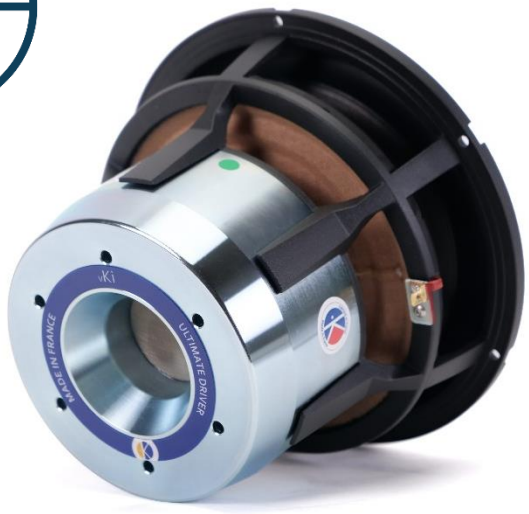
.Kartesian
SPEAKERINNOVATOR

Sub185_vKi

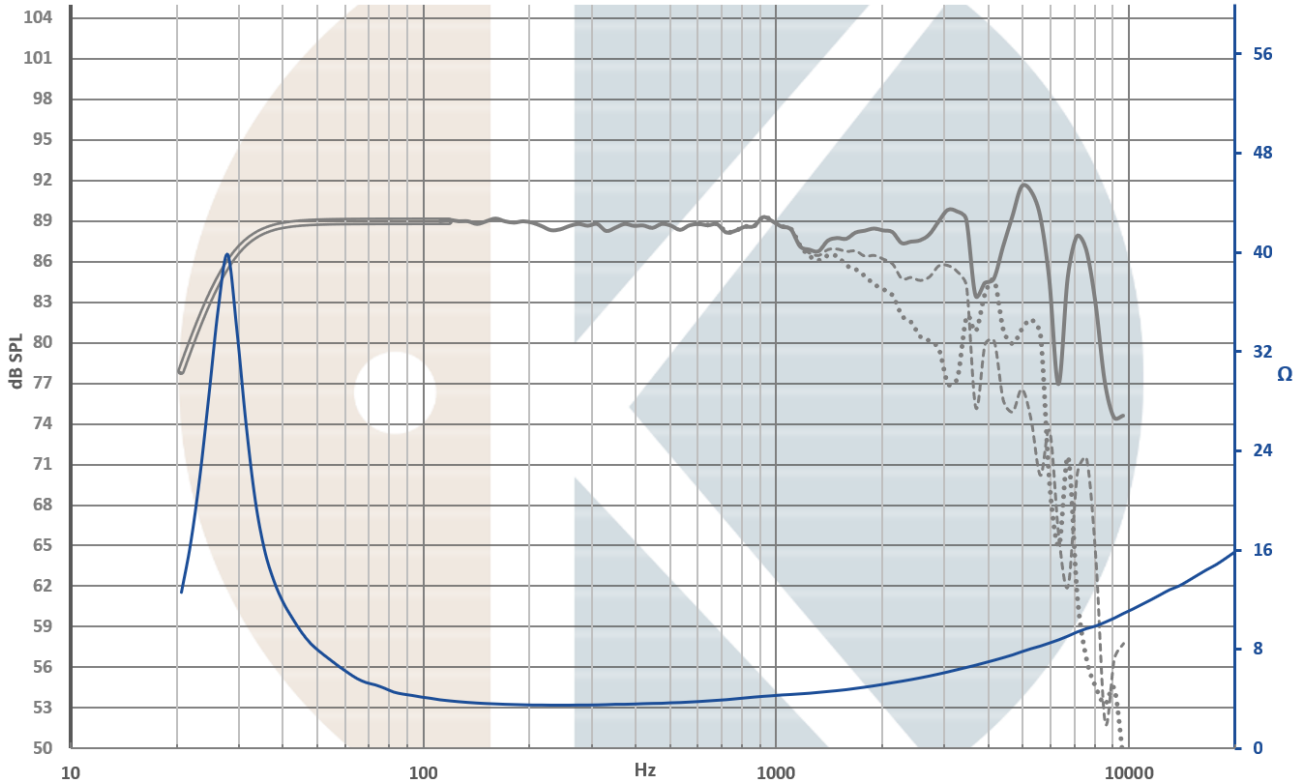
High-End Subwoofer



Sub185_vKi is top of the art high-end subwoofer, engineered to reproduce the bandwidth from 28Hz to 800Hz.

