BM TEST EQUIPMENT
- the safe choice

BM70A INSPECTION LANE
for Heavy Vehicles

- High quality at competitive prices.
- Savings in capital investment through flexible IT.
- Ensures superior quality assurance and consistency in the vehicle inspection processes.
- Design and manufacturing based on more than 30 years of knowledge and experience.

Introduction

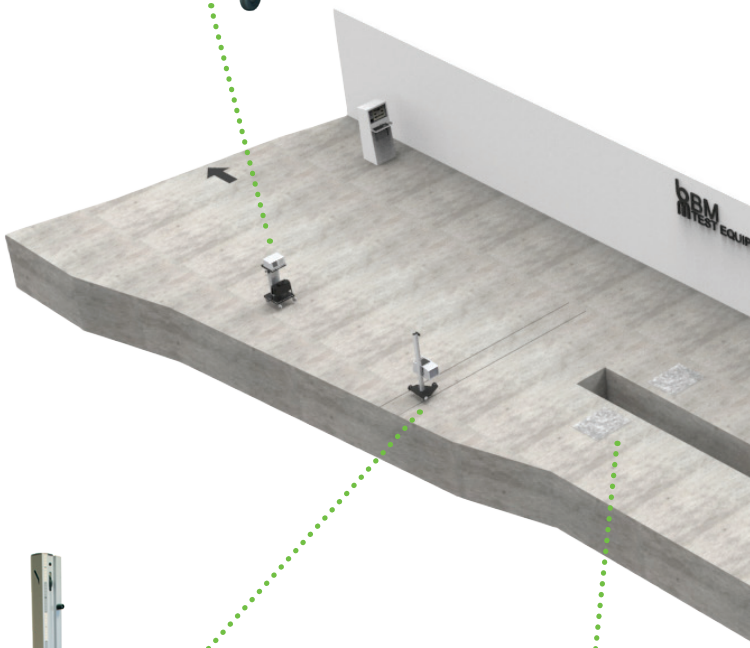
The BM70A vehicle inspection lane is fully automated and includes the latest technology for the collection of test data.

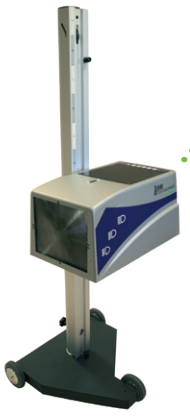
The system uses state of the art equipment from a range of suppliers all of which has obtained "Proof of Concept" from some of Europe's most prestigious vehicle inspection bodies.

The BM70A is used for vehicle inspection in England, Ireland, Lithuania, Vietnam and Denmark.

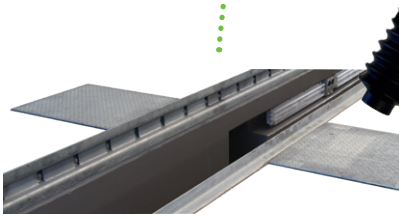
- Consists of test equipment, which is approved and used by some of the largest and most well-known vehicle inspection bodies in the world.
- Designed for the heavy use and high throughput experienced in the vehicle inspection environment.
- Fulfils all CEE directives.
- All test equipment is customised to meet the exact requirements of each individual market and regulatory body.
- Fully automated via the BM FlexCheck vehicle inspection IT system.

BM3201 combined emission tester





BM2500 headlight tester



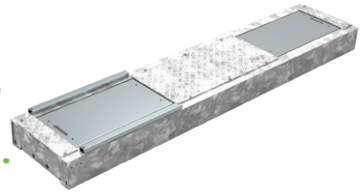
BM53000 wheel play detector

The BM70A vehicle inspection lane includes:

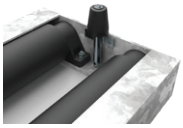
Additional test equipment can be added such as:

- Handheld decelerometer
- Mobile EBS testing equipment
- EOBD check
- Automatic camera solution with vehicle photo on inspection printout

Large easy-to-read alu display for brake tester and side slip tester

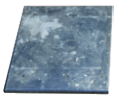


BM40010 suspension tester and BMX010 alu display with suspension scale



BM605 speedometer tester and alu display

BM14200 roller brake tester



BM910 side slip tester

BM FlexCheck IT system

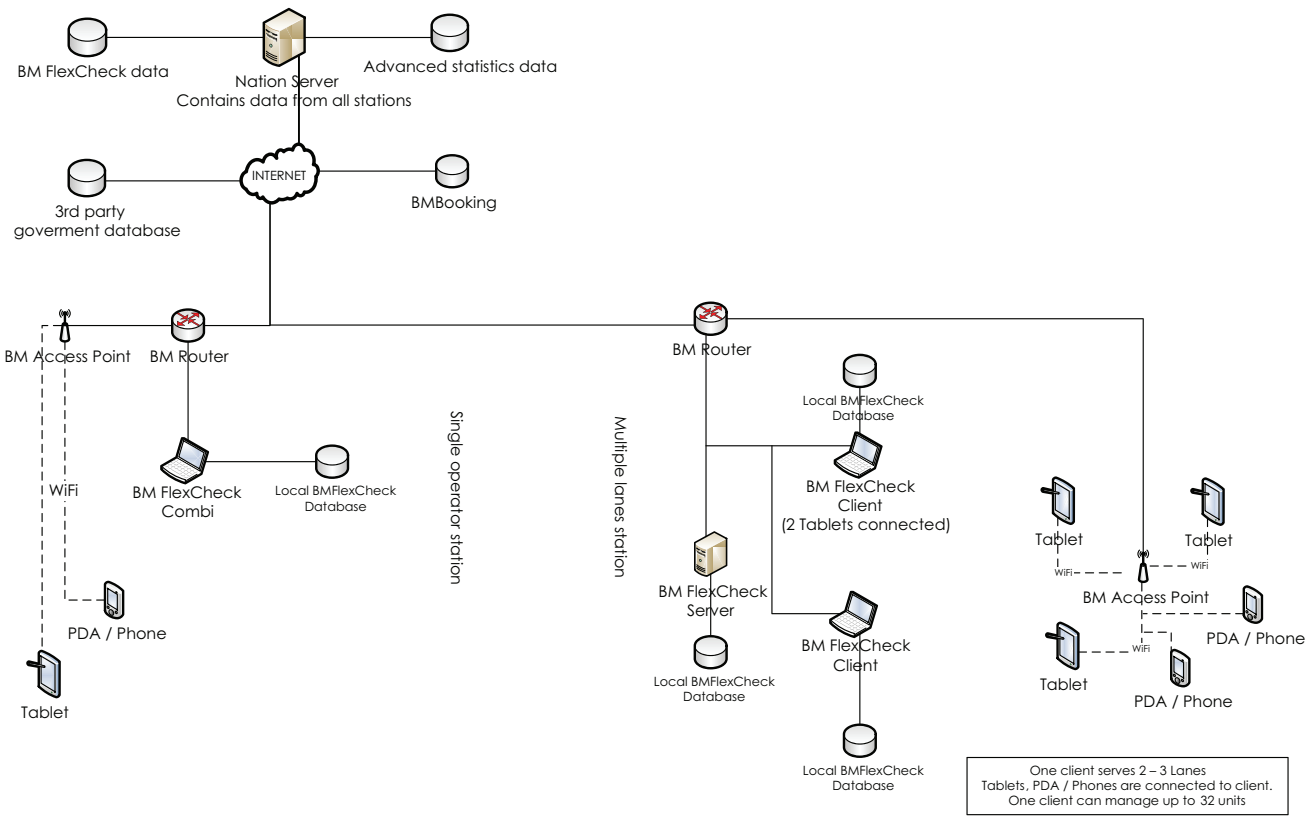
BM FlexCheck is a proven IT system for the vehicle inspection business and is designed to collect all data from the vehicle inspection process and store this data in central databases for further processing.

