

Bom185_vKi

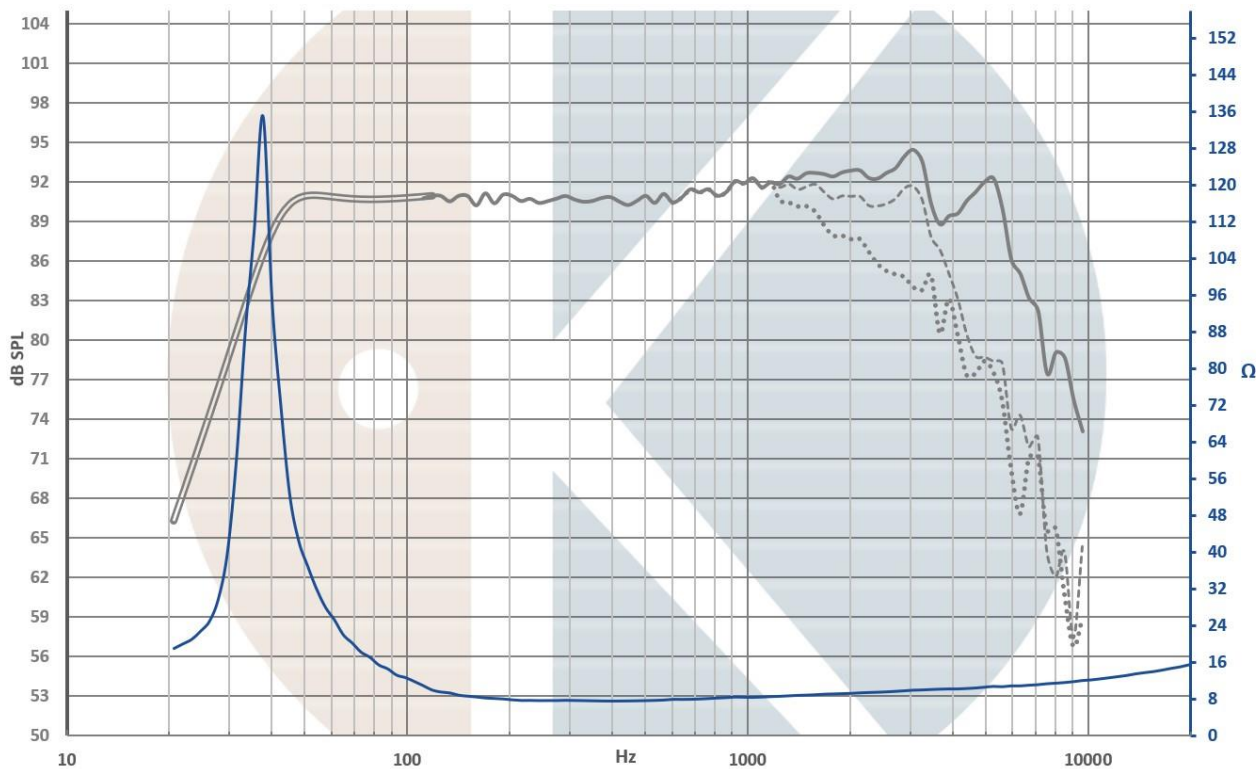
High-End mid-woofer



Bom185_vKi is top of the art high-end mid-woofer, engineered to reproduce the bandwidth from 40Hz to 2000Hz.

