




Roller brake testers for cars and vans

The MAHA modular system – the individual tester from the series including brake testers up to testing lanes



Testing & Safety Technology

- ▶ Fully automatic testing procedure with operator guidance
- ▶ Digital measurement value recording and storage
- ▶ From LON to EUROSYSYSTEM: the modular structure
- ▶ Patented, correct all-wheel drive testing
- ▶ Robust, easy-to-service technology
- ▶ Network compatible –  ASA network, GIEGNET, MCTC...

Premium Workshop
Equipment

Roller brake tester for cars and vans up to 5 t axle load

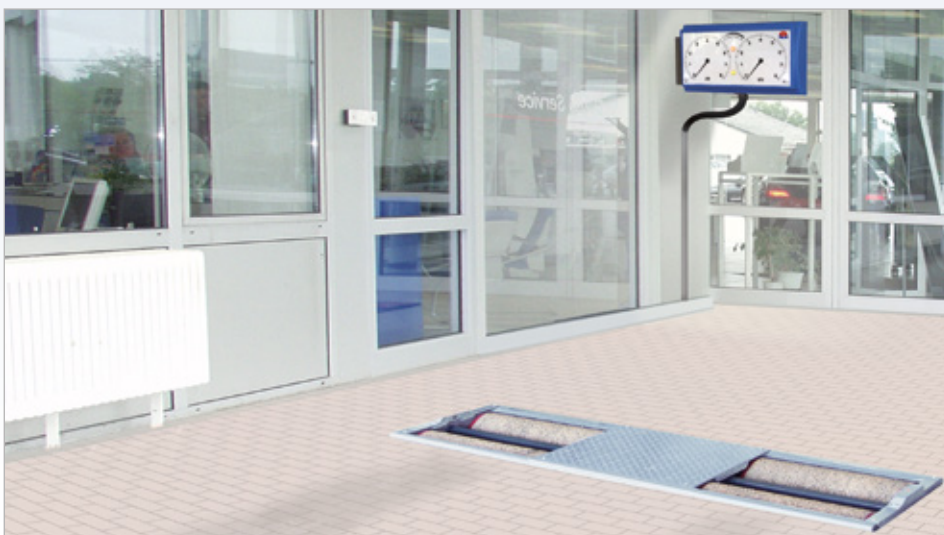
Model: MBT 2100

Description

The MBT 2100 brake tester is the successful result of a consistently on-going developmental effort to design high-quality brake testers. Its display unit stands out with clearly readable round instruments and an integrated optical differential display. The flat and light-weight design facilitates versatile installation possibilities and presents a professional and modern workshop outfitting. Sturdy and service-friendly technology has been expanded with a roller set integrated control. A separate control cabinet in the workshop area is no longer needed. "Plug and Play preparation" is used for easy and efficient installation. The MBT 2100 meets the requirements for the main inspection (HU) and is network-compatible due to its PC interface.

Scope of delivery

- Analog display for brake force values
- Differential display for brake force
- Tester is pre-wired with 12 m of cable
- Software control by 32 Bit microprocessor electronics
- Flash-Prom for variable system configuration
- Electronic start-up monitoring and roller exiting aid
- Delayed automatic switch-on after vehicle has entered the test stand
- Automatic cutoff at selected slip with pointer stop and automatic restart
- Automatic shut-off after exiting the test stand
- Electronic DMS measuring system
- Interface RS 232 for printer or PC
- Self-supporting, enclosed roller set
- Roller surface welded (optionally plastic-coated)
- Corrosion protection: hot dip galvanised (series) or powder coating (RAL 5010)
- TÜV and GS approved



MAHA MBT 2100	

Prüfstand:	V:2 05 R112
Text:	V:2 05 R109- 49
MAHA	
Hoyen 20	
87499 Haldenwang	
Tel.:	08374 585-0
Fax.:	08374 585-497
Datum:	25.08.2008
Uhrzeit:	17:03