- Very low dynamic compression (0.3dB max, from 30Hz to 800Hz, with 95dB at 1m).
- Very low Inter Modulation Distortion.
- Very low Total Harmonic Distortion, especially in low frequency.
- +/- 15mm 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 35L vented enclosure / Tuning frequency: 28Hz

Datasheet for	Sub185_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	2.3		
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Detailed construction

Membrane

hexaKone paper cone

Large concave CGF dust cap

Suspension

Tri-radius roll surround

Low lost NBR surround material

Dual spiders, vented spacer

progressive + dynamiK spiders

Voice coil:

Ø78.5mm, 1 layer, Cu wire

Vented Titanium / GF former

Motor structure:

8x radial NdFeB magnets (grade N40H)

8x Cooper struts

2x Aluminium rings

Optimized and vented pole pieces

Low carbon steel

Frame

Injected aluminium (ACD12)

Vented spider

Driver weight: 4.2Kgs

T&S parameters

Parameter	Unit	Value	Tolerance
Fs	Hz	28Hz	+/-3
SPL	dB/2.83V/1m	89	+/-0.2
Bl	N/A	6.85	+/-0.08
Mms	g	35.5	+/-1
Rms	Kg/s	1.08	
Le (at 1kHz)	mH	0.19	+/-0.05
Re	Ω	3.2	+/-0.1
Impedance	Ω	4	
Qms		5.8	
Qes		0.43	
Qts		0.4	
VAS	L	41.4	
Sd	cm²	179	
Mmd / Sd	g/cm²	0.18	
Bl / Re	T.m/Ω	2.14	

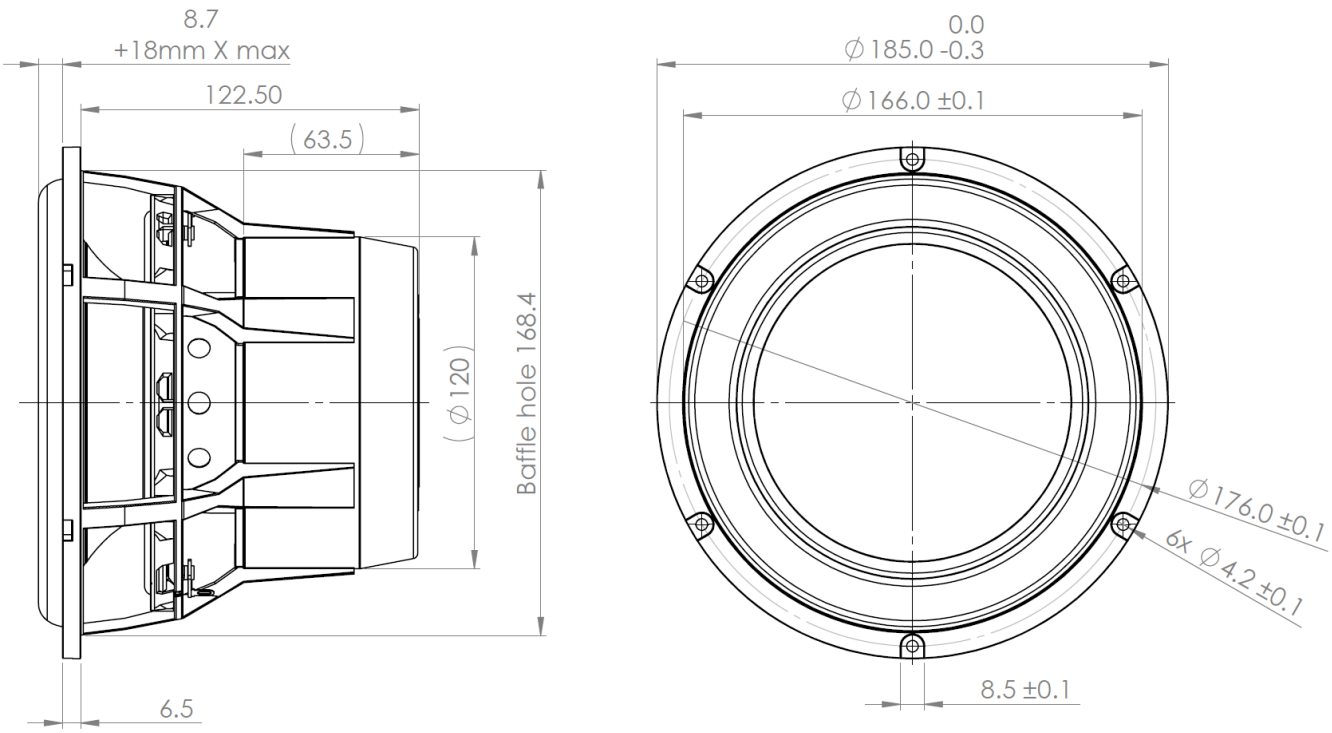
Linear excursion: +/-15 mm
Bl(x) deviation max: 10%

