BETA BW 165

165 mm MIDWOOFER · BETA 165.2 COMPONENT SYSTEM



The **BETA BW 165** is the 165 mm midwoofer of the BETA 165.2 component system. A paper cone, rubber surround and a ferrite motor with a 25 mm voice coil sit in a pressed-steel basket with a continuous flange and eight mounting holes. With 58 mm mounting depth and a 143.5 mm cut-out it fits many factory locations in the door. Its total Q of 0.84 is intended for operation without an enclosure, in the door or on a baffle.

MEASURED DATA AND SPECIFICATIONS

Electrical

DC resistance	R_{dc}	2.62	Ω
Nominal impedance	Z_N	3	Ω
Resonance frequency	f_s	71.9	Hz
Impedance at resonance	Z_{max}	12.1	Ω
Minimum impedance	Z_{min}	2.78	Ω
Inductance at 1 kHz	L_e	0.16	mH
Power handling RMS		65	W
Power handling max.		130	W

Q factors

Mechanical Q factor	Q_{ms}	3.88
Electrical Q factor	Q_{es}	1.07
Total Q factor	Q_{ts}	0.84

Mechanical

Moving mass	M_{ms}	12.33	g
Effective piston area	S_d	138.9	cm²
Compliance	C_{ms}	0.40	mm/N
Mechanical resistance	R_{ms}	1.43	kg/s
Force factor	BL	3.69	Tm
Equivalent air volume	V_{as}	10.8	l
Linear excursion	X_{max}	± 1.2	mm

Efficiency

Efficiency	η_0	0.36	%
Sensitivity 1 W / 1 m	SPL	87.6	dB
Sensitivity 2.83 V / 1 m	SPL	92.5	dB

BETA 165.2 system

Frequency range	65 Hz – 20 kHz	
System minimum impedance	2.4	Ω
System sensitivity	87	dB
Tweeter	BETA BT 25, silk 25 mm	
Crossover	CR-BETA, 3.5 kHz	

Construction

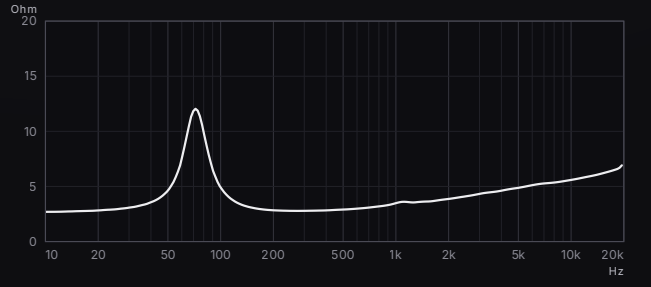
Cone	Paper
Surround	Rubber
Basket	Pressed steel
Magnet	Ferrite, Ø 85 mm
Voice coil diameter	25 mm
Weight	850 g

Mounting dimensions

Outer diameter	A	166.2	mm
Bolt circle	B	156.5	mm
Mounting holes		8 × Ø 5, 45°	mm
Cut-out	C	143.5	mm
Motor, outer diameter		91.5	mm
Mounting depth	T	58	mm

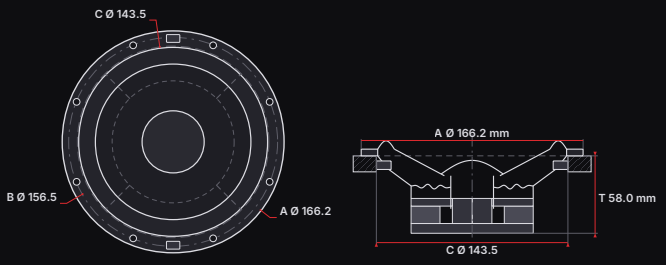
IMPEDANCE

free air



DIMENSIONS

dimensions in mm



- Thiele-Small parameters measured in free air, small signal, after break-in. Efficiency and sensitivity calculated from the Thiele-Small parameters.
- X_{max}: excursion at which the force factor drops to 82 % of its rest value.
- In the set the midwoofer runs without a low-pass filter, connected in parallel to the amplifier output. The tweeter is connected through the CR-BETA crossover: 12 dB/octave high-pass at 3.5 kHz, tweeter level +3 dB or 0 dB.