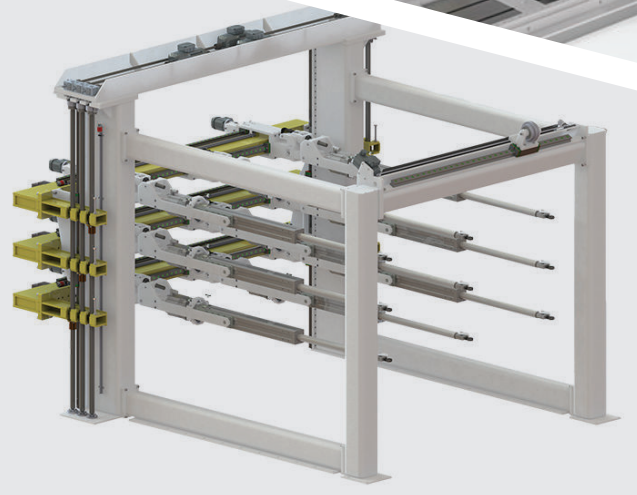
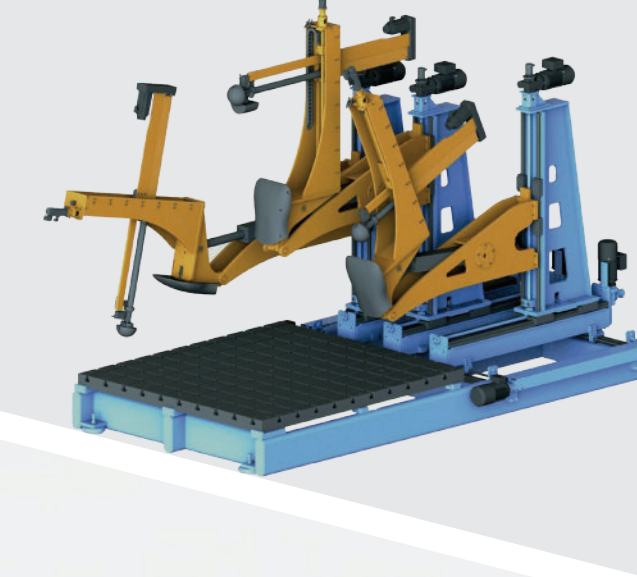




AUTOMOTIVE TEST SYSTEMS FOR PASSIVE SAFETY

Setting New Benchmarks in Automotive Safety Testing — Engineered for Precision, Reliability, and Efficiency. Trusted by Leading OEMs and Test Labs Worldwide.



System Overview and Key Features

Comprehensive Testing Applications



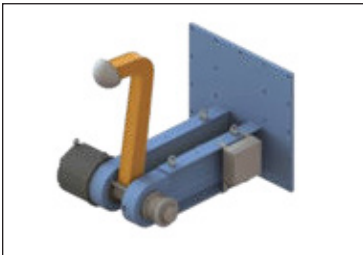
Seat & Headrest

- Seat Back Torque: Up to 5 kNm
- Seat Back Angle: 75°
- Headrest Force: 2 kN
- Height Retention: 600 kN
- Slim design for test of small rear seat assemblies
- Automatic head position adjustment
- Automated test procedure & test report



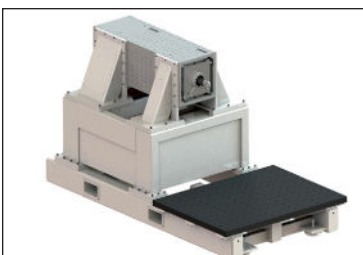
Seat Belt Anchorage

- Actuators: 3 - 12
- Force: 44 kN/cyl
- Velocity: 0.5 m/s
- Stroke: 1,000 mm
- Smart actuator installation: no attachmen from top needed
- Best in class clearance
- Low noise emission



Pendulum

- Impact speed: 18 to 30 km/h
- Impact angle: 15 to 90
- Precision: $\pm 0,1$ km/h
- Repeatability: $\pm 0,1$ km/h
- No pretest required
- Excellent velocity & impact accuracy
- Motorized/automatic repositioning of pendulum



Dynamic Linear Testing Systems

- Force: 40 kN
- Velocity: 2 m/s
- Stroke: 100 mm
- Testing of seat adjustment components
- Reproducing drop tower and FEA curves
- Bridging the gap between sled/crash testing and quasi static testing

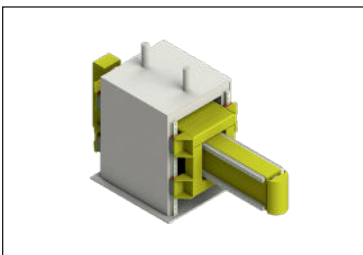
Advanced Safety Test Solutions

Versatile and Customizable Test Platforms



Roof Crush

- Angle around X: -25° to +25°
- Angle around Y: -8° to +8°
- Force: 250 kN
- Stroke: 500 mm
- Unprecedented rigidity
- Laser supported positioning



Side Intrusion

- Force: 300 kN
- Lateral Force: Max. 100 kN
- Stroke: 1,000 mm
- Designed for use on BEV
- Adjustable length of loading device
- Motorized adjustment in Z

FURTHER TESTING APPLICATIONS

- | | |
|--|---|
| <ul style="list-style-type: none"> • Pedestrian Protection • Free Motion Head • Ejection Mitigation | <ul style="list-style-type: none"> • Linear Impact & Body Block • Gravity Pendulum • Multi-Purpose Push/Pull |
|--|---|

AFTERMARKET SERVICES

Upgrades & Modernization

- Retrofit legacy stands with digital controllers, motorized positioning, and automated data acquisition.
- Add new modules or sensors to meet evolving automotive standards.

Calibration Services

- On-site calibration of pressure, flow, and force sensors to international standards.
- Scheduled plans minimize disruption to testing.

Preventative Maintenance

- Routine health checks and software updates to maximize uptime.
- Proactive replacement of wear parts using usage analytics.

Repairs: Hydraulic & Electrical

- Fast diagnostics and repairs for hydraulic circuits, actuators, and pumps.
- Troubleshooting and replacement of drives, PLCs, and control modules.

Training & Consulting

- Staff training on automation, test procedures, and safety.
- Consulting to optimize test cycles, data management, and compliance.

Oilgear is a global leader in hydraulic and test system engineering, renowned for decades of innovation and quality across the automotive industry. With specialized engineering centers in Hattersheim, Germany, Oilgear serves customers throughout Europe, the Americas, and Asia, delivering advanced solutions for passive safety testing, including seat, belt, pendulum, and intrusion systems. Supported by a network of regional offices Oilgear provides elite technical support, aftermarket services, and training to help manufacturers and laboratories optimize safety and productivity in their automotive testing operations.

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