

BRAKE TESTERS FOR CARS

BD 4 SERIES: ROLLER WIDTH OF 700 OR 1000 MM, ELECTROMAGNETIC BRAKE, 4WD AND NEW ICPERFORM GARAGE CAR SOFTWARE

NEW AND NOW WITH TABLET APP!





Brake testing for cars Beissbarth BD 4 series



- SWITCHBOARD WITH ASA LIVESTREAM AND USB
- ELECTROMAGNETIC BRAKE AS DRIVE-OFF ASSISTANT
- CAN OPTIONALLY BE EXPANDED AS TEST LANE

BD 4 series brake tester Standard scope of delivery



Set of rollers



Display (analogue or digital)



Switchboard / Power Box

Optional accessories

- Beissbarth trolley with computer, screen and keyboard
- Alternatively, you can also use the workshop's computer screens or tablet computers



BD 4 series: Beissbarth brake tester for cars



Set of rollers of the BD 4 series

The roller set is the core of the brake tester. By means of their rotation, the test rollers transmit the friction onto the wheel to be tested (DMS measurement system). At the standard version, the test rollers are coated with plastic/ corundum. Due to its high friction coefficient, this material allows measuring the brake forces even in case of low axial loads. Each pair of rollers is powered by an own electric motor. The electromagnetic brake serves as a drive-off assistant.



The sensing roller monitors the wheel run (slip testing) and the wheel position. It thus assumes the switching and safety function of the brake tester. The step protection is located below the sensing rollers.



The reaction forces resulting when braking are measured, recorded and analysed by sensors and then transmitted to the display unit.

Basic version with 700 and 1000 mm rollers Standard with all-wheel and speed sensors



700 mm rollers: 2.5 t axle load, maximum 4 t crossing capacity; track test width minimum 800, maximum 2 200 mm





1 000 mm rollers: 2.5 t axle load, maximum 4 t crossing capacity; track test width minimum 800, maximum 2 800 mm

Installation:





Size of the roller set: 280 x 2962 x 660 mm (installation see pp. 32 ff)

Analogue simultaneous display with wall mount or on a post

Analogue simultaneous display:

The wall-mounted swivel arm is part of the standard scope of delivery of all versions with simultaneous displays. Optionally, an aluminium post can also be used.



Display versions/LCD kit: digital overview of measured values and operating mode

Displays with and without optional LCD kit

All analogue Beissbarth displays (left column) can optionally be complemented by an additional three-part LCD display set (order number 1 691 601 025). They are already equipped with place holders for subsequent retrofitting of the LCD display set. In this manner, the analogue indicator display is complemented by a digital display of axial weight, deceleration in percent and difference in brake force.

38',

Oval-shaped simultaneous display RAL 5015

with LCD 1 691 601 752



Oval simultaneous display RAL 7040

with LCD	1 691 601 767
without LCD	1 691 601 771



551005-400



Square simultaneous display RAL 7016

with LCD 1 691 601 762

Square simultaneous display RAL 7040

with LCD	1 691 601 768
without LCD	1 691 601 776





Power Box Compact and service-friendly:

The Beissbarth Power Box

- All electronic components are safely stored within a light-weight and easily accessible housing
- Easily recognizable and accessible ASA-livestream interface integrated into the housing
- Handy USB interface for the connection of a customer PC (optional)*
- 230 V socket** for the laptop of the service-technician or tester
- Easily accessible main switch with emergency shutdown
- Integrated door pocket for the technical documentation
- Wall mount (series version) or column (optional)

* Linkage is possible by means of the integrated PC kit 1 691 601 397 (see accessories for PC connection)

** Requires separate commissioning by an authorized technician

ASA livestream

According to the brake testing guideline, brake testers are to be equipped with a standardized ASA interface. This Ethernet interface with RJ45 port is to be easily accessible from the exterior and marked accordingly. The ASA interface allows the exchange of data between the brake tester and the test organization's productive systems. No linkage to other workshop networks is allowed while performing the test. A 230 V socket is required for the power supply during the test.



