.Kartesian
SPEAKERINNOVATOR

Lom155_vKi

High sensitivity mid-woofer

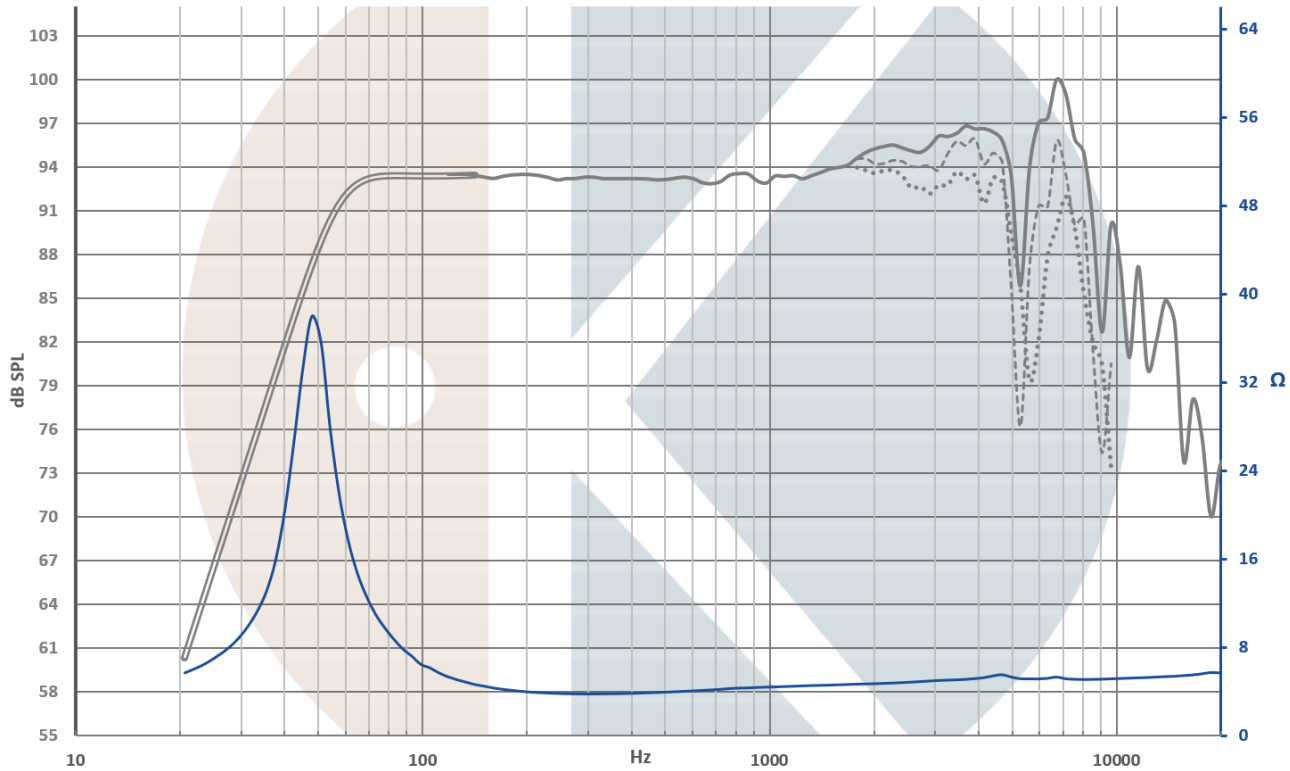




Lom155_vKi is top of the art, high sensitivity mid-woofer, engineered to reproduce 55Hz to 3500Hz in a 10L vented enclosure.

- 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-axe 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 vented 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	1.2		
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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
Bl	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	cm²	125	
Mmd / Sd	g/cm²	0.1	
Bl / Re	T.m/Ω	1.95	