- Very low dynamic compression (0.5dB max, from 50Hz to 2000Hz, with 100dB at 1m).
- Very low Inter Modulation Distortion.
- Very low Total Harmonic Distortion, including in low frequency.
- +/- 10mm pure linear excursion.
- Engineered and produced in France

Frequency response and Impedance



On IEC baffle / Distance: 1m / Signal input: 2,83V / Dash curves: 25° & 50° / Smoothing: 1/12 Octave

Impedance measured in free air

Curve below 120Hz simulated in 28L vented enclosure / Tuning frequency: 42Hz

Datasheet for	Bom185_vKi	Notes	Kartesian products can be adapted to specific requirements and brand spirit. Each _vKi drivers is delivered with its QC report. We continually improve our products, no contractual data.	
Edition	1.1			
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Detailed construction

Membrane

hexaKone paper cone
Large concave CGF dust cap

Suspension

Surround with Ω profile
Low lost NBR surround material
dynamik spider

Voice coil:

\varnothing 78.5mm, 1 layer, CCAW wire
Vented Titanium / GF former

Motor structure:

8x radial NdFeB magnets (grade N40H)
8x Cooper struts + 2x Cooper rings
2x Aluminium rings
Optimized and vented pole pieces
Low carbon steel

Frame

Injected aluminium (ACD12)
Vented spider

Driver weight: 4.12Kgs

T&S parameters

Parameter	Unit	Value	Tolerance
Fs	Hz	38Hz	+/-2
SPL	dB/2.83V/1m	90	+/-0.2
BI	N/A	11.6	+/-0.08
Mms	g	29	+/-0.5
Rms	Kg/s	1.38	
Le (at 1kHz)	mH	0.095	+/-0.02
Re	Ω	6.6	+/-0.1
Impedance	Ω	8	
Qms		6	
Qes		0.34	
Qts		0.32	
VAS	L	32.2	
Sd	cm ²	193.6	
Mmd / Sd	g/cm ²	0.14	
BI / Re	T.m/ Ω	1.76	

