



The Matador MAX line offers 12" and 15" subwoofers specially developed to reproduce the lowest frequencies on the sound spectrum, i.e, the sub-bass frequencies range and to resist 1600W RMS power with large cone linear displacement. It has dual voice coil with 2+2 Ohms that can be configured to 4 Ohms impedance (serie), 1 Ohm impedance (parallel) or two four 2 Ohms independent channels allowing a better usage on the amplifier.

In order to achieve a high performance level and liability, each component of the speakers has been designed based on the latest speaker technologies, presenting the following features:

- Magnet assembly optimized by the infinite elements, using a bumped back plate to allow large cone displacement at low frequencies and an extended T-yoke to minimize the harmonic distortion and improve the heat dissipation.
- Long voice coil with TIL Bobine, using cooper wire covered by a special vernish to support high temperatures.
- The non-pressed paper cone is impregnated with special resins offering higher rigidity to the high mechanical efforts and allowing higher alignment to the frequency response. Additionally to it, also has a shining superficial black treatment providing an excellent finishing.
- The surround is made of nitrilic rubber and it is attached to the cone with double line stitching, guaranteeing its attachment.
- The gasket is made of rubber involves the basked, providing a better sealing to the product in the acoustic box.
- The magnet assembly cover is made of polypropylene giving high strength to the product

SPECIFICATIONS

Nominal diameter	380 (15)	mm (in)
Nominal impedance	2+2	Ω
Minimum impedance @ 79 Hz.	4.6	Ω
Power handling		
Peak	3,200	W
Continuous Music ¹	1,600	W
NBR ²	800	W
AES ³	800	W
Sensitivity (2.83V@1m) averaged from 50 to 250 Hz.	90	dB SPL
Power compression @ 0 dB (nom. power)	9.33	dB
Power compression @ -3 dB (nom. power)/2	6.82	dB
Power compression @ -10 dB (nom. power)/10	2.73	dB
Frequency response @ -10 dB	37 to 2,000	Hz

¹ Power handling specifications refer to normal speech and/or music program material, reproduced by an amplifier producing no more than 5% distortion. Power is calculated as true RMS voltage squared divided by the nominal impedance of the loudspeaker.

² NBR Standard (10,303 Brazilian Standard).

³ AES Standard (60 - 600 Hz).

THIELE-SMALL PARAMETERS

Fs	30.8	Hz
Vas	160.42(5.66)	l (ft ³)
Qts	0.63	
Qes	0.69	
Qms	8.2	
ηo (half space)	0.65	%
Sd	0.0830 (128.65)	m ² (in ²)
Vd (Sd x Xmax)	477.0 (29.1)	cm ³ (in ³)
Xmax (max. excursion (peak) with 10% distortion)	5.75 (0.22)	mm (in)
Xlim (max.excursion (peak) before physical damage)	28 (1.1)	mm (in)

Atmospheric conditions at TS parameter measurements:

Temperature	23 (73.4)	°C (°F)
Atmospheric pressure	1007	mb
Humidity	38	%

Thiele-Small parameters are measured after a 2-hour power test using half AES power. A variation of ± 15% is allowed.

ADDITIONAL PARAMETERS

βL	12.25	Tm
Flux density	0.57	T
Voice coil diameter	75 (3)	mm (in)
Voice coil winding length	30.6 (100.4)	m (ft)
Wire temperature coefficient of resistance (α25)	0.0372	1/°C
Maximum voice coil operation temperature	290 (554)	°C (°F)
θvc (max.voice coil operation temp./max.power)	0.36 (0.69)	°C/W(°F/W)
Hvc (voice coil winding depth)	21.0 (0.82)	mm (in)
Hag (air gap height)	9.5 (0.37)	mm (in)
Re	3.49	Ω
Mms	152.6 (0.33)	g (lb)
Cms	180.0	µm/N
Rms	3.59	kg/s

NON-LINEAR PARAMETERS

Le @ Fs (voice coil inductance @ Fs)	5.69	mH
Le @ 1 kHz (voice coil inductance @ 1 kHz)	2.74	mH
Le @ 20 kHz (voice coil inductance @ 20 kHz)	1.46	mH
Red @ Fs	0.297	Ω
Red @ 1 kHz	8.11	Ω
Red @ 20 kHz	139.72	Ω
Krm	0.2	Ω
Kxm	17.2	mH
Erm	0.95	
Exm	0.79	