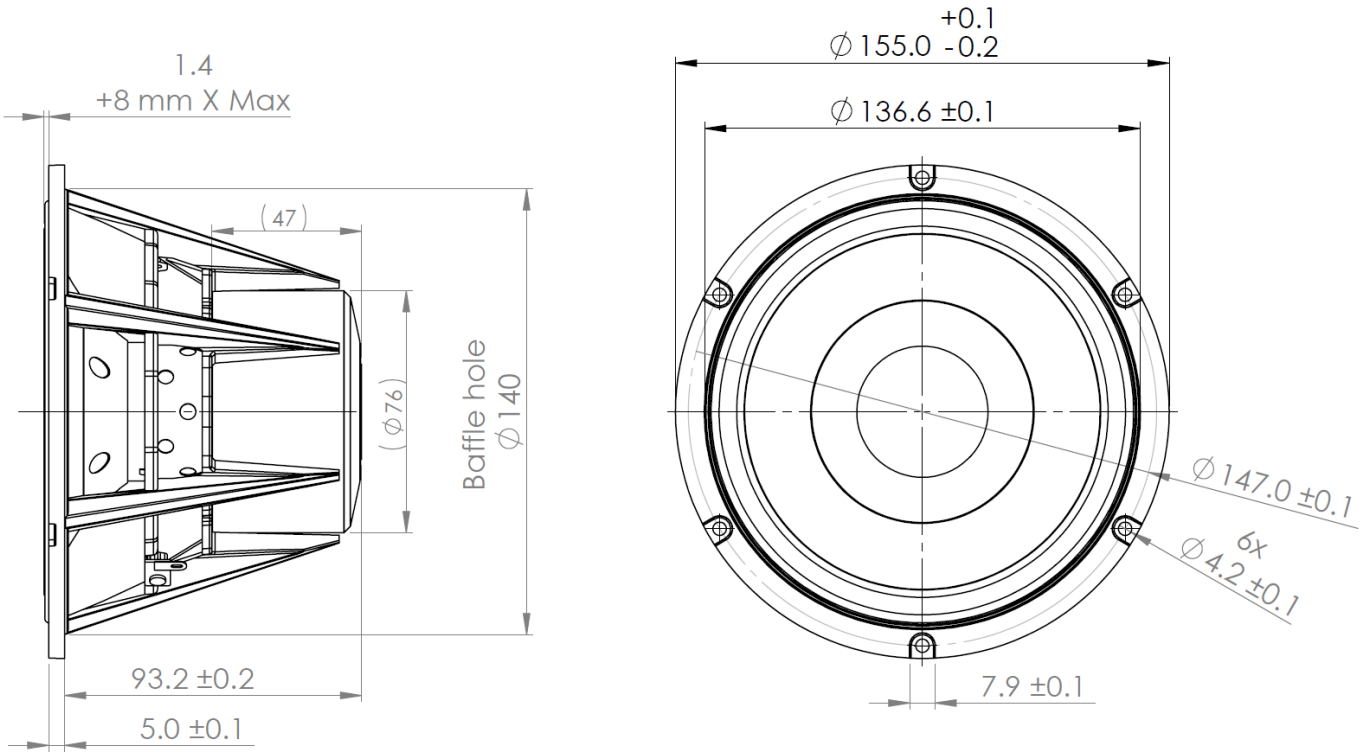
Linear excursion: +/-6 mm
Bl(x) deviation max: 15%

Maximal excursion: +/-12mm
Bl(x) deviation max: 25%

Maximal power handling: 150W
(AES:2012 standard)