Linear excursion: +/-10 mm

Bl(x) deviation max: 10%

Maximal excursion: +/-13mm

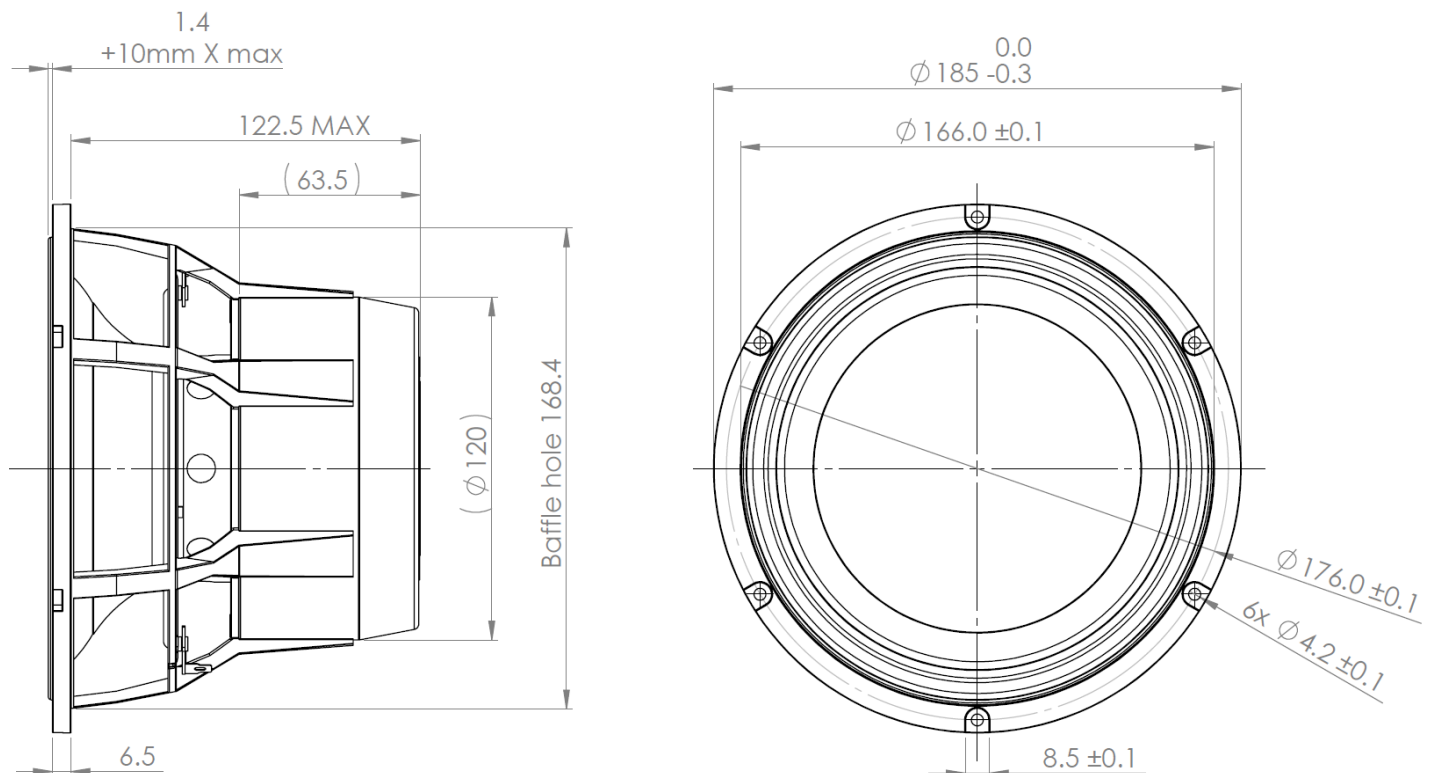
Bl(x) deviation max: 25%

Maximal power handling: 250W

(AES:2012 standard)