VORDERACHSE:	
Bremskräfte:	
li:	3,37kN re 3,47kN
Achse:	6,84kN
Differenz:	3%
Rollwiderstand:	
li:	0,27kN re 0,29kN
Ovalität:	
li:	0,02kN re 0,03kN

statische Gewichte:	
li:	653kg re 644kg
Achse:	1297kg
stat. Abbremsung:	54%

FESTSTELLBR.:	
Bremskräfte:	
li:	2,1kN re 2,69kN

Bremskräfte:	
li:	2,61kN re 2,69kN
Achse:	5,30kN
Differenz:	3%

HINTERACHSE:	
Bremskräfte:	
li:	3,30kN re 3,39kN
Achse:	6,69kN
Differenz:	2%
Rollwiderstand:	
li:	0,27kN re 0,29kN
Ovalität:	
li:	0,02kN re 0,01kN

statische Gewichte:	
li:	653kg re 644kg
Achse:	1297kg
stat. Abbremsung:	53%

ENDAUSWERTUNG:	
Bremskraft BBR:	13,52kN
Bremskraft FBR:	5,39kN
stat. Gewicht:	2594kg
stat. Abbrems. BBR:	53%
stat. Abbrems. FBR:	21%

Kennzeichen:	

Printed via "Thermoprint" printer



Technical Data

Display	
Analogue display	2 x Ø 350 mm
Display range	0 – 6 / 0 – 8 kN*
Display box dimensions (H x W x L)	470 x 840 x 100 mm
Interface connection	RS 232 for DIN A4 printer or PC

Roller set	RS 2	RS 5
Drive power of motors	2 x 3 kW / 2 x 4 kW*	2 x 4 kW
Test speed	5 km/h	5 km/h
Measured value display	0 – 6 kN / 0 – 8 kN*	0 – 8 kN
Permitted axle load (drive-over)	3.0 t / 4.0 t*	5.0 t
Track, maximum	780 mm	780 mm
Track, minimum	2200 mm	2800 mm
Roller diameter	202 mm	202 mm
Roller axle distance	400 mm	400 mm
Electrical connection / fuse protection	3 x 400 V, N, PE 50/60 Hz / 25 A inert	3 x 400 V, N, PE 50/60 Hz / 25 A inert
Bearing	water-tight, maintenance free	water-tight, maintenance free
Corrosion protection	hot dip galvanized (series) or powder coating (RAL 5010)	hot dip galvanized (series) or powder coating (RAL 5010)
Roller set dimensions (H x W x L)	280 x 680 x 2320 mm	280 x 680 x 2925 mm
Packaging dimensions (H x W x D)	500 x 820 x 2340 mm	400 x 800 x 3000 mm
Weight, including packaging	375 kg	450 kg

*optional

Roller brake tester for cars and vans up to 5 t axle load

Model: MBT 2200 LON

Description

The MBT 2200 LON brake tester is used as the basic module for the test lane. The automatic test procedure with display, allows for a convenient and user-friendly operation and enables an accurate diagnosis of the tested vehicle. With the analogue display, included in the scope of delivery, all measurement values of the connected test devices can be clearly displayed. In combination with the standard braking force difference display a top-class assessment of the measurement values can be performed. The brake tester is particularly suitable for reception and diagnostics lanes; it exceeds the requirements for the main inspection (HU), comes with a PC interface which makes it network-compatible.

Scope of delivery

- Multi-functional analogue display for measurement values of brake tester, shock absorber tester and side slip tester including switching elements (motor protection switch, relay or necessary switchgear depending on the connected device)
- Braking force difference display digital
- Lockable main switch
- RS 232 interface connection for printer or PC
- Electronic start-up monitoring and roller exiting aid
- Single wheel switchover, delayed automatic startup
- Automatic shut-off after exiting the test stand
- Automatic cutoff at selected slip with measured value display and automatic restart
- Electronic DMS strain gauge measuring system
- Self-supporting, enclosed roller set
- Roller surface optionally welded or plastic-coated
- Corrosion protection: hot dip galvanised (series) or powder coating (RAL 5010)
- TÜV and GS approved



PC connection (optional)



