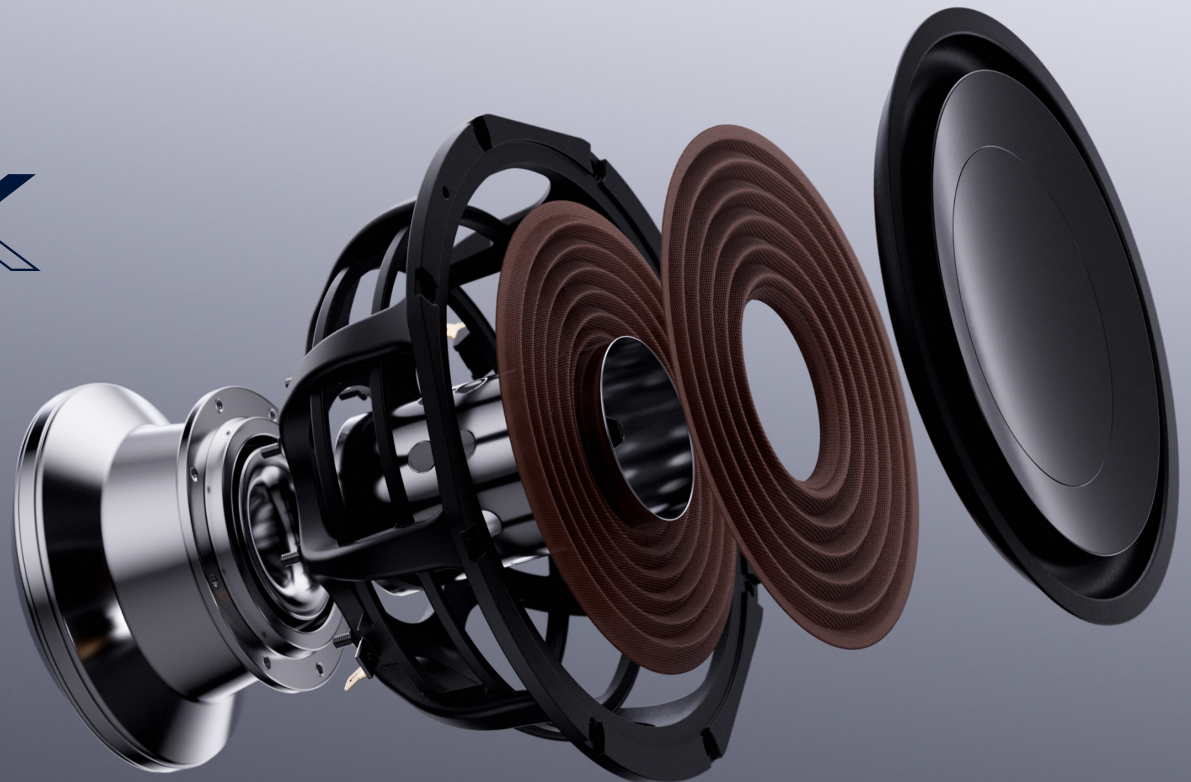


Ultimate Linearity

The first-ever Linn-designed drive units – a 6” upper bass and 8” woofer – feature our unique Pistonik motor system at their core. With it, these drivers achieve ultimate linearity across a prodigious excursion range, with dramatically lower distortion and greater accuracy than anything available elsewhere.

Major innovations throughout Pistonik’s design engineer out all magnetic, mechanical, and thermal factors which together conspire to defeat linearity. When integrated into Linn loudspeaker systems, awesome volumes of air are moved, with absolute control, and the widest *truly* linear excursion of any low-frequency drive units, ever.

PISTONIK
MOTOR SYSTEM



Pistonik Motor System

Pistonik produces flawless force over its entire range of in-and-out travel—even when driven extremely hard with bass-heavy music—thanks to a very long-stroke motor topology with a specially extended magnet gap.

To stabilise the magnetic field inside the voice coil gap, and reduce the impact of eddy currents, we've immersed the whole Pistonik motor assembly in permanent magnetic saturation. This enhanced stability reduces distortion drastically, and provides the drive unit with exceptional agility and responsiveness by lowering magnetic drag and demand on amplifiers.

Pistonik's triple-layered ventilation network eliminates acoustic compression as a source of distortion and noise, allowing air to move freely and silently through the motor structure. The driver's moving mass maintains smooth, supple motion, with the absolute absence of audible air turbulence.

Untroubled by rising resistance due to thermal buildup, Pistonik's performance remains steadfast after hours and hours of non-stop listening. The voice coil is kept cool by carefully designed ventilation paths; heat is drawn directly into the surrounding steel and aluminium structures, so that warm air is continuously exchanged for cool within the speaker cabinet.





Advanced Suspension

To realise its full potential in the final drive unit design, a groundbreaking motor system requires an equally advanced suspension. Because we know everything about how our loudspeaker systems are driven and the forces at play, we had the freedom to create a far more extreme suspension system than the norm – pushing performance right to the edge, safely.