Maximal excursion: +/-18mm
Bl(x) deviation max: 20%

Maximal power handling: 250W
(AES:2012 standard)

Drawing

Unit: mm



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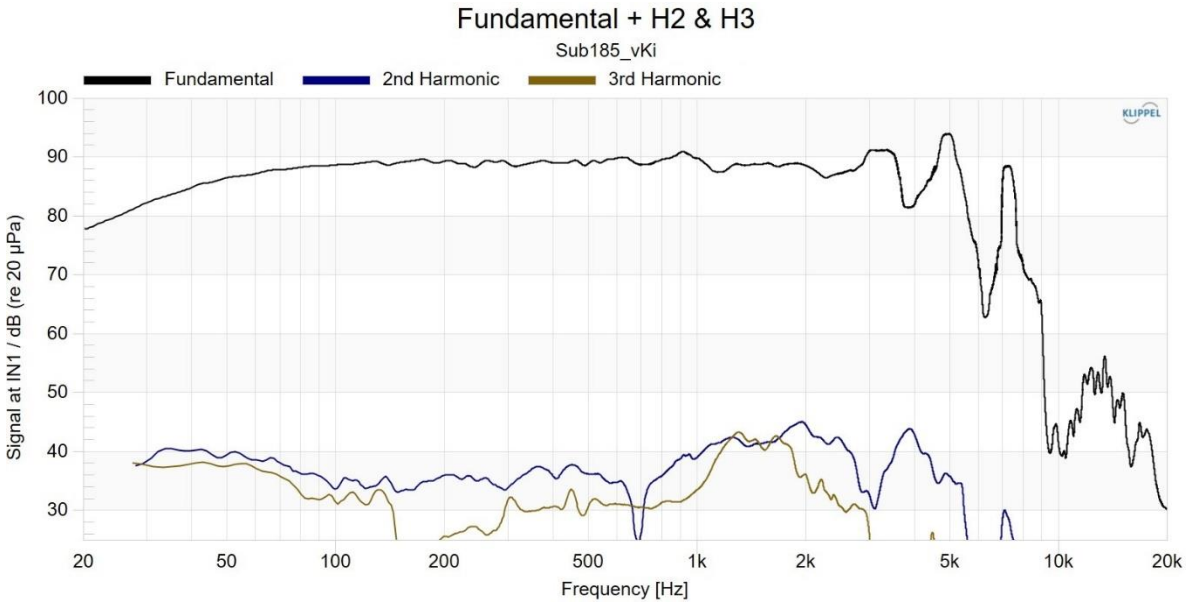
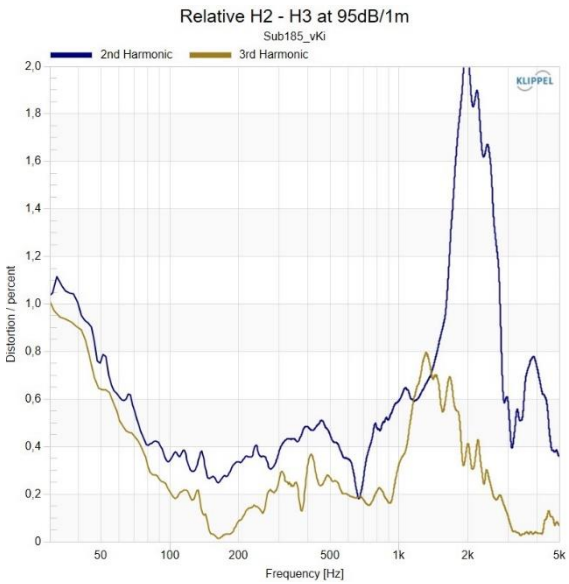
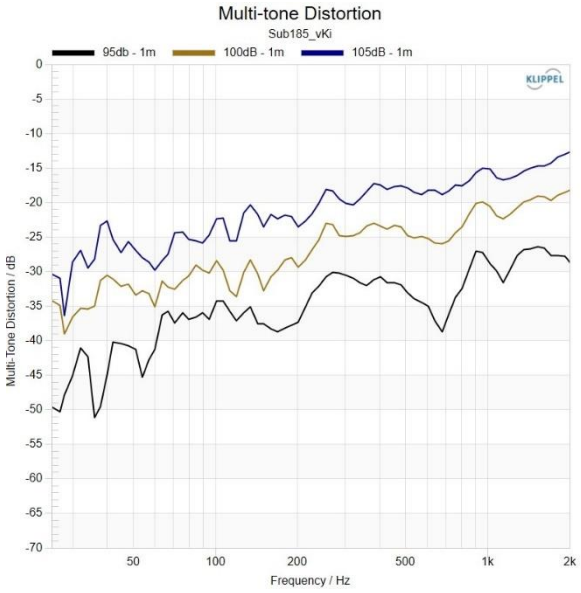
Advanced measurements (1/2)



