

M-3

High frequency compression driver



DESCRIPTION

The D.A.S. M-3 is a 1" diameter exit ceramic magnet high frequency compression driver with 1.75" diameter voice coil.

A pure titanium diaphragm is utilized, avoiding dome fracture due to mechanical fatigue, common in other diaphragm materials.

The copper-clad aluminium voice coil is edge-wound and thermal bonded to a Kapton former, which ensures resistance to high temperatures.

The diaphragm assembly can be replaced easily and positioned accurately in the field through the use of precision centering pins.

As with all high frequency compression drivers, passive or active circuitry will be needed to provide horn EQ compensation for the high frequency roll-off.

FEATURES

- » 70 W program HF compression driver
- » 1.75" pure titanium diaphragm
- » 1" exit
- » Ceramic magnetic structure
- » Self-centering precision diaphragm assembly

SPECIFICATIONS

AES RMS (Average) Power Handling^F:	35 W
Program Power Handling^F:	70 W
Peak Power Handling^F:	140 W
Sensitivity:	105 dB SPL ^S , 1W(2.83V)/1m with BC-5 horn 111 dB SPL ^{SPWL} , 1mW on plane-wave tube
Nominal Impedance^N:	8 Ω
Minimum Impedance:	8.6 Ω, at 3.5 kHz
Nominal Frequency Range:	1000 Hz - 20 kHz
Minimum Recommended X-over Frequency:	1000 Hz
Nominal Voice Coil Resistance:	7 Ω
Exit Throat Diameter:	25 mm (0.98 in)
Diaphragm Material and Thickness:	Pure titanium / 0.03 mm (0.0012 in)
Voice Coil Material:	Edge-wound, aluminium, copper-clad
Voice Coil Diameter:	44 mm (1.73 in)
Voice Coil Former Material:	Kapton [®]
Phase Plug:	Multi-radial slit
Magnetics:	Anisotropic Barium Ferrite
Flux Density:	1.2 T
Input Connection:	Push terminals, 4 mm diameter
Polarity:	Positive voltage to red terminal moves diaphragm away from phase plug
Mounting:	Screw on, Whitworth 1-3/8", 18 thread
Dimensions (H x D):	102 x 87.5 mm (4.0 x 3.4 in)
Weight:	1.7 kg (3.8 lbs)
Shipping Weight:	2.0 kg (4.4 lbs)

^F As per AES2-1984 (ANSI S4.26-1964), re. the minimum impedance, based on a 2 hour test continuously applying 6 dB crest factor pink noise band-limited to 2-20 kHz. Temperature rise of 47°C, infra-red probe.

^F Conventionally 3 dB higher than the average measure.

^K Corresponds to the signal crests for the test described in ^F.

^S IEC average 1.25k to 8k Hz, on-axis. Horn Di is 10 dB, averaged in the 1.25k to 10k Hz band.

^{SPWL} Measured on a standard 1 in diameter plane wave tube. IEC average, 2 kHz octave band.

^N As per industry convention. However, a rating that complied with IEC 268-5 would be 10 ohm.



Horn responses

Frequency Response

Figure 1 shows the on-axis frequency response at 1 m of a unit coupled to a BC-5 horn radiating to an anechoic environment and driven by a 2.83V swept sine signal.

Impedance

Figure 2 shows impedance with frequency of unit coupled to a BC-5 horn.

Distortion

Figure 3 shows the Second Harmonic Distortion (grey) and Third Harmonic Distortion (dotted) curves for unit coupled to a BC-5 horn at 5.5V.

