HOFMANN®

dynatest® pro
Chassis dynamometers for cars

Single-axle and 4WD dynamometers
– static power of 260 kW up to 2 x 460 kW
– dynamic power of 400 kW up to 2 x 600 kW

dynatest® pro chassis dynamometers for cars

Performance test and trouble shooting

Up-to-date technology for up-to-date performance tests

Unterneukirchen is the centre of excellence for testing technology in the strong and efficient Snap-on Group. For more than 30 years the name of Hofmann has been a synonym for engineering and manufacturing of testing and diagnostics technology for cars and trucks.

Our customers benefit from concentrated competence and direct and smooth handling of enquiries and orders.

A qualified team, the well-known product quality, good service and the advantages of the strong global Snap-on Group guarantee testing technology which is constantly optimised in terms of customer requirements.

This is the reason why our equipment have been approved and recommended by many important car manufacturers.

The development of dynamometer mechanics mainly focused on rugged and maintenance-free design – an important prerequisite for long years of trouble-free operation.

The roller set is hot galvanised, which provides much better protection against corrosion than simple paint finish.

With the chassis dynamometers you can simulate road conditions without ever leaving the shop. Consequently the test is fully independent of weather conditions when performed on the dynamometer in the workshop, thus saving time and money.

Convenient dynamometer operation is either through PC software, or infrared remote control.

The PC software allows graphical representation, extended analyses (among others by superposition of data), print-outs as well as data storage in a data base.

dynatest® pro – Single-axle dynamometers

dynatest® pro – 260 kW
Entry-level model

max. brakeable wheel power	**260 kW**
max. measurable power	**400 kW**

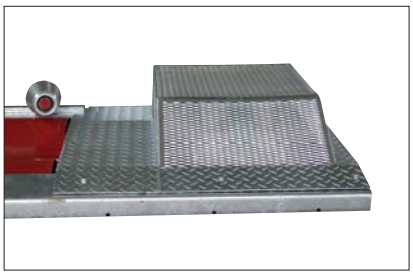
dynatest® pro – 360 kW
Universal model

max. brakeable wheel power	**360 kW**
max. measurable power	**400 kW**

dynatest® pro – 460 kW
Top-level model

max. brakeable wheel power	**460 kW**
max. measurable power	**600 kW**

Optimum cooling is provided for the electronically controlled eddy-current brake through large circulating-air vents.



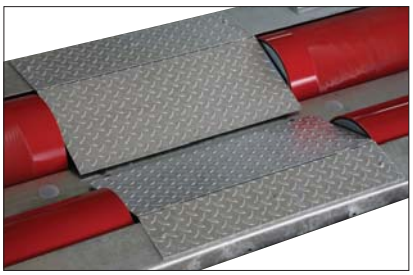
The eddy-current brake is available either at the right-hand or left-hand side.

A special roller set design helps to avoid damage to low-bed vehicles with front spoiler.

Elevated rollers ensure horizontal testing of the car.

