



# TL 2203 and TL 2204

Car test lanes up to 4 tons axle load

Analogue- and PC versions



## Test lanes to meet your individual requirements

The optimum test lane for check-in, final inspection, tests in line with government standards, and training classes.

The vehicle test in the presence of your customer and the relative print-out make diagnostics much more transparent and improve your customer's confidence.

The test lane is available in different versions:

- **TL 2203 / TL 2204** with analogue display
- **TL 2203 PC / TL 2204 PC** in PC version
- **TL 2203 / TL 2204** in PC version, combined with analogue display

Thanks to its modular structure the test lane can be upgraded step by step: Basis is the brake tester, whereas suspension tester and side-slip tester can be retrofitted at a later date. Connection to PC can also be made at a later date as requested. All components of John Bean testing equipment can be combined at customer's discretion.



### *Brake tester*

- The brake test covers the following quantities:
- rolling resistance
  - ovality
  - braking force imbalance left/right
  - braking force left/right

### *Suspension tester*

The suspension tester is designed to check the entire vehicle suspension and road grip.



## The basis: BT Roller brake tester

**TL 2203** for cars of up to 3 tons axle load, with analogue display 0-6 kN

**TL 2204** for cars of up to 4 tons axle load, with analogue display 0-8 kN

**TL 2203 PC** for cars of up to 3 tons axle load, PC version

**TL 2204 PC** for cars of up to 4 tons axle load, PC version

Standard equipment of the roller sets:

- Mechanics in compact flat design, galvanised and suitable for outdoor installation
- Rollers with long-life ceramics-silicon coating are abrasion-proof and very tyre preserving
- Roller sets are equipped with rust-proof feeler rolls
- Splash-proof motors
- Measurement with wear-free strain-gauge type load cells
- Electric automatic drive-off aid

### Version with brake motors

Brake testers with brake motor are preserving both brake tester motor and gear. The brake motors retain the rollers, thus allowing the vehicle to drive in or off the rollers without need to re-start the rollers.

### Version with second direction of measurement

To drive in and off the rollers from both sides.

### 4WD test

All brake testers can be retrofitted with 4WD mode at any time.



### *Optional motorcycle test*

Car brake testers and test lanes can be easily retrofitted for motorcycle tests.

### *Optional pneumatic lifting device*

As the lifting device raises the vehicle to ground level, driving in and off the rollers is considerably facilitated and hence especially advantageous for vehicles with sports chassis, low ground clearance, or small wheel diameters where damage to the underbody is very likely under usual conditions.



## Various basic models

### Analogue version

with display cabinet

TL 2203 – display 0–6 kN

TL 2204 – display 0–8 kN

### Display cabinet with integrated electronic unit

Optional LED



- Indication of cut-out at wheel lock, left/right
- Wheel weight left/right
- Permanent determination of braking force imbalance
- Side-slip display
- Force applied on pedal
- Road grip left/right
- PC/printer interface

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.

### PC version

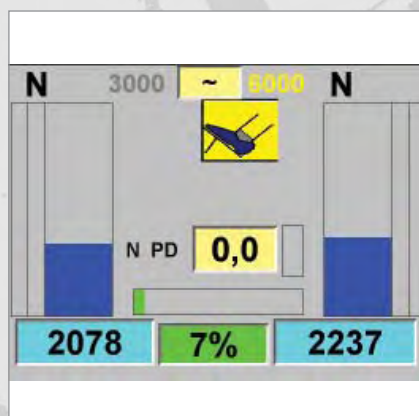
with PC cabinet and test stand software

TL 2203 PC

TL 2204 PC

### PC cabinet with integrated electronic unit

It offers space for a PC, TFT flat screen, A4 inkjet printer, keyboard and mouse. (Options)

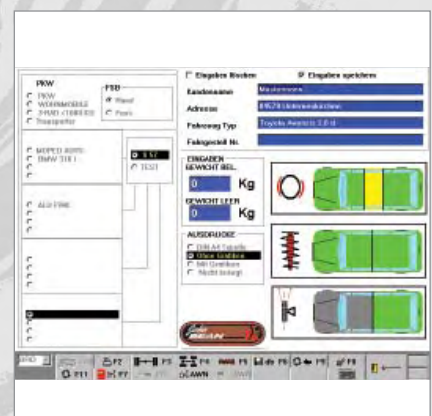


### Graphical analysis of brake

During the brake test the braking forces and the braking force imbalance determined between left-hand and right-hand brakes are viewed on the monitor

### Main screen

The main screen of the PC version offers all essential customer and vehicle data at a single glance.



## ST Suspension tester

**ST 2002 E** Eusama-based suspension tester  
**ST 2200 R** Resonance-type suspension tester

Shock absorbers wear slowly so that customers often do not recognise it. In less than a minute the suspension tester enables you to determine the cause of dangerous cornering ability, irregular tyre wear, steering wheel vibrations, insufficient driving stability in case of cross winds, and poor braking performance.

