

Lom185_vKi

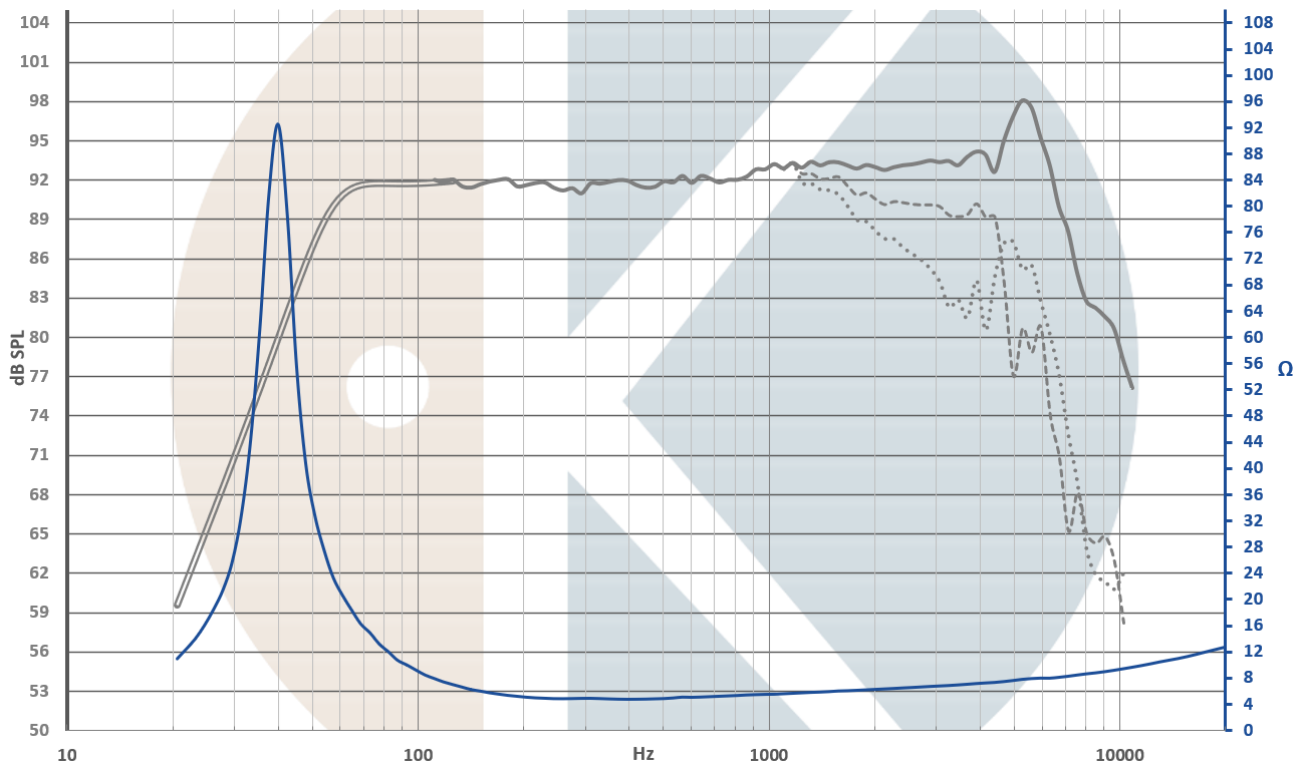
High efficiency mid-woofer



Lom185_vKi is top of the art high efficiency mid-woofer, engineered to reproduce the bandwidth from 55Hz to 3000Hz.

- Very low dynamic compression (0.5dB max, from 50Hz to 5000Hz, with 105dB at 1m).
- Very low Inter Modulation Distortion.
- Very low Total Harmonic Distortion, including in low frequency.
- +/- 8mm pure linear motion, +/-12mm maximal 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 15L vented enclosure / Tuning frequency: 56Hz

Datasheet for	Lom185_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	1.2			
www.kartesian-acoustic.com				

Detailed construction

Membrane

hexaKone paper cone
Large concave carbon fiber dust cap

Suspension

Surround with Ω profile
Low lost NBR surround material
dynamik spiders

Voice coil:

\varnothing 78.5mm, 1 layer, Cu 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	40Hz	+/-2
SPL	dB/2.83V/1m	93	+/-0.2
BI	N/A	10.45	+/-0.08
Mms	g	29	+/-0.5
Rms	Kg/s	0.96	
Le (at 1kHz)	mH	0.1	+/-0.02
Re	Ω	3.9	+/-0.1
Impedance	Ω	6	
Qms		7.6	
Qes		0.26	
Qts		0.25	
VAS	L	29	
Sd	cm ²	193.6	
Mmd / Sd	g/cm ²	0.134	
BI / Re	T.m/ Ω	2.68	

