

Lom155_vKi

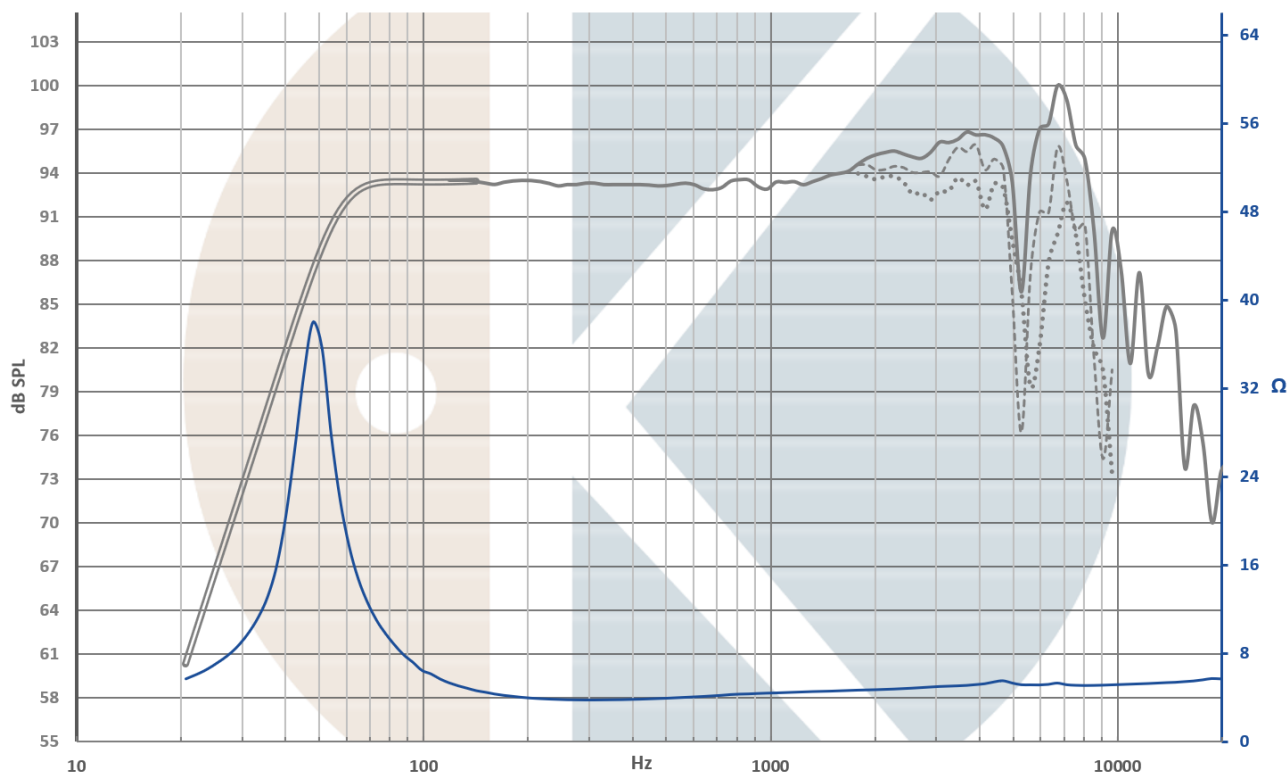
High sensitivity mid-woofer



Lom155_vKi is top of the art, high sensitivity mid-woofer, engineered to reproduce 55Hz to 3500Hz in a 10L vented enclosure.

- Very low dynamic compression (<0.8dB, from 50 to 5000Hz, with 105dB at 1m).
- High sensitivity (93dB/2.83V/1m), with extremely low and stable inductance (0.08mH at 1KHz).
- Very low Total Harmonic Distortion (below 0.5% from 100Hz to 3500Hz with 95dB at 1m).
- Linear off-axis response up-to 4000Hz for ideal crossover design.
- Engineered and produced in France.

Frequency response and Impedance



On IEC baffle / Distance: 1m / Signal input: 2,83V / Dash curves: 20° & 40° / Smoothing: 1/12 Octave.

