

# The Automotive Head & Torso Simulator from GRAS!

## GRAS 45BD AutoKEMAR

### A better and more realistic way of performing in-cabin acoustic tests

Today's drivers expect more than performance, they demand a quiet, refined ride and an immersive audio experience. Whether powered by a traditional combustion engine or an electric drivetrain, in-cabin acoustic quality has become a defining factor in modern automotive design.

From benchmarking and tuning premium sound systems to sound quality testing, or minimizing unwanted noise and optimizing NVH (Noise, Vibration, and Harshness) performance, achieving excellence requires precise, repeatable, and realistic acoustic measurements.

The GRAS 45BD AutoKEMAR makes this possible. Its human-like acoustic properties allow engineers to perform accurate in-cabin measurements that closely replicate how sound behaves around a real occupant. The result is data you can trust, enabling better sound system design, more effective noise control, and a superior driving experience.



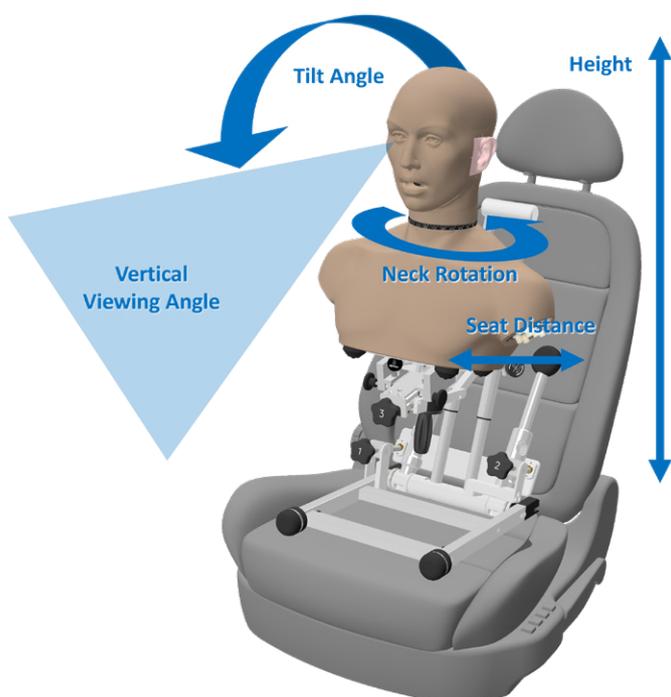
### What is AutoKEMAR?

The GRAS 45BD AutoKEMAR is a specialized version of the renowned GRAS KEMAR, designed specifically for automotive acoustic testing. With its seat-mount system compatible with ISOFIX, the AutoKEMAR can be securely positioned in a car seat, ensuring precise and repeatable in-car measurements. The fixture's flexible design allows for comprehensive adjustability, including neck rotation, height, seat distance, forward and backward tilt, and viewing angle, providing true-to-life positioning and measurement versatility.

The AutoKEMAR is ideal for realistic in-car acoustic measurements, supporting a wide range of research and testing scenarios. It is user-reconfigurable, allowing for upgrades and replacements of ear simulators, microphones, and pinnae to suit different applications.

An optional mouth simulator is available for speech-related testing, making AutoKEMAR a complete and adaptable solution for automotive acoustic evaluation.

The system is offered in multiple pre-configured versions, ready to meet diverse testing needs right out of the box.





## Key Features

- Widest and most flexible positioning capabilities and motion range in the market.
- Available in multiple configurations.
- User reconfigurable:  
One unit ⇒ Multiple applications.
- Multiple types of microphones, ear simulators and pinnae available.
- Accurate positioning, & Precision:  
Ensures consistent and repeatable measurements.
- Human-Like Acoustics: Mimics human head and torso for accurate sound simulation.
- Mouth simulator option available (can be retrofitted).
- Low-noise version available (11.5 dBA).
- Easy-access cable connector panel.
- ISOFIX-compatible for secure mounting.
- Lashing Strap secure mounting system for non-ISOFIX compatible car seats.
- Rattle free operation (Static, Dyno, On-road Tests).
- TEDS compatible.
- Equalization curves available: Free-field, Diffuse-field and Direction Independent.



## Wide range of movement

Thanks to its ingenious seat-mount design, the GRAS 45BD AutoKEMAR offers the widest and most flexible range of motion available on the market.

This advanced fixture allows precise head and torso movement across all typical seating and driving positions, and even more extreme or unconventional setups, such as those representing very short or tall occupants, or relaxed resting positions.

By accommodating this broad range of realistic body postures, AutoKEMAR enables comprehensive and highly representative in-cabin acoustic testing, ensuring that every relevant listening position can be evaluated to take vehicle acoustics to the next level.

## Typical Applications and Use

### Automotive in-cabin acoustics:

- Audio system performance & tuning.
- Sound Quality & Sound Design.
- Infotainment and DSP testing.
- Speech intelligibility and voice quality.
- Hands-free communication.
- In-cabin NVH.
- Wind tunnel measurements.

### Other:

- Vehicles Exterior Sound / Noise.
- eVTOL, Trains, Airplane cabins, etc.
- Any applications that will benefit from a HATS (Consumer electronics: headphones, headsets, smart speakers. Hearing aids testing).



## Interested?

Check more details or request a quote.

[www.grasacoustics.com](http://www.grasacoustics.com)



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