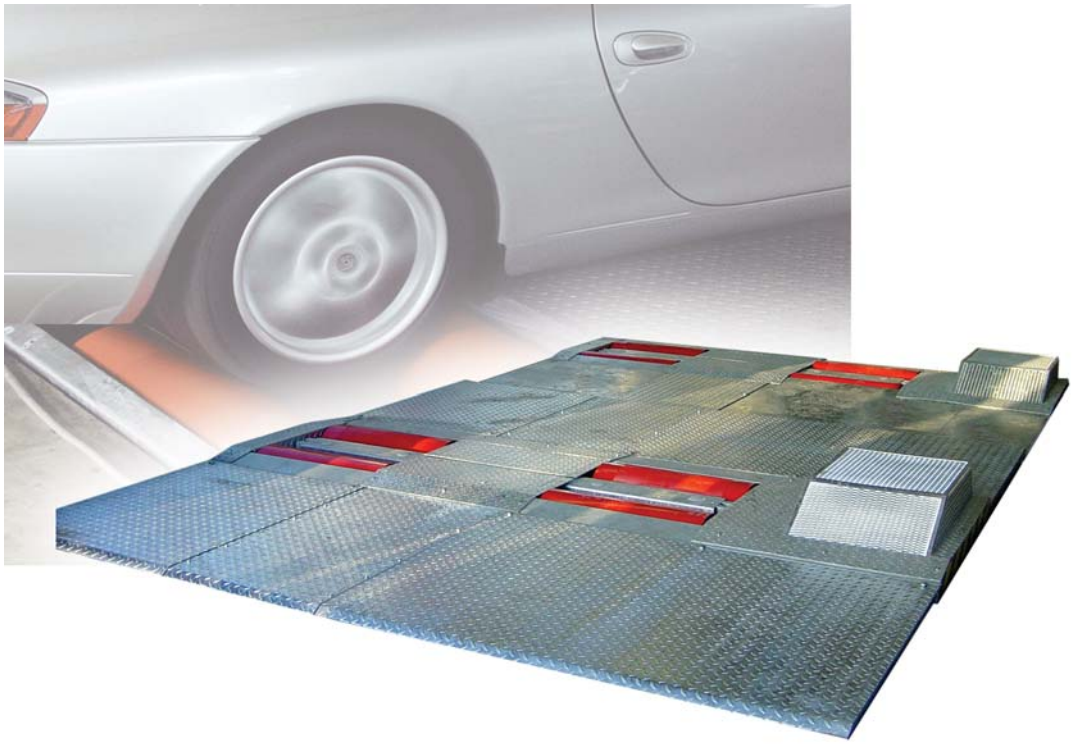
When the pneumatic lifter is raised, the rollers are efficiently locked by the roller brake.

Safety devices prevent unintentional actuation of the pneumatic lifter during the performance test.



A split centre cover, which lifts and lowers automatically with the pneumatic lifter, prevents damage to differential or oil pan of the car during lowering.

dynatest® pro 4WD – Chassis dynamometers



dynatest® pro – 2 x 260 kW 4WD – Entry-level model

max. brakeable wheel power	**2 x 260 kW**
max. measurable power	**2 x 400 kW**

dynatest® pro – 2 x 360 kW 4WD – Universal model

max. brakeable wheel power	**2 x 360 kW**
max. measurable power	**2 x 400 kW**

dynatest® pro – 2 x 460 kW 4WD– Top-level model

max. brakeable wheel power	**2 x 460 kW**
max. measurable power	**2 x 600 kW**

Optimum cooling is provided for the electronically controlled eddy-current brake through large circulating-air vents.

The eddy-current brake is available either at the right-hand or left-hand side.

A special roller set design helps to avoid damage to low-bed vehicles with front spoiler.

Elevated rollers ensure horizontal testing of the car.

When the pneumatic lifter is raised, the rollers are efficiently locked by the roller brake.

Safety devices prevent unintentional actuation of the pneumatic lifter during the performance test.

A split centre cover, which lifts and lowers automatically with the pneumatic lifter, prevents damage to differential or oil pan of the car during lowering.

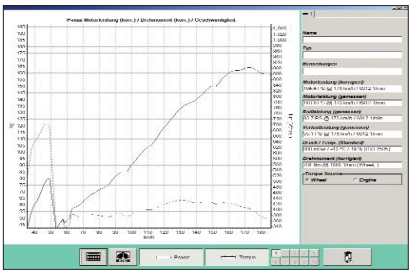
A hydraulic displacement mechanism, which is used for adjustment to the vehicle's wheelbase, is controlled with the infrared remote control.

Optional Software dynatest® pro – the following programs are available

dynatest® pro software

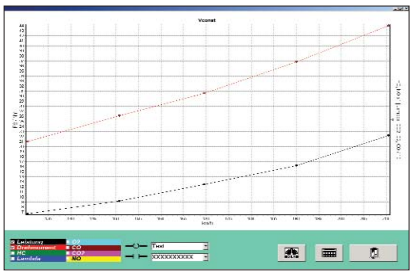
For control of the dynamometer the following programs are available:

Program P-max



In this program power and torque are determined. The car is accelerated from standstill to maximum speed by changing gears smoothly but quickly. Once the level of maximum power has been exceeded, the clutch is disengaged and the car is allowed to coast. During coasting power loss is constantly determined. After coasting the measured values of power, velocity and torque are read out both in form numerical values and graphically.

