



Code: DR-8-017-4R-B2-C0001

REDCATT 8FHM 8-inch ferrite professional mid-woofer: 50 W AES, 89 dB sensitivity, 4 Ω , Fs 38 Hz, 35.6 mm voice coil. Full T/S parameters, datasheet, 2D drawing and STEP CAD file.

KEY FEATURES

- ✓ EXTENDED FREQUENCY RESPONSE
- ✓ 1k carbon-fiber nomex core honeycomb cone
- ✓ Ideal for high quality hi-fi applications, studio monitors

QUICK SPECS

Impedance
4 Ω

Program Power
100 W

Sensitivity
89.04 dB

Fs
38.00 Hz

Magnet
Ferrite

Voice Coil
35.6 mm

 [Datasheet \(PDF\)](#)

 [2D Drawing](#)

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

Design Notes

The 8FHM is a high efficiency, (89 dB 1watt / 1 meter) 8-inch mid-woofer with incredibly linear frequency response characteristics and ultra low harmonic distortion artifacts. The 8FHM uses a lightweight 1k carbon fiber material, assembled from both sides of Nomex honey-comb core. This unique cone provides the ideal weight to strength ratio. The rubber surround has been FEM modeled and optimized. The honeycomb cone with high end 1k carbon fiber material provides remarkable strength, while pushing the cone break-up modes to high frequencies, significantly extending the working range of the

The 8FHM cone is made using 1k carbon fiber hone-comb, placed from both sides of Nomex core, while the dustcap is made off hard-anodization reinforced aluminum. The dustcap shape and the hard anodizing are further improving the high frequency behavior.

Specifications

GENERAL SPECS

Nominal Diameter	8"
Rated Impedance	4 Ohm
Magnet	Ferrite
Basket Material	Aluminum

POWER HANDLING

AES Power	50 W
Continuous Power	100 W
Peak Power	200 W

VOICE COIL

Diameter	35.6 mm
Winding Wire	CCAW
Former	kapton
Winding Height	18 mm

Resonant Frequency (Hz)	33.33 Hz
Re	3.60 Ω
Qes	0.410
Qms	12.90
Qts	0.390
Vas	32.10 liters
Sd	206.10 cm ²
Mms	31.50 grams
Rms	0.58
Cms	0.5600
Bl	8.19 T·m
Le	0.460 mH
Sensitivity	89.04 dB

General Material

DR

Cone/Dome Material	Composite
Spider	Nomex
T-Plate	8 mm
Xmax (peak)	5 mm
Xmech	13 mm
Overall Diameter	223.50 mm
Bolt Circle Diameter	210.00 mm
Baffle Cutout Dia.	189.00 mm
Mounting Holes	6
Depth (flange to rear)	94.50 mm
Net Weight	2.80 kg