Drawing

Unit: mm



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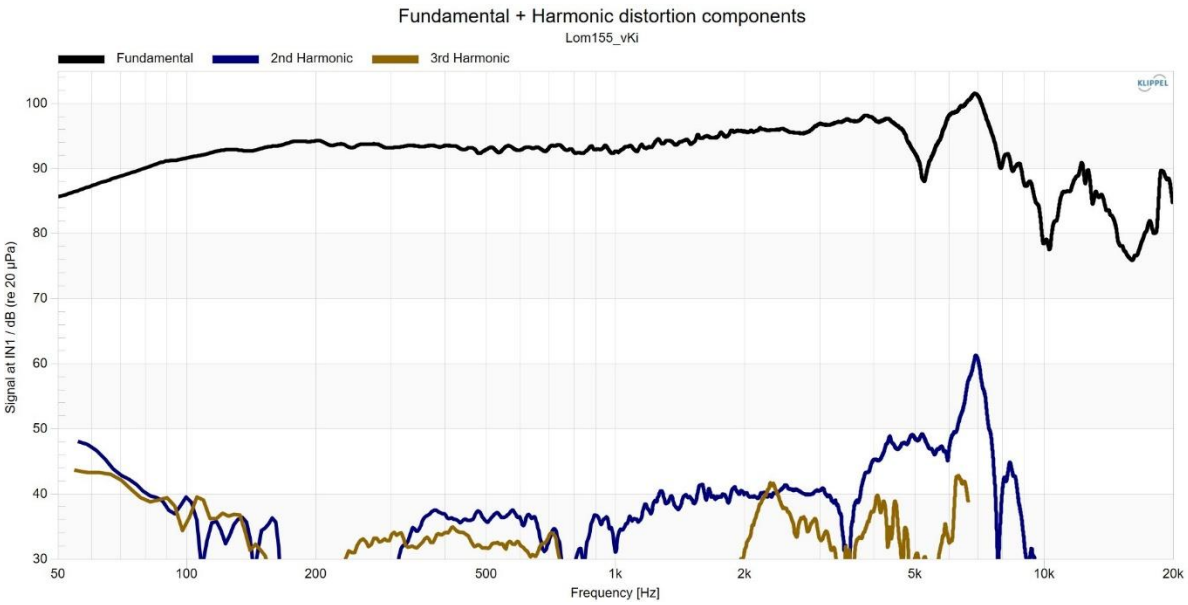
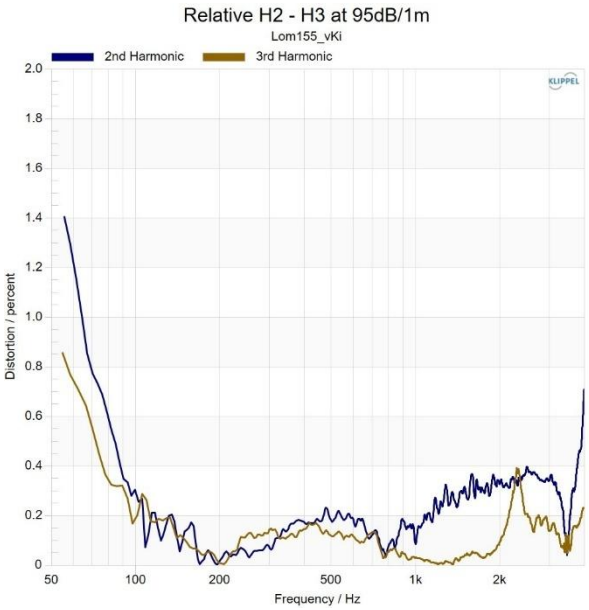
Advanced measurements (1/2)

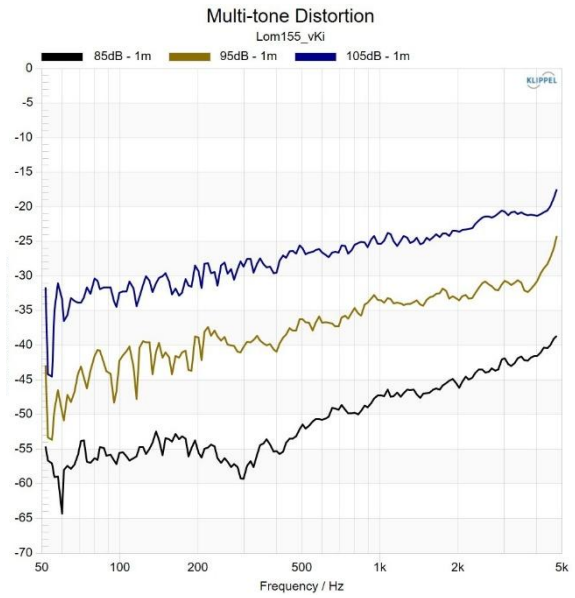


H2 – H3 for 2.83V

Very low THD in the mid-band area.

Dominant H2.