Linear excursion: +/-8 mm

Bl(x) deviation max: 5%

Maximal excursion: +/-12mm

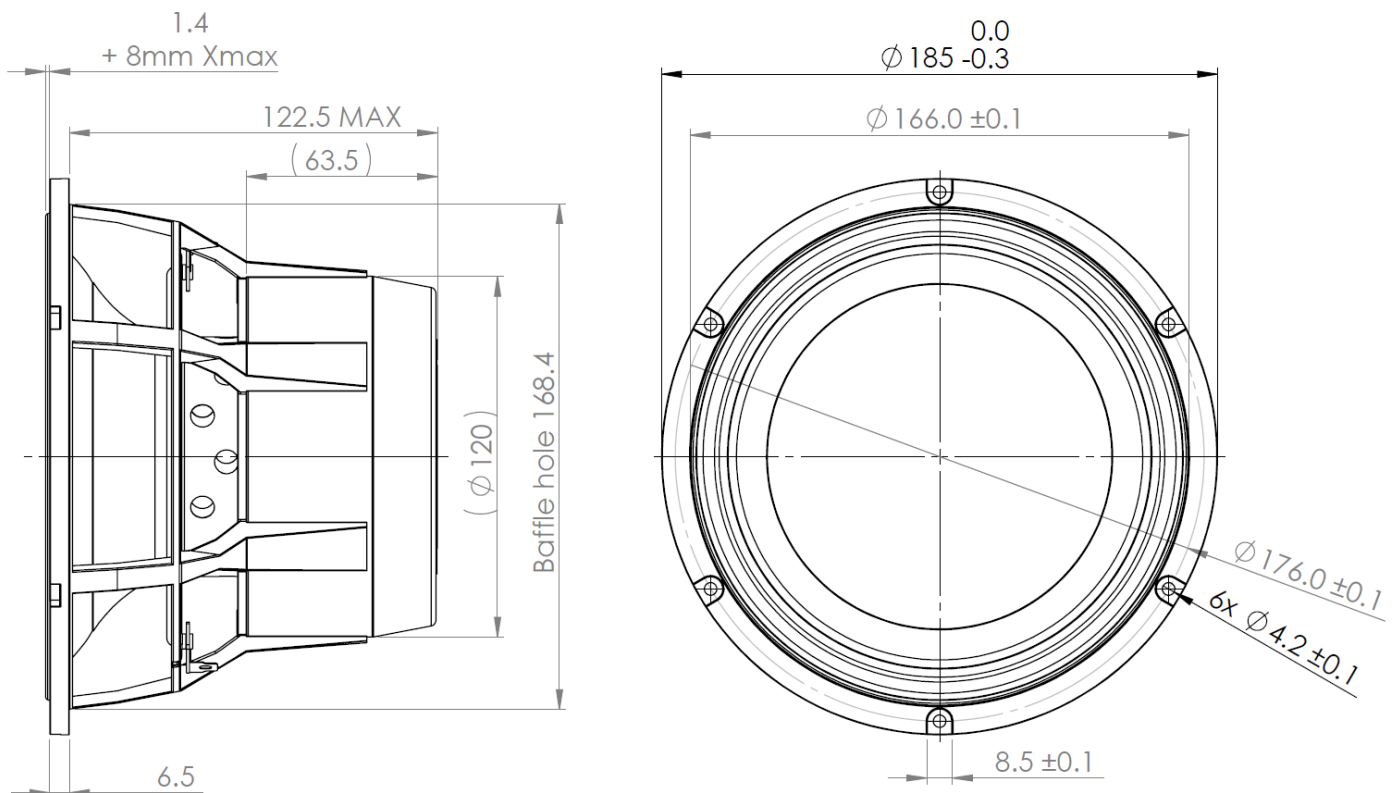
Bl(x) deviation max: 20%

Maximal power handling: 300W

(AES:2012 standard)