Impedance measured in free air.

Curve below 120Hz simulated in 10L sealed enclosure, vent tuning at 55Hz.

Datasheet for	Lom155_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

Paper with hexaKone
Aluminum reinforcement ring
Paper dust cap with long Kapok fibers

Suspension

Omega profile, low diffraction
Optimal damping IIR material
dynamik spider, ultra stable compliance

Voice coil:

Ø45mm, 1 layer made of CCA wire
Vented Titanium / GF former

Motor structure:

8x radial NdFeB magnets (grade N40H)
8x Cooper struts
1x Aluminium ring
1x Cooper ring
Optimized pole pieces geometry
Made of very low carbon steel

Frame

Injected aluminium (ACD12)
Vented spider / Isostatic design

Driver weight: 1.5Kgs

T&S parameters

Parameter	Unit	Value	Tolerance
Fs	Hz	48Hz	+/-5
SPL	dB/2.83V/1m	93	+/-0.3
BI	N/A	6.35	+/-0.1
Mms	g	14.7	+/-0.6
Rms	Kg/s	1.17	
Le (at 1kHz)	mH	0.08	+/-0.05
Re	Ω	3.25	+/-0.1
Impedance	Ω	4	
Qms		3.8	
Qes		0.36	
Qts		0.33	
VAS	L	16.6	
Sd	cm ²	125	
Mmd / Sd	g/cm ²	0.1	
BI / Re	T.m/Ω	1.95	