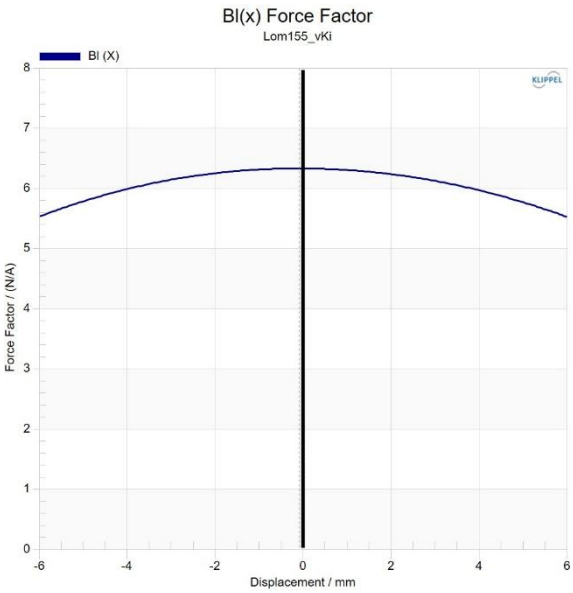


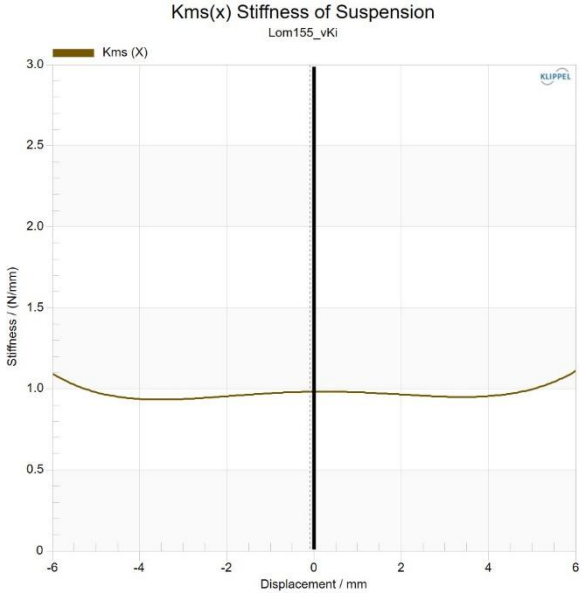


Distortion details

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.

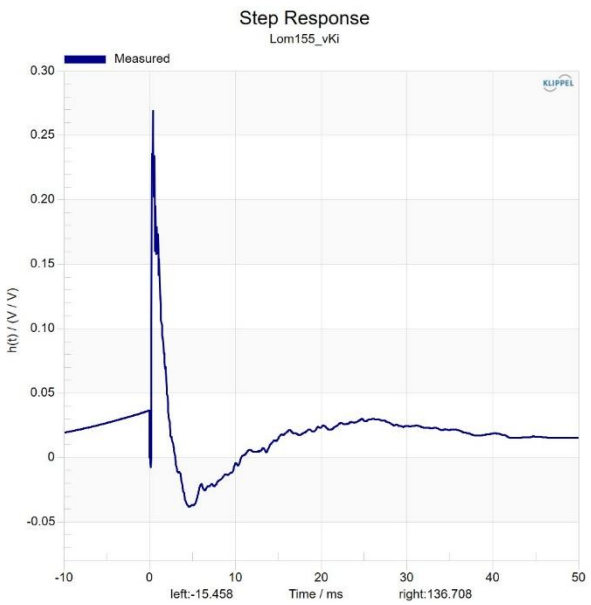


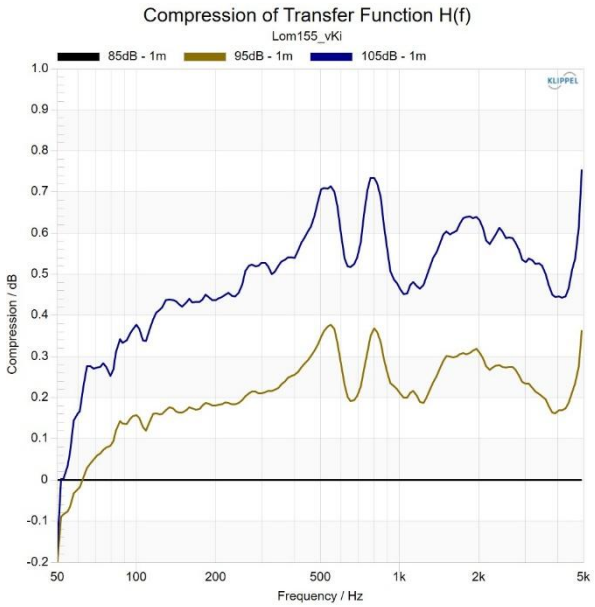


Linear excursion

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

Advanced measurements (2/2)