BM FlexCheck includes two principle features:

1. Collecting and processing of vehicle inspection data.
2. Data exchange and integration between inspection centres and 3rd party databases such as government controlled vehicle databases and the ERP system of the vehicle inspection company.

The design of BM FlexCheck provides an all-in-one network solution. All vehicle inspection centres are linked through the BM FC National Database, which holds data from all the vehicle inspection stations in the network.

BM FlexCheck Diagram for Periodic Technical Inspection



The BM FlexCheck National Database ensures that an inspection result from one station can be downloaded by another station. This feature allows the customer a free choice of inspection station, when they need a retest.

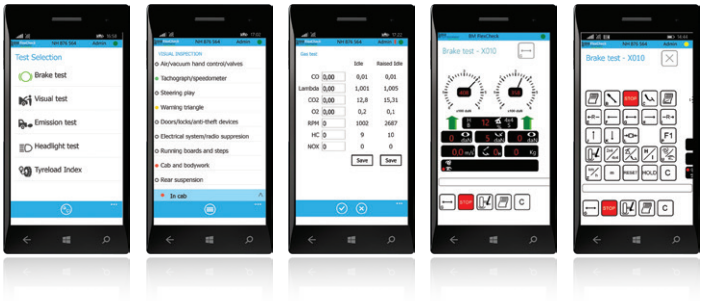
All communication outside the actual vehicle inspection station is done via the internet using secure web services. Due to replication of databases on all BM FlexCheck versions in the architecture, BM FlexCheck ensures that vehicle inspection can continue even if the internet is temporarily down.

Collecting and Processing Vehicle Inspection Data

BM FlexCheck is designed for testing of all types of vehicles. All data is collected using Windows phone or tablet units and wireless transmission technology (WLAN and Bluetooth).

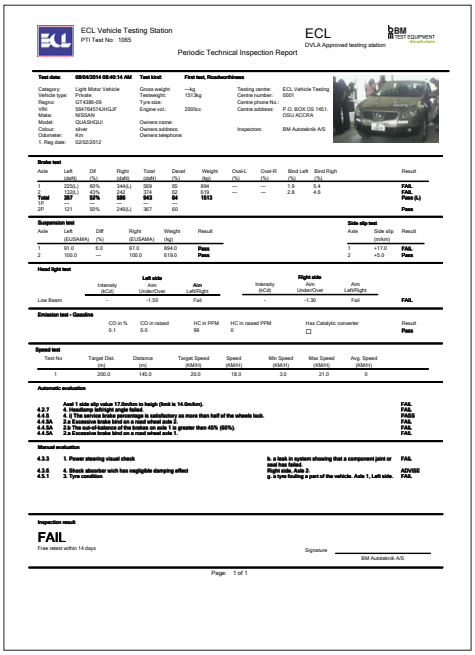
Data is transferred from the electronic test equipment (i.e. brake testers, emission testers, headlight testers etc.) via the Windows phone or tablet, it is automatically captured and stored on the test lane PC. Data from the visual inspection is entered into the Windows phone or tablet and then automatically sent and stored on the test lane PC.

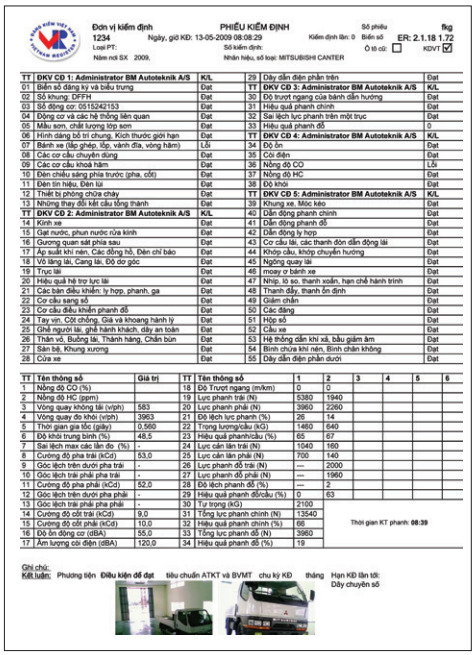
The inspector prints the inspection report from the test lane PC including automatic PASS/FAIL evaluation on all inspection data. PASS/FAIL criteria follows the rules and legislation of the individual country.



Key Feature

Electronic test equipment can be connected to BM FlexCheck via **Bluetooth**





Examples on inspection reports

Key Benefits

- Nationwide network concept
- Linking to government databases
- Online booking module
- Drive-in possibilities
- Connection to equipment of different make and model
- Online maintenance and updates
- Automatic PASS/FAIL
- Flexible lane design and layout
- Production reliability
- Quality assurance

