

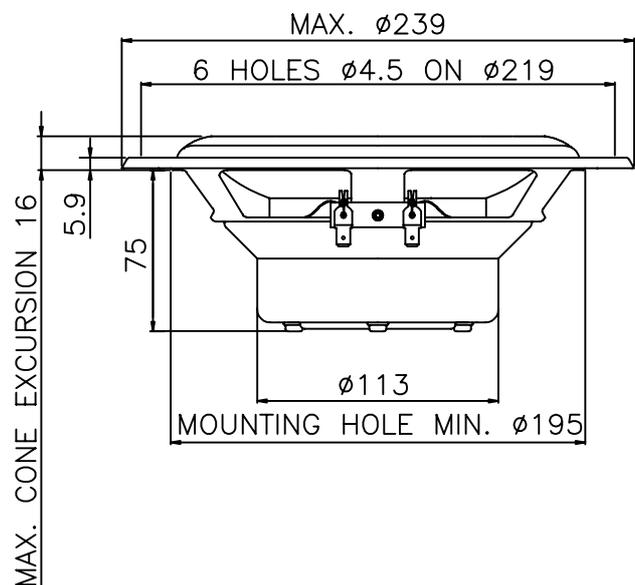
The 24W100-X 8Ω is a large powerful driver intended for woofer and subwoofer applications in high quality sealed and vented boxes.

The woofer is suitable for both 2- and 3-way speakers due to the frequency range, which is very wide for a driver of this size.

The large voice coil ensures not only high power handling, but also deep, tight, and detailed bass reproduction with an excellent transient response.



- Diaphragm and dust cap moulded as one piece
- Very large 100 mm voice coil ensures high power handling
- Internal double magnet structure with vented pole piece
- Long linear excursion
- Aluminium voice coil wire provides for a low moving mass
- Wide frequency range



Thiele Small Parameters		
Nominal impedance	Z _{nom}	8 Ω
DC resistance	R _e	5.3 Ω
Voice coil inductance	L _e	0.35 mH
Resonance frequency	f _s	25 Hz
Mechanical Q factor	Q _{ms}	1.54
Electrical Q factor	Q _{es}	0.35
Total Q factor	Q _{ts}	0.28
Mechanical resistance	R _{ms}	3.28 kg/s
Moving mass	M _{ms}	32 g
Suspension compliance	C _{ms}	1.26 mm/N
Effective cone diameter	d	173 mm
Effective piston area	S _d	235 cm ²
Equivalent volume	V _{as}	99 l
Force factor	Bl	8.8 Tm
Recommended frequency range		25-3000 Hz
Recommended reflex box volume		15-50 l

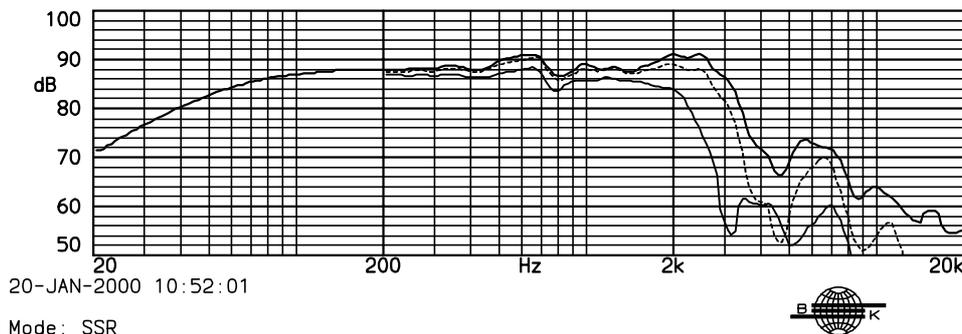
Magnet and Voice Coil Properties		
Voice coil diameter	dc	100 mm
Voice coil height	hc	17 mm
Voice coil layers	nc	2
Magnetic gap height	hg	8 mm
Linear Excursion, peak to peak		9 mm
Max. Excursion, peak to peak		18 mm
Magnet weight	w _m	0,94 kg

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

Mechanical Properties	
Net weight	2.2 kg
Overall dimension	Ø239x86 mm

Woofers 24W100-X 8Ω

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

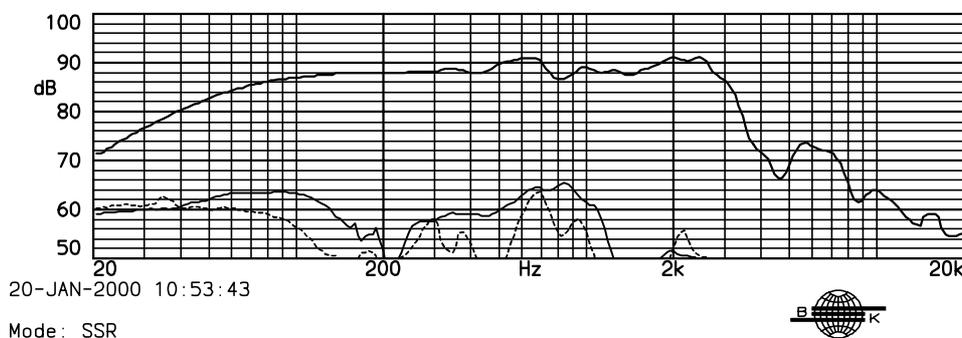


Thick line: on-axis response
Dashed line: 30° horizontal
Thin line: 60° horizontal

Measurement conditions

Level: 2.83 V
Distance: 1 m
Box volume: 21 l

Frequency response • 2nd and 3rd harmonic distortion



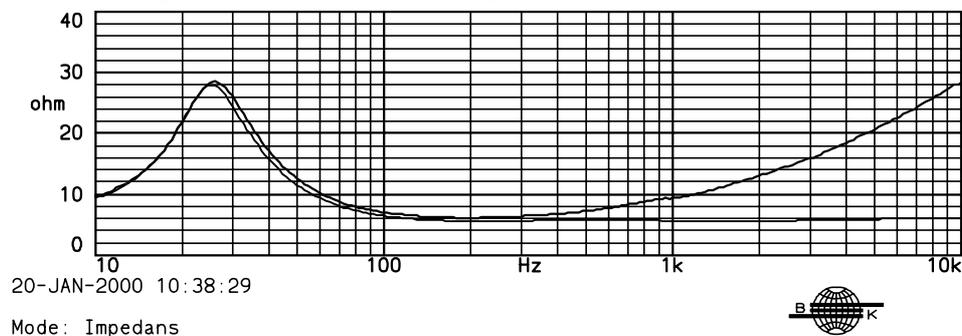
Thick line: on-axis response
Dashed line: 2nd harmonic
Thin line: 3rd harmonic

2nd and 3rd harmonic raised
20 dB

Measurement conditions

Level: 2.83 V
Distance: 1 m
Box volume: 21 l

Impedance • with and without impedance correction circuit



Thick line: impedance, free air
Thin line: impedance, free air
with compensation. See drawing
below.

Measurement conditions

Level: 0.2 V
Driver in free air

The frequency response curves show the 24W100-X 8Ω 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. It will work well in a 2-way as well as in a 3-way speaker.

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.

This in combination with the extended frequency response makes crossover design a less complicated task and eliminates the need for complex crossover circuitry to correct the behaviour of the driver.

Impedance correction circuit