Linear excursion: +/-6 mm

BI(x) deviation max: 15%

Maximal excursion: +/-12mm

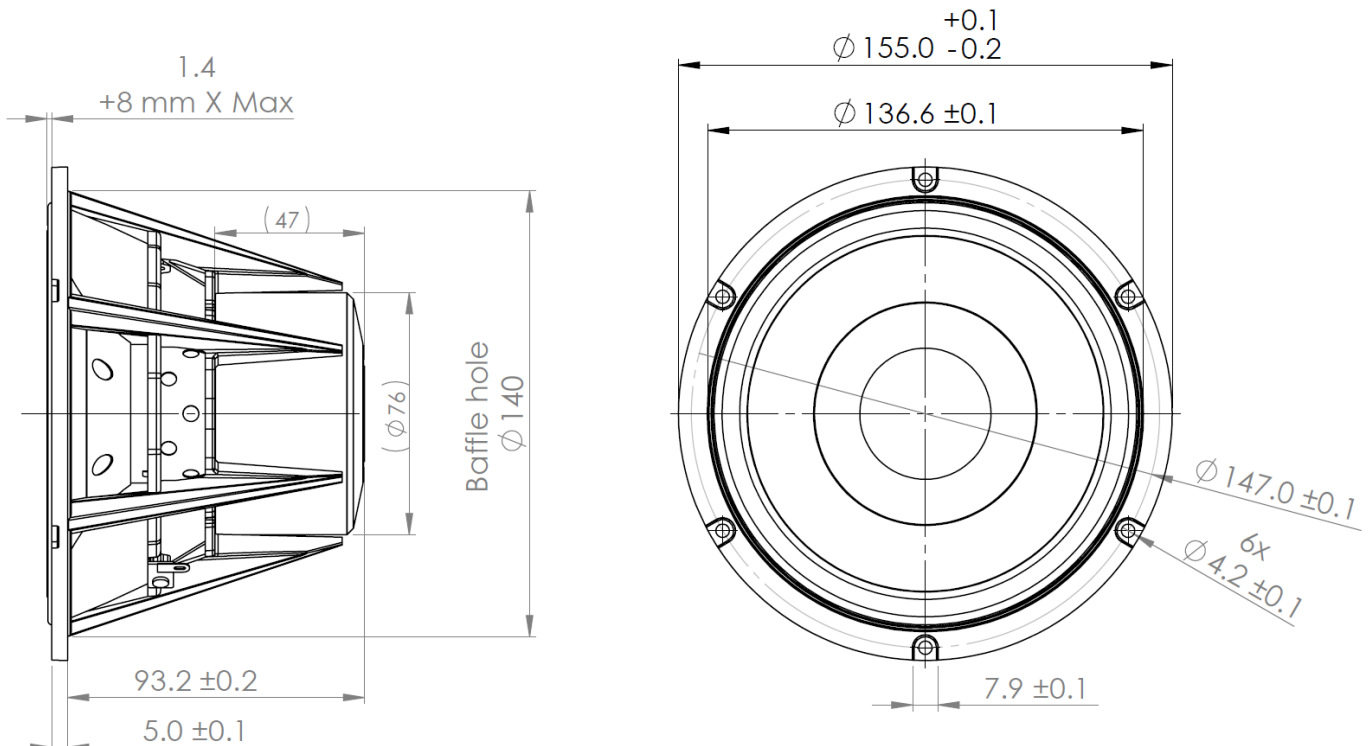
BI(x) deviation max: 25%

Maximal power handling: 150W

(AES:2012 standard)

Drawing

Unit: mm



Datasheet for **Lom155_vKi**

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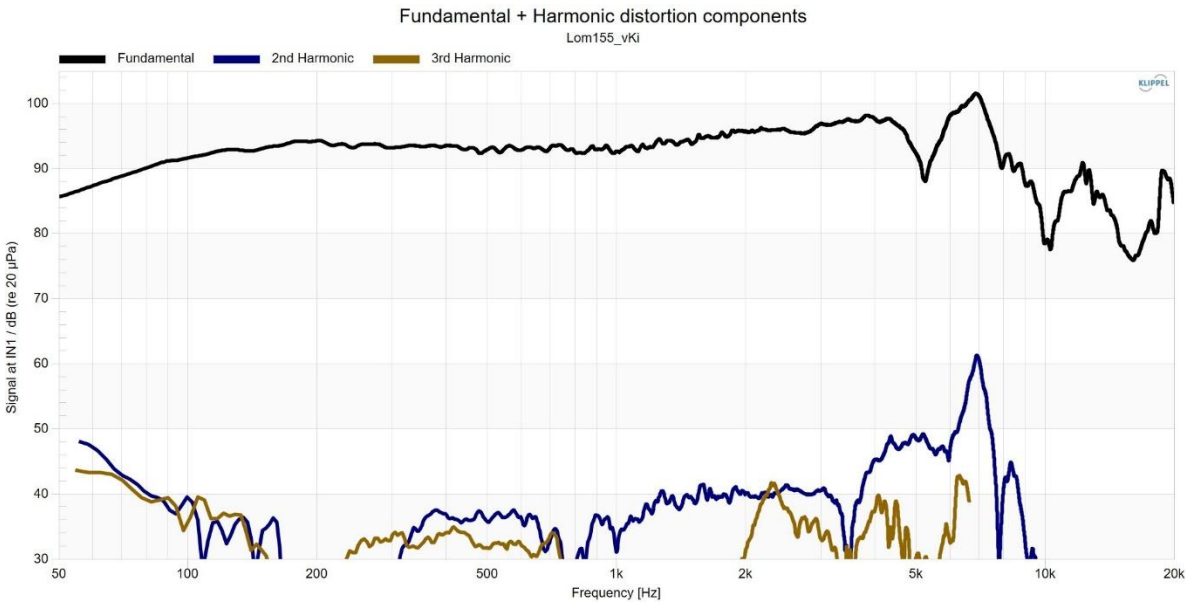
Notes

