



# 4511

Nominal Diameter	12 " / 30 cm
Rated Impedance	8
Sensitivity	94.5 dB SPL
Power Handling Capacity	300 W AES
SPL max (continuous)	115 dB SPL
Usable frequency range	45-2000 Hz
Speaker net mass	6.4 kg

# 12" low-mid driver



### Architecture highlights :

- Natural convection Intercooling System
- High compliance double half-roll fabric surround

### Motor architecture

Magnet material	-	Fe
Voice coil diameter	mm	64
Voice coil length	mm	18
Air gap height	mm	8

### Typical characteristics

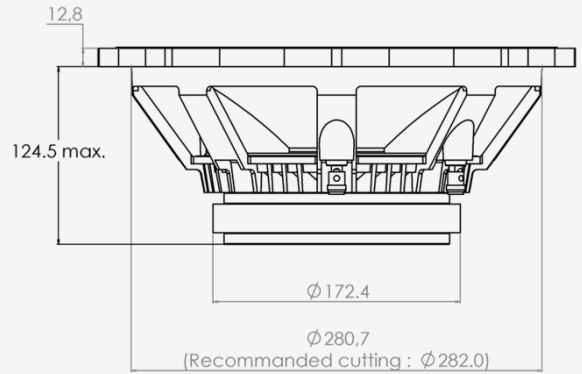
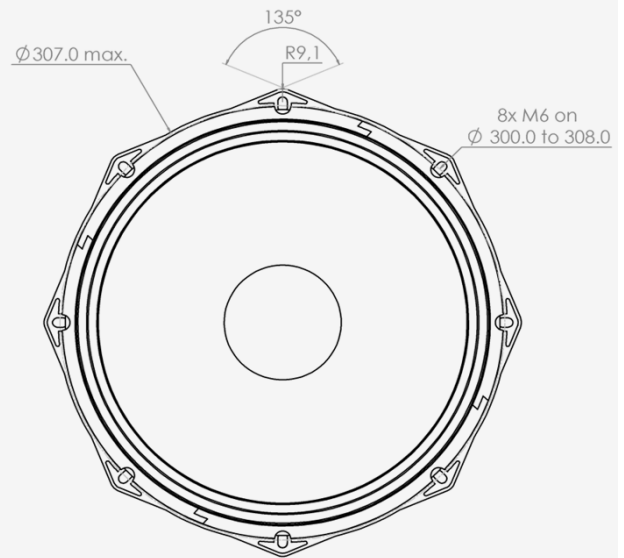
Rated impedance	Z	$\Omega$	8
Half space sensitivity (1W@1m)	-	dB SPL	94.5
Usable freq. range	-	Hz	45-2000
Power handling capacity (AES)	-	W	300
Max Sound Pressure Level	SPL <sub>max</sub>	dB SPL	115
Min. impedance modulus	Z <sub>min</sub>	$\Omega$ @Hz	6.2@250
Voice-coil inductance @ 1kHz	Le <sub>1k</sub>	mH	1.073
Voice-coil inductance @ 10kHz	Le <sub>10k</sub>	mH	0.463
BL product	BL	N/A	15.1
Moving mass	Mms	kg	0.0620

### Thiele-Small parameters

Resonance frequency	Fs	Hz	48 ( $\pm 5$ )
DC Resistance	Re	$\Omega$	5.5 ( $\pm 0.6$ )
Mechanical quality factor	Qms	1	4.12
Electrical quality factor	Qes	1	0.45
Total quality factor	Qts	1	0.40
Suspension compliance	Cms	10 <sup>-6</sup> .m/N	180
Effective piston area	Sd	m <sup>2</sup>	0.0539
Equivalent Cas air load	Vas	m <sup>3</sup>	0.0741
Max linear excursion	Xmax	mm	$\pm 7.0$
Linear displacement volume	Vd	10 <sup>-3</sup> .m <sup>3</sup>	0.3774
Reference efficiency	$\eta_0$	%	1.8
Unity load volume	Vas.Qts <sup>2</sup>	10 <sup>-3</sup> .m <sup>3</sup>	12.1

### Absolute maximum ratings

Short term max. input voltage	Vmax	V	100
Max.excursion before damage	Xdam	mm	$\pm 14.0$
Ambient operating temperature	Ta	$^{\circ}$ C	-10 to +50
Storage temperature		$^{\circ}$ C	-20 to +70
Environmental withstanding			Humidity proof



### Mounting information

Air volume occupied by the driver	10 <sup>-3</sup> .m <sup>3</sup>	2.20
Speaker net mass	kg	6.40
Baffle cut-out diameter (front mounting)	mm	282.0
Bolt number & Metric diameter	-	8x M6
Bolt circle diameter	mm	300 to 308
Max overall dimension (on ears)	mm	326.5
Max overall dimension (out of ears)	mm	307.0
Flange height	mm	12.8
Max magnet diameter	mm	172.4
Max depth (front mounting)	mm	124.5
Recommended reflex box	Lts / Hz	-
Electrical connection		$\varnothing 4$ mm Push buttons