H2 – H3 for 2.83V

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

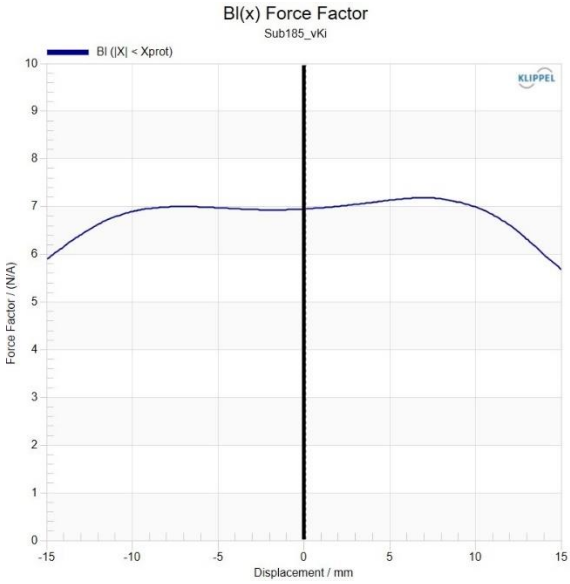


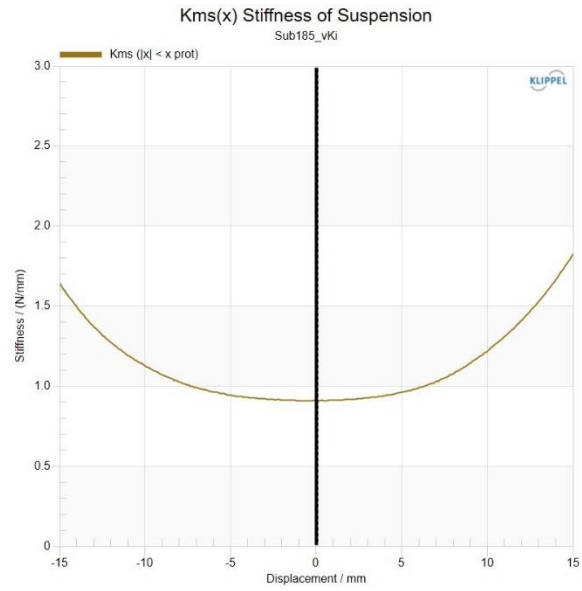


Distortion details

THD is lower than 1.5% at 40Hz when Sub185_vKi is playing 95dB at 1m.

