



Code: DR-15-016-8R-B2-C0001

Woofer/15inch/Ferrite/Paper/400W/8ohm

KEY FEATURES

- ✓ Hi sensitivity, low resonant frequency
- ✓ Nomex spider
- ✓ Strong, yet lightweight cone

QUICK SPECS

Impedance
8 Ω

Sensitivity
90.67 dB

Magnet
Ferrite

Program Power
800 W

Fs
24.00 Hz

Voice Coil
76 mm

 2D Drawing

 3D Model (STEP)

Design Notes

The 15FHW is an ultra low frequency sub-woofer, designed to deliver large amounts of very low frequencies. With 91 dB 1watt / 1 meter sensitivity, you find this 15-inch sub-woofer with incredibly linear frequency response characteristics ideally assembled in sub-woofers for hi-fi, gaming, studios or cinema. The 15FHW uses a strong paper cone, along with a high excursion single roll rubber surround. Rubber surround material was specifically developed for this application. The shape of the surround roll was FEM optimized to ensure low distortion in whole working range.

Power Handling

REDCATT has implemented a Nomex(r) spider design to ensure long term Fs memory, consistency and diminish anomalies associated with spider deterioration.

Specifications

GENERAL SPECS

Nominal Diameter	15"
Rated Impedance	8 Ohm
Magnet	Ferrite
Basket Material	Steel

POWER HANDLING

AES Power	400 W
Continuous Power	800 W
Peak Power	1600 W

VOICE COIL

Diameter	76 mm
Winding Wire	Copper
Former	Glass Fiber
Winding Height	19.7 mm

Resonant Frequency (Hz)	24.00 Hz
Re	5.80 \u2126
Qes	0.630
Qms	11.90
Qts	0.600
Vas	221.20 liters
Sd	804.00 cm\u00B2
Mms	169.60 grams
Rms	2.15
Cms	0.2600
Bl	15.80 T\u00B7m
Le	0.960 mH
Sensitivity	90.67 dB

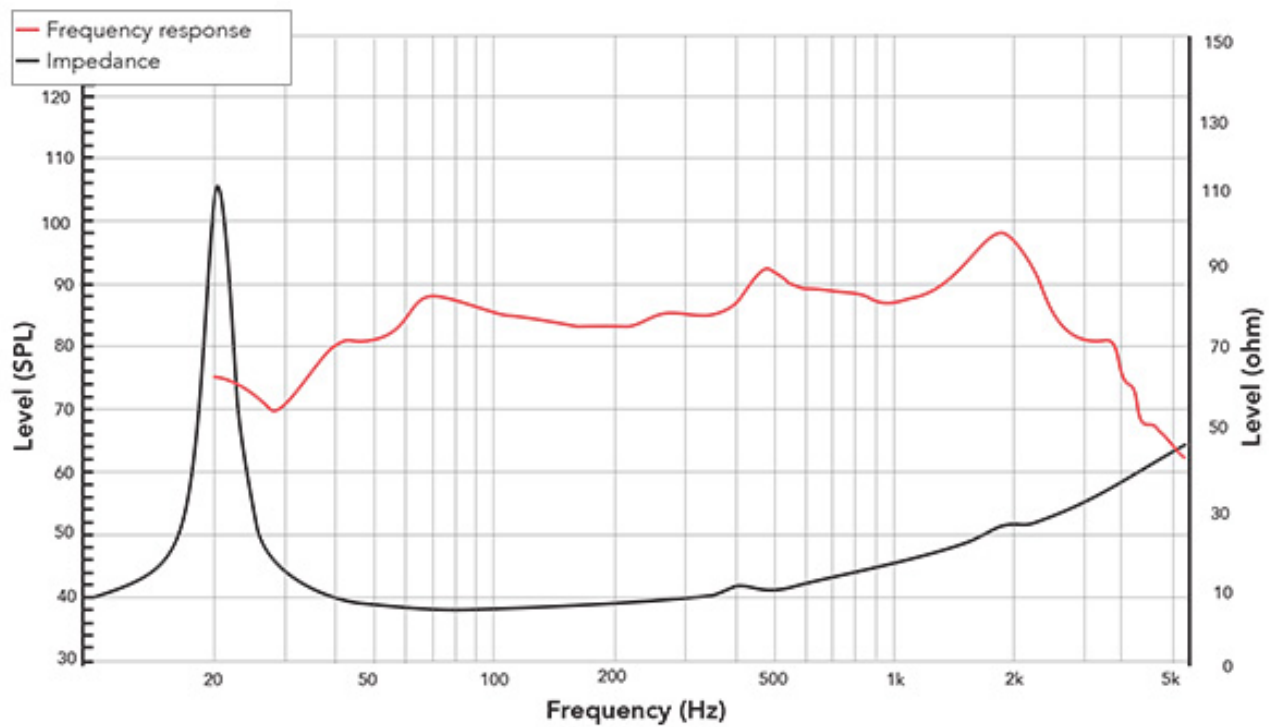
DESIGN DETAILS

Surround Material	NBR
Cone/Dome Material	Paper GF
T-Plate	10 mm
Xmax (peak)	4.85 mm
Xmech	14.85 mm
Overall Diameter	385.00 mm
Bolt Circle Diameter	371.00 mm
Baffle Cutout Dia.	349.00 mm
Mounting Holes	8
Depth (flange to rear)	168.10 mm
Net Weight	6.80 kg

DOWNLOADS

📄 2D Drawing (PDF) 📦 3D Model (STEP)