230 V socket** and optional USB port



Door pocket for the technical documentation



ASA livestream interface



Wall mount set (standard)



Lasting and robust: hot-dip galvanized components and cover plates (optional)



Roll-over protection by means of swivel-mounted roller cover plates



Quick and easy handling

Installation:

700 mm roller cover plates swivel-type 1 691 601 011

plug-type 1 691 601 010

1 000 mm roller cover plates (as plug-type only) 1 691 602 112







Durable, hot-dip galvanized components



Wear-resistant rollers coated with plastic/corundum

Monitor installation

Use your favorite configuration



Monitor installation: Wall-mounted or post-mounted

Option 1: wall mounted

- Monitor bracket
- Swivel-arm



Monitor bracket 1 691 812 325



Swivel-arm for monitor bracket 1 691 601 959

Option 2: post mounted

- Monitor bracket
- Aluminium post

Using the workshop's own monitor for brake testing: There are several different solutions for the installation of the workshop's own cost-saving display – whether as wall mount or on Beissbarth aluminium post.





Monitor bracket 1 691 812 325

Aluminium post 1 691 810 722

The new tablet app:

mobile application using ICperform Garage Car



Process control via own Android tablet

- Same display as on the monitor of the workshop computer
- All brake values displayed in real time and intuitively
- Stable connection via WLAN even inside the vehicle

Mobile and comfortable operation from inside the vehicle

- No unnecessary getting in and out of the vehicle
- Test routine can be performed sitting on the driver's seat
- · Hard copy printout and archiving of the test values
- Integrated remote control

Just download the app at Google Play (play.google.com) and try it out for 30 days – and for free. Licence 1 691 601 962 at the Beissbarth hotline



ICperform Garage Car with new tablet app



Start screen ICperform Garage Car



Parking brake





ICperform Garage Car Software: intuitive and fast use

• Optimum display of all relevant measured values

in tons

played in green, outside in red.

· Easy handling

weight in percent

- · Faster brake testing
- · Print and database functions
- · Connection with other test devices within the test lane





Brake force difference



	Function
ected	Order manager, save and print (local/network)
	Visualising of the measurement (GUI for brake testers)

Garage Car



Flexible concept for PC cabinet



System requirements

Min. PC requirements

- Operating system: Windows 7, Windows 10, 64 Bit
- Processor: Celeron 2.7 GHz
- Random access memory: 4 GB
- Hard disk: 500 GB
- Serial port: 2 x RS232 (COM)



Min. PC display requirements (trolley)

- Size: 27"
- Solution: 1920 x 1080
- Width-to-height ratio: 16:9

Min. HDMI-TV requirements (substitute for analogue display)

- Minimum size: 40"
- Recommended size: 55"
- Solution: 1920 x 1080
- Width-to-height ratio: 16:9

Min. tablet requirements

- Operating system: Android 5.0 or higher
- Minimum size: 8"
- Recommended size: 9,6"
- Width-to-height ratio: 16:9 or 16:10
- · Basic requirement: WLAN network with router

ICperform PC kits mandatory for PC use

Illustration	Software & kits (Choose 1 of 4)	Order number
	Integrated ICperform PC kit including software and tablet app licences ICperform Garage Car Computer interface kit for installation into the new control cabinet, direct connection to the computer via USB cable (up to 1.5 m), USB board for control cabinet, USB cable, ICPerform Garage Car software and tablet app licences (not for test lanes)	1 691 601 964
	External ICperform PC kit including software and tablet app licences ICperform Garage Car Computer interface kit with BUS cable for larger distances (standard 15 m, optional 30 m). USB box, USB cable, ICPerform Garage Car software and tablet app licences (not for test lanes)	1 691 601 965
	Integrated ICperform PC Kit with IR remote control and ICperform Garage Car software licence Computer interface kit for installation into the new control cabinet, direct connection to computer via USB cable (up to 1.5 m). USB board for control cabinet, USB cable, remote control, ICPerform software licence (not for test lanes) Prerequisite: serial PC interface (COM) for the operation of the receiver	1 691 601 963
	External ICperform computer kit with IR remote control and ICperform Garage Car software licence Computer interface kit with BUS cable for larger distances (standard 15 m, optional 30 m), USB box, USB cable, remote control, ICPerform Garage Car software licence (not for test lanes) Prerequisite: serial PC interface (COM) for the operation of the receiver	1 691 601 966

Measured values and evaluation



Measured parameters at a glance

Calculation of the deceleration

Deceleration is a measure providing information on the performance of the brake system. It is defined as a percentage ratio based on brake force and weight.