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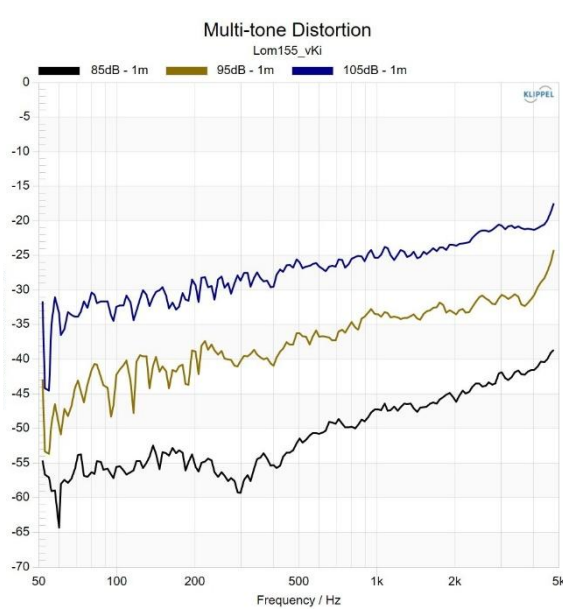
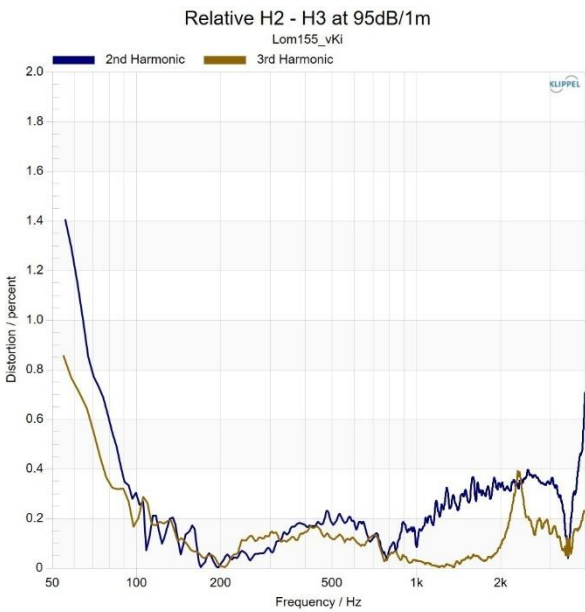
Advanced measurements (1/2)



H2 – H3 for 2.83V

Very low THD in the mid-band area.

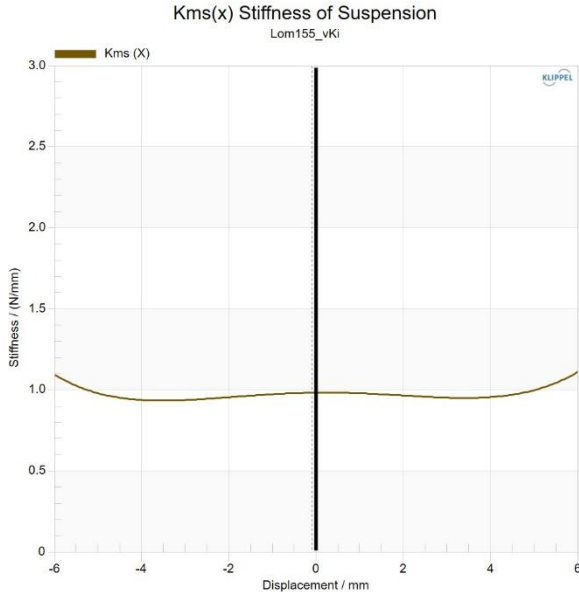
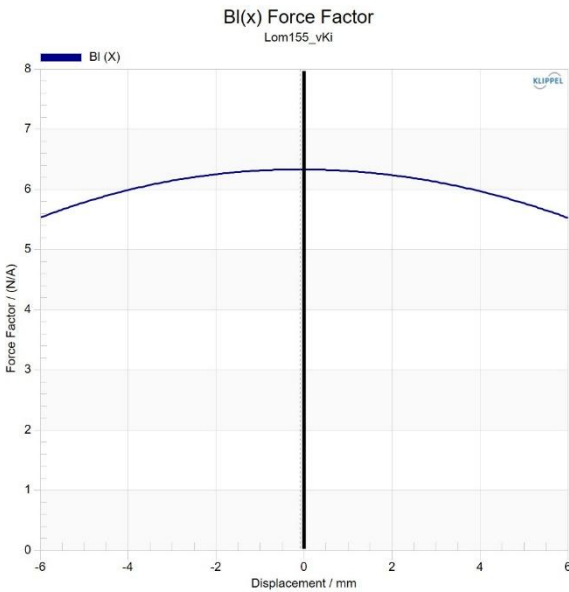
Dominant H2.