Drawing

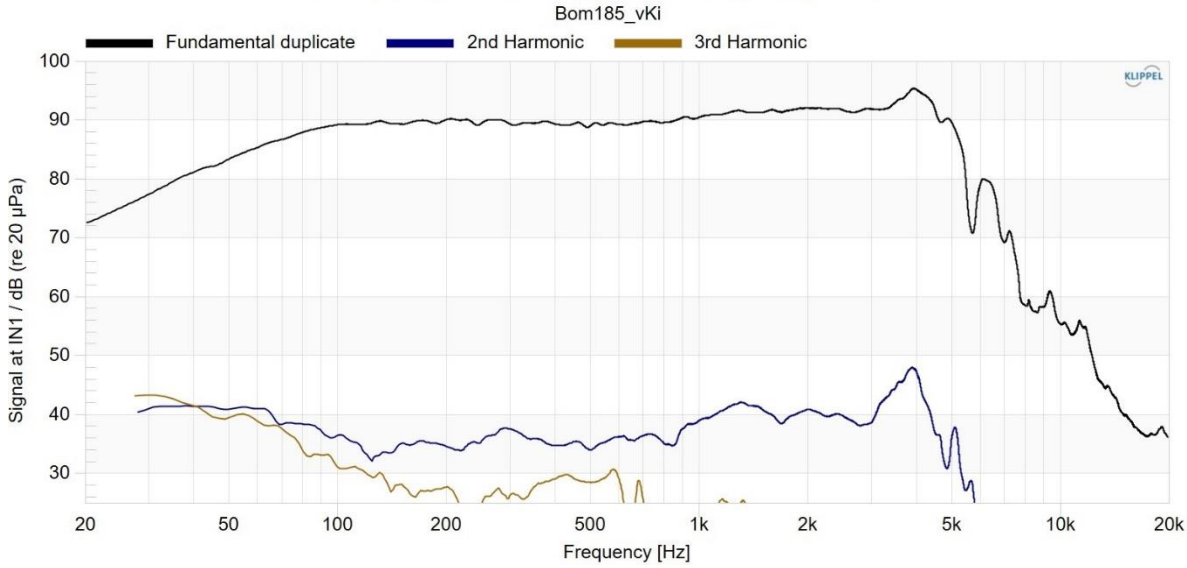
Unit: mm



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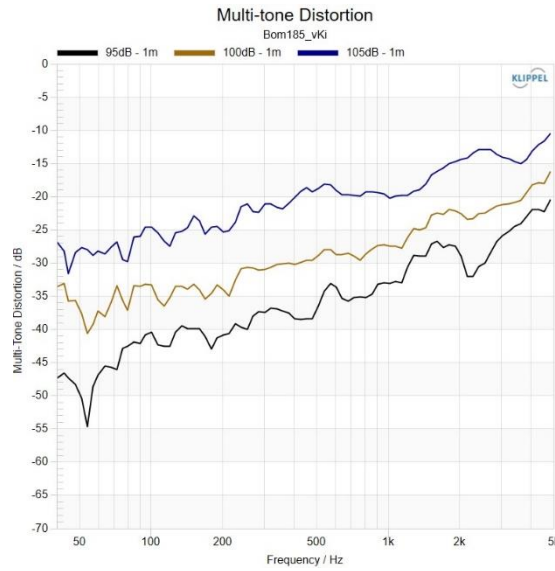
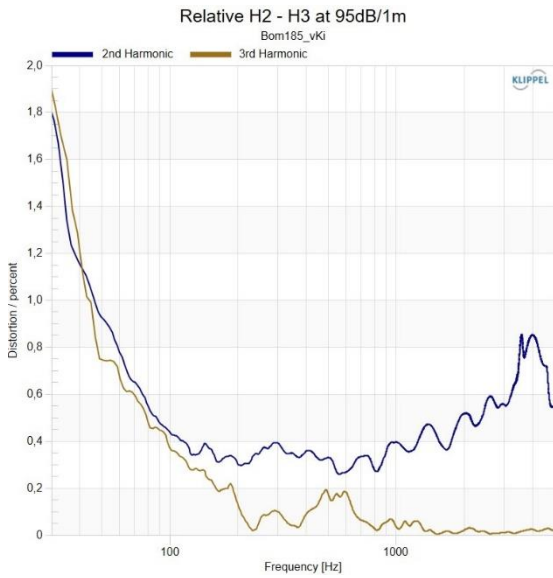
Advanced measurements (1/2)

Fundamental + Harmonic distortion components



H2 – H3 for 2.83V

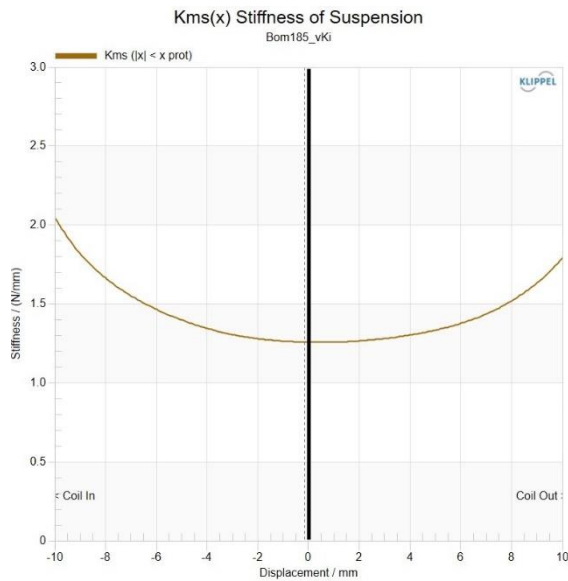
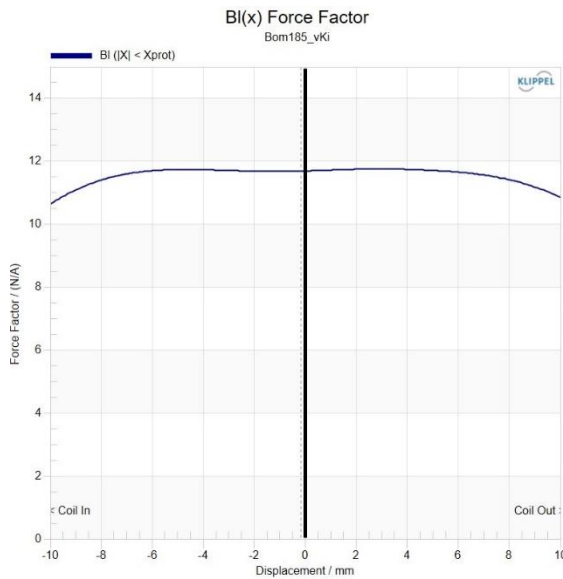
THD is mainly made of H2, with linear curve on the useful bandwidth.



