

Testing services

Acoustic Test Center

Bosch Engineering



BOSCH

Invented for life



PRODUCT BENEFITS

- ▶ Shorter development times by integrating acoustic optimization in cross-domain development processes
- ▶ Noise behavior perfectly matched to the vehicle's characteristics during the early concept phase
- ▶ Improved overall vehicle acoustics and driving comfort by optimizing the calibration variables
- ▶ Better evaluation of acoustic phenomena by means of tailored and reproducible measurement, analysis and evaluation procedures



up to
250 km/h

can be reached on the acoustic test bench.

TASK

The Bosch Engineering state-of-the-art acoustic test bench is available for customers to enable optimized vehicle acoustics. This is supplemented by a hemi-anechoic chamber, additional acoustic test benches and the appropriate engineering know-how.

We have extensive experience in powertrain development and support our customers from concept to production. This enables us to offer NVH support in the early concept phase already.

With our acoustic test bench, the acoustic behavior of vehicles with a wide variety of propulsion systems (ICE, hybrid, electric) and powertrains (4 × 4, front- and rear-wheel drives) can be tested. The influence of the engine calibration on the vehicle's acoustics can be analyzed using the installed exhaust-gas system. Various wheel torques can be simulated using four independently controlled electrical rollers.

Beyond our overall vehicle acoustics competence, we collaborate closely with the acoustics experts of Bosch component development.

4 × 4 curve

The 4 × 4 acoustic test bench with 150 kW per roller simulates curves and independent wheel loads.

10 dB(A)

The low quiescent level permits testing at low noise levels.

TECHNICAL CHARACTERISTICS

Output asynchronous motors	4 × 150 kW
Speed range	0–250 km/h
Roller	acoustically optimized 75" roller
Axle load	up to 2,500 kg
Wheelbase	1,800–4,300 mm
Temperature range	15–35 °C
Lower limit frequency	80 Hz
Quiescent level	10 dB(A)
State-of-the-art NVH measuring technology	air-borne noise, structure-borne noise, binaural measurements, modal analysis, acoustic power

- 1 Vibration measurement
- 2 Sound power test bench
- 3 Hemi-anechoic chamber
- 4 Modal analysis
- 5 Audio studio