Axial deceleration:

- Deceleration in percent
- Brake force per axle
- Axial weight
- Gravity

Total deceleration:

- Deceleration in percent
- Brake force on the front axle
- · Brake force on the rear axle
- Total weight
- Vehicle weight
- Test weight
- Gravity

Deceleration of the parking brake:

- Deceleration in percent
- Brake force of the parking brake
- · Total weight
- Vehicle weight
- Test weight
- Gravity

Evaluation of the ovality

The pedal force is kept at a constant level. BD 4xxx measures the resulting minimum and maximum brake force. The ovality is calculated as follows:

- · Ovality in percent
- · Maximum brake force
- Minimum brake force

Calculation of the grip at suspension tests

The grip is defined as a ratio between minimum dynamic wheel load at the resonance range and the static. The ovality is calculated as follows:

- · Grip in percent
- Minimum dynamic axle load
- Static wheel load (weight)

Auto Service



Upgrade into a test lane: brake tester with EUSAMA suspension tester



EUSAMA measurement:

For the functional suspension and shock-absorber tests, the vehicle is vibrated using the EUSAMA tester.



- SA 640: EUSAMA standard suspension tester • 400V - 1 691 620 307
- 230 V 1 691 620 311 (special voltage for export)



- **SN 680: EUSAMA tester with noise simulation** • 400V - 1 691 620 309
- 230 V 1 691 620 308 (special voltage for export)



Testing with the help of vibration simulation



Testing with the help of noise simulation

SA 640 and SN 680 suspension tester



EUSAMA SA 640 suspension tester Grip in %

EUSAMA SN 680 suspension tester

- Grip in %
- Resonance frequency in hertz



Drive-on support for SA 640 / SN 680 (optional) 1 691 621 017

Installation of the EUSAMA suspension tester:





SA 640 size: 250 mm x 2360 mm x 660 mm





Installation supports (Size see pp. 32 ff)



Vehicle diagnosis at the reception: brake tester with EUSAMA suspension tester



Brake test at the test lane with EUSAMA suspension tester



Alternative for EUSAMA test:

Suspension test with the Theta test procedure





Theta suspension tester as alternative for EUSAMA measurement

Standard 1 692 106 690 Noise simulation 1 692 106 695

Installation of an SAT 69x suspension tester with brake tester:





Installation supports (Size see pp. 32 ff)

ST 600 toe test plate Add-on for CP 610 toe compensation plate





750 x 440 x 47 mm



Testing toe in and out

The ST 600 toe test plate is used to test the toe in and out of (two-track) vehicles. On a laterally sliding steel plate a sensor (resistive wire strain) measures the lateral deviation.



Installation frame for side slip tester ST 600 1 691 632 000

Neutralising mechanical tensions within the suspension

The combinable CP 610 small toe compensation plate is meant to compensate undesired mechanical tensions on the chassis prior to the toe measurement. This makes toe measurement repeatable.



Installation frame for ST 600 side slip tester and toe compensation plate 1 691 632 001



Size: 1100 x 440 x 47 mm

GST 651 play detector to check the axle geometry





730 x 730 x 130 mm

Diagnoses of wheel suspension and axle mounting

Defects and signs of wear on wheel suspension and axial mounting can be identified using the GST 651 play detector. Displacement of the test plates is used to brace the axial geometry of the axle to be tested. In this manner, undue play on joints and wheel bearings can be identified and cracks on the knuckles can be spotted. For axle loads of up to 4 000 kg (maximum).



Installation frame for GST 651 play detector 1 691 651 001



Installation frame for play detector (right and left)



The control lamp combines the function of a torch with a practical control panel.