Very low MD in low frequency, even at 105dB at 1m.





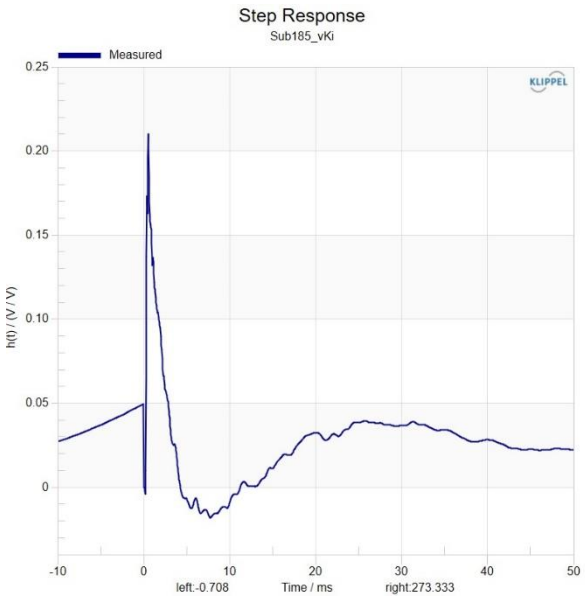
Linear excursion

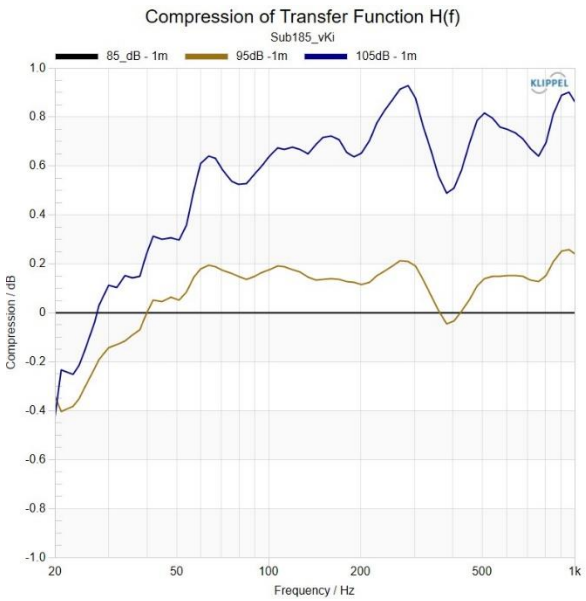
+/-15mm linear motion

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

Suspension stiffness increase smoothly to ensure soft Fs variation and protection the driver under highest excursion.

Advanced measurements (2/2)

