CARTEC®

BDE roller brake testers for trucks



for trucks and buses
of 6 to 20 tons axle load

BDE roller brake testers for trucks

Proven testing technology for your workshop



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 Cartec has been a synonym for engineering and manufacturing of testing and diagnostics technology for cars and trucks.

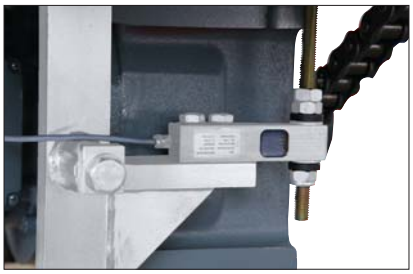
Our customers benefit from concentrated competence and direct and smooth handling of enquiries and orders.

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.

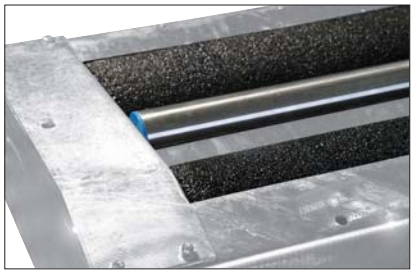
This is the reason why our equipment have been approved and recommended by many important car manufacturers.

Roller brake testers in proven testing technology for an axle load range of 6 to 20 tons – the optimum solution for workshop, truck and bus pools as well as expert organisations carrying out inspections in line with government standards.

Braking force transducers



The features to be tested are detected by means of well-proven strain-gauge type load cells. This wear-free measuring system ensures reliable and error-free measurement of the forces produced.



Roller coating
The steel rollers with wear-proof plastic coating on welded expanded metal mesh guarantee tyre-preserving vehicle.

Alternatively SmoothGrip rollers are available, featuring thousands of nubs welded onto the steel rollers to ensure long life, low tyre wear and best suitability for spiked tyres.

Rust-proof feeler rolls
The brake test does not start before both feeler rolls are depressed. This safety feature prevents unintentional starting of the brake tester.

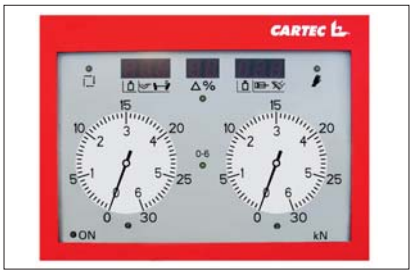
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The brake testers offer standard features such as:
– Automatic mode
– Manual mode
– Ovality measurement
– Cut-out at wheel lock
– Automatic switching in
– Display of braking force imbalance
– Indication of cut-out at wheel lock
– Automatic switching over between car and truck modes
– Electric automatic drive-off aid

Elevated rear rollers
Standard feature is the elevated rear roller which facilitates driving off the rollers and prevents the vehicle from driving off too early.



Basic equipment
The brake testers consist of the following basic equipment:
– roller set with cables
– display cabinet

The mechanical parts are hot-galvanised and the motors are splash-proof – the optimum prerequisite to withstand harsh shop conditions and outdoor installation.

Automatic test sequence
After the error check routine the brake test is started automatically, determining rolling resistance of tight brakes, ovality of brake drum and brake disc and the permanent braking force imbalance between left-hand and right-hand sides.

The data measured for the individual axles is assigned automatically.

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Depending on individual requirements and conditions on site the roller sets can be installed in front of the pit, or separately on left and right sides.

BDE 3004 SC of up to 6 t axle load
– Roller set in compact design
– Motors in middle position



BDE 3504 N of up to 13 tons and 15 tons axle load
– Roller set in two-part design
– Motors under the rollers

BDE 4504 N of up to 16 tons and 20 tons axle load
– Roller set in two-part design
– Motors under the rollers

BDE 4504 G of up to 16 tons axle load
– Roller set in two-part compact design
– Motors at drive-off end



Brake testers for 13 t axle load and more are available with the following additional features:
– Two test speeds
– Brake motors
Alternatively all brake testers for 13 t axle load and more are available with dual direction testing.