MACHENBERGER HALBERSTADT PROF I - PROFITASSE			
MMA-Motortechnik GmbH Machener Str. 07480 Halberstadt 08314 / 565 - 170			
Datum: 24.11.99	Kunden: 13103		
Kunde: S. K. & C. K. S. S.			
Vorderachse: 4 T.5 4WD	Hinterachse: 4 0 4WD		
DL-Unterschleppachse 4x2 4WD 4x2			
	Links	Rechts	Differenz
Vorderachse:	36 N	32 N	4 N
Hinterrachse:	30 N	40 N	10 N
	30 N	31 N	1 N
	30 N	31 N	1 N
	30 N	31 N	1 N
DL-Unterschleppachse 4x2 4WD 4x2			
	Links	Rechts	Differenz
Einbaubremse:	0,11 KN	0,11 KN	0 N
Maximale Bremskraft:	1,40 KN	1,38 KN	0,02 KN
Druckluft:	0,00 KN	0,07 KN	0,07 KN
Handgewicht:	200 kg	240 kg	
Achsgewicht:	517 kg		
	Links	Rechts	Differenz
Einbaubremse:	0,11 KN	0,20 KN	0,09 KN
Maximale Bremskraft:	0,99 KN	1,00 KN	0,01 KN
Druckluft:	0,00 KN	0,00 KN	0,00 KN
Maximale Bremskraft:	1,00 KN	0,90 KN	0,10 KN
Druckluft:	0,04 KN	0,06 KN	0,02 KN
Handgewicht:	180 kg	187 kg	
Achsgewicht:	360 kg		
Einbaubremse			
Gesamtgewicht			800 kg
Gesamtgewicht der Betriebsbremse			4,05 KN
Gesamtgewicht der Feststellbremse			1,00 KN
Gesamtgewicht der Betriebsbremse			57 N
Abweichung der Feststellbremse			11 N
Kunden: Prof I Prof I			

Printed with the data printer "DIN A4 dot matrix printer"


Technical Data

Display	
Analogue display	2 x Ø 350 mm
Display range	0.02 – 0.3 D, 0 – 100 % / -20 m/km – +20 m/km / 0 – 8 kN
Display box dimensions (H x W x L)	630/910* x 870 x 240/300* mm
Electrical connection / fuse protection	3 x 400 V, N, PE 50/60 Hz / 25 A inert
Interface connection	RS 232 for DIN A4 printer or PC

	RS 2	RS 5
Drive power of motors	2 x 3 kW / 2 x 4 kW*	2 x 4 kW
Test speed	5 km/h	5 km/h
Measured value display	0 – 8 kN	0 – 8 kN
Permitted axle load (drive-over)	3.5 t / 4.0 t*	5.0 t
Track, maximum	780 mm	780 mm
Track, minimum	2200 mm	2800 mm
Roller diameter	202 mm	202 mm
Roller axle distance	400 mm	400 mm
Electrical connection / fuse protection	3 x 400 V, N, PE 50/60 Hz / 25 A inert	3 x 400 V, N, PE 50/60 Hz / 25 A inert
Bearing	water-tight, maintenance free	water-tight, maintenance free
Corrosion protection	hot dip galvanized (series) or powder coating (RAL 5010)	hot dip galvanized (series) or powder coating (RAL 5010)
Roller set dimensions (H x W x L)	280 x 680 x 2320 mm	280 x 680 x 2925 mm
Packaging dimensions (H x W x D)	500 x 820 x 2340 mm	400 x 800 x 3000 mm
Weight, including packaging	375 kg	450 kg

*optional

Roller brake tester for cars and vans up to 5 t axle load

Model: MBT 2250 EUROSYSYSTEM

Description

The MBT 2250 EUROSYSYSTEM brake tester is the premium tester of the MBT 2000 series. With the EUROSYSYSTEM test lane software based on Windows and an SQL database, it provides the user with endless possibilities. Whether “only” applied as a brake tester, used as a diagnostics reception device or as a control unit for workshop processes: The MBT 2250 EUROSYSYSTEM is the all-rounder. In combination with other testers, it provides a complete, objective vehicle assessment within in seconds. Recommended by vehicle manufacturers and tested in endurance tests by international inspection organisations, the brake tester is highly ergonomic and cost-effective. The MBT 2250 EUROSYSYSTEM is the ideal diagnostics brake tester and can also be upgraded with a four-wheel drive regulator set. The brake tester is particularly suitable for reception and diagnostics lanes with high vehicle through-put; it exceeds the requirements for the main inspection (HU) and is network-compatible.