Advantages

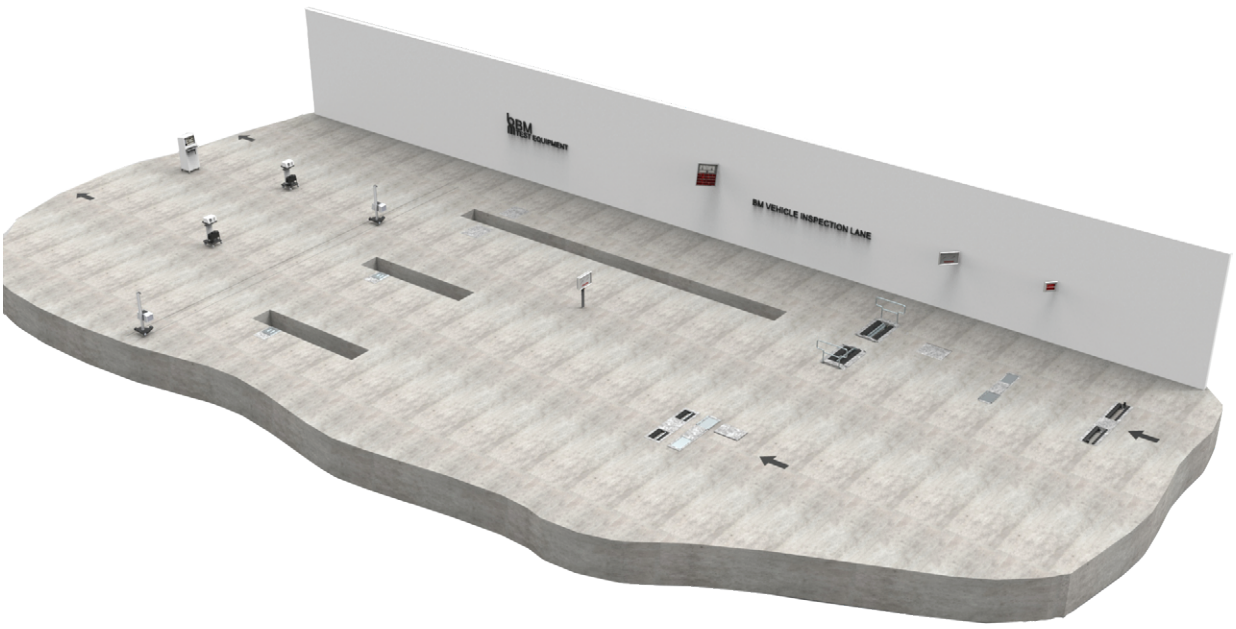
A key feature of BM FlexCheck is that different makes and models of electronic test equipment can be connected to BM FlexCheck via Bluetooth. This feature provides a number of important advantages:

- The vehicle inspection company or agency will always have a choice, when purchasing such electronic test equipment (such as brake testers, headlight testers, emission testers, speed testers etc), which will effectively ensure competitive purchase prices now and in the future.
- In case the vehicle inspection company has already purchased electronic test equipment, then BM FlexCheck can most likely be connected to this equipment and ensure, that additional and unnecessary capital investment is reduced or avoided.

Cost savings

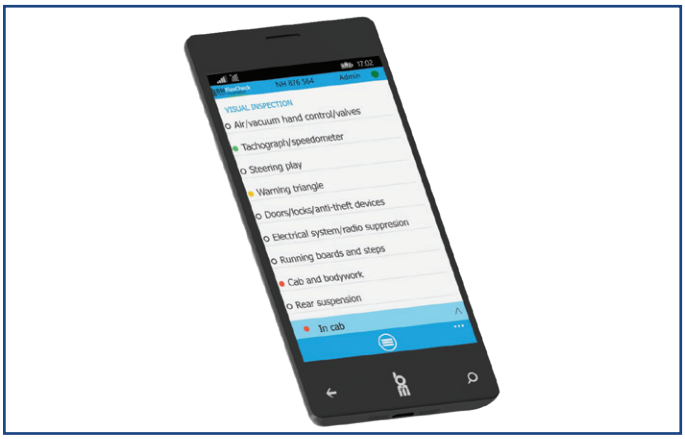
As BM FlexCheck is based on a wireless design between computers and electronic test equipment additional cost savings are obtained:

- The installation of BM FlexCheck does not require expensive cabling between the various products to the test lane PC. This is also an advantage, if for instance the emission equipment is installed outdoor due to health and safety regulations.
- Virtual inspection lanes can easily be implemented, where several lanes share only one piece of electronic test equipment. For example two or three lanes can share one brake tester, one emission tester, one suspension tester and one headlight tester, but each lane is equipped with separate inspection pits and/or vehicle lifts.



Principle of Usage

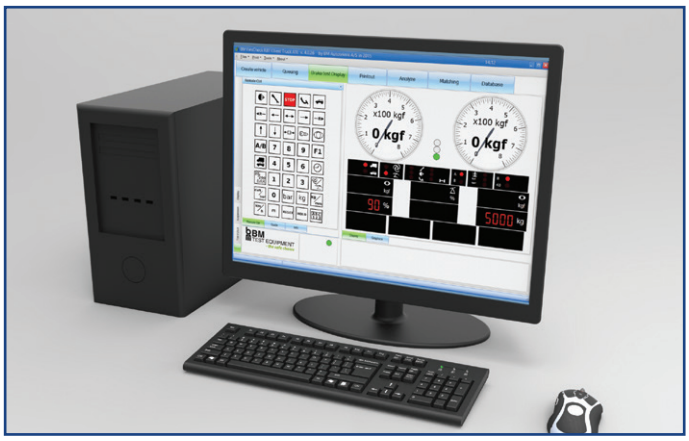
The vehicle is registered either at lane entry, reception office or via internet booking. If the vehicle has previously been inspected then only entry of registration (license plate) number is required.



1. The inspector selects the vehicle from the queuing list on the Windows phone or tablet. This list will be generated by BM FlexCheck when the vehicle is registered.

2. Test results from brake tester, headlight tester, emission testers and other electronic test equipment are automatically sent to the Windows phone or tablet via Bluetooth.

3. The inspector uses the Windows phone or tablet to control the BM brake tester and other electronic test equipment. The inspector enters visual inspection points following the inspection guide on the Windows phone or tablet.



4. Data is automatically and continuously transferred to the test lane PC. Printing of test report can be done from this test lane PC or to a printer in the reception office.

Key Feature

With BM FlexCheck you can create lane designs with **less test equipment** than with conventional vehicle inspection IT systems.

Windows Phone or Tablet

The visual vehicle inspection procedure consists of a number of inspection points to be assessed by the inspector.

BM FlexCheck offers a unique and flexible solution for electronic storage of these visual observations based on Windows phone or tablet. The inspection points, which are relevant for the vehicle being inspected, are presented to the inspector on the Windows phone or tablet.

1. The Windows phone or tablet presents a vehicle queuing list to the inspector, which is continuously updated from the lane PC. The inspector selects the vehicle from this list prior to commencing the inspection.

2. The inspector can then select what type of inspection he wants to apply to the vehicle including brake test, emission test, visual inspection etc. These types of tests can be selected randomly i.e. the inspector does not have to follow any particular sequence, which can be an advantage if for example the emission tester is placed outside the building due to environmental rules.

3. When the inspector selects visual inspection, the Windows phone or tablet displays all inspection points are organised into logical groups. The inspector can randomly select any such group and see each individual inspection point under this group.

