



NEXT.assembly

x-road

The multi-function roll, brake, ABS test stand

With the x-road type roll, brake and ABS test stand Dürr Assembly Products offers the possibility of vehicle dynamics function testing as well as ECU parameterization and testing of front-, rear- or 4-wheel drive passenger cars in the end of line area. Thanks to its modular design and high flexibility, the test stand offers the security of being able to easily meet future requirements.

The automation of the test sequences guarantees reproducible test results. Freely definable test sequences complete the flexible overall concept.

The x-road combines high-availability system technology with precise measurement technology. The quality of the measured values is carefully checked before delivery.

TASKS



[General functional test of the vehicle in dynamic test mode](#)

[Gearbox function tests](#)

[Tests on the braking system of the vehicle](#)

[Acceleration and deceleration tests under road-like conditions](#)

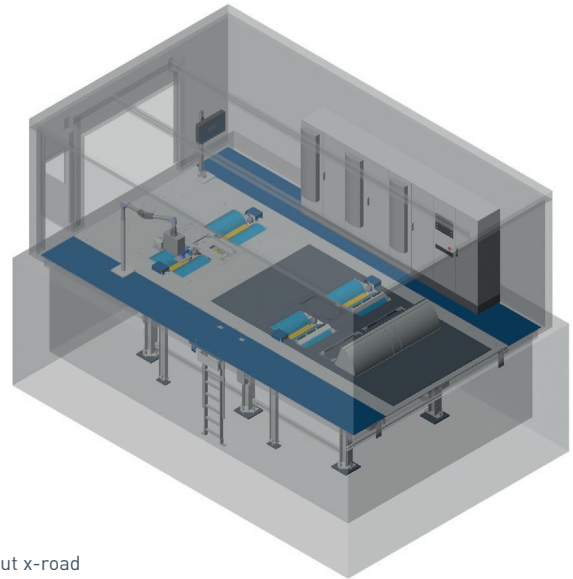
[Tests of sensors in the vehicle \(ABS, ESP, ASR\)](#)

Technical data

x-road

MODULES x-ROAD

- 4 roller sets to support the vehicle wheels
- 4 vector-controlled driving motors, which are operated individually by motor or generator via frequency converters. A central control module determines the specifications (speed/torque) for synchronous or independent operation of the motors
- 4 lifting bars, which allow easy access to the roller sets.
- A wheelbase adjustment device which allows the test stand to be adjusted to the wheelbase of the vehicle to be tested.
- An exhaust flap for targeted extraction of exhaust gases in the rear of the vehicle
- The automation software x-line, the integrated software package with the functionalities: plant control, motor management, interface handling



Layout x-road

TECHNICAL DATA

Typ. max. test speed	170 km/h
Typical motor traction force for each roller set <ul style="list-style-type: none">• Technology: 41kW• In relation to the roller circumference, $v=\text{constant}$	$F_{\text{enn}} = 1.700 \text{ N}$ $F_{\text{max}} = 3.700 \text{ N}$
Accuracy of speed detection (in relation to roller circumference)	Typical $< \pm 1 \text{ km/h}$
Max. difference speed FA to RA <ul style="list-style-type: none">• $v = \text{constant}$• Dynamical ($a=\text{constant}$ and $<6\text{m/s}^2$)	$< 0,1 \text{ km/h}$ $< 0,5 \text{ km/h}$
Wheelbase max. adjustment speed	60 mm/s

FLEXIBILITY

The high flexibility of the x-road is primarily determined by the intelligent drive control on all unwinding systems and the versatility of the automation system.

From the basic operating modes

- Roll mode
- Static braking mode ($v=\text{const}$) and
- Dynamic braking mode (dv/dt)

different test situations and loads can be generated, depending on the requirements. It does not matter whether the test sequence is designed and documented by an external system via an interface or whether the test sequences integrated in x-line are used.

ENERGY EFFICIENCY

Especially the functionality of the regenerative power supply, which is integrated in every x-road, ensures that surplus energy is returned to the grid. Depending on the test sequence, energy savings of 25% are possible. This saves energy costs and ultimately also has a positive effect on the CO₂ balance.