Scope of delivery

- Communication Desk or Switching cabinet for test stand control
 - Model VP 210110:
 - Communication Desk MCD 2000 with integrated Switching and electro-cabinet
 - Lockable drawer for keyboard and mouse including storage shelf
 - ‚All-in-One PC‘ integrated into flat screen 23“, including mouse, keyboard, printer
 - Model VP 210111:
 - Communication Desk MCD 2000 with integrated Switching and electro-cabinet
 - Lockable drawer for keyboard and mouse including storage shelf
 - Model VP 210112:
 - Communication Desk MCD 1000 with integrated Switching and electro-cabinet
- Single wheel switchover, delayed automatic startup
- Automatic shut-off after exiting the test stand
- Automatic cutoff at selected slip with measured value display and automatic restart
- Electronic DMS strain gauge measuring system
- Self-supporting, enclosed roller set
- Roller surface optionally welded or plastic-coated
- Corrosion protection: hot dip galvanised (series) or powder coating (RAL 5010)
- TÜV and GS approved

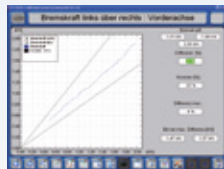
Software



Customer data screen
For recording owner and vehicle data.



Brake test
Digital and graphical display of brake values.



“Brake Test” graphic
Clear display of brake values using graphical or digital analyses



Tire tread measuring device
TM 1000: Automatic measurement of the full tire tread (circumference and tire width).



Shock absorber test
Graphical and digital display of the measurement values.



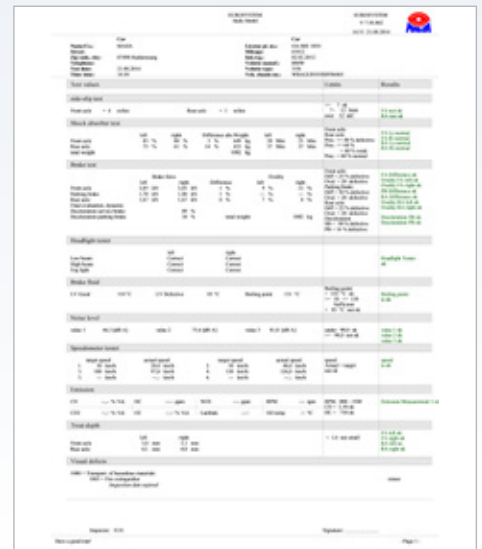
Side slip test
Clear display of the directional stability of the vehicle axles.



Light test
Digital determination of the headlight setting by means of a CMOS camera.



Database
Comprehensive databases holding customer and vehicle specific information.



Printout via “EUROSYSYSTEM” test lanes software.


Technical Data
Communication Desk MCD

Display unit	PC monitor, optional via TV screen, simultaneous display, radio touchscreen
Control	Fully automatic via MCD 2000 or MCD 1000 communication console.
Power supply	3 x 400 V / N / PE 50/60 Hz
Dimensions (W x H x D)	860 x 1230 x 350 mm
Dimensions incl. printer shelf* (W x H x D)	860 x 1500 x 420 mm

	RS 2	RS 5
Drive power of motors	2 x 3 kW / 2 x 4 kW*	2 x 4 kW
Test speed	5 km/h	5 km/h
Measured value display	0 – 8 kN	0 – 8 kN
Permitted axle load (drive-over)	3.5 t / 4.0 t*	5.0 t
Track, maximum	780 mm	780 mm
Track, minimum	2200 mm	2800 mm
Roller diameter	202 mm	202 mm
Roller axle distance	400 mm	400 mm
Power supply	3 x 400 V / N / PE 50/60 Hz	3 x 400 V / N / PE 50/60 Hz
Fuse	25 A, slow-blow	25 A, slow-blow
Bearing	water-tight, maintenance free	water-tight, maintenance free
Corrosion protection	hot dip galvanized (series) or powder coating (RAL 5010)	hot dip galvanized (series) or powder coating (RAL 5010)
Roller set dimensions (H x W x L)	280 x 680 x 2320 mm	280 x 680 x 2925 mm
Packaging dimensions (H x W x D)	500 x 820 x 2340 mm	400 x 800 x 3000 mm
Weight, including packaging	375 kg	450 kg

*optional

All-wheel roller brake tester for cars and vans up to 5 t axle load

Model: MBT 2450 EUROSYSTEM 4WD

Description

The MBT 2400 LON ALLRAD brake tester with analogue display provides you with high-precision 4WD testing technology in a compact design. With the patented measuring methods, you have the security of being able to correctly test 4WD vehicles without damage. MAHA brake tester have been setting the standard for more than 30 years for testing 4WD vehicles and are keeping pace with modern vehicle technology. The modern, electronic control system also enables the checking of ASR (Anti Slip Regulator) and electronic parking brakes in the course of the brake testing. It is particularly suitable for reception and diagnostics lanes with a high proportion of 4WD; exceeds the requirements for the main inspection, has a PC interface and is thus network-compatible.