4. When an inspection point is selected, the inspector is prompted for the location of fault observed. Subsequently, the inspector is prompted for his evaluation. The preset evaluation levels are often “pass”, “pass with defects rectified” or “not passed”. However, the Windows phone or tablet system allows for any defining of preset evaluation levels for each individual inspection point.

5. Finally, the Windows phone or tablet will prompt the inspector for his reason for failing the item. The inspector will choose from a "reason for failure" list, which is preset individually for each inspection item.

Remote control

The Windows phone or tablet can also be used as a remote control unit for the electronic equipment such as brake tester, suspension tester, speedometer tester, subject to the protocol features of this equipment.

Other test equipment

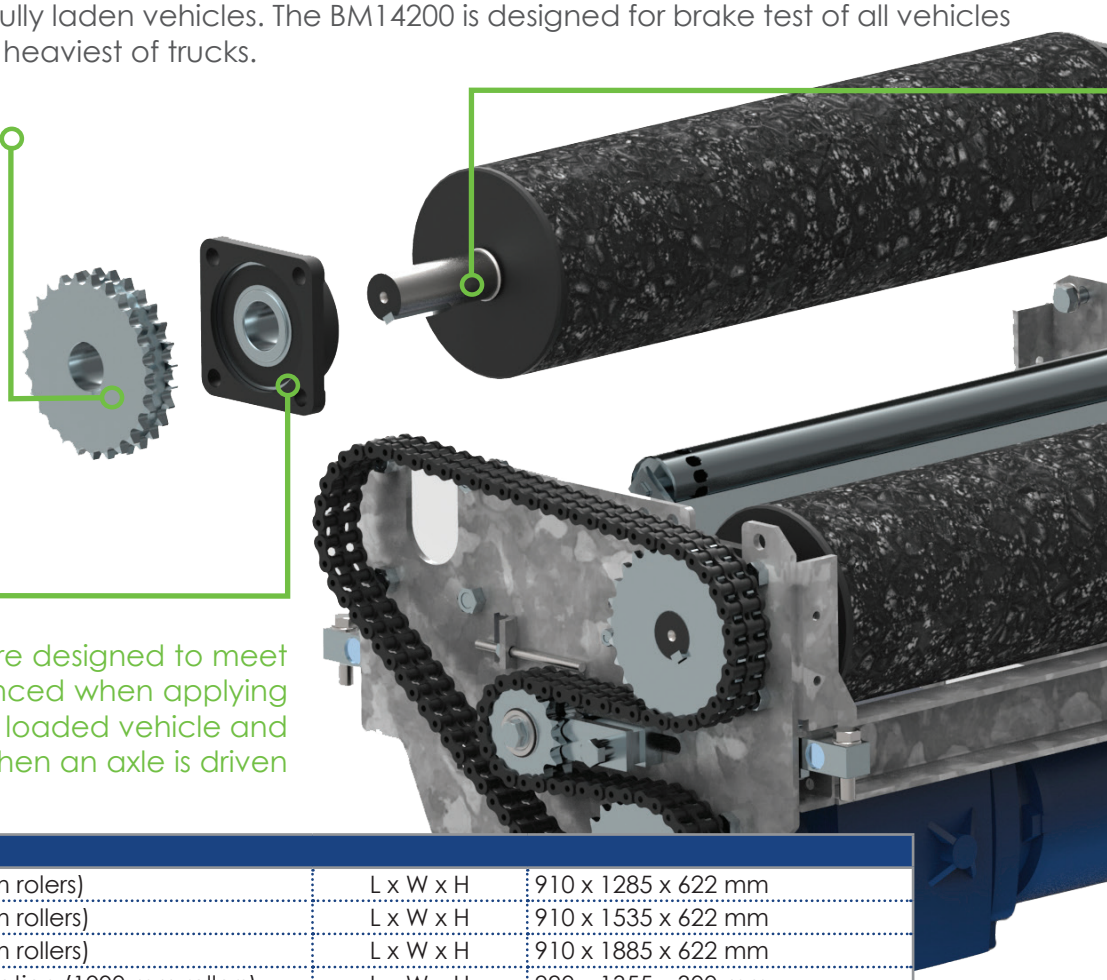
Data from other equipment such as headlight tester and emission testers are also shown on the Windows phone or tablet when such tests are conducted.

BM14200 Brake Tester

The BM14200 roller brake tester has one of the strongest designs in the market and is built to withstand a high daily throughput of fully laden vehicles. The BM14200 is designed for brake test of all vehicles from passenger cars to the heaviest of trucks.

Large chain wheels
The large chain wheels reduce required maintenance of chains and increase the life of the gears, motors and other components.

- 33 % stress reduction compared to standard chain wheels.
- Reduction of required chain tightening from 4 times to once a year.



Heavy duty bearings
The heavy duty bearings are designed to meet the extreme loads experienced when applying the brakes to lock of a fully loaded vehicle and to absorb chock loads if/when an axle is driven hard into the roller bed.

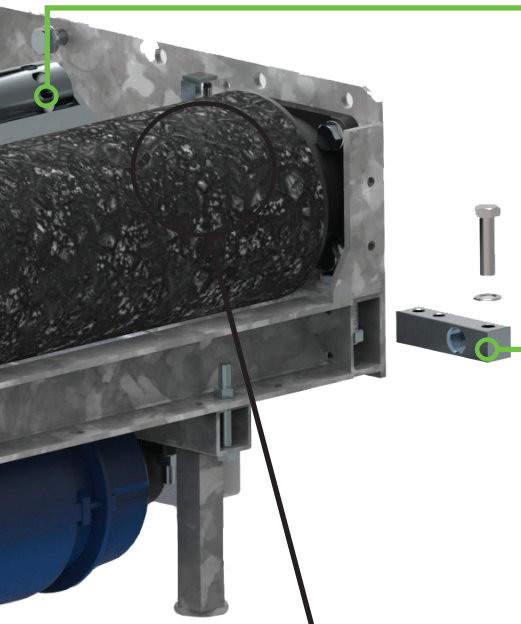
BM14200 TECHNICAL DATA		
Roller bed per side (1000 mm rolers)	L x W x H	910 x 1285 x 622 mm
Roller bed per side (1250 mm rollers)	L x W x H	910 x 1535 x 622 mm
Roller bed per side (1600 mm rollers)	L x W x H	910 x 1885 x 622 mm
Subframe for split bed installation (1000 mm rollers)	L x W x H	990 x 1355 x 300 mm
Subframe for split bed installation (1250 mm rollers)	L x W x H	990 x 1605 x 300 mm
Subframe for split bed installation (1600 mm rollers)	L x W x H	990 x 1955 x 300 mm
Roller diameter		260 mm
Roller length		1000/1250/1600 mm
Height of middle cover plate over floor level		75 mm
Roller height over floor level	front/rear	35/70 mm
Friction coefficient of roller from factory	dry/wet	Min 0.7/0.6
Wheel span (can be customised)		890 to 2890/3390/4090 mm
Distance between roller centres		493 mm
Maximum test axle weight		16000 / 20000 kg
Gear motor size		11/15 kW
Max brake force measurement		3600/5500 daN
Test speed		2.7 km/h
Display	L x W x H	930 x 820 x 100 mm
Control box	L x W x H	760 x 600 x 210 mm
Display brake force scale		0 - 800 daN 0 - 4000 daN
Brake force measuring accuracy		0 – 100 daN : ± 2 daN > 100 daN : ± 2 % FS
Pedal force measurement accuracy		0 – 100 daN : ± 1 daN
Operating temperature		–15°C to + 50°C
Power and fuses		3 x 400 Vac + N + PE Minimum 50/80 Amp 3 x 230 Vac + PE Minimum 80/125 Amp