Distortion details


THD stay lower than 0.5% from 100Hz to 3500Hz with 95dB at 1m.

Very low and coherent MD on the useful bandwidth, even at 105dB at 1m.



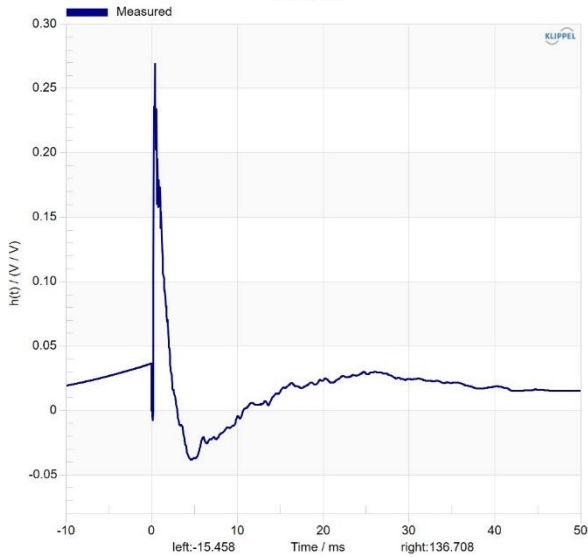
Linear excursion

+/-6mm pure linear motion with Bl(x) curve shape suitable to Kms(x) curve.

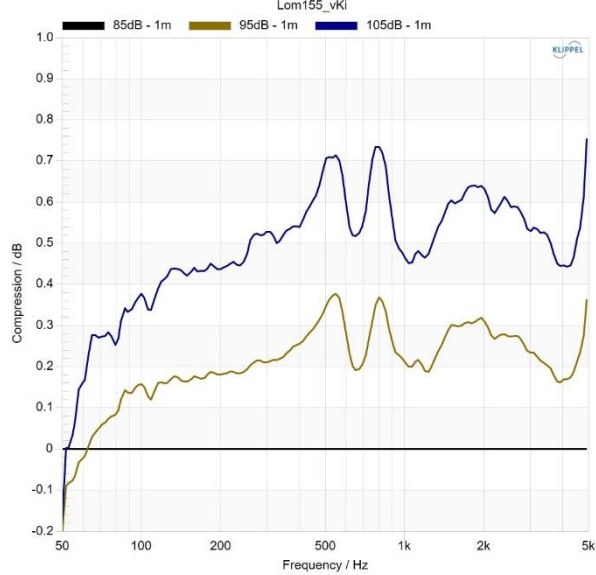
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Advanced measurements (2/2)