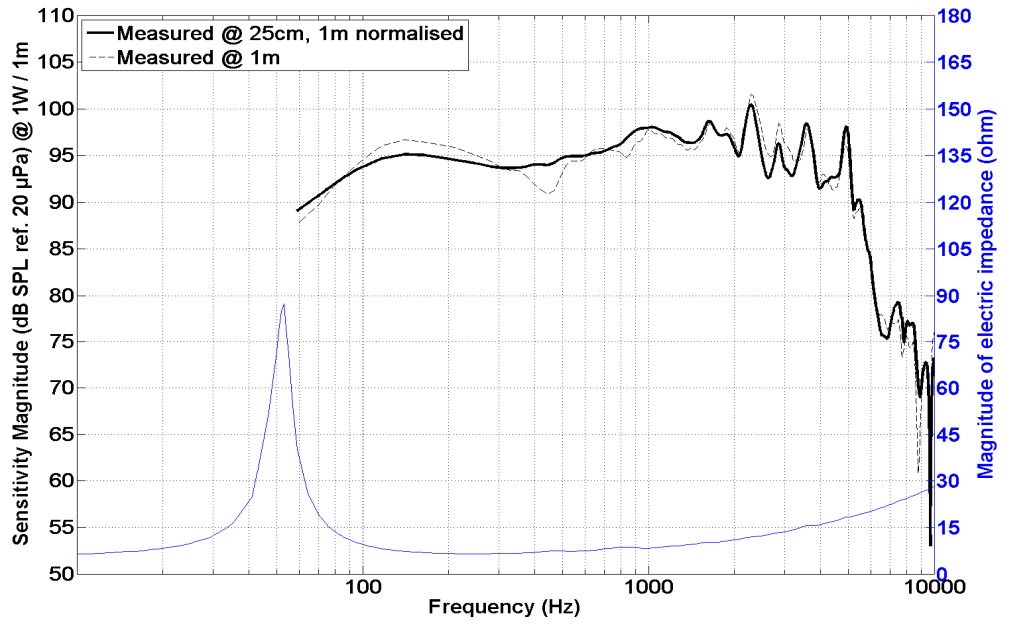


4511

12" low-mid driver

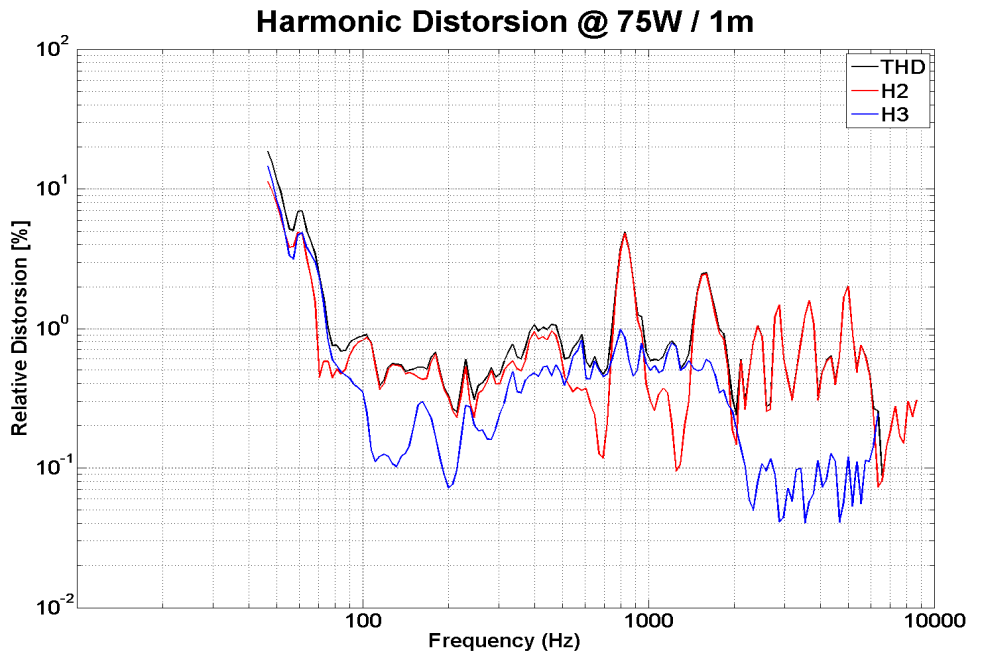
SPL curves measured on CEI standard baffle :

- . at 25 cm, normalised 1 m
- . at 1 m for reference
- . Graph amplitude = 60 dB (PHL Audio standard)



HD curve measured on CEI standard baffle :

- . at 1 meter
- . at power =  $P_{AES} / 4$
- . Graph amplitude 0.01 % to 100 % (PHL Audio standard for  $P_{AES}/4$ )



Non linear curves measured thanks to Klippel software and hardware, in free air