The display

The display is made of aluminium and contains a gauge with a double brake force scale from 0 to 800 daN and 0 to 4000 daN. The display is a modular design so that it can be customised to existing and future demands. The combination of colours (black on white background and red digital numbers on black background) optimizes the readability of the display.

Strength of roller axles

A 60 mm roller shaft diameter provides the necessary overload capacity to ensure maximum and trouble free lifetime.



Large middle roller and improved damping system

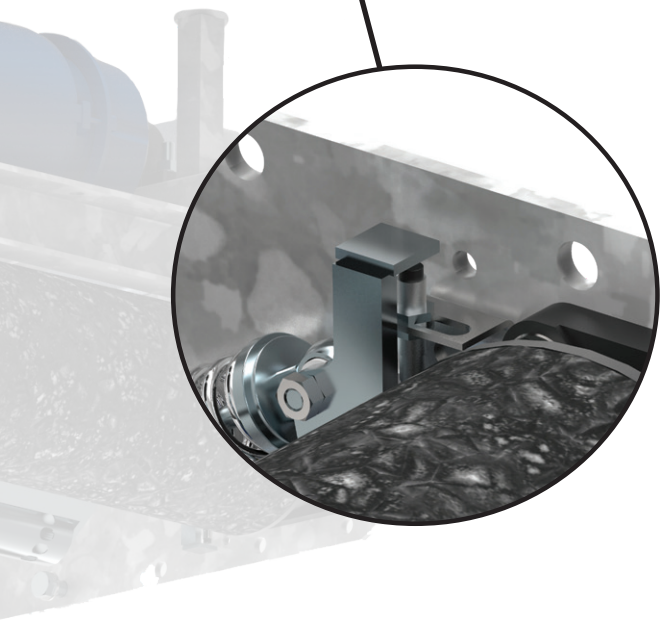
The 80 mm diameter middle rollers provide an optimal contact with tires and improve test results.

The damping system of the middle roller also enhances strength, lifetime and reliability.

Improved design of automatic weighing system

Weight transducers are designed to manage the high stress applied when testing fully laden vehicles. The superior crimp characteristic ensures correct measurement even when being applied with the high shock loads from “drive-over” axles.

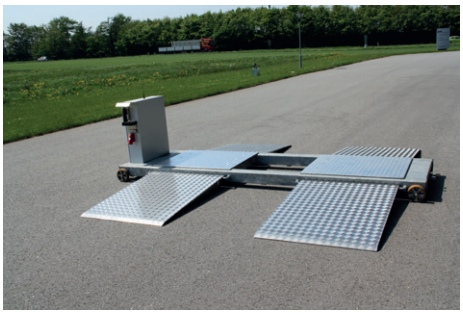
The roller bed is “hung” in the weight transducers when placed in the sub frame. The benefit of this “hanging” design is less sensitivity of the accuracy to forward and backward forces and other vertical and horizontal movements of the roller bed.



Improved protection of on-off and speed sensors

Inductive sensors are known to be the component most vulnerable to break down due to lack of proper protection from dirt and stones dropping down from vehicles. The protection of the on-off and speed inductive sensors provides a higher reliability hence less downtime.

BM53000 Wheel Play Detector



The BM53000 wheel play detector is built for heavy usage in vehicle inspection stations.

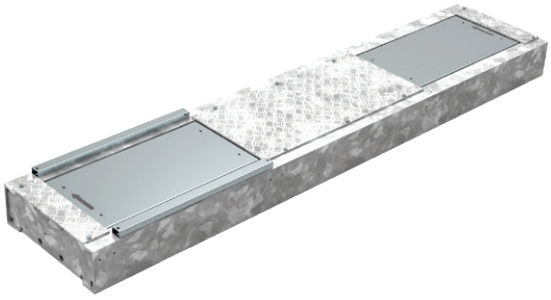
The wheel play detector is hydraulically operated equipment used for detecting play on vehicles up to 10000 kg wheel load (20 ton axle load). It can be used for testing play on light and heavy vehicles. The equipment allows the inspector to check steering and suspension system without jacking as well as finding worn kingpin bushings, loose tie-rod ends, broken welds, loose fasteners and other failed components.
The two hot galvanized moving plates are extra large to cater for testing of a wide range of wheel spans. After test the plates automatically centralize. The hydraulic power pack can be installed either inside a recess in the inspection pit wall or above ground, where the hydraulic power pack is placed inside a dedicated control box.

Remote Control

The remote control unit features a key pad, which allows the inspector to control the movement of the two plates. The plates can be moved manually in 8 combined directions. Since the BM53000 is controlled by an embedded computer unit, the remote control unit also features an automatic test sequence program. This allows for easier use of the equipment, but also supports consistency in how the wheel play detection is used by various inspectors. The remote control unit provides a flash light, which allows the inspector to light up critical areas during inspection. The remote control unit is placed in a charger station when not used, which can be installed either on the control box or more conveniently on the wall of the inspection pit. A wired version of the hand control is also available as an option.

BM53000 TECHNICAL DATA		
Subframe per side	L x W x H	1005 x 1175 x 152 mm
Mobile - without ramps	L x W x H	3340 x 1085 x 152 mm
Mobile - with ramps	L x W x H	3340 x 3440 x 152 mm
Max. test wheel load		10000 kg
Maximum axle weight		20000 kg
Wheel plate (can vary)	lateral x longitudinal	1000 x 825 mm
Weight		580 kg
Wheel span (can be customised)		850 mm
Control box	L x W x H	760 x 600 x 210 mm
Pit dimension per side	L x W x H	1005 x 1175 x 152 mm (+5/-0)
Plate movement		100 mm
Plate speed		30 / 60 mm/s 55 / 110 mm/s
Moving power per cylinder		30000 N
Working pressure		150 bar
Motor size		2.2 or 3 kW
Internal voltage		6 VDC
Remote control unit light		LED
Radio frequency		434 MHz
Power and fuses		3 x 400 Vac + N + PE +/- 6% Minimum 10 Amp or powered from brake tester

BM40010 Suspension Tester



The BM40010 suspension tester is hot galvanized with large aluminium vibration plates.