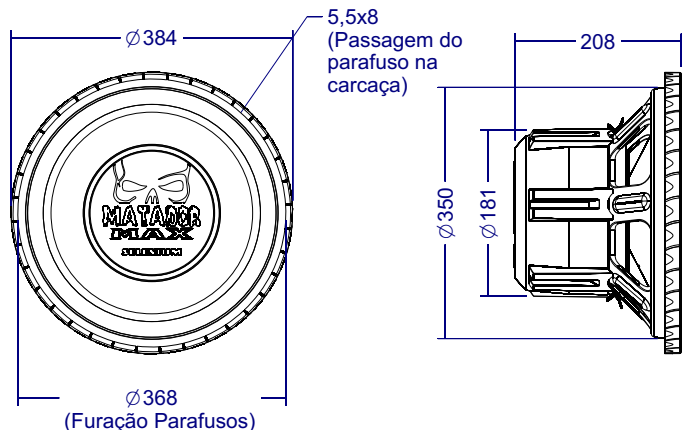


ADDITIONAL INFORMATION

Magnet material	Barium ferrite
Magnet weight	1,600 (56.4) g (oz)
Magnet diameter x depth	169 x 19 (6.65 x 0.75) mm (in)
Magnetic assembly weight	5,000 (11) g (lb)
Frame material	Steel
Frame finish	Black epoxy
Voice coil material	Aluminum
Voice coil former material	Fiberglass
Cone material	Long fiber pulp
Volume displaced by woofer	7.4 (0.26) l (ft ³)
Net weight	6,240 (13.75) g (lb)
Gross weight	7,240 (15.96) g (lb)
Carton dimensions (W x D x H)	41.5x40.7x24 (16.3x16.0x9.5) cm (in)

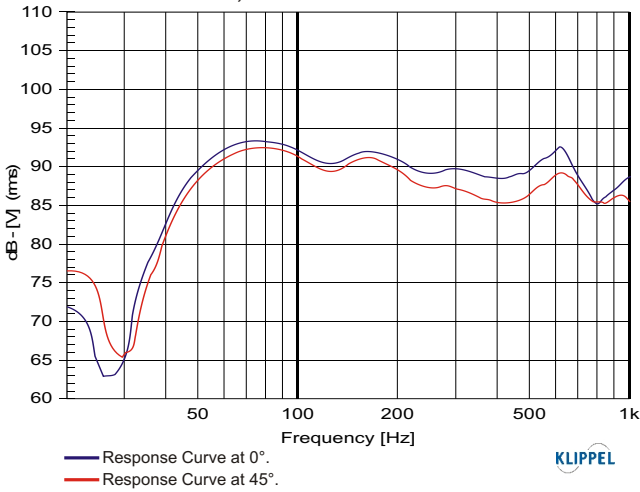
MOUNTING INFORMATION

Number of bolt-holes	8
Bolt-hole diameter	5.5 x 8 (0.21 x 0.31) mm (in)
Bolt-circle diameter	368 (14.48) mm (in)
Baffle cutout diameter (front mount)	352 (13.85) mm (in)
Baffle cutout diameter (rear mount)	348 (13.7) mm (in)
Connectors	Silver-plated push terminals
Polarity	Positive voltage applied to the positive terminal (red) gives forward cone motion
Minimum clearance between the back of the magnetic assembly and the enclosure wall	N/A mm (in)

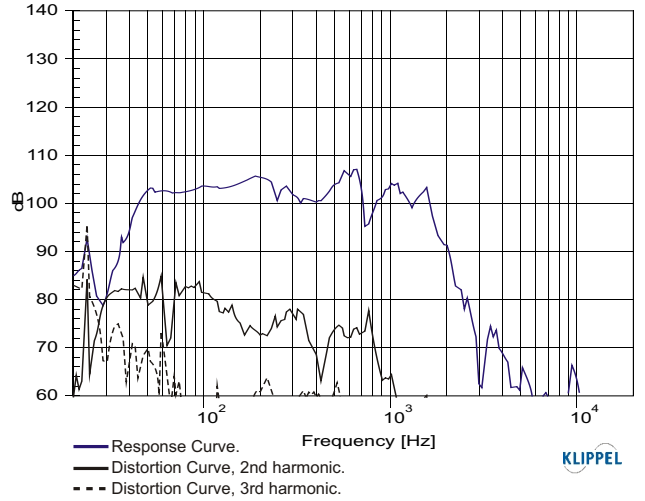


Dimensions in mm.