Program V-const

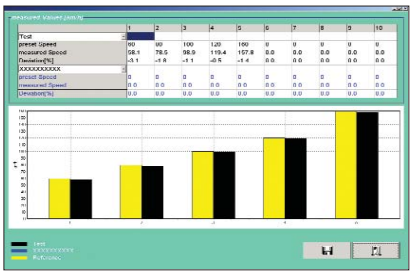


In this program a velocity can be preset for the car under test in order to simulate various loads. The velocity can be changed during the test so that the behaviour of the car can be tested at different velocities. Upon completion of the test the values measured at the preset velocities are read out.

Road simulation program

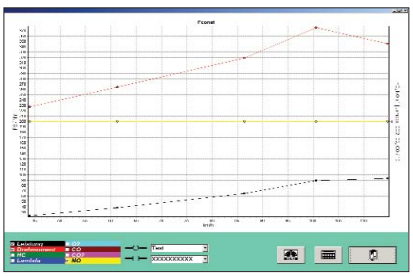
In this program actual road conditions such as air resistance and rolling resistance of tyres can be simulated on the dynamometer. Consequently acceleration times of the dynamometer are similar to the ones on the road which actually allows to conduct a 'road test' on the dynamometer.

Speedometer test program



With this program it is possible to check accuracy and linearity of the car speedometer readings. To this end a maximum of 10 speeds can be preset at which the test will be accomplished. During the test the dynamometer sets the test speed. Once the speedometer reading equals the preset speed, the speed actually reached is stored. After the test both set and measured speeds are analysed, presenting the relative deviation in per-cent.

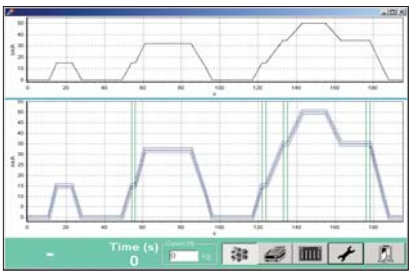
Program F-const



This program is designed to simulate loads. To this end a predefined force is set for the car under test (uphill driving). The load can be varied during the test. Upon completion of the test the values measured at preset loads

Options for performance tests

Cycle simulation program



This program is designed to simulate any arbitrary driving cycles which makes the chassis dynamometer a low-cost alternative to many industrial dynamometers.

Additional software – exhaust analysis in conjunction with program P-max

This combined performance and exhaust analysis allows a simultaneous analysis of all factors which might have an effect on the engine – though without any need for dismounting of car components. The graphics on the screen provides a common picture of power and torque graphs plus all exhaust values and supplies to the expert a complete conclusive proof where no important factors can be overlooked. The use of this additional software is possible in conjunction with the following exhaust analysers: SUN DGA 1000, MGA 1200, MGA 1500, MGA 2500; CARTEC CET 2200; Tecnotest 488, 488 Plus, 488 Tank; SPX EGA 2000, EGA 2000 Plus, and AVL DiGas.

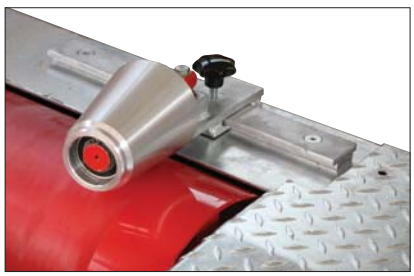
Movable cooling fan – available in two sizes

To cool the vehicle engine during the test.

- 19,000 m³/h rate of air flow, 400 V
- 42,000 m³/h rate of air flow, 400 V

Operation via IR remote controller

Safety rollers (2 off)



Sensor unit

The sensor unit is an interface for connection of additional sensors:

- thermocouples
- pressure sensors
- fuel consumption meter
- etc.