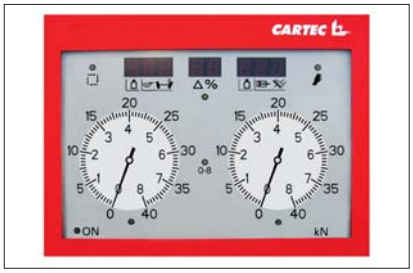
Built-in frames for the roller sets facilitate preparation of the foundation
– There is no need to embed in concrete a steel beam with edge guards as otherwise inevitable.
– The time required for encasing is considerably reduced.
– Foundations will always fit perfectly.



Additional brake tester models:
– BDE 3503 in surface-mounted version (mobile) of up to 13 tons axle load
– BDE 4504 for low-bed trucks up to 20 t axle load

Control options

Display cabinet (SC)



With SC versions the electronic unit is integrated in the display cabinet, hence no power cabinet is required.

Display cabinet COMBI



The COMBI display cabinet can be used in conjunction with the power cabinet only.

Power cabinet



Measuring range of 0–6 / 0–30 kN for BDE 3504 N – 13 t

Measuring range of 0–8 / 0–40 kN for
– BDE 3504 N 15 t
– BDE 4504 N 16 t and 20 t
– BDE 4504 G 16 t

When a car is tested, the measuring range switches automatically to 6 kN or 8 kN.

In addition there is the possibility of simultaneous operation, e.g. with the display cabinet installed in the check-in bay and connected via COM lead to the PC which is for instance located in the shop office.

Optional pocket PC PWA



The optional PWA (pocket workshop assistant) is a pocket PC with Cartec testing software and integrated remote control which can replace other display units such as display cabinet or monitor. The entire test sequence is controlled from driver's seat. Only the function keys required for the current test are displayed on the screen. Control is via touch screen.
A PC station is necessary for connection of the PWA.

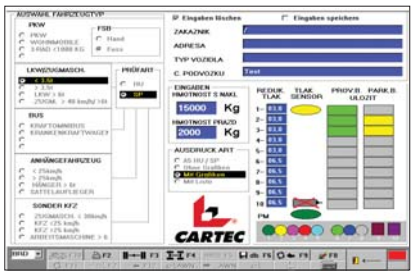
In addition the PWA can be used for visual checks. The optional Checklist Creator allows to issue customised trouble-shooting lists which are obviously far more flexible than default check lists.

PC cabinet (optional)

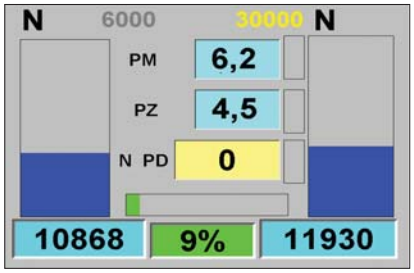


The optional PC cabinet offers ample space for a PC, a TFT monitor, an A4 ink-jet printer, keyboard and mouse.

Testing software
Main screen



Graphical brake analysis



Brake tester options

Side-slip tester SSP 4000



The side-slip tester is designed to measure toe of the vehicle under test. The results of toe-in and toe-out respectively are read out on the optional integrated LED on the display cabinet, or in graphical form on the optional monitor.

Joint-play detector GST 4500



The joint play detector GST 4500 FA is a useful supplement for check-in or inspections to carry out a visual check of axle play. The galvanised test plates are operated hydraulically upon key operation of the test lamp. The test plates can be controlled one by one, in counter-directions (4-way control), or in same directions (8-way control).

4WD kit

In 4WD mode the roller sets are started in counter-directions to prevent damage to gearbox and axle of 4WD buses and trucks.

Lifting device HBV 4000



The lifting device HBV 4000 can be used only in conjunction with BDE 4504 N 20 t with wheel / axle load weighing unit to simulate various wheel / axle loads. The roller set is raised and pressed against the vehicle under test.

Load simulator NSV 4000

The load simulator NSV 4000 is designed to simulate various axle loads of unloaded trucks by pulling the vehicle downwards by means of chains.

Wheel / axle load weighing unit



The wheel / axle load weighing unit is designed to automatically detect, calculate and store weight. The values are read out on the optional integrated LED on the display cabinet, or in graphical form on the optional monitor.

Safety device for pit installation



Mandatory for use in Germany!
If somebody enters the pit, the roller sets are stopped at once.

