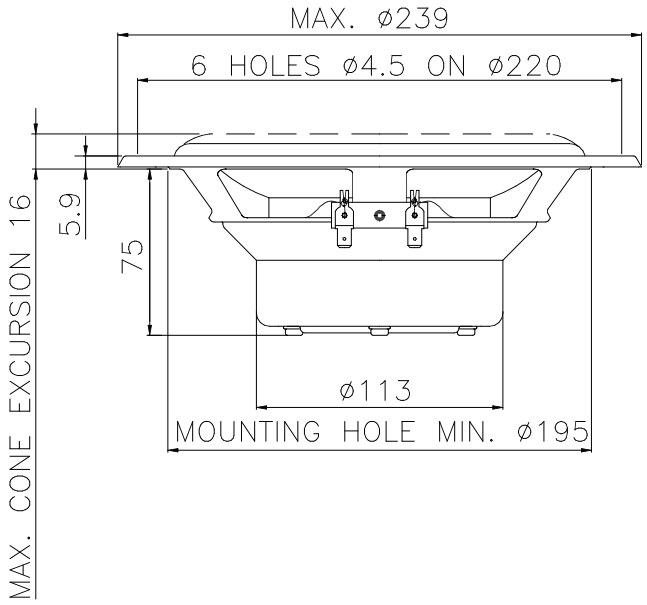
Midrange Esotec MW 182

The MW 182 is a large powerful driver intended for woofer and subwoofer applications in high quality car audio systems.

The driver is applicable in a wide variety of boxes, closed as well as vented. The unusually large voice coil ensures not only high power handling, but also deep, tight, and detailed bass reproduction without any compression.

- Diaphragm and dust cap moulded as one piece
- Very large 100 mm voice coil ensures high power handling
- Internal magnet structure with vented pole piece
- Long linear excursion
- Aluminium voice coil wire provides for a low moving mass
- Materials and parameters are optimized for the harsh environmental conditions in a car



Thiele Small Parameters			
Nominal impedance	Znom	4	Ω
DC resistance	Re	3.7	Ω
Voice coil inductance	Le	0.5	mH
Resonance frequency	fs	40	Hz
Mechanical Q factor	Qms	2.8	
Electrical Q factor	Qes	0.84	
Total Q factor	Qts	0.64	
Mechanical resistance	Rms	3.3	kg/s
Moving mass	Mms	36.5	g
Suspension compliance	Cms	0.43	mm/N
Effective cone diameter	d	173	mm
Effective piston area	Sd	235	cm^2
Equivalent volume	Vas	34	l
Force factor	Bl	6.4	Tm
Recommended frequency range		30-2000	Hz
Recommended closed box volume		21-56	l

Magnet and Voice Coil Properties			
Voice coil diameter	dc	100	mm
Voice coil height	hc	17	mm
Voice coil layers	nc	2	
Magnetic gap height	hg	8	mm
Linear Excursion, peak to peak		9	mm
Max. Excursion, peak to peak		26	mm
Magnet weight	wm	0.7	kg