Pressure and temperature module

The pressure and temperature module is designed to measure intake temperature and ambient air pressure.

Flame-sprayed rollers

The special coating of flame-sprayed rollers improves force transmission from car to dynamometer which allows to test also high-performance cars.

Communication cabinet

To accommodate PC, monitor, keyboard, mouse, printer (options).

MTM 2300

Mobile monitor for transmission of measured data and other information. The entire test sequence is conveniently controlled from driver's seat.

Built-in frames – Single-axle dynamometers only!

These built-in frames considerably facilitate preparation of foundations. There is no need to embed in concrete a steel beam with edge guards which is otherwise inevitable. None the less an exactly level plane with ground is always ensured.

dynatest® pro chassis dynamometers for cars

Performance test and trouble shooting

Equipment of dynamometers

Standard equipment

- Double roller test stand
- Precision-balanced rollers
- Pneumatic lifter
- Outside shoe roller brake
- Split centre cover – automatic lowering
- Electronically controlled eddy-current brake
- Electronic controller
- Force measurement: strain-gauge type load cells
- Anti-corrosion finish:
  – Hot galvanised roller set
  – Painted rollers
- Infrared remote control unit
- Fastining means (4pc.) and straps (2pc.)

Additional equipment for 4WD dynamometers

- Hydraulically adjustable second roller set
- Additional straps to secure cars during the test

IR remote control unit

Fastening means and straps

dynatest® pro chassis dynamometers for cars

Performance test and trouble shooting

Technical data **Single-axle dynamometers**		**dynatest® pro – 260 kW**	**dynatest® pro – 360 kW**	**dynatest® pro – 460 kW**
Max. test speed	km/h	260	260	260
Temperature range	°C	0–50	0–50	0–50
Max. brakeable wheel power	kW / km/h	260 / 260	360 / 260	460 / 260
Max. power in program P-max	kW / km/h	400 / 260	400 / 260	600 / 260
Preset constant velocity	km/h	0–260	0–260	0–260
Power supply	V	3/N/PE 400 V AC	3/N/PE 400 V AC	3/N/PE 400 V AC
Frequency	Hz	50	50	50
Slow-blow fuses	A	25	25	25
Compressed-air supply	bar	7	7	7
Length x width x max. height	mm	3270x1050x654	3270x1050x654	3270x1050x654
Roller diameter	mm	320	320	320
Roller distance	mm	490	490	490
Usable roller width min. – max.	mm	800–2200	800–2200	800–2200
Vertical lift	mm	70	70	70
Rated capacity of lift	t	2	2	2
Max. axle load	t	3.5	3.5	3.5

4WD dynamometers		**dynatest® pro – 2 x 260 kW 4WD**	**dynatest® pro – 2 x 360 kW 4WD**	**dynatest® pro – 2 x 460 kW 4WD**
Max. test speed	km/h	260	260	260
Temperature range	°C	0–50	0–50	0–50
Max. brakeable wheel power	kW / km/h	2 x 260 / 260	2 x 360 / 260	2 x 460 / 260
Max. power in program P-max	kW / km/h	2 x 400 / 260	2 x 400 / 260	2 x 600 / 260
Preset constant velocity	km/h	0–260	0–260	0–260
Power supply	V	3/N/PE 400 V AC	3/N/PE 400 V AC	3/N/PE 400 V AC
Frequency	Hz	50	50	50
Slow-blow fuses	A	32	32	32
Compressed-air supply	bar	7	7	7
Length x width x max. height	mm	ca. 5600x3270x746	ca. 5600x3270x746	ca. 5600x3270x746
Roller diameter	mm	320	320	320
Roller distance	mm	490	490	490
Usable roller width min. – max.	mm	800–2200	800–2200	800–2200
Vertical lift	mm	70	70	70
Rated capacity of lift	t	2	2	2
Max. axle load	t	3.5	3.5	3.5
Wheelbase min. – max.	mm	2200–3200	2200–3200	2200–3200

Snap-on Equipment

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