Scope of delivery

- Communication Desk or Switching cabinet for test stand control
Model VP 210108:
 - Communication Desk MCD 2000 with integrated Switching and electro-cabinet
 - Lockable drawer for keyboard and mouse including storage shelf
 - ‚All-in-One PC‘ integrated into flat screen 23“, including mouse, keyboard, printer
- Model VP 210109:
 - Communication Desk MCD 2000 with integrated Switching and electro-cabinet
 - Lockable drawer for keyboard and mouse including storage shelf
- Remote control IFB3
- Pedal force meter
- Lockable main switch
- Electronic start-up monitoring including automatic roller blocking
- Single wheel switchover, delayed automatic startup
- Automatic shut-off after exiting the test stand
- Automatic cutoff at selected slip with measured value display and automatic restart
- Electronic DMS strain gauge measuring system
- Four-wheel drive regulation set with electronically controlled roller set
- Self-supporting, enclosed roller set
- Roller surface optionally welded or plastic-coated
- Corrosion protection: hot dip galvanized (standard) or powder coating (RAL 5010)
- TÜV and GS approved



30 years of all-wheel drive testing technology

German Patent No. 3603508
European Patent No. 3641339

Software

ALL-WHEEL AUTOMATIC “DRIVE CONTROL“

The automatic all-wheel detection from MAHA, supports the inspector in safe and accurate brake testing.

Step by step for a reliable test result



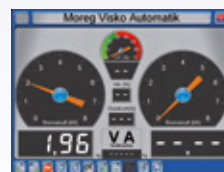
1. The brake tester detects a high starting resistance and notifies the inspector about any possible remedies.



2. The brake tester starts for a second time and checks the starting resistance. If the all-wheel drive has been deactivated, a brake test can possibly be performed in standard mode.



3. The brake tester starts in a regulated counter run mode. First, test the left side.



4. Brake test, left side. The braking force is only displayed for the wheel that is rotating in a forward direction.



5. Brake test, right side.



6. After the brake test is completed, the related measurement values of an axle are displayed clearly and automatically stored.



livestream

Technical Data

Kommunikationspult MCD

Display unit	PC monitor, optional via TV screen, simultaneous display, radio touchscreen
Control	Fully automatic via MCD 2000 or MCD 1000 communication console.
Power supply	3 x 400 V / N / PE 50/60 Hz
Dimensions (W x H x D)	860 x 1230 x 350 mm
Dimensions incl. printer shelf* (W x H x D)	860 x 1500 x 420 mm

Roller set	RS 2	RS 5
Drive power of motors	2 x 3 kW / 2 x 4 kW*	2 x 4 kW
Test speed	5 km/h	5 km/h
Measured value display	0 – 8 kN	0 – 8 kN
Permitted axle load (drive-over)	3.5 t / 4.0 t*	5.0 t
Track, maximum	780 mm	780 mm
Track, minimum	2200 mm	2800 mm
Roller diameter	202 mm	202 mm
Roller axle distance	400 mm	400 mm
Power supply	3 x 400 V / N / PE 50/60 Hz	3 x 400 V / N / PE 50/60 Hz
Fuse	25 A, slow-blow	25 A, slow-blow
Bearing	water-tight, maintenance free	water-tight, maintenance free
Corrosion protection	hot dip galvanized (series) or powder coating (RAL 5010)	hot dip galvanized (series) or powder coating (RAL 5010)
Roller set dimensions (H x W x L)	280 x 680 x 2320 mm	280 x 680 x 2925 mm
Packaging dimensions (H x W x D)	500 x 820 x 2340 mm	400 x 800 x 3000 mm
Weight, including packaging	375 kg	450 kg