Pressure transducers

Set of 2 to 8 off, wireless design, also available as cable type transducer. The values measured remain available also for later analysis.

Pedal force measuring systems

For pedal force measurement during the brake test pedal force measuring systems are available in cable or wireless design. Pedal pressure is read out either on an integrated display, or on the optional integrated LED on the display cabinet, or in graphical form on the optional monitor.

Additional options

IR remote control unit



A4 printer black/white, serial interface

Column or swivel-type wall bracket for display cabinet



8-digit LED

Roller cover plates, traversable version, plug-in type



Technical data

		BDE 3004 SC	BDE 3504 N	
Max. test weight per axle	**t**	**6**	**13**	**15**
Roller coefficient dry – wet		0,9–0,5	0,9–0,5	
Temperature range	°C	0 up to + 70	0 up to + 70	
Measuring principle		load cell	load cell	
Processing of measured data		microprocessor	microprocessor	
Display cabinet – H x W x D	mm	600 x 800 x 200	600 x 800 x 200	
Display cabinet – Measuring range	kN	0–6 / 0–12	0–6 / 0–30	0–8 / 0–40
Display cabinet – Weight	kg	35	35	
Display cabinet Combi – H x W x D	mm	–	900 x 900 x 200	
Display cabinet Combi – Measuring range	kN	–	0–6 / 0–30	0–8 / 0–40
Display cabinet Combi – Weight	kg	–	50	
Power cabinet – H x W x D	mm	–	800 x 600 x 200	
Power cabinet – Weight	kg	–	35	
Mains voltage	V	3/N/PE 400 V AC	3/N/PE 400 V AC	
Frequency	Hz	50	50	
Fusing slow-blow type	A	3 x 25	3 x 50	3 x 63
Drive rating	kW	2 x 3.7	2 x 9.2	2 x 11
Power cord	mm^2	5 x 4	5 x 10	5 x 10
Test width min. – max.	mm	860 – 2860	variable	
Roller set – W x L x H	mm	3100 x 700 x 326	1225 x 700 x 550 each	
Roller diameter	mm	205	205	
Roller length	mm	1000	1000	
Roller elevation	mm	25	30	
Anti-corrosion finish: galvanisation	DIN	50976-t Zno	50976-t Zno	
Idling speed	km/h	2.6	2.8	
Roller set – Weight	kg	725	2 x 400	2 x 430

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Technical data

		BDE 4504 G	BDE 4504 N	
Max. test weight per axle	**t**	**16**	**16**	**20**
Roller coefficient dry – wet		0,9–0,5	0,9–0,5	
Temperature range	°C	0 up to +70	0 up to +70	
Measuring principle		load cell	load cell	
Processing of measured data		microprocessor	microprocessor	
Display cabinet – H x W x D	mm	600 x 800 x 200	600 x 800 x 200	
Display cabinet – measuring range	kN	0–8 / 0–40	0–8 / 0–40	
Display cabinet – Weight	kg	35	35	
Display cabinet Combi – H x W x D	mm	900 x 900 x 200	900 x 900 x 200	
Display cabinet Combi – Measuring range	kN	0–8 / 0–40	0–8 / 0–40	
Display cabinet Combi – Weight	kg	50	50	
Power cabinet – H x W x D	mm	800 x 600 x 200	800 x 600 x 200	
Power cabinet – Weight	kg	48	35	
Mains voltage	V	3/N/PE 400 V AC	3/N/PE 400 V AC	
Frequency	Hz	50	50	
Fusing slow-blow type	A	3 x 63	3 x 63	3 x 80
Drive rating	kW	2 x 11	2 x 11	2 x 15
Power cord	mm^2	5 x 10	5 x 10	5 x 16
Test width min. – max.	mm	variable	variable	
Roller set – W x L x H	mm	1390 x 1560 x 380 each	270 x 1210 x 640 each	
Roller diameter	mm	255	255	
Roller length	mm	1200	1000	
Roller elevation	mm	50	50	
Anti-corrosion finish: galvanisation	DIN	50976-t Zno	50976-t Zno	
Idling speed	km/h	2.6	2.6	
Roller set – Weight	kg	2 x 960	2 x 700	

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Part of the machines is illustrated with optional extras available at extra cost.
Technical modifications reserved.

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