Brake testers at the test lane: options for the vehicle reception



Tyre tread measurement Toe tester Suspension tester Brake tester





Touchless contact-free wheel alignment on LTB 300

measurement

Headlight testing

Technical specifications

Technical specifications of roller sets

Description	Roller width 700 mm Models BD 4X0X, BD 4X1X, BD 4X2X and BD 4X3X	Roller width 1 000 mm Models BD 4X4X, BD 4X6X, BD 4X7X and D 4X8X
Measuring system	Bending beam w	ith strain gauges
Maximum drive over load	4 000 kg	4 000 kg
Dimensions (L x W x H)	660 x 2 360 x 250 mm	660 x 2 962 x 280 mm
Weight approx.	420 kg	540 kg
Coefficient of friction (dry)	0.8	0.8
Coefficient of friction (wet)	0.8	0.7
Roller diameter	205 mm	205 mm
Maximum track	2 200 mm	2 800 mm
Minimum track	800 mm	800 mm
Roller axle distance	381 mm	381 mm
Height difference of rear roller to front roller	25 mm	25 mm
Height difference roller edge to workshop floor	-10 mm	-10 mm
Minimum wheel diameter	320 mm	320 mm
Minimum rim size	10"	10"
Smallest testable wheel diameter*	400 mm	400 mm
Smallest testable rim size*	13"	13"
Largest testable wheel diameter*	1 000 mm	1 000 mm
Largest testable rim size*	32"	32"
Protection (according to DIN 40 050)	IP 54	IP 54
Power supply	Main switch box or cabinet	Main switch box or cabinet
Emission sound pressure level at working place	≤70 dB(A)	≤70 dB(A)

Technical specifications of electrical motors

Description	Model BD 41XX, BD 42XX, BD 43XX	Model BD 44XX, BD 45XX, BD 46XX
Motor power	2 x 3.7 kW	2 x 5 kW
Test speed	5.2 km/h	5.2 km/h
Gear ratio	21.477	21.477
Motor revolution speed	2 870	2 845
Motor connection cable	4 x 2.5 mm ²	4 x 2,5 mm ²

Technical specifications of Beissbarth Power Box (see p. 10)

Description	Specification
Dimensions (L x W x H)	650 x 260 x 640 mm
Weight approx.	25 kg
Protection (according to DIN 40 050)	IP 54

Power data 230 VAC

Description	Specification
Voltage supply: 3,7 kW/5,0 kW motor	3 x 230 V/50–60 Hz
Rated current: 3,7 kW/5,0 kW motor	28 A/48 A
Fuse protection (customer): 3,7 kW/5,0 kW motor	32 A/50 A; 3 pole
Supply cable (customer): 3,7 kW/5,0 kW motor	4 x 6 mm²/4 x 10 mm²
Fuse type (customer)	Tripping characteristics "C" 3-pin
Make brake capacity of main switch	63 A

Power data 400 VAC

Description	Specification
Voltage supply: 3,7 kW/5,0 kW motor	3 x 400 V/50–60 Hz
Rated current: 3,7 kW/5,0 kW motor	16 A/28 A
Fuse protection (customer): 3,7 kW/5,0 kW motor	25 A 3/32 A; 3 pole
Supply cable (customer): 3,7 kW/5,0 kW motor	5 x 4 mm²/5 x 6 mm²
Fuse type (customer)	Tripping characteristics "C" 3-pin
Make brake capacity of main switch	32 A

Additional accessories

Technical data and accessories

Illustration	Remote control	Order number	Illustration	Roller-set mechanics	Order number
	Remote control with battery	935 702 001		Thickness spacer (incl. installation frame for use with EUSAMA suspension tester)	935 603 042
	Receiver for the remote control Prerequisite: serial PC interface (COM)	977 251 428	1200	Axle load scale (4 sensors)	1 691 601 606
Not illustrated	Extension cable for receiver	977 251 127			
	Remote control (incl. battery) and receiver Prerequisite: serial PC interface (COM)	935 702 038		Pedal force sensor BPF 200 radio	1 691 601 401
Illustration	Mechanical suspension tester	Order number			
	Installation kit for SA 640 suspension tester required for installation without installation tray	1 691 621 001		400 V smooth start	1 691 601 437
	Clamp set for EUSAMA suspension tester required for installation into installation tray 1 691 602 002	1 691 621 000		230 V smooth start (Export)	1 691 601 438
Not illustrated	30 m 400 V cable (Power Box / suspension tester)	935 603 369			
Not illustrated	30 m 230V cable (Power Box / suspension tester)	935 603 371	Not illustrated	30 m 400 V cable (Power Box / set of rollers)	1 691 601 444
Not illustrated	30 m BNet cable (Power Box / suspension tester)	935 603 202			