Drawing

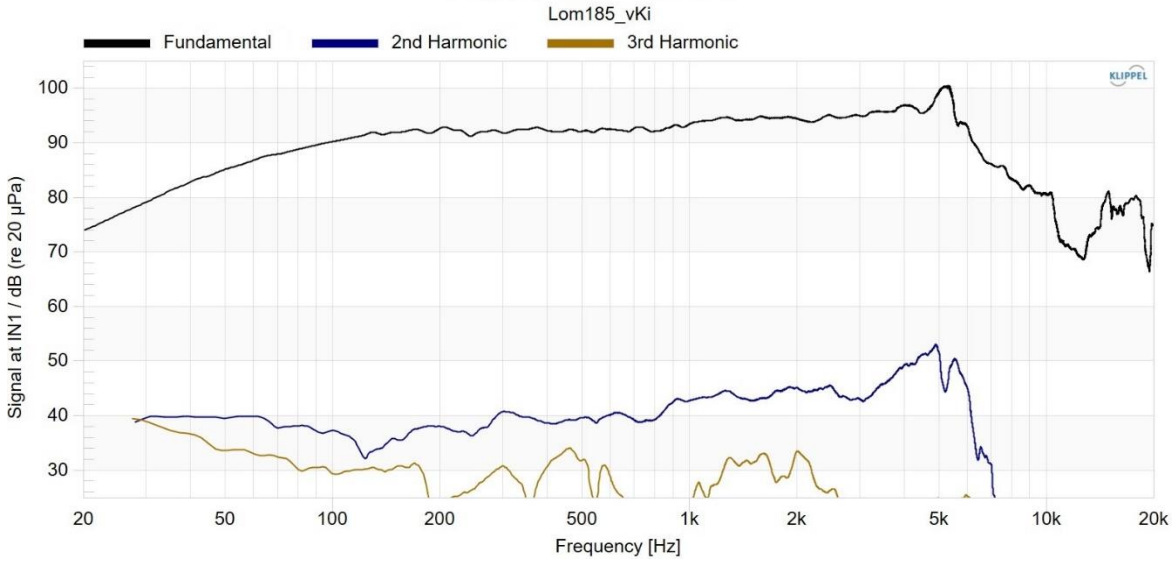
Unit: mm



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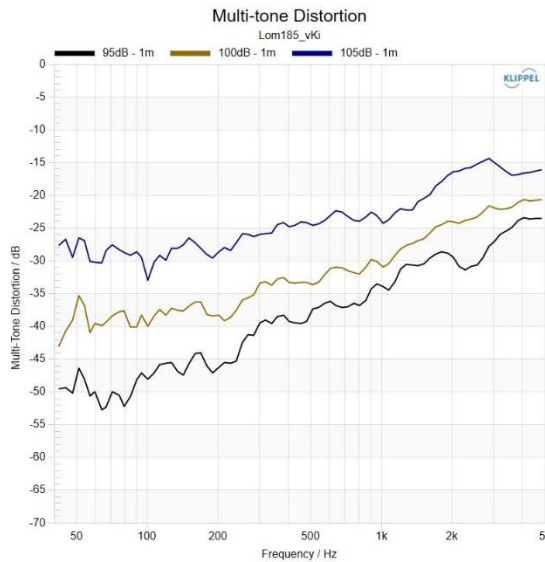
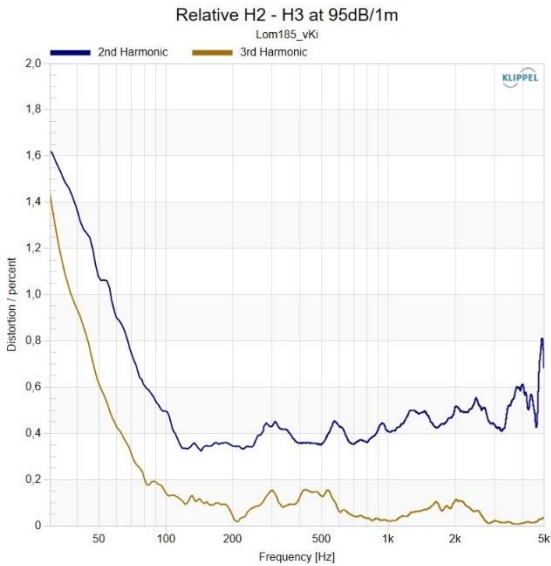
Advanced measurements (1/2)