Plane wave tube (PWT) responses

Frequency Response

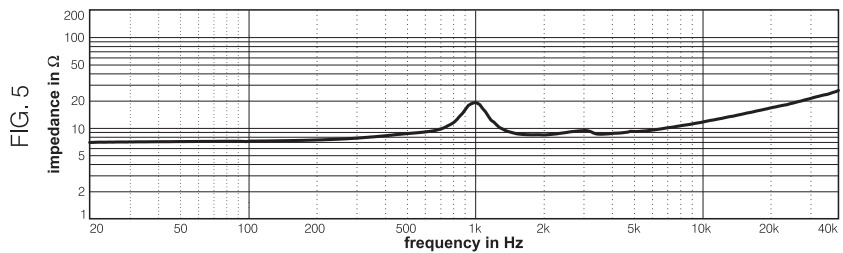
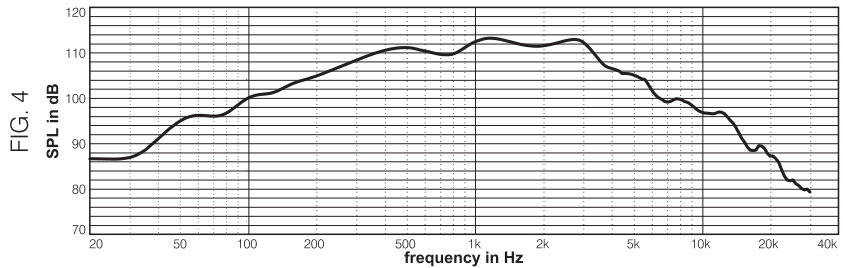
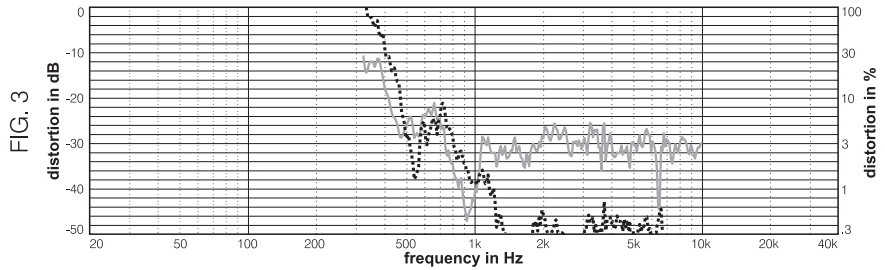
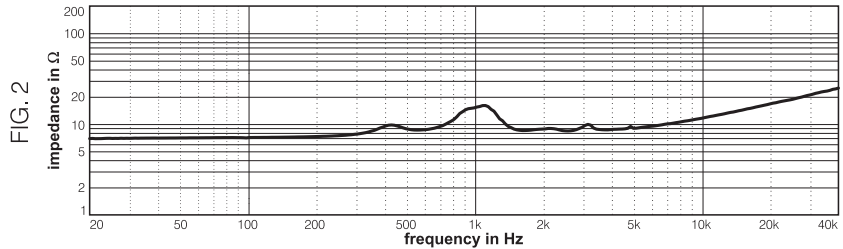
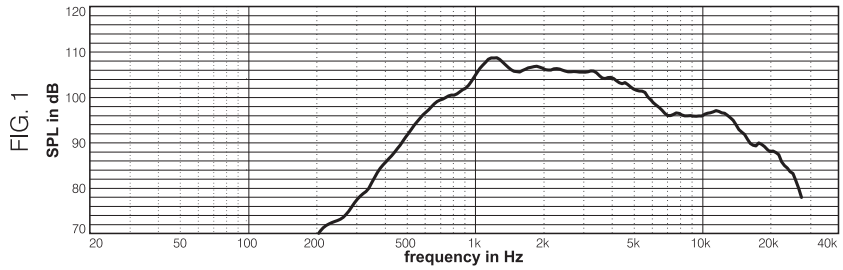
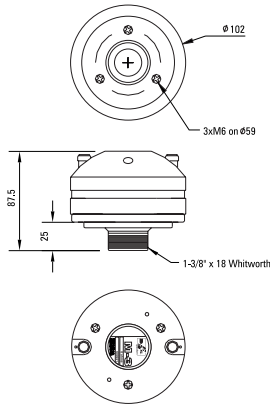
Figure 4 shows the frequency response of a unit coupled to a 27 mm plane-wave tube, and referred to a 25 mm tube and driven by a 1 mW (0.086V) swept sine signal. This represents the power response of the device.

Impedance

Figure 5 shows impedance with frequency of a unit coupled to a 27 mm plane-wave tube.

NOTES. 1.Frequency responses : one-third octave smoothed for correlation with human hearing. Horn response referred to 1m. Horn Di is 10 dB, averaged in the 1.25k to 10k band. 2.In practice, cable and connector impedance need to be added. 3.Harmonic distortion components are not plotted beyond 20 kHz.

Product improvement through research and development is a continuous process at D.A.S. Audio. All specifications subject to change without notice.



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