Two different measuring systems are available:

### Eusama-based suspension tester

Two independent test plates determine vehicle chassis vibrations as they phase out. The forces thus produced, which might adversely affect the vibratory behaviour of the vehicle, are detected and calculated (dynamic analysis).

### Resonance-type suspension tester

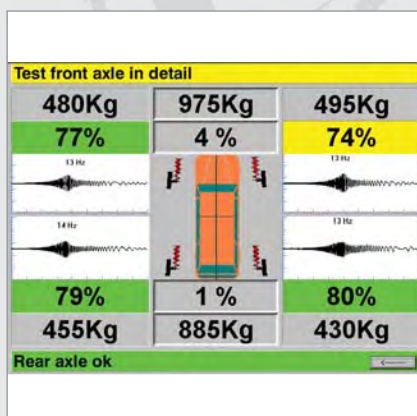
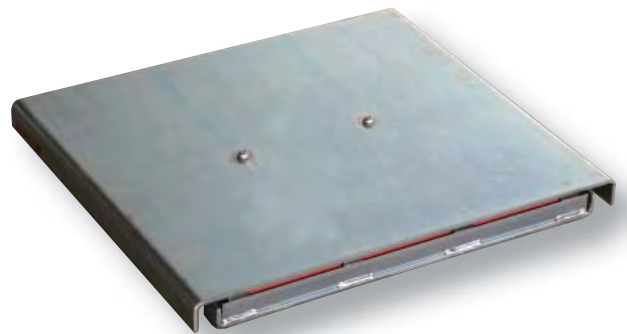
The displacement measurement technique is based on the amplitude measurement and analysed in millimetres.

The suspension testers can be equipped with the optional noise test module.

With conventional techniques it is hardly possible to localise any noise on or inside the vehicle. With this noise test module every single wheel can be set into vibrations (between 3 and 25 Hz) with the remote control unit. In the test cycle to follow, which is started either manually, or automatically, the noise is easily localised.

### Side-slip tester TT 2504

The side-slip tester is designed to measure toe of the vehicle under test immediately. No additional tests are necessary as the testing plate is positioned directly in front of the suspension tester and the vehicle simply rolls over. The data automatically detected supplies a sound diagnostics of toe-in and toe-out. The measured value is read out in 0 +/- 20 mm/m.

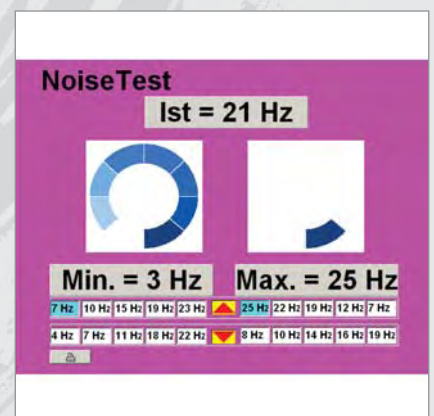


### Graphical analysis of suspension

With Eusama-based suspension tests the results are supplied in per-cent, while they are available in mm with resonance-type testers.

### Screen graphics noise test

The noise test module is designed to localise any noise occurring on, or inside the vehicle.



## Customised operation of testing equipment

Brakes and shock absorbers are wear parts and there are numerous possible defects which might occur.

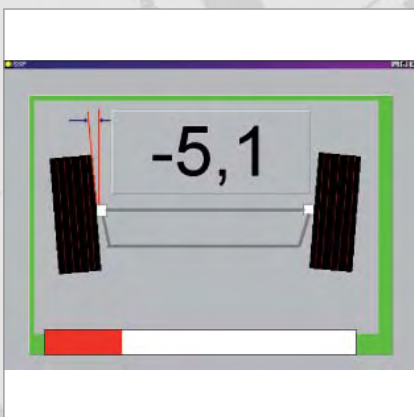
Regular diagnostics with results documented on the test record provide an additional service and profit for your shop. The complete vehicle test can be accomplished with the fully automatic test sequence where all testing units (brake tester, lifting device, suspension tester and side-slip tester) start automatically.

Short testing times of 2 to 3 minutes only mean an increased vehicle throughput.

The IR remote control unit can be used to control the testing equipment from driver's seat at the entire discretion of the operator, e.g. by starting the brake tester only, or by conducting the tests in the sequence he prefers.

The optional PWA (pocket workshop assistant) is a pocket PC with John Bean 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 check lists.



### Graphical analysis of side-slip

Automatic data acquisition includes the diagnostics of toe-in and toe-out

### IR remote control

The test equipment can be controlled in arbitrary order from driver's seat.