Step Response
Lom155_vKi



Compression of Transfer Function $H(f)$
Lom155_vKi

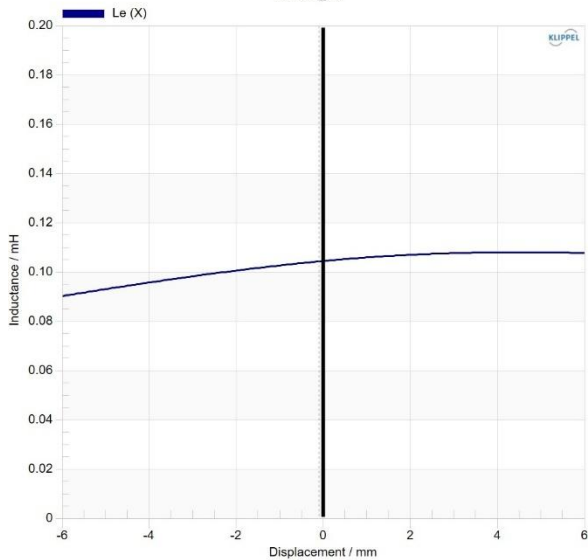


Dynamic behavior

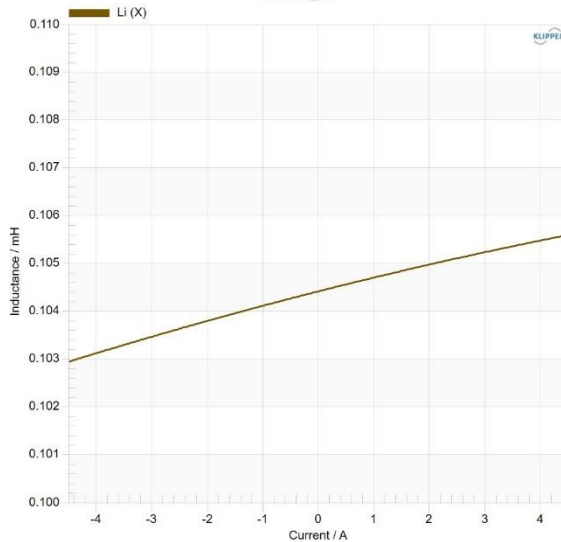
Step response shows fast transient and good damping, free from resonances.

Dynamic compression is lower than 0.8dB on the useful bandwidth, under the high sound pressure of 105dB at 1m.

$L(x, i=0)$ Electrical Inductance
Lom155_vKi



$L(x=0, i)$ Electrical Inductance
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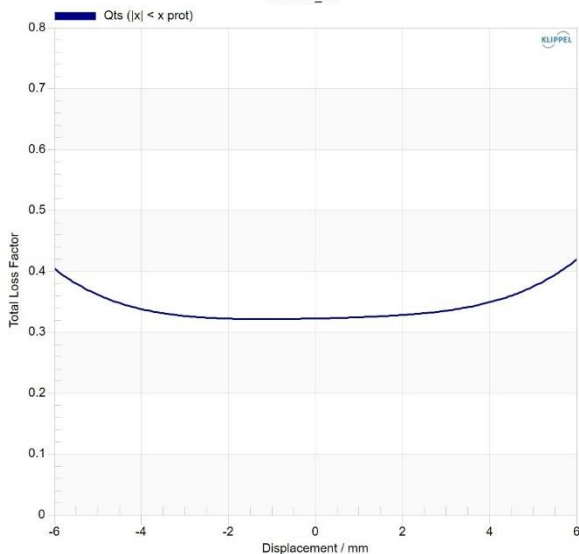


Inductance

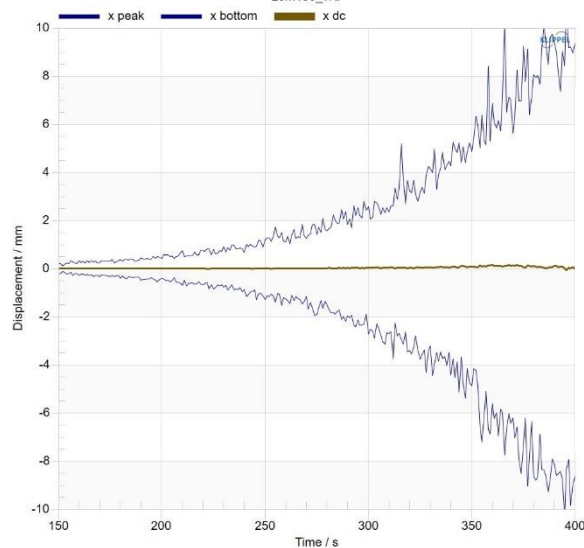
$L_e = 0.08\text{mH}$ at 1kHz.
Average of 0.1mH at the rest position, on the band 50 – 10 000Hz.
Inductance variation over $\pm 6\text{mm}$ is negligible (0.02mH).

Inductance variation according to current input is 0.03mH max, with $\pm 4.5\text{A}$ consumed.

$Q_{ts}(x)$ Total Loss Factor
Lom155_vKi



Voice Coil Displacement
Lom155_vKi



Stability

Q_{ts} variation is symmetric and limited to 15% over $\pm 6\text{mm}$ excursion.

There isn't any significant offset over $\pm 10\text{mm}$ excursion

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