BD series 4 for cars: Configurator

BD	x	x	x	x	S	x	x	
BD	4							Brake tester for cars with axle load up to 2.5 t (3.7 kW) respectively up to 4 t (5 kW)
BD		1						3.7 kW roller set kit, Power Box, examination speed 5.2 km/h
BD		2						3.7 kW roller set with display (without LCD), Power Box, examination speed 5.2 km/h
BD		3						3.7 kW roller set with display (incl. LCD), Power Box, examination speed 5.2 km/h
BD		4						5 kW roller set kit, Power Box, examination speed 5.2 km/h
BD		5						5 kW roller set with display (without LCD), Power Box, examination speed 5.2 km/h
BD		6						5 kW roller set with display (incl. LCD), Power Box, examination speed 5.2 km/h
BD			0					700 mm rollers, not suitable for 4WD, without electromagnetic motor brake
BD			1					700 mm rollers, not suitable for 4WD, with electromagnetic motor brake
BD			2					700 mm rollers, suitable for 4WD, without electromagnetic motor brake
BD			3					700 mm rollers, suitable for 4WD, with electromagnetic motor brake
BD			4					1 000 mm rollers, not suitable for 4WD, without electromagnetic motor brake
BD			6					1 000 mm rollers, not suitable for 4WD, with electromagnetic motor brake
BD			7					1 000 mm rollers, suitable for 4WD, without electromagnetic motor brake
BD			8					1 000 mm rollers, suitable for 4WD, with electromagnetic motor brake
BD				1				Speed sensors
BD				2				Speed sensors, ASA livestream

Special variants and accessories in the scope of delivery

BD		
BD		

	•	-
S	0	
S	1	
S	2	
S		0
S		4
S		6

(neutral)
230 V
Spike rollers
(neutral)
Drive-over plate, pluggable
Integrated ICperform PC & Drive-over plate, pluggable

Models for the German market*

Description	Order number	
BD 4122	1 691 600 624	
BD 4132	1 691 600 642	
BD 4132 S06	1 691 600 889	
BD 4182	1 691 600 670	
BD 4222	1 691 600 630	
BD 4222 S04	1 691 600 893	
BD 4332	1 691 600 648	
BD 4332 S04	1 691 600 894	
BD 4382	1 691 600 672	
BD 4482	1 691 600 888	
BD 4632	1 691 600 896	
BD 4682	1 691 600 879	

Models for the international market*

Description	Order number	
BD 4131	1 691 600 644	
BD 4131 S10	1 691 600 646	
BD 4131 S20	1 691 600 654	
BD 4431	1 691 600 852	
BD 4431 S10	1 691 600 897	
BD 4431 S20	1 691 600 854	
BD 4481	1 691 600 868	
BD 4481 S20	1 691 600 682	
BD 4681	1 691 600 878	

*Power Box is included in all models

Configuration via internet www.equipment-configurator.com



Easy and fast online product configuration

Quick and save configuration of the right brake tester

- Choose comfortably the brake tester, the control devices and the best functional accessories
- Save time by entering a structured product range, offering only combinations of compatible brake testers and accessories
- Choose brake tester, functions and accessories fitting to your workshop

Do you still have any question about the product range or the configuration process? Please don't hesitate, to ask your Beissbarth sales partner..

sales@beissbarth.com www.equipment-configurator.com

Installation supports for brake testers and test lane

Installation supports

Nr.	Description	Order number
	Car brake tester BD 4xxx, 700 mm	
1	Installation frame BD 4xxx, 700 mm	1 691 602 115
2	Edge protection BD 4xxx, 700 mm	1 691 602 000
	Car brake tester BD 4xxx, 1000 mm	
3	Edge protection BD 4xxx, 1000 mm	1 691 602 151
	Easy Tread	
4	Built-in frame Easy Tread (under floor)	1 691 202 064
	Motor bike brake tester	
5	Edge protection BD 321 motor bike	1 691 300 014
6	Support for axle load scale (2 pieces)	1 691 601 009
	Play detector GST 651	1 691 650 000
7	Installation frame play detector GST	1 691 651 001
	Suspension tester SA 640	1 691 620 307
	Suspension tester SN 680	1 691 620 309
8	Edge protection SA 640/SN 680	1 691 622 002
9	Drive over ramp to replace SA/SN 6xx	1 691 621 026
	Test lane SL/TL4 (BD4xxx, SA 640, SN 680)	
10	Edge protection BD 4xxx with SA 640 or SN 680	1 691 602 001
11	Installation frame for BD 4xxx with SA 640 or SN 680	1 691 602 002
	Side slip tester ST 600	1 691 631 013
	Toe compensation plate CP 610	1 691 631 404
12	Installation frame for side slip tester ST 600 +TCP	1 691 632 001
13	Installation frame for side slip tester ST 600	1 691 632 000
	Suspension tester Theta SAT 69x (BD 4xxx with SAT 69x)	
14	Edge protection for BD 4xxx with SAT 69x	1 691 602 242
15	Installation frame for BD 4xxx with SAT 69x	1 691 602 241