Power Handling		
Nominal long term IEC	180	W
Transient (10 ms)	1000	W

Mechanical Properties		
Net weight	1.85	kg
Overall dimension	ø239x86	mm

All specifications subject to change without notice

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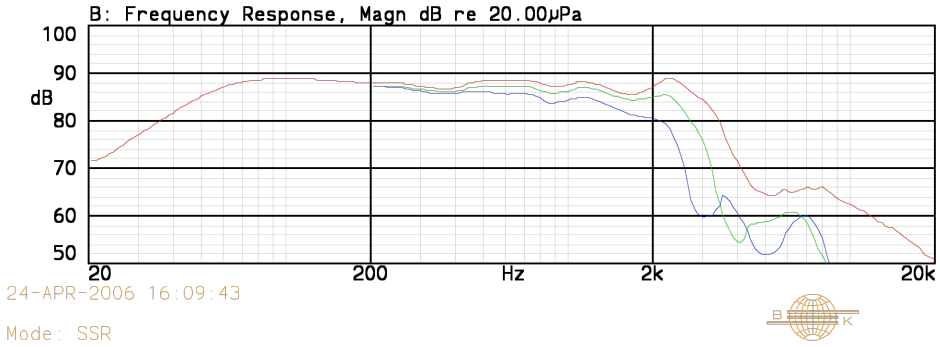
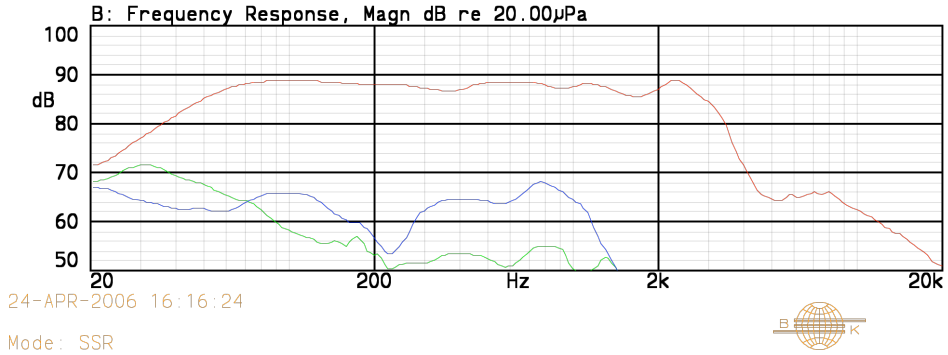
Frequency response • on-axis, 30° and 60° off-axis



Red line: on-axis response
Green line: 30° horizontal
Blue line: 60° horizontal

Measurement conditions
Level: 2.83 V
Distance: 1 m
Box volume: 25 l

Frequency response • 2nd and 3rd harmonic distortion

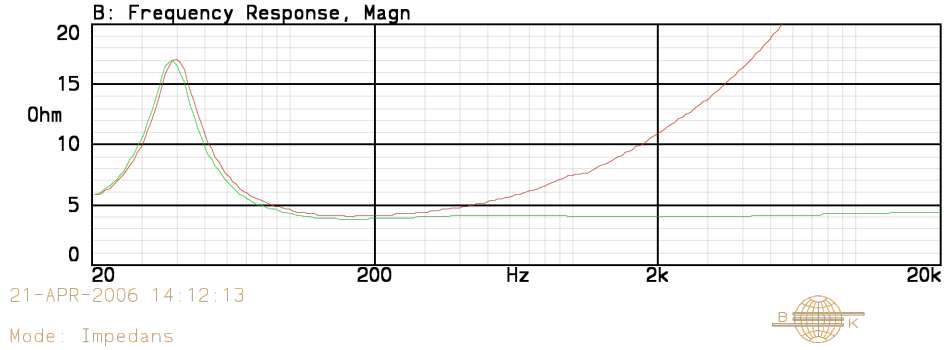


Red line: on-axis response
Green line: 2nd harmonic
Blue line: 3rd harmonic

2nd and 3rd harmonic raised 20 dB

Measurement conditions
Level: 2.83 V
Distance: 1 m
Box volume: 25 l

Impedance • with and without impedance correction circuit



Red line: impedance, free air
Green line: impedance, free air with compensation. See drawing below.

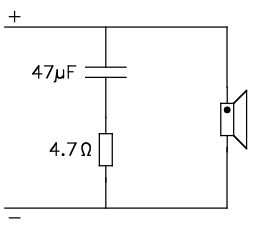
Measurement conditions
Level: 2 V, 10 ohm
Driver in free air

The frequency response curves show the MW 182 as a well behaved driver with a smooth high frequency response and extended low frequency range. In spite of the fact that the driver is intended for low frequency applications, the dispersion is good up to 2 kHz, which simplifies crossover design, be it passive or active.

The impedance curves show that the driver is a simple load for the amplifier. The use of an impedance correction circuit will make it even more simple.

The low suspension compliance makes the driver suitable for small enclosures normally used in cars while also allowing for mounting without an enclosure, e.g. in a hat shelf.

Impedance correction circuit



Dynaudio A/S, 8660 Skanderborg, Denmark

Sales & Marketing
Dynaudio International GmbH, Ohepark 2, 21224 Rosengarten, Germany, Phone +49 4108 - 4180 - 0