*optional

Accessories-Matrix

Description	Item No.				
		MBT 2100	MBT 2200 LON	MBT 2250 EUROSYSYSTEM	MBT 2450 EUROSYS. ALLRAD
Difference display digital	VZ 955252	-	O	O	O
Difference display analogue	VZ 955264	O	-	-	-
Display module VARIODATA	VZ 955253	-	O	O	O
Simultaneous Display MSA C CLASSIC	VZ 950055	-	O	O	O
Communication Desk MCD	VP 186050	O	O	X	X
THERMOPRINT data printer	VZ 910152	-	O	-	-
Printer-Set 'RECO 1'	VZ 910159	O	-	-	-
Printer-Set 'IFB 3'	VZ 910160	O	-	-	-
DIN A 4 Dot Matrix Printer	VZ 910053	-	O	-	-
Base for display cabinet	VZ 955257	-	O	-	-
Wall bracket	VZ 955256	-	O	-	-
Base for analogue display MBT 2100	VZ 955261	O	-	-	-
Wall hinge	VZ 955001	O	-	-	-
Plastic-coated roller surface	VZ 935110	O	O	O	O
Wireless remote control RECO 1	VZ 910153	O	O	-	-
Infrared remote control IFB3	VZ 910047	O	O	O	X
Pedal force meter (only in combination with IFB3)	VZ 990050	O	O	O	X
Wireless touchscreen FTS 2012	VZ 955265	-	-	O	O
Operating hours counter	VZ 955014	-	O	O	O
Manually reversible rotation and measuring direction	VZ 935132	O	O	O	X
4WD detection and reversible rotation and measuring direction using remote control	VZ 935133	O	O	O	X
4WD detection and 4WD set	VZ 990355	-	O	O	X
Special voltage 3 x 230 V / 50 Hz	VZ 990352	O	O	O	O
Roller set RS 5, 4 kW, 5 t	VZ 930068	O	O	O	O
Reinforced roller set RS 2, 4 kW, 4 t	VZ 930067	O	O	O	O
Divided roller set	VZ 930040	-	O	O	O
Splashproof motors	VZ 935067	X	X	X	X
Automatic lifting threshold	VZ 930041	O	O	O	O
Tire tread measuring device TM 1000, only in combination with RS 2*	VZ 935144	-	-	O	O
Roller set covers passable by 4 t axle load	VZ 935182	O	O	O	O
Roller set covers for motorcycle brake testing	VZ 975073	-	O	O	O
Motorcycle connection including roller set cover	VZ 935229	O	-	-	-
Set of ramps 500 x 2000 mm for RS 2 (4 pieces)	VZ 930009	O	O	O	O
Dynamic weighing equipment for RS 2	VZ 975557	O	O	O	O
Dynamic weighing equipment for RS 2 divided	VZ 975559	-	O	O	O
Weighing equipment preparation	VZ 975555	-	O	O	O
Roller heating	VZ 935068	O	O	O	O
Adjustment device	VZ 975201	O	O	O	O
Permanent formwork	VP 930045	O	O	O	O
Hot dip galvanized roller set	VZ 995400	X	X	X	X
Powder-coated roller set	see price list	O	O	O	O