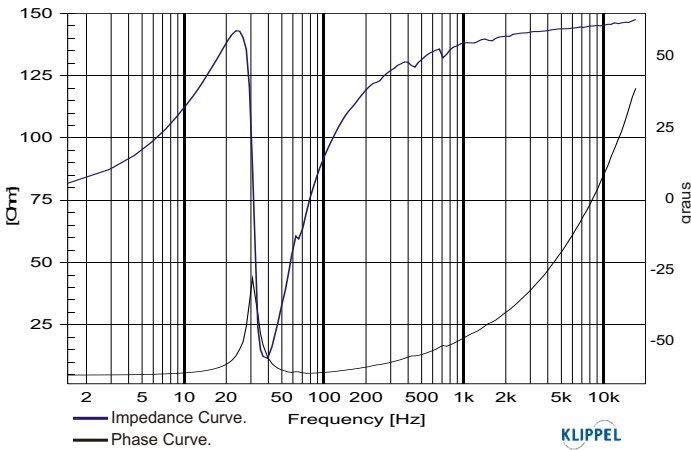
RESPONSE CURVES (0° AND 45°) IN A TEST ENCLOSURE INSIDE AN ANECHOIC CHAMBER, 1 W / 1 m



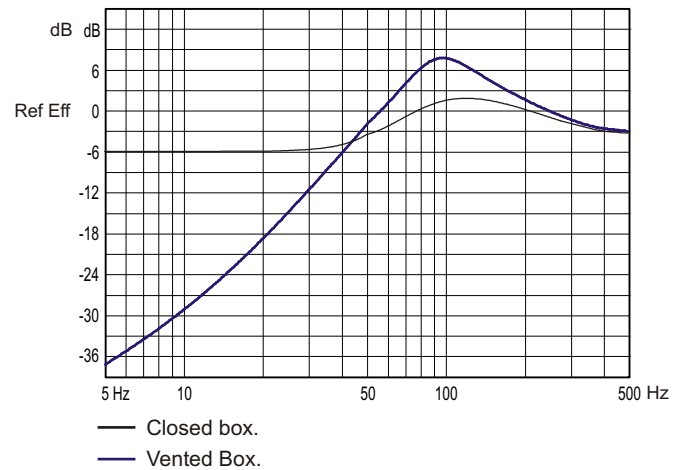
HARMONIC DISTORTION CURVES MEASURED AT 10% AES INPUT POWER, 1 m



IMPEDANCE AND PHASE CURVES MEASURED IN FREE-AIR



SOFTWARE SIMULATED RESPONSE CURVE



SUGGESTED ENCLOSURES

MODELS	CLOSED BOX		VENTED BOX	
	Internal Volume (liters)	Internal Volume (liters)	Duct (s)	
			Qty	Diam. x Length (cm)
12SW10A DVC 15SW10A DVC	35 50	40 55	1 2	10 x 22 10 x 25

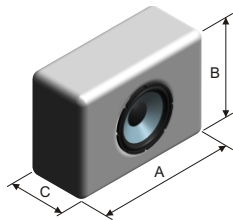
The suggested enclosure volumes are related to only one speaker, including woofer and duct(s) displaced volume.
For enclosure with more than one speaker, it is necessary to multiply the suggested volume and duct(s) by the quantity of speakers and build them with separated chambers (internal division).
Box volumes considering the bass lift inside the car with closed apertures.

ENCLOSURES INTERNAL VOLUME CALCULATION INSTRUCTIONS

RECTANGULAR BOX

$$\text{Internal Volume} = \frac{A \times B \times C}{1000}$$

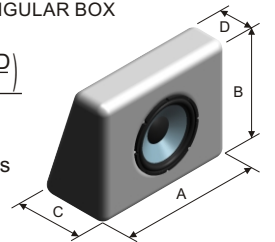
A, B and C are internal dimensions (in cm). The internal volume result is given in liters.



TRAPEZOID RECTANGULAR BOX

$$\text{Internal Volume} = \frac{A \times B \times \left(\frac{C+D}{2}\right)}{1000}$$

A, B, C and D are internal dimensions (in cm). The internal volume result is given in liters.



TEST ENCLOSURE

64-Liter volume with a 2 ducts ø 4" by 0.8" length.