Distortion details

THD is lower than 1.5% at 45Hz when Bom185_vKi is playing 95dB at 1m.

MD provides homogeneous curves, even at 105dB at 1m.



Linear excursion

+/-10mm linear motion

Force factor remains stable with 90% accuracy on the full excursion.

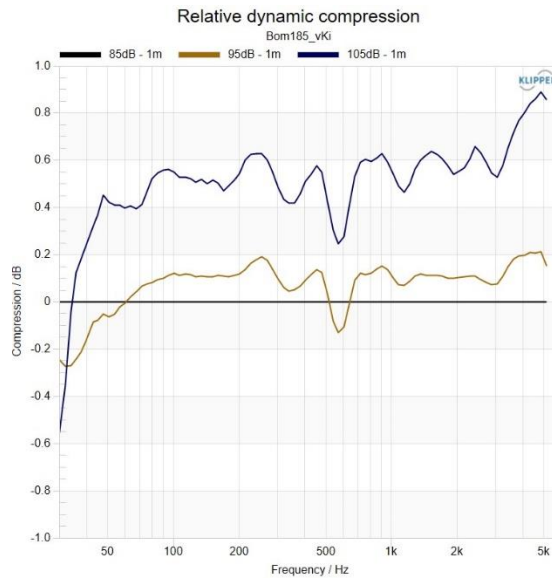
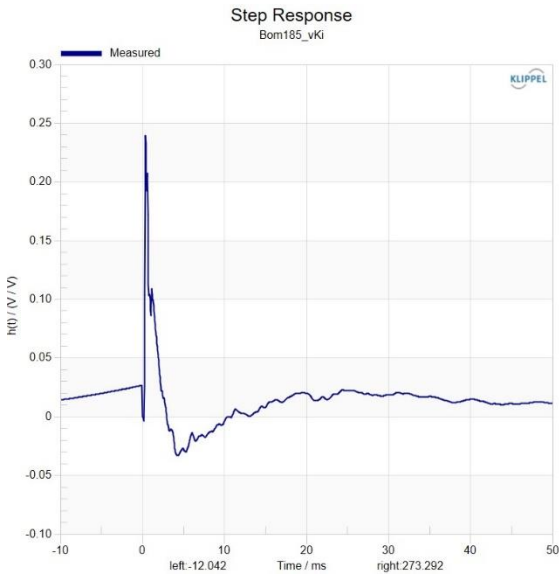
Suspension stiffness ally Fs stability and progressive protection under high cone excursion.

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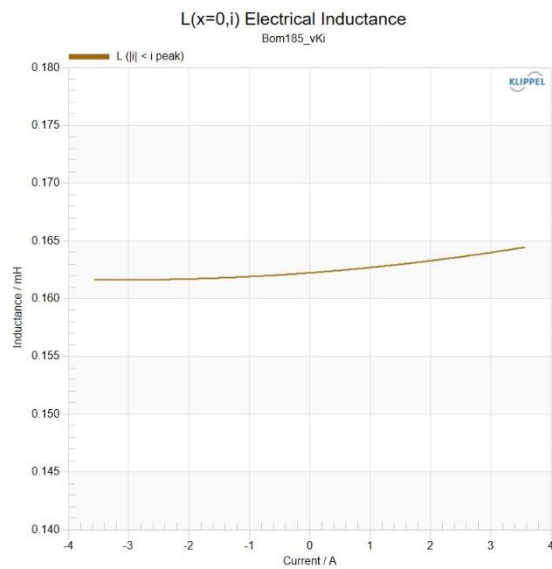
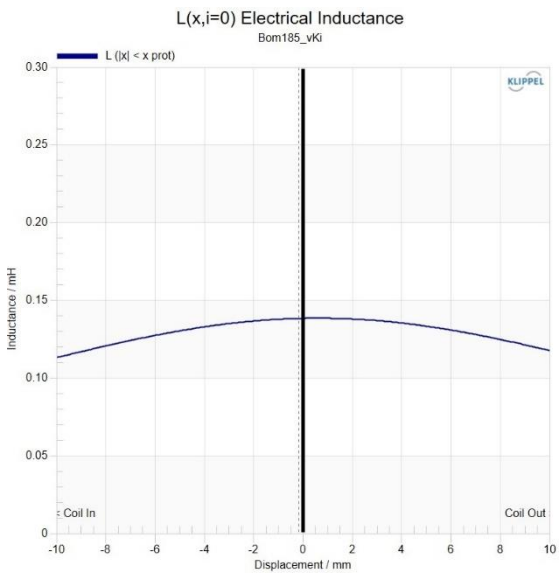
Advanced measurements (2/2)