Advanced multi-physics simulation informed the design of an ideal partner to mirror Pistonik; a finely tuned, bespoke suspension that stiffens rapidly and predictably at the last possible moment, remaining under complete control with impeccable linearity right up to maximum excursion.

Optimised Materials

For both our 6" and 8" drive units, we designed a hard aluminium diaphragm. Aluminium is strong and rigid, allowing us to banish break-up behaviour to well above their operating frequency ranges. It is also light, keeping the moving mass of the drive unit down, and thereby improving overall efficiency.

Carefully optimised coupling of the diaphragm to both the surround and Pistonik motor system pushes resonance frequencies even higher, and lowers their magnitude.

We've finished the aluminium diaphragm to a high standard, presenting an attractively smooth and consistent surface for the most visible part of the drive unit that looks as refined as it sounds.



Exakt

Our groundbreaking, proprietary Exakt technology takes precision even further. Each individual drive unit is laser-measured at the Linn factory to determine its unique characteristics. This data is stored against its serial number and used to generate a tailor-made Exakt profile for that specific drive unit.

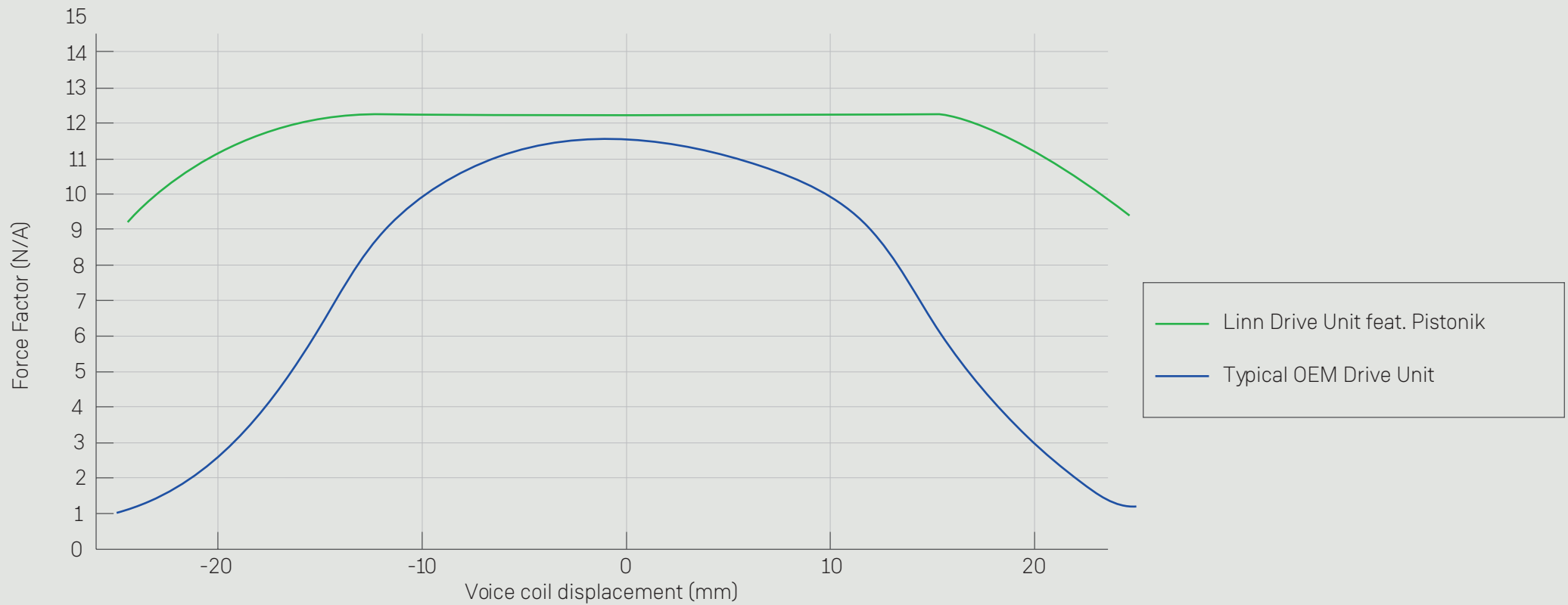
Once installed, the system retrieves this data before calculating and applying a correction filter to all drive units in the speaker – accurate to within 0.0625dB of the reference. In all practicality, every customer then has *the* reference speaker in their home – performing exactly as designed.

A close-up, artistic photograph of a speaker driver, likely a tweeter or midrange driver, with a green grid overlay. The grid is composed of thin, white lines forming a square pattern. The speaker driver is dark and circular, with some internal components visible. The overall image has a green tint.

EXAKT

Measurements I

Force linearity ($Bl(x)$) of Linn drive unit with Pistonik motor system versus a typical alternative. Our drive unit exhibits impeccable linearity even when driven extremely hard.



Measurements II

Comparison of stiffness (Kms) in suspension design between Linn drive units featuring Pistonik and a typical OEM drive unit. Our finely tuned, bespoke suspension is the ideal partner to Pistonik; mirroring its linear performance up to extreme excursions.