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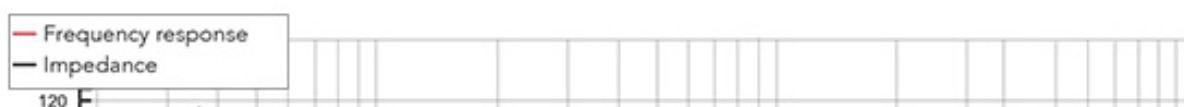
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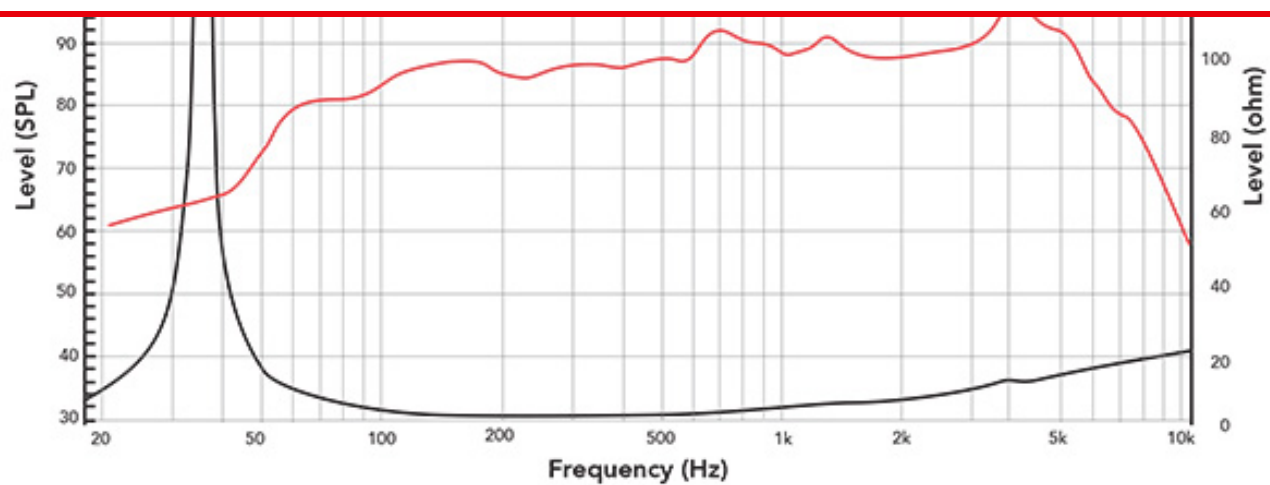
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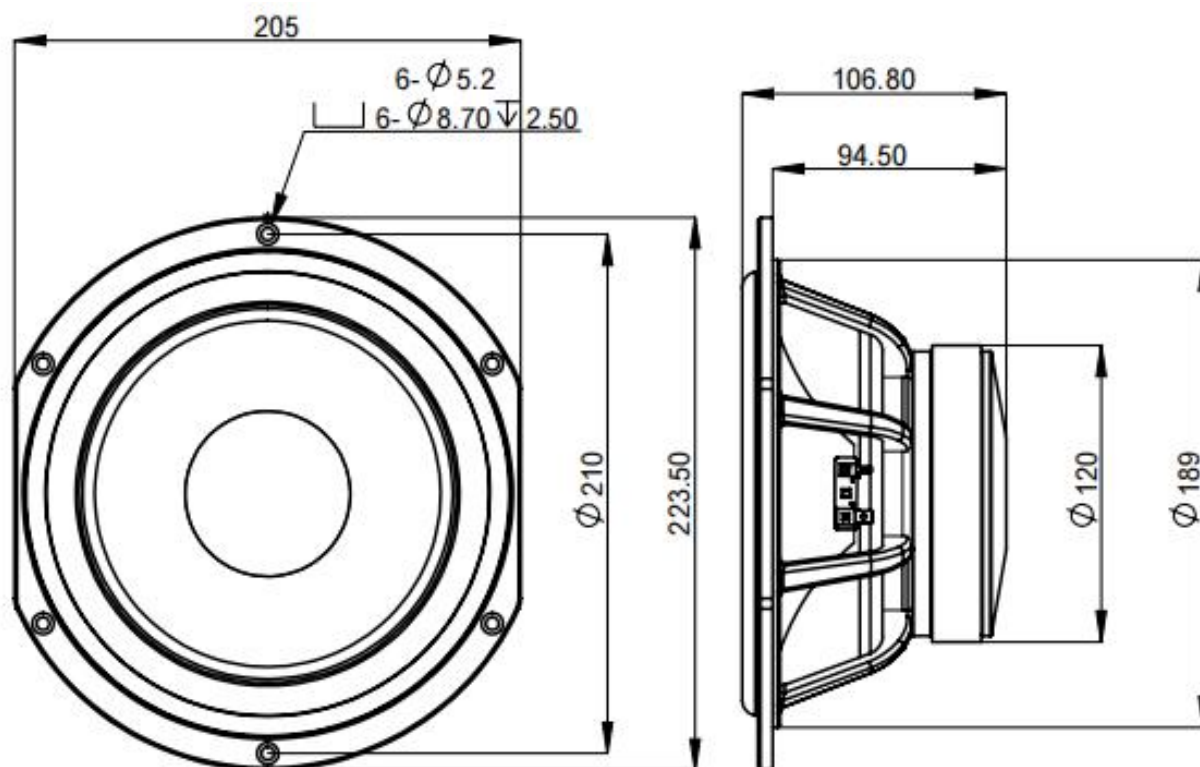
Covered by the REDCATT **3-year Limited Warranty**.

Frequency Response & Impedance





2D Drawing



speaker systems and studio monitors. Its cone is a 1K carbon fiber / Nomex honeycomb sandwich construction - carbon fiber skins laminated to both faces of a Nomex honeycomb core - delivering an exceptional stiffness-to-mass ratio that pushes cone resonance modes well above the conventional piston limit, extending the effective working range and reducing harmonic distortion artifacts across the operating band. The hard-anodized aluminum dustcap further improves high-frequency behaviour at the cone apex. Sensitivity is 89.04 dB (1 W/1 m) into 4 ohms. With a Qts of 0.39, this driver uses a balanced motor-suspension design that provides good cone control while maintaining usable output across its operating bandwidth. The very high Qms of 12.9 indicates near-zero mechanical losses; system damping is almost entirely electrical, resulting in clean, low-distortion bass and precise transient behaviour.

The 8FHMX4-091 handles approx. 50 W AES and 100 W continuous power into 4 ohms. A high-pass filter in the 28-40 Hz range is recommended depending on alignment. The operating bandwidth is approximately 40-1,250 Hz; inductance rolloff onset is near 1,246 Hz and cone beaming onset near 1,352 Hz, with the carbon fiber composite permitting a crossover to a dome tweeter or ribbon at 1.5-3.0 kHz. A passive crossover with a Zobel network (3.6 ohm / 33-39 uF) is recommended to flatten the impedance rise at the crossover frequency. Two drivers wired in series present an 8-ohm nominal load for standard amplifier compatibility.

This driver is suited for sealed Butterworth-aligned studio monitor enclosures; compact sealed or vented stand-mount hi-fi speakers; vented floorstanding hi-fi speakers with extended bass to 32-42 Hz; and any two-way high-fidelity system where low harmonic distortion, extended piston frequency response, and precise transient behaviour are required. The carbon fiber Nomex honeycomb cone distinguishes this driver from conventional paper or polypropylene cone designs in its class.

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

Hz, HP filter 36 Hz

- 24 liters tuned to 40 Hz: balanced response, general-purpose (recommended); -3 dB approx. 37 Hz, HP filter 30 Hz

- 24 liters tuned to 36 Hz: extended low-frequency, requires HP filter protection; -3 dB approx. 31 Hz, HP filter 24 Hz

Frequently Asked Questions

What are the key features of the 8FHM?



What enclosure is recommended for the 8FHM?



What applications is the 8FHM suited for?



What are the power and sensitivity specs of the 8FHM?



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