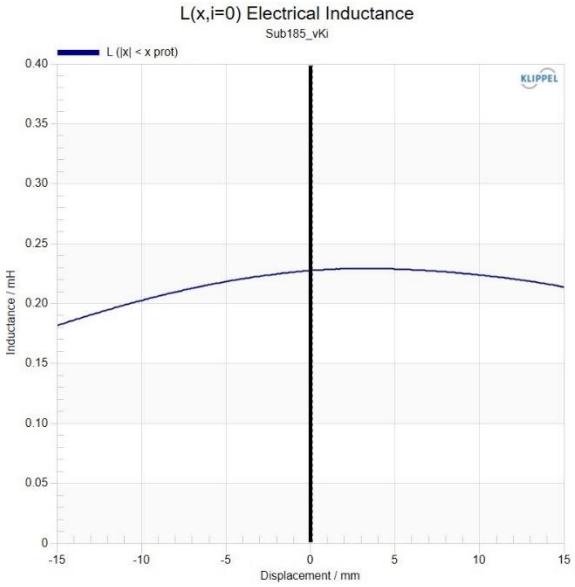


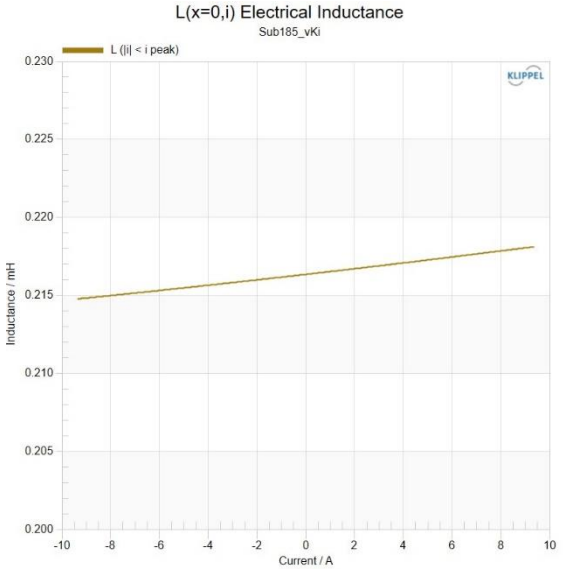


Dynamic behavior

Step response shows fast transient and good damping.

Dynamic compression is 1dB max on the useful band when Sub185_vKi is playing 105dB at 1m.

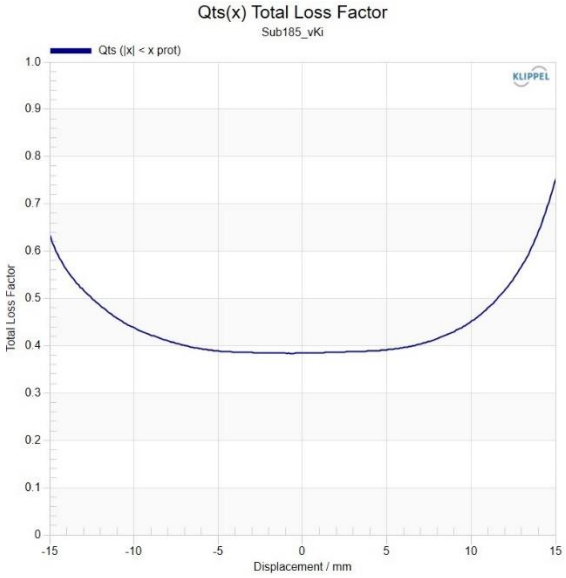


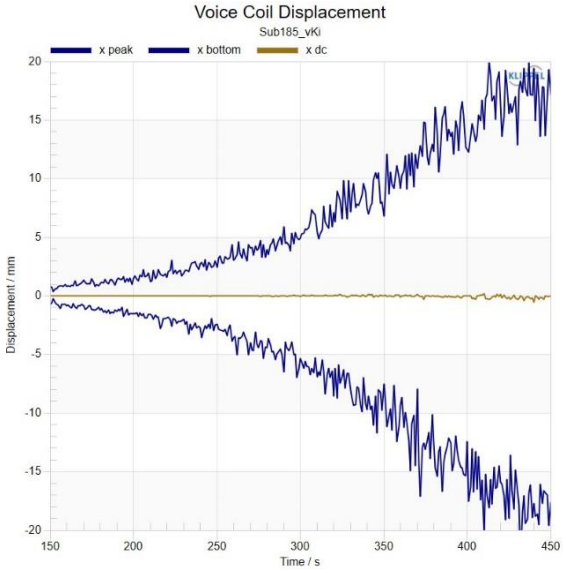


Inductance

Le = 0.19mH at 1kHz. Average 0.23mH at the rest position, on the band 20 – 3500Hz. Inductance variation over +/-15mm is 0.05mH.

Inductance variation according to current input is 0.04mH max with +/-9.5A consumed.





Stability

Qts variation is symmetric and limited to 30% over +/-12mm excursion.

There isn't any significant offset over +/-20mm excursion