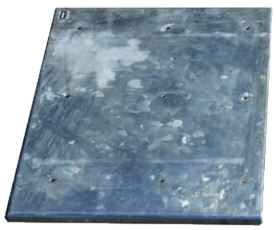
The measuring method is EUSAMA, where the suspension system of the vehicle is tested effectively over a frequency variation of 0 – 25 Hz. The weight value at the resonance frequency is determined as being the EUSAMA value – also known as the "Road Adhesion Value". The value is determined as a percentage relative to the static wheel weight. The EUSAMA values of the left and right wheels are presented on the display of the suspension tester together with the percentage difference between left and right wheel.

The vibration plates are built in aluminium in order to reduce their weight impact on the measurement and thus the increase accuracy of the EUSAMA value.

BM40010 TECHNICAL DATA		
Subframes	L x W x H	2456 x 595 x 173 mm
Subframes, split bed per side	L x W x H	922 x 595 x 173 mm
Suspension tester	L x W x H	2360 x 500 x 170 mm
Suspension tester, split bed per side	L x W x H	865 x 500 x 300 mm
Plate dimension	L x W	660 x 350 mm
Wheel span (can be customised on split bed model)		840 to 2150 mm
Maximum test axle load		Standard 2 Tonne, optional 3 Tonne
Maximum drive over axle load without cover plates		4 Tonne (optional)
Maximum drive over axle load with cover plates (optional)		13 Tonne
Measuring range		0 – 25 Hz / 0 - 100%
Power and fuses		3 x 400 Vac + N + PE Minimum 13 Amp Minimum 20 Amp for split bed (sync) 3 x 230 Vac + PE Minimum 20 Amp Minimum 35 Amp for split bed (sync) Can be powered from the brake tester.

BM910 Side Slip Tester

The BM910 side slip tester is designed for testing of both light and heavy vehicles. The capacity of the unit is toe in/out values of +/- 20 mm/m and the value is shown in the digital IMBALANCE window of the display. At the same time the point meters of the display will indicate if the value is a toe-in or a toe-out.

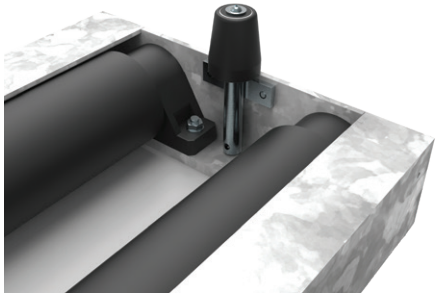


BM910 TECHNICAL DATA		
Subframe	L x W x H	1040 x 880 x 92 mm
Side slip unit	L x W x H	1000 x 800 x 40 mm
Plate dimension	L x W	1000 x 800 mm
Maximum wheel load		10000 kg
Measuring range		+/- 20 mm/m (+/- 20 m/km)
Resolution		0.1 mm/m (0.1 m/km)
Accuracy		+/- 0.5 mm/m (+/- 0.5 m/km)
Power and fuses		1 x 230 Vac + N + PE Minimum 4 Amp or powered from brake tester

BM605 Speedometer Tester

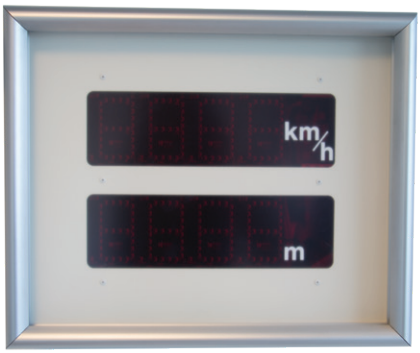
The BM605 is a device for testing the speedometer of the vehicle. The tester consists of 4 rollers placed in a one bed steel frame and a display showing the speed and distance travelled. The display can be floor or wall mounted. The tester can measure speed up to 120 km/h.

The BM605 is only 15 cm high and can be installed above ground as well as in-ground. The roller unit is equipped with retention rollers on each side to keep the wheels on the rollers during test.



The mechanical roller brake is integrated, which allows exit in the opposite driving direction without use of remote control.

Powered either from 230 VAC, or directly from the dashboard of the vehicle using the cigarette lighter plug (12 VDC).



The display shows the speed and distance on large digital readouts.

The speedometer data is automatically collected by the Windows phone or tablet unit and stored in BM FlexCheck together with the other vehicle inspection data.

BM605 TECHNICAL DATA		
Speedometer tester	L x W x H	2986 x 615 x 170 mm
Subframe	L x W x H	3080 x 710 x 174 mm
Roller diameter		159 mm
Roller length		1000 mm
Wheel span		800 to 2800 mm
Weight		673 kg
Maximum test axle load		16000 kg
Measuring range		0 – 120 km/h
Power and fuses		1 x 230 Vac + N + PE Minimum 6 Amp

BM Emission Testers

The BM3201 range includes changing automobile technology, it is both an anti-pollution control tool (gas analyser & smoke meter) and a diagnostic tool. The BM3201 range can be supplied with Windows phone or tablet, which allows the operator to operate the emission tester from inside the vehicle. Optional integrated EOBD scan tool can be supplied.

BM3201 4 Gas Analyser

- Graphic screen and 5-key keyboard.
- Guided test procedure on LCD display and Windows phone or tablet.
- Thermal integrated printer (or Matrix Dot on demand).
- Intelligent control of gas pump via Windows phone or tablet to ensure long pump lifetime.
- Compatible with the OIML R99 Class 0 and ISO 3930 standards.
- Multi-gas analysis mode.
- Vehicle inspection mode.
- Guided test procedure on LCD display and Windows phone or tablet.
- Automatic condensation extraction.