Dynamic behavior

Step response shows fast transient and good damping.

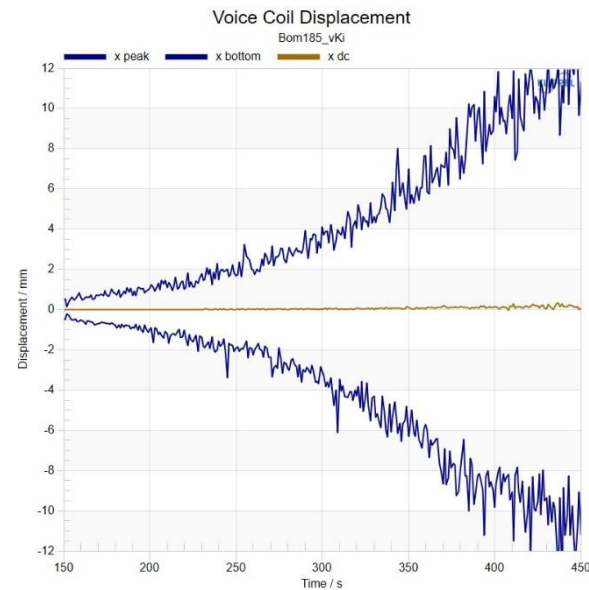
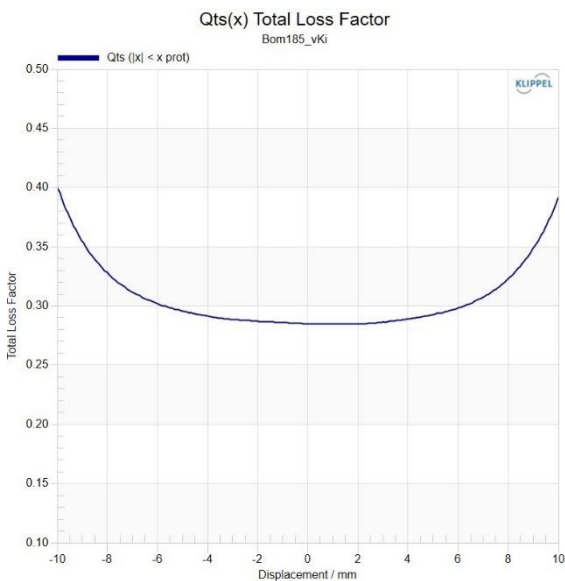
Dynamic compression is 0.8dB max on the useful band when Bom185_vKi is playing 105dB at 1m.



Inductance

$L_e = 0.095\text{mH}$ at 1kHz
Average 0.14mH at the rest position, on the band 20 – 3500Hz.
Inductance variation over +/-10mm is 0.03mH.

Inductance variation according to current input is 0.03mH max with +/-3.8A consumed.



Stability

Qts variation is symmetric and limited to 35% over +/-10mm excursion.

There isn't any significant offset over +/-12mm excursion

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