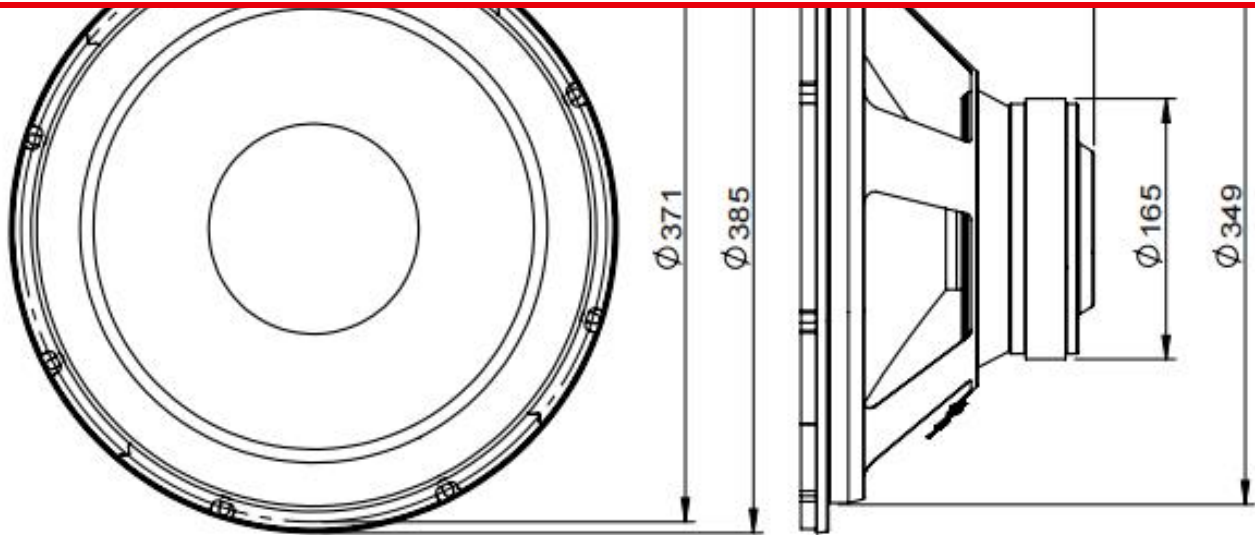
Frequency Response & Impedance



2D Drawing

8-6.5x9

185.60



Technical Summary

The 15FWX8-089 is a 15-inch cost-effective deep-bass subwoofer designed for home cinema, KTV, studio monitoring, and hi-fi systems where very low-frequency extension is the primary performance objective. With a free-air resonant frequency of 24 Hz - among the lowest available in a 15-inch driver format - the 15FW is optimized to reproduce the full audible bass spectrum and the tactile infrasonic range required by modern object-based cinema audio formats such as Dolby Atmos and DTS:X. The driver uses a 76 mm copper voice coil on a Polyimide former rated to 200 degC, delivering 400 W AES at 8 ohms in a cost-optimized package that includes a steel basket, ferrite motor, and glass fiber reinforced paper cone - a construction approach that concentrates the acoustic performance budget in the motor system and moving assembly rather than in structural materials. The NBR rubber surround is produced using a FEM-optimized single-roll profile designed to minimize geometric nonlinearity across the full X_{max} excursion range, and the Nomex spider is specified for long-term F_s consistency, ensuring that the driver's critically low resonant frequency remains stable over the service life of the installation.

Sealed alignments of 40, 60, and 80 litres produce system Q_{tc} values of 1.53, 1.30, and 1.16 respectively, with natural -3dB points at 43, 37, and 35 Hz. These alignments are

cabinet achieves extension to approximately 20 Hz with LT correction from an enclosure of approximately 380×380×320mm external - a practical size for built-in, in-wall, and under-seat home cinema installations. The amplifier must provide headroom of approximately 11-14 dB at the target low-frequency extension point relative to the unequalized response; a high-quality Class-D amplifier of 400 W or greater with DSP LT capability is the appropriate system amplification for all three sealed alignments.

The 15FWX8-089 is suited for: home cinema subwoofer systems requiring LFE channel reproduction to 20-30 Hz from a single 15-inch driver; KTV and entertainment venue bass cabinets where deep tactile bass impact is valued at controlled cost; professional studio monitoring subwoofer extensions for bass verification in music production, film post-production, and game audio; audiophile hi-fi subwoofers for music systems where bass guitar, double bass, pipe organ, and synthesizer sub-register reproduction is required; and multimedia subwoofer systems in themed entertainment, simulation, and exhibit environments. Its $F_s=24$ Hz, FEM-optimized surround, and Nomex spider make it the appropriate choice in the REDCATT portfolio for deep-bass civilian applications where cost-effectiveness and infrasonic extension take precedence over maximum sensitivity and professional output capability.

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):

- 90 liters tuned to 28 Hz: high output, strong mid-bass, reduced excursion; -3 dB approx. 26 Hz, HP filter 25 Hz
- 105 liters tuned to 25 Hz: balanced response, general-purpose (recommended); -3 dB approx. 23 Hz, HP filter 22 Hz
- 125 liters tuned to 23 Hz: extended low-frequency, requires HP filter protection; -3 dB approx. 20 Hz, HP filter 20 Hz

What are the key features of the 15FHW?



What enclosure is recommended for the 15FHW?



What applications is the 15FHW suited for?



What are the power and sensitivity specs of the 15FHW?



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