TECHNICAL DATA - BM3201 4 GAS ANALYSER			
Preheating time	< 5 minutes at 20°C (1 minute minimum)		
Response time	13 seconds for HC, CO, CO_2, 28 seconds for oxygen (transition from 20.9% to 0.1% for a gas with 0% O_2)		
Nominal pump delivery	6 l/min.		
Minimum pump delivery	3.5 l/min.		
Air pressure variation	Automatic correction by integrated absolute pressure sensor		
Zero point and sensitivity	Automatic compensation		
Automatic pump standby and automatic zeroing			
	MEASUREMENT RANGES	ACCURACY	RESOLUTION
HC	Normal resolution: 0 to 20000 ppm Propane	10 ppm	Normal res.: 10 ppm vol. High res.: 1 ppm vol.
CO	-0.03 à 10.5 %	0.03 %*	Normal res.: 0.01 % vol. High res.: 0.001 % vol.
CO_2	-0.4 à 21.0 %	0.5 %*	Normal res.: 0.1 % vol.
O_2	-0.5 à 21.7 %	0.1 %*	If O_2<4 % vol. high res.: 0.01 % vol. Otherwise normal res.: 0.1 % vol.
Nox	0 à 5000 ppm	N/A	1 ppm vol.
Engine speed	0 à 9999 RPM	+- 10 RPM	1 tours/min
Oil temperature	-5 à 150 °C	+- 1 °C	1 °C
Corrected CO	0 à 10 %	0.03 %	0.01 %
Air/fuel coefficient (Lambda)	0.600 to 1.200	0.03	0.001 or 0.01, selectable

BM8530 RPM & Temperature Unit

TECHNICAL DATA	
Automatic initialisation	
Measurement range	400 - 9 999 rpm
Maximum error	<20 rpm at speeds below 2000 rpm
Resolution	10 RPM and 1°C
	<2 % in other cases
	-13°C to 150 °C (oil temperature).
Oil temperature	+/- 1°C.
Response time	<1 second
Measurement update rate	10 times per second
Initialisation time	<17 seconds

Covers almost all vehicle types: Petrol, Diesel, GLP / LDV, HDV, 2-wheelers. The unit provides guided test procedure on LCD display.

- Keyboard for cylinder selection and mode settings.
- Cables for battery clamps, cigar lighter and vibration sensor.
- Oil temperature probe.
- Lithium battery and charger.

BM3201 Smoke Tester

- Graphic screen and 5-key keyboard.
- Guided test procedure on LCD display and Windows phone or tablet.
- Thermal integrated printer (or Matrix Dot on demand).
- It is in complete compliance with the opacity control procedure for vehicle inspection centres and with the procedure for determining the opacity applicable to repair workshops.
- Linearity check.

TECHNICAL DATA - BM3201 SMOKE TESTER		
Effective length of the measuring chamber	215 mm ±0.05 cm	
Preheating time	From 3 to 6 min depending on ambient temperature	
Zero adjustment and calibration before use	Automatic	
Control of zero adjustment	Automatic by electrical filter centred at 50%	
Humidity	30% to 90%	
Temperatures	Ambient temp. range for operation	+5 to +40°C
	Storage temp.	-32°C to +55°C
Measurement range of the measured value	Opacity Resolution	0.00 to 9.99 m-1 0.01 m-1
Maximum relative error under standard conditions	• Temperature +20 °C • Atmospheric pressure 1013 hPa	• Relative humidity 60% ±15% • Opacity error below 0.15 m-1
Measurement range of influencing factors (which allows correction of the opacity value)	Temperature of the gas being measured	0-256 C (resolution 1°C)
	Physical response time 10% to 90%	Less than 0.2 sec. for gas at 75L/min
	Electrical response time	0.9 sec
Power supply	1.5 A / 115 Vac 0.9 A / 230 Vac (+10% -15%)	50-60 Hz (±2%)

BM3201 Combined Emission Tester

- Graphic screen and 5-key keyboard.
- Guided test procedure on LCD display and Windows phone or tablet.
- Thermal integrated printer (or Matrix Dot on demand).
- Intelligent control of gas pump via Windows phone or tablet to ensure long pump lifetime.
- Petrol and diesel rev-counter.

Pipe Extension for High Exhaust Smoke Tests

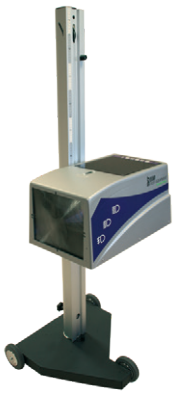
A special pipe solution for testing heavy vehicles with high tail exhaust pipes. The solution removes the need of ladders or other lifting gear, as the operator can easily place the measuring probe into the exhaust pipe while standing on the floor.
The solution is designed so the smoke meter can remain on the floor instead of having to be lifted. The solution thus meets work requirements from many national Health and Safety Authorities.

BM Headlight Testers

The headlight tester range includes three kinds of devices: mechanical BM2100, electronic photodiode BM2500 and electronic camera BM2600.

Benefits

- Simple, intuitive and quick to use.
- Easy to handle thanks to the counter-weighted raising and lowering system.
- Robust mechanics with superior stability needed for precision measurement.
- A total weight of 25 kg, making it easy to move.
- Able to adjust and control all types of lamps (halogen, xenon and leds).
- Powerful and timed lateral positioning laser with stand by function.
- Wheels mounted on bearings, guaranteeing the accuracy of measurements over time.
- Capacity to adapt to current national standards and available in different languages.
- Availability and reactivity of the support teams: remote maintenance, hotline, training, updating of appliances, maintenance software.



BM2100

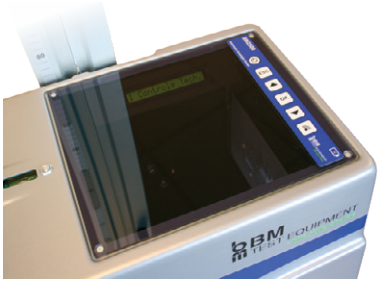
Specially designed for applications that do not need data transmission and for which a visual control is sufficient.

- Mechanical headlight tester.
- Economical and robust product.

BM2500

Excellent compromise between economy and efficiency.

- Patented electronic photodiode measurement system.
- Easy to use thanks to its positioning assistance.
- High autonomy for over 100 inspections per day.
- Data transmission.
- Accurate measurement of the beam angle.
- Available in garage mode for headlamp adjustment.



BM2600

Electronic headlight tester with camera based on the most advanced technology.

- Measurement and adjustment of low beam high and fog lamps.
- Used to automatically and quickly control and measure the pitch angle, yaw angle, break point, roll angle light intensity and dazzling.
- Suitable to all types of vehicles (European, American and Japanese).
- Compatible with both left and right hand drive.
- Easy to use thanks to its positioning assistance.
- Data transmission using all types of protocols.
- Simple, user friendly interface on a colour touch screen.

