

## Kartesian ?

For 10 years, we support high-end HiFi and pro audio brands to improve products performances.

In this way, we have engineered, prototyped and produces several exclusive and innovative loudspeakers, often rewarded.

On 2020, we laug the Kartesian loudspeaker range which integrates our innovation in order to make these qualities available to everyone.

We engineer, prototype and produce small series in France.

To reach the best competitiveness, the larger productions are made in China, on our production line, with our quality standard.

## Why Kartesian products sound great ?

Kartesian loudspeakers integrate many innovations to keep very **low non-linearity on wide excursion** and improve the **transient response**.

Furthermore, each product has been tested (measurements + listening session) into typical use case to ensure the sound quality is compliant with our demanding requirements.

## What linear excursion means ?

For Kartesian standard, linear excursion is the membrane movement where the force factor  $Bl(X)$ , the compliance  $Cms(X)$  and the inductance  $Le(X)$  keep 80% of their nominal value.

This definition is much more demanding than the ordinary basic calculation:  $[(\text{voice coil height}) - (\text{pole piece thickness})] / 2$ , but it is much more relevant.

1<sup>st</sup>, the usual calculation doesn't provide any real feature; even the force the factor cannot be defined with it.

2<sup>nd</sup>, it doesn't consider the suspension stiffness, which is very important.

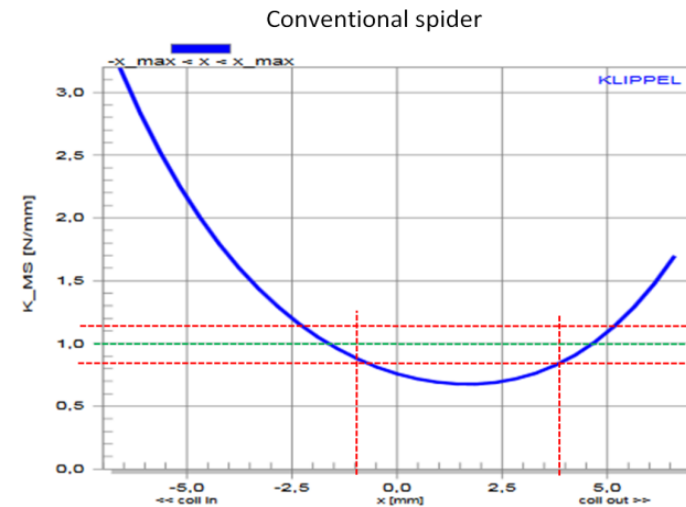
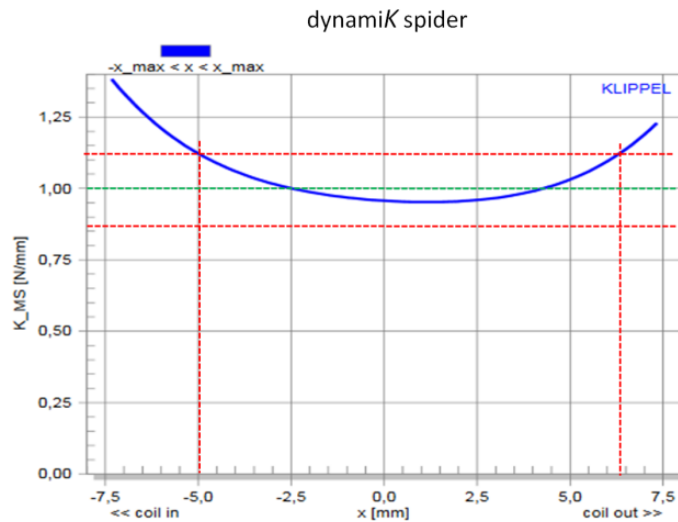
## Why this definition makes the difference?

Most of the loudspeakers use conventional regular spider with 2 limitations:

- Stiffness isn't symmetric over the rest position -> An offset which creates harmonic distortion appears.
- Stiffness increase significantly over the rest position -> The resonance frequency grows- up accordingly.

Kartesian loudspeakers use our innovative dynamiK spider to avoid these limitations.

The measurements below illustrate this phenomenon with 4inch loudspeaker:



Our products integrate several other innovations to improve the performances and set-up the new generation of top end loudspeakers.

We are dedicated to audio excellence; we practice engineering, not fancy marketing.

Here below, some suggestion to use Kartesian loudspeakers:

Reference	Response at -3dB [Hz]	Enclosure			Crossover		
		Type	Volume [L]	Tuning frequency [Hz]	Type	Crossover point [Hz]	Attenuation
Wib50_vHP	120 - 22000	Vented / Passive radiator	0,25	70 - 110	-	-	-
Wib70_vPA	150 - 22000	Sealed	0,45	-	-	-	-
Twt28_vHP	2200 - 22000	-	-	-	High-pass	3500	12dB/Oct
Twt28_vMS	2200 - 22000	-	-	-	High-pass	3000	12dB/Oct
Twt30_vMS	1200 - 22000	-	-	-	High-pass	2000	12dB/Oct
Wom120_vMS	56 - 6500	Vented	4,5	55 - 65	Low-pass	3500	12dB/Oct
Wom145_vMS	45 - 4000	Vented	10	45 - 55	Low-pass	3000	6dB/Oct
Wom165_vMS	40 - 3000	Vented	17	40 - 50	Low-pass	2500	12dB/Oct
Wom250_vPA	45 - 1000	Vented	35	45 - 55	Low-pass	1000	12dB/Oct
Lom120_vPA	100 - 4500	Vented	3,5	105 - 115	Low-pass	3000	6dB/Oct
Lom165_vPA-H	50 - 3000	Vented	10	55 - 65	Low-pass	2200	12dB/Oct
Cox120_vHP	60 - 30000	Vented	4,5	55 - 65	-	3200	12dB/Oct
Cox165_vPA	70 - 22000	Vented	10	60 - 70	-	2800	12dB/Oct
Sub120_vHP-F	45 - 2500	Vented / Passive radiator	5	45 - 55	Low-pass	2800	12dB/Oct
Cmp25_vHP-H	2800 - 22000	-	-	-	High-pass	3500	12dB/Oct
Cmp35_vPA	1500 - 20000	-	-	-	High-pass	1500	18dB/Oct
Cmp65_vPA	700 - 20000	-	-	-	High-pass	700	18dB/Oct

Notes:

Many others configuration are possible

High-pass filter are recommended for Lom120\_vPA and 165\_vPA-H in order to increase power handling

Cut band filter or EQ are possible for Wib50\_vHP and Wib70\_vPA in order to improve the frequency response linearity

**.Kartesian**  
S P E A K E R I N N O V A T O R