Installation supports for brake testers and test lane

Installation supports

Nr.	Description	Order number
	Car brake tester BD 4xxx, 700 mm	
1	Installation frame BD 4xxx, 700 mm	1 691 602 115
2	Edge protection BD 4xxx, 700 mm	1 691 602 000
	Car brake tester BD 4xxx, 1000 mm	
3	Edge protection BD 4xxx, 1000 mm	1 691 602 151
	Easy Tread	
4	Built-in frame Easy Tread (under floor)	1 691 202 064
	Motor bike brake tester	
5	Edge protection BD 321 motor bike	1 691 300 014
6	Support for axle load scale (2 pieces)	1 691 601 009
	Play detector GST 651	1 691 650 000
7	Installation frame play detector GST	1 691 651 001
	Suspension tester SA 640	1 691 620 307
	Suspension tester SN 680	1 691 620 309
8	Edge protection SA 640/SN 680	1 691 622 002
9	Drive over ramp to replace SA/SN 6xx	1 691 621 026
	Test lane SL/TL4 (BD4xxx, SA 640, SN 680)	
10	Edge protection BD 4xxx with SA 640 or SN 680	1 691 602 001
11	Installation frame for BD 4xxx with SA 640 or SN 680	1 691 602 002
	Side slip tester ST 600	1 691 631 013
	Toe compensation plate CP 610	1 691 631 404
12	Installation frame for side slip tester ST 600 +TCP	1 691 632 001
13	Installation frame for side slip tester ST 600	1 691 632 000
	Suspension tester Theta SAT 69x (BD 4xxx with SAT 69x)	
14	Edge protection for BD 4xxx with SAT 69x	1 691 602 242
15	Installation frame for BD 4xxx with SAT 69x	1 691 602 241















Testing motor bike brakes with BD series 4: Upgrade with cover plates



The BD series 4 brake tester can be upgraded for motor bike brake testing by the help of cover plates. The test procedure to be run under Screen Lane software. (Cover plate 1 691 601 208, USB converter 935 601 103, Screen Lane software 935 701 033)



Testing motor bike brakes with BD 321: Brake tester stand-alone solution



BD 321 2-wheeler brake tester

BD 321 model variants for 2-wheelers

The brake tester BD 321 is the stand-alone solution for testing 2-wheeler brakes and is deliverable in two versions according to local electrical power standards:

- BD 321 for 400 V (includes weight cells) 1 691 300 021
- BD 321 for 230 V (includes weight cells) 1 691 300 024
- Software ICperform PTI
 1 692 100 400



ICperform software view for motor bikes

Mandatory accessories



Pedal force sensors (Hand brake/foot brake pressure sensor kit) 935 301 005



Remote control for BD 321

1 691 300 028

Optional accessories

- Roller cover plates for BD 321 (swivel mounted)
- Edge protection for BD 321

935 303 005 935 304 010

Beissbarth truck brake testers

BD Series 5-8 including load simulation and new software ICperform Garage Truck

In line with § 29 StVZO (VkBI. 09/2011) of the German road traffic registration ordinance ISO 21069-1

- Lifting device for load simulation (lifting height: 200 mm)
- Neatly integrated into the roller housing
- Increases the brake-cyclinder pressure to the 1.7 bar demanded
- Remote control (optional) right from the driver cab
- Suitable for almost all trucks and trailers
- Especially recommended for empty/lightweight lorries



New with tablet app



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