Pinch Force Measurement System for sunroofs, powered window lifters and tailgates

FM 200

Safety ensured by Pinch Force Measurement

DriveTest GmbH develops and produces test-systems for the world-wide use in the automotive and railway industry. As one of the pioneering companies in the field of pinch force measurement **DriveTest** offers a broad range of different systems for a variety of applications. Every system supports the control of applicable standards. The service comprises the consultation, maintenance and calibration of the measuring devices. Major customers in the automotive industry include Webasto, Daimler Chrysler, BMW and Volkswagen.

The FM 200 from **DriveTest** is an electronic pinch force measuring system for power driven automotive sunroofs and windows. Typical use includes R+D and production testing in the automotive industry. The FM 200 is now also increasingly used by technical safety agencies. Combining rugged construction with precision, the advanced mechanical design delivers exact measurements, even after years of service in an industrial environment. The FM 200 has been tested and certified by the German TÜV Nord.

Fast and easy performance of repetitive measurements is an important aspect of standard test scenarios. **DriveTest** has responded to this requirement by developing software which streamlines the measurement process and drastically reduces documentation effort. Measurements can be downloaded to a PC, analysed, exported and documented with a minimum of user interactions. Our PinchPilot Software provides also interface like Microsoft® DDE or National Instruments® Labview for remote control in automated environments.

- **Dependable** – certified by the TÜV Nord
- **Applicable standards** – 2000/4 EG, US Standard FMVSS 118
- **Precision measurements** – uses frictionless guides and single point load cell
- **Robust construction** – casing manufactured from durable aluminium and stainless steel for long service life in industrial environments
- **Ease of Use** – single button operation or remote controlled via Microsoft® DDE interface or National Instruments® LabView library
- **All-In-One package** – the FM 200 comes with a high-quality transportation case and PC application
- **Professional, feature-rich software** – PinchPilot offers complete functionality
- **Complete customer support** – in-house calibration service, standards update service ensures use of newest standards version
- **Flexible Adaptation** – wide range of measurement fixtures and custom adapters available from **DriveTest**

Technical specifications*

FM 200

Sensor FM 200

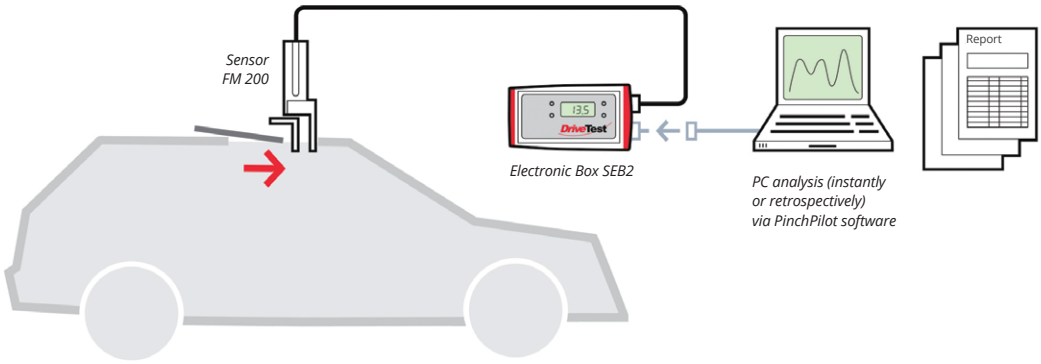
Measurement Range:	0–200 N (300 N)
Measurement Tolerance:	+/– 3 N or 3 % whichever is greater
Stiffness:	10 N/mm (20, 65 N/mm)
Gap width:	Minimum 4 mm
Area:	50 x 50 mm
Measurement Technique:	Strain Gauge Bridge
Size:	240 x 85 x 50 mm
Weight:	1.3 kg

Electronic Box SEB2

- Data logging module (Electronic Box SEB2) with LCD display, LED states, button, and serial interface
- Optional PC controlled measurements
- Powered by 9 V bloc battery
- Onboard real time clock
- Storage for approx. 100 measurements
- Sensor and PC interfaces
- Display of peak force and effective force
- Pass/fail evaluation

PC-Analysis-Software PinchPilot

- Multi-Language (DE, EN, IT, FR, ES)
- Graphical display of force vs. time
- Calculation of relevant parameters
- Assessment with respect to different standards
- Support for user defined standards
- Printed reports
- Data export (Excel, CSV, PDF)



What's included?

- Sensor with 2.5 m connection cable
- Seperate data logging module (Electronic Box SEB2) with LCD display, LED states, button and serial interface
- 9 V battery
- Transportation case with foam inserts for ease of storage and transport
- PC connection cable (USB)
- USB memory stick with PinchPilot PC analysis software and documentation
- Users manual
- Calibration certificate

Optional Equipment:

- Device with 5 m cable length (instead of 2,5 m)
- Adapter for external 24 VDC supply
- 230 VAC power adapter
- Fixture set for sunroofs in slide and tilt position
- Mechanical adapters for powered tailgates

System Requirements for PC Analysis Pinch Pilot (included):

- Operating System Windows Vista, Windows 7, 8 and 10
- RAM ≥ 32 MB
- Free Disk Space ≥ 50 MB
- RS232- or USB-Interface