Fundamental + H2 & H3



H2 – H3 for 2.83V

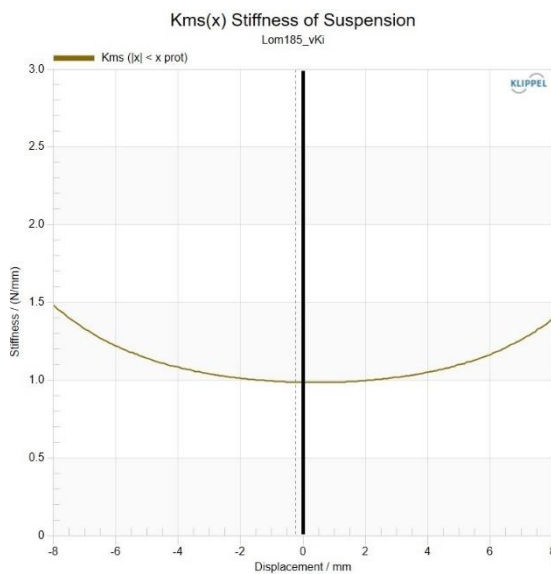
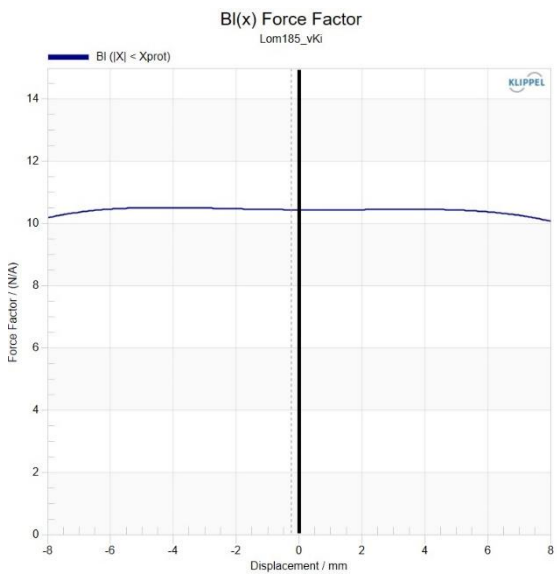
THD is mainly made of H2, with linear curve on the useful bandwidth.



Distortion details

THD is lower than 1.5% at 50Hz when Lom185_vKi is playing 95dB at 1m.

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



Linear excursion

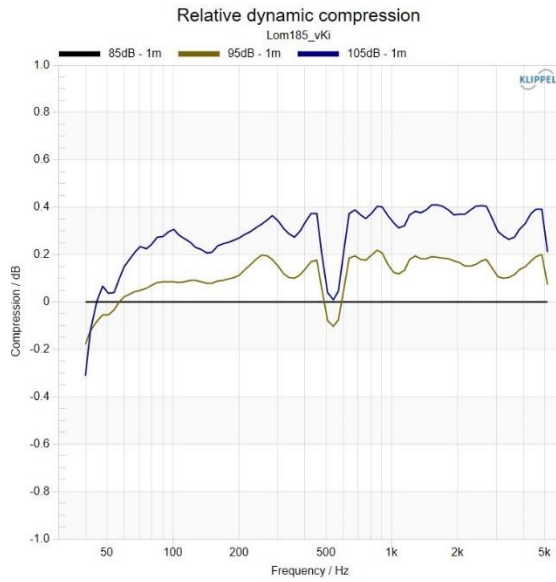
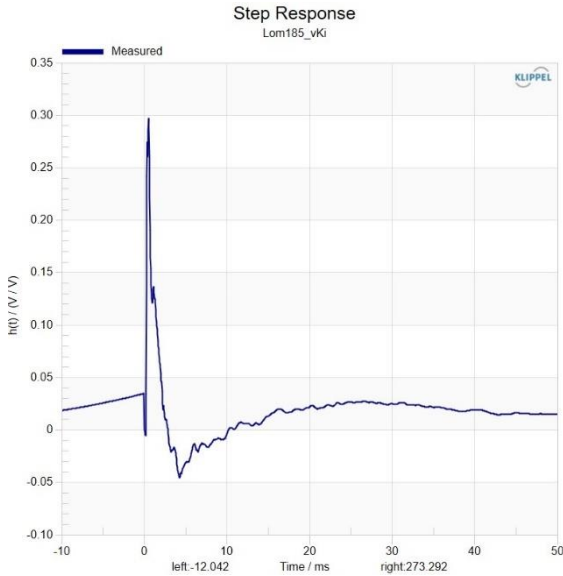
+/-8mm linear motion

Force factor remains stable with 95% accuracy on the full excursion.

Suspension stiffness linearity ensure Fs stability at high sound level.