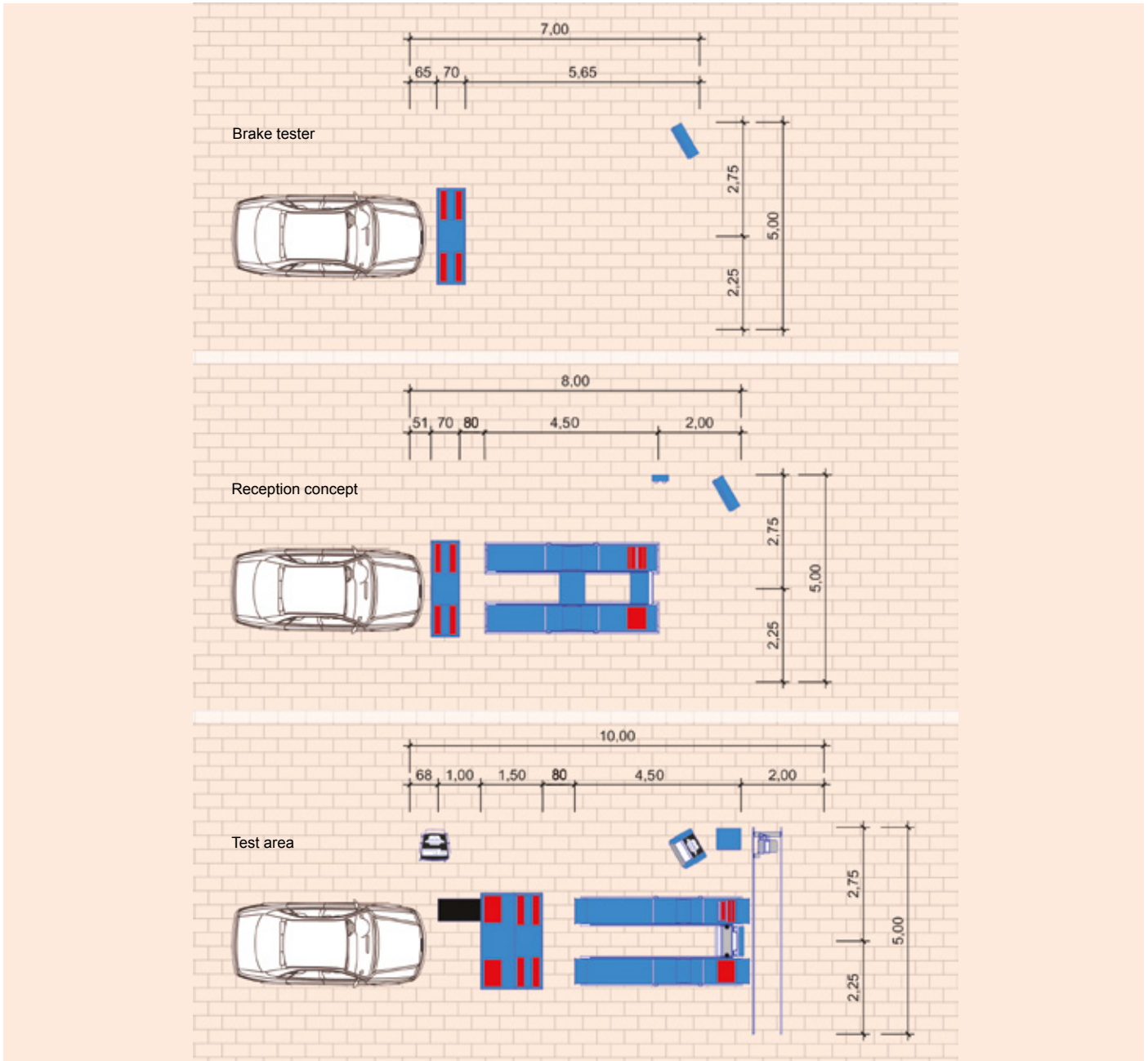
* Not in combination with lifting threshold
For more accessories, please see our current price list!

Legend:
X = standard equipment
O = optionally available
- = not available

Accessories

Difference display digital VZ 955252	Difference display analogue VZ 955264	Display module Variodata VZ 955253	Simultaneous Display VZ 950055	Base for LON-Display cabinet VZ 955257
Wall bracket VZ 955256	Base for analogue display VZ 955261	Wall hinge for analogue display VZ 955001	Communication desk MCD VP 186050	Wireless touchscreen FTS 2010 VZ 955265
Infrared remote control IFB 3 VZ 910047	Pedal force meter PFM 1000 VP 990434	Wireless remote control RECO 1 VZ 910153	Printer-Set RECO VZ 910159	Data printer Thermoprint VZ 910152
Reversible rotation and measuring direction, remote control change-over VZ 935133	Operating hours counter VZ 955014	Rigid all-wheel regulation set VZ 990355	Roller set configuration No. 5, axle load 5 t VZ 930068	Plastic-coated roller surface VZ 935110
Lifting threshold VZ 930041	Tire tread depth measuring device TM 1000 VZ 935144	Roller set covers passable by 4 t axle load VZ 935182	Roller set covers for motorcycle brake testing VZ 975073	Set of ramps VZ 930009
Dynamic weighing equipment VZ 975557	Roller heating VZ 935068	Adjustment device VZ 975201	Permanent formwork VP 930045	Combination emissions tester VP 135213

MAHA Testing Concepts for the Workshop



GLOBAL PLAYER

... in more than 150 countries worldwide

Subsidiaries

Australia	France	Philippines	Singapore	UK
Brazil	India	Poland	Spain	USA
Canada	Ireland	Russia	South Africa	Vietnam
Chile	Japan	Serbia	Thailand	West Africa
China	New Zealand			

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