BM Headlight Testers Comparison

	BM2100	BM2500	BM2600
DIPPED BEAM LAMPS			
Beam angle measurement	👁	✓	✓
Lateral angle measurement	👁	🔍	✓
Intensity measurement	–	✓	✓
Dazzling measurement	–	✓	✓
MAIN BEAM LAMPS			
Beam angle measurement	👁	🔍	✓
Lateral angle measurement	👁	🔍	✓
Intensity measurement	–	✓	✓
FOG LAMPS			
Beam angle measurement	👁	✓	✓
Lateral angle measurement	–	✓	✓
Intensity	–	✓	✓
COMPUTER LINKS			
RS 232 cable connections	–	✓	✓
Wireless (bluetooth)	–	✓	✓
Contact us for protocols	–	✓	✓
PRINTING	–	✓	✓
EQUIPMENT			
Battery option	–	✓	Option
Positioning laser	✓	✓	✓
Electronic positioning assistance	–	✓	✓
Counter-weighted raising and lowering system	✓	✓	✓

👁 Visual 🔍 Diagnostic ✓ OK

Options

RS 232 /Bluetooth printer

Protective cover

Handle

Options selection

- Wheel base
- Rail base
- Bluetooth
- HGV

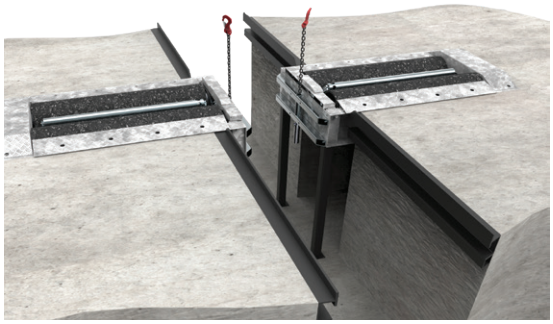
Compliance

- R48 recommandation
- CE Conformity

TECHNICAL DATA	BM2100	BM2500	BM2600
Size - L x W x H	590 x 670 x 1550 mm	590 x 670 x 1550 mm	590 x 670 x 1900 mm
Weight	25 kg	25 kg	25 kg
Autonomy on battery in continuous operation	N/A	15 h	15 h
Recharge	N/A	3h30 with automatic stop	4h with automatic stop
OPERATING CONDITIONS			
Batteries	N/A	4 x rechargeable accumulator R14	Rechargeable lithium iron batteries
Charger power supply	N/A	9V, 2A	15.2V, 2.3A
Surrounding temperature	5°C to 40°C	5°C to 40°C	5°C to 40°C
Storage temperature	-15°C to 55°C	-15°C to 55°C	-15°C to 55°C
Relative humidity	98 % non condensed	< 98 % non condensed	98 % non condensed
MEASUREMENT			
Cut-off measurement	N/A	In %	N/A
Range of measurement	N/A	+2 to -4%	N/A
Accuracy	N/A	+/- 0.2%	N/A
Measurement of the angle (headlamp dipped angle)	N/A	N/A	In %
Dip angle measurement range	N/A	N/A	+6 to -6%
Lateral measurement range	N/A	N/A	+10 to -10%
Accuracy	N/A	N/A	+/- 0.2%
Light intensity measurement	N/A	in Candela	in Candela
Measurement range	N/A	0 to 125kcd	0 to 125kcd
Accuracy	N/A	10%	10%

Load Simulation Systems

The BM14200 roller brake tester can be supplied with a wide range of load simulation systems ranging from conventional axle load simulation to the unique chassis load simulation system. The systems are proven in practice by esteemed vehicle inspection organisations such as the Vehicle and Operator Services Agency, VOSA, in Great Britain and Vehicle Testing New Zealand, VTNZ.



BM ALS - Conventional axle load simulation

BM ALS – Conventional Axle Load Simulation

The axle load simulation is fully mounted on the installation subframes of the brake tester and therefore there are no special requirements to the design or construction of the inspection pit. The BM ALS does not represent a trip hazard on floor of the inspection pit. With a load capacity of 8 ton, the system allows for a load simulation to the maximum allowed axle weight of most heavy vehicles.

BM CLS – Chassis Load Simulation

BM CLS applies the load directly to the chassis of the vehicle and hereby activates the load sensing function. When testing multiple axles, the hooks and chains only need to be attached once for all axles, as the BM CLS cassettes are on rollers and rails, and will move forward, when the operator drives the vehicle forward to test the next axle.

- **BM CLS pit wall mounting - Type A**

  Rails are established on the top edge of the inspection pit and the BM CLS cassettes are installed into these rails. The BM CLS and the pit jack can operate on the same rails. Does not represent a trip hazard on the floor of the inspection pit.

- **BM CLS pit floor mounting - Type D**

  Rails are installed into the floor of the inspection pit by concreting or bolting two I-steel profiles on which the BM CLS skates are installed onto. The I-steel is approx. 20 cm high and will often additionally perform as a large "kick-box" i.e. the operator can stand on these I-steel profiles when he needs to reach up higher. The cylinders are supported by strong springs, which will keep the cylinders vertical when not being used.

BM CLS Type A - pit wall mounting

BM CLS Type D - pit floor mounting

BM74000 - on-floor chassis load simulation

BM74000 On-floor Chassis Load Simulation

BM has developed a unique 10 Ton "Push-down" chassis load simulation system, BM74000, which is designed around an electrical pallet truck, so the operator easily can manoeuvre it to the right load position. When in place, the BM74000 is linked to a rail system concreted into the floor, and the load is applied electronically from the control panel. The BM74000 load plate can be turned, so the load-arm can reach into openings of closed cabins of the vehicle and load is then applied directly to the floor of the vehicle.

Noise Level Meter 2240

Assessing noise levels is not always a simple matter; regardless of whether it is environmental or workplace noise you must measure.
Fortunately, well-established standards and practices have determined common criteria for nearly all kinds of noise assessment making it easier to measure, report and evaluate sound pressure levels.

For example, nearly all measurements must apply the 'A' frequency-weighting and, in most cases where time-weighting (or time constant) is relevant, the 'F' time-weighting is used. In workplace situations, it is also often required to use the 'C' frequency-weighting to measure peak sound pressure levels for assessing hearing damage risks. Type 2240 from Burel and Kjær provides all of these measurement parameters in one easy-to-use package.

Type 2240 is a very simple to use sound level meter, which complies with all the latest sound level meter standards.
As an integrating-averaging sound level meter, it measures the equivalent, or average, sound pressure level.
In addition, it measures the instantaneous, maximum and peak sound pressure levels at the same time.

Operation of the instrument could not be simpler – just point and measure. All parameters are measured simultaneously, there is no setup necessary.

If any doubt should arise, a quick guide is readily available under the instrument's sliding cover.

Type 2240 fulfils the rigid Class 1 (previous Type 1) tolerances of the latest sound level meter standards.

NOISE LEVEL METER 2240 TECHNICAL DATA	
Standards	IEC61672 – 1:2002 Class 1 IEC60651 Type 1 (1979) with amendments 1 and 2 IEC60804 Type 1 (2000) ANSIS1.4 – 1983 Type S1 ANSIS1.43 – 1997 Type 1

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BM TEST EQUIPMENT

BM70A EN V6.3, 11 - 2017