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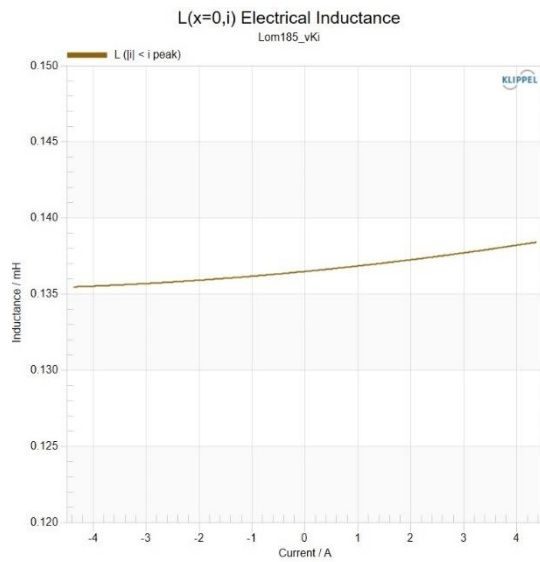
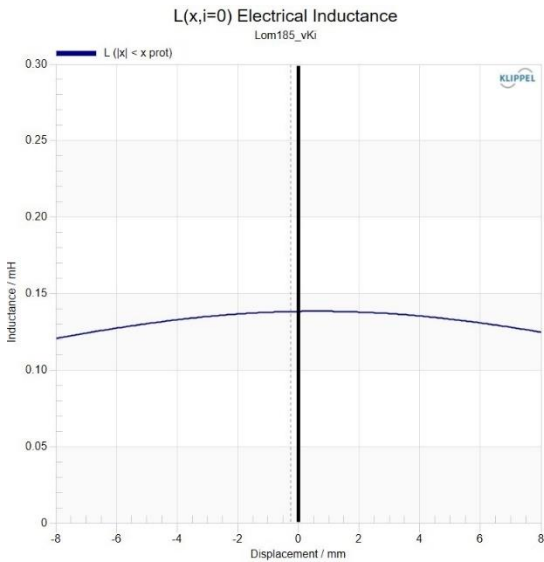
Advanced measurements (2/2)



Dynamic behavior

Step response shows fast transient and good damping.

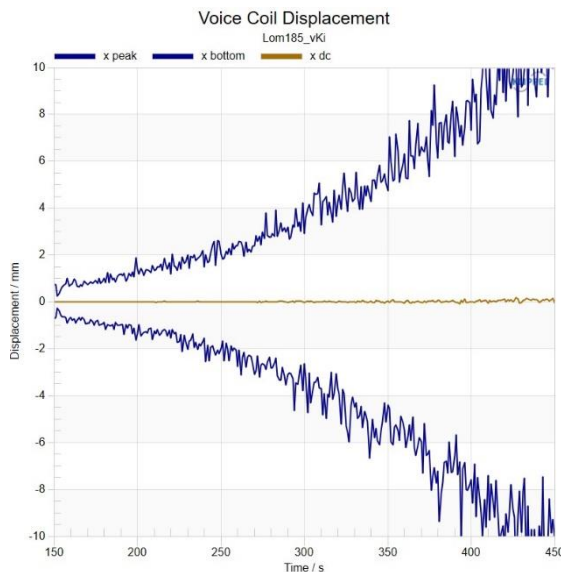
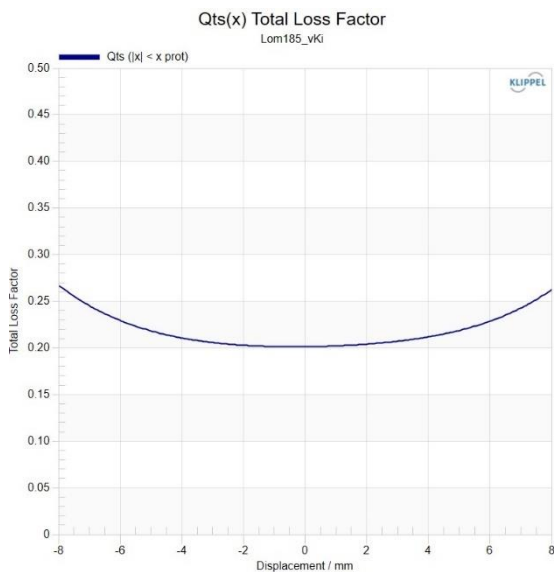
Dynamic compression is 0.5dB max on the useful band when Lom185_vKi is playing 105dB at 1m.



Inductance

$L_e = 0.1\text{mH}$ at 1kHz
Average 0.14mH at the rest position, on the band 20 – 3500Hz.
Inductance variation over +/-8mm is 0.02mH.

Inductance variation according to current input is 0.03mH with +/- 4A consumed.



Stability

Qts variation is symmetric and limited to 30% over +/-8mm excursion.

There isn't any significant offset over +/- 10mm excursion

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