



x-wheel

The innovative chassis geometry test stand

The Dürr wheel alignment stand x-wheel is subject to a permanent, further innovative development to optimize the process of chassis geometry setting as well as to adapt it to the requirements of modern vehicles.

Relating to a perfectly horizontal steering wheel position when driving straight it is necessary to accurately measure and adjust the wheel geometry in the area of angle minutes. The most important wheel geometry parameters are the individual toe angles, the total toe angles, the camber angles and the castor angles. The individual toe angles of the rear axle determine the driving direction of the vehicle.

CUSTOMER BENEFITS



[Non-contact measuring technology](#)

[Non-contact vehicle positioning](#)

[Flexibility for different vehicle mix](#)

[Modular design](#)

[Easy to maintain](#)

[Highest process and production safety](#)

[Minimal risk of damage to vehicle and test stand](#)

[Maximum production reliability of the chassis geometry - measurement and adjustment while minimizing the setting costs per vehicle](#)

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MODULES X-WHEEL

- The wheel supports which guarantee a rotation of the wheel without any lateral forces and toe and camber setting at the non-rotating wheel without any resistance.
- The patent-registered wheel support positioning system which positions the vehicle without any contact (no lateral contact rollers at the tyres).
- The wheelbase adjustment, which adjusts the wheel alignment stand x-wheel safely to different wheel bases (standard version: from 2300 mm to 3200mm).
- The steering wheel balancers „Smart Ergo Level“ and “x-tronic balancer”, which detect the steering wheel angle transmit it wirelessly to the test stand control system (see separate flyer x-tronic balancer).
- The innovative measuring system x-3Dprofile based on stereo-photogrammetry, which meets the highest flexibility requirements with regard to the vehicle mix.
- The setting system which guarantees an exact, manual, semi-automatic or fully automatic toe, respectively camber setting, depending on the vehicle design.
- The automation system x-line to control, visualize and store the measurement, setting and normal values in a data base and to connect with plant networks.



Rolling Master



Measuring unit x-3Dprofile

TECHNICAL DATA

Type of sensor	x-3Dprofile
Measuring range	1 sensor per wheel, measuring range: 14" bis 20" = {7"}
Measuring procedure	Photogrammetry with max. 40 laser lines
Measuring frequency	20 Hz in case of difference image method (40 Hz image evaluation)
Laser protection class	2M, EN 60 825-1 (European stan- dard) 2, FDA/CDRM (US standard)
Allowed homogeneous surrounding light	< 2500 lux
Accuracy *	Toe < 1 min Camber < 2 min *) Measurement at the calibration gauge

QUALITY

The wheel alignment stand x-wheel as well as each sensor of the chassis geometry measuring system are subject to a defined, internal test in order to meet the high customer requirements. Each wheel alignment stand is equipped with a calibration gauge which is used to transmit the single sensor coordinates to a common coordinate system. The gauge itself is traceable to national standards when measured by a coordinate measuring machine. Optionally, a Rolling Master can be supplied in which each wheel has different toe/ camber values.