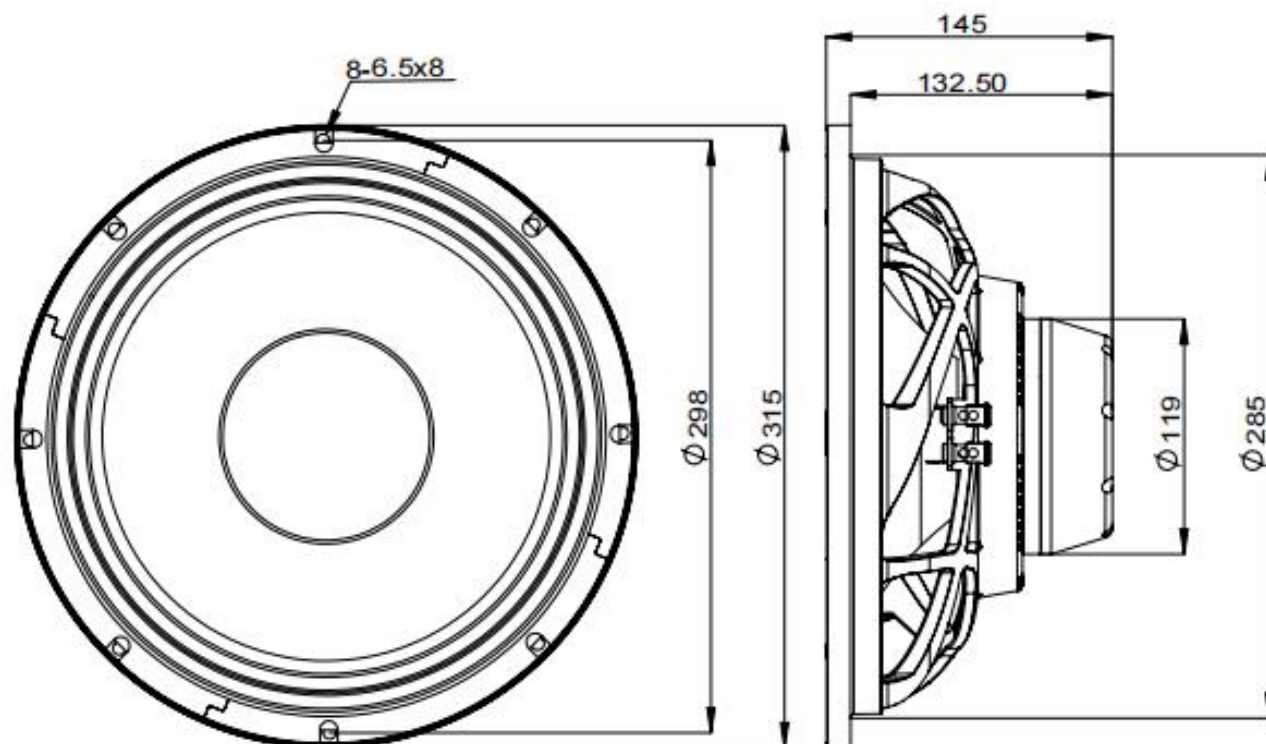
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Frequency Response & Impedance





2D Drawing



multi-way systems requiring high sensitivity (98 dB 1W/1m) and controlled low-frequency behavior. The motor and suspension are optimized to maintain consistent performance at high drive levels, with controlled excursion and reduced thermal compression during long-term operation.

The driver is intended for use with high-power amplification (approx. 450 W AES / 900 W continuous) and DSP control. A high-pass filter in the range of 28-45 Hz is recommended depending on enclosure tuning, along with proper limiting to manage thermal and mechanical stress. Typical operating bandwidth is 34-2000 Hz, covering bass through upper-mid frequencies for direct integration with a compression driver or tweeter in a two-way or multi-way system.

This design is particularly effective in single or multi-driver bass reflex systems used in professional two-way and multi-way PA systems, powered monitors, and compact bass-reflex enclosures, where extended bandwidth, controlled distortion across the full operating range, and versatile system integration are required.

Recommended enclosure volumes are simulated results. For best enclosure volumes and tuning, we recommend secondary simulation and careful evaluation. Several rounds of samples and fine-tuning may be required for optimal results.

Enclosure Recommendations

Recommended enclosure alignments (bass reflex):

- 55 liters tuned to 53 Hz: high output, strong mid-bass, reduced excursion; -3 dB approx. 49 Hz, HP filter 45 Hz
- 65 liters tuned to 46 Hz: balanced response, general-purpose (recommended); -3 dB approx. 39 Hz, HP filter 36 Hz
- 80 liters tuned to 40 Hz: extended low-frequency, requires HP filter protection; -3 dB approx. 34 Hz, HP filter 28 Hz

What are the key features of the 12NPM?



What enclosure is recommended for the 12NPM?



What applications is the 12NPM suited for?



What are the power and sensitivity specs of the 12NPM?



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