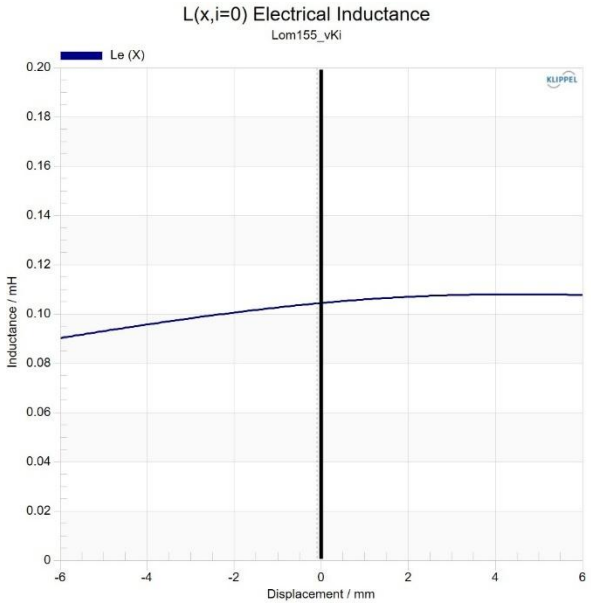


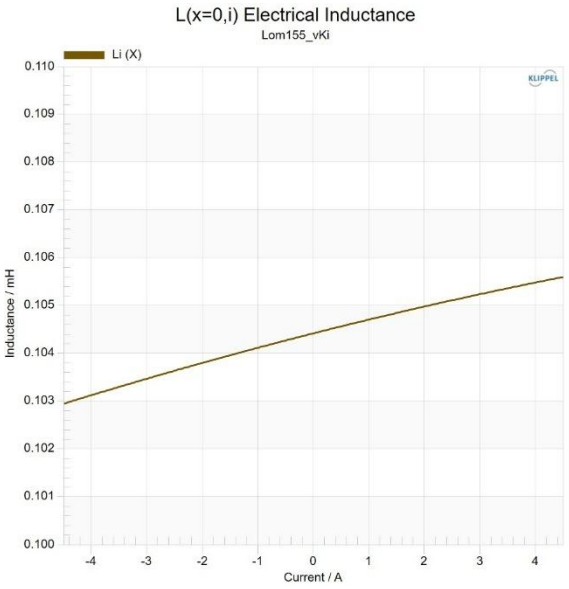


Dynamic behavior

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.

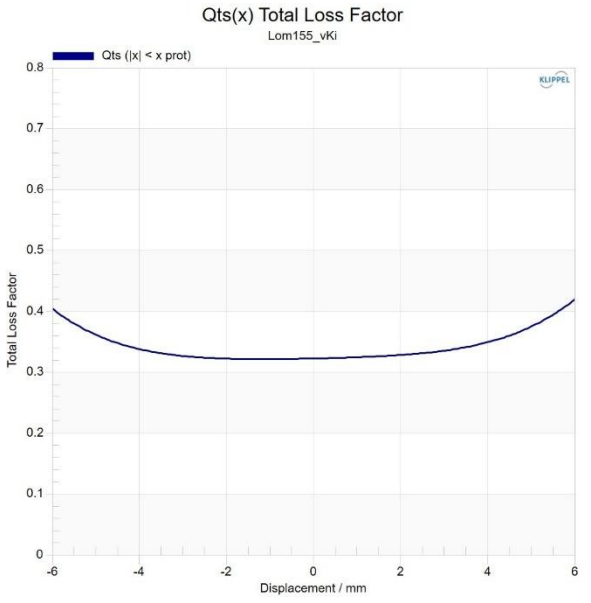


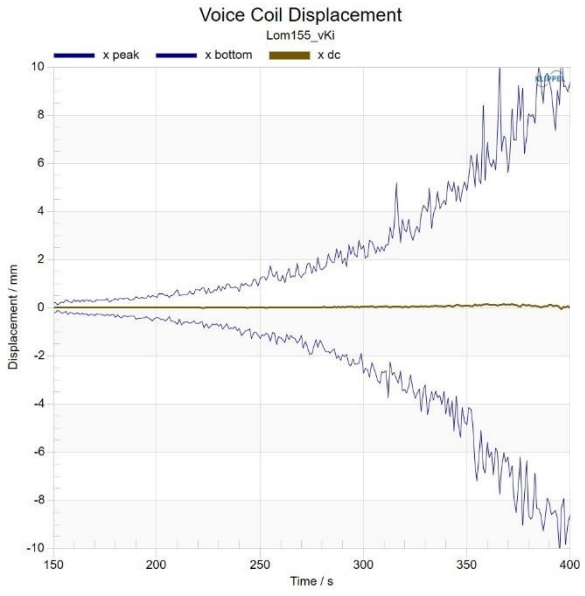


Inductance

Le = 0.08mH at 1kHz. Average of 0.1mH at the rest position, on the band 50 – 10 000Hz. Inductance variation over +/-6mm is negligeable (0.02mH).

Inductance variation according to current input is 0.03mH max, with +/-4.5A consumed.





Stability

Qts variation is symmetric and limited to 15% over +/-6mm excursion.

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