## Technical data

### ACCESSORIES

|   |
|---|
| 4WD Mode  |
| Pedal pressure transducer   |
| PC equipment  |
| Column, or swivel wall support for display cabinet (analogue version)       |
| Roller cover plates, traversable – plug-in type or hingeable to the outside |
| Built-in frame to facilitate preparation of foundation                      |

### TECHNICAL DATA

|                        |    | TL 2203         | TL 2204         | TL 2203 PC       | TL 2204 PC       |
|------------------------|----|-----------------|-----------------|------------------|------------------|
| <b>General</b>         |    |                 |                 |                  |                  |
| Temperature range      | °C | 0 up to +70     | 0 up to +70     | 0 up to +70      | 0 up to +70      |
| <b>Power supply</b>    |    |                 |                 |                  |                  |
| Mains voltage          | V  | 3/N/PE400 V AC  | 3/N/PE400 V AC  | 3/N/PE400 V AC   | 3/N/PE400 V AC   |
| Frequency              | Hz | 50              | 50              | 50               | 50               |
| Fusing slow-blow type  | A  | 3 x 25          | 3 x 25          | 3 x 25           | 3 x 25           |
| Supply line            | mm | 5 x 2.5         | 5 x 2.5         | 5 x 2.5          | 5 x 2.5          |
| <b>Display cabinet</b> |    |                 |                 |                  |                  |
| Height x width x depth | mm | 600 x 800 x 200 | 600 x 800 x 200 |                  |                  |
| Measuring range        | kN | 0 – 6           | 0 – 8           |                  |                  |
| Weight                 | kg | 35              | 35              |                  |                  |
| <b>PC cabinet</b>      |    |                 |                 |                  |                  |
| Height x width x depth | mm |                 |                 | 1250 x 750 x 530 | 1250 x 750 x 530 |
| Weight                 | kg |                 |                 | 50               | 50               |



## Technical data

### TECHNICAL DATA

| <b>Brake tester</b>                     |      | <b>TL 2203</b>   | <b>TL 2204</b>   | <b>TL 2203 PC</b> | <b>TL 2204 PC</b> |
|---|------|------------------|------------------|-------------------|-------------------|
| Max. axle weight                        | t    | 3                | 4                | 3                 | 4                 |
| Roller coefficient dry - wet            |      | 0.9 – 0.5        | 0.9 – 0.5        | 0.9 – 0.5         | 0.9 – 0.5         |
| Test width min. / max.                  | mm   | 800 / 2200       | 800 / 2200       | 800 / 2200        | 800 / 2200        |
| Idling speed                            | km/h | 3.4              | 5.4              | 3.4               | 5.4               |
| Dimensions of roller set                | mm   | 580 x 2350 x 205 | 670 x 2350 x 255 | 580 x 2350 x 205  | 670 x 2350 x 255  |
| Roller diameter                         | mm   | 175              | 216              | 175               | 216               |
| Roller length                           | mm   | 700              | 700              | 700               | 700               |
| Motor power                             | kW   | 2 x 2.5          | 2 x 3.7          | 2 x 2.5           | 2 x 3.7           |
| Weight                                  | kg   | 330              | 370              | 330               | 370               |
| <b>Eusama-based suspension tester</b>   |      |                  |                  |                   |                   |
| Dynamic wheel load min. / max.          | kg   | 75 / 1000        | 75 / 1000        | 75 / 1000         | 75 / 1000         |
| Static wheel load min. / max.           | kg   | 75 / 1500        | 75 / 1500        | 75 / 1500         | 75 / 1500         |
| Length x width x height                 | mm   | 400 x 2350 x 255 | 400 x 2350 x 255 | 400 x 2350 x 255  | 400 x 2350 x 255  |
| Exciter frequency max.                  | Hz   | 24               | 24               | 24                | 24                |
| Exciter stroke                          | mm   | 6                | 6                | 6                 | 6                 |
| Motor power                             | kW   | 3                | 3                | 3                 | 3                 |
| Weight                                  | kg   | 320              | 320              | 320               | 320               |
| <b>Resonance-type suspension tester</b> |      |                  |                  |                   |                   |
| Wheel load min. / max. –                |      |                  |                  |                   |                   |
| Test weight at 7 bars                   | kg   | 75 / 1000        | 75 / 1000        | 75 / 1000         | 75 / 1000         |
| Length x width x height                 | mm   | 400 x 2350 x 255 | 400 x 2350 x 255 | 400 x 2350 x 255  | 400 x 2350 x 255  |
| Test width min. / max.                  | mm   | 800 / 2200       | 800 / 2200       | 800 / 2200        | 800 / 2200        |
| Exciter frequency max.                  | Hz   | 16               | 16               | 16                | 16                |
| Exciter stroke                          | mm   | 8                | 8                | 8                 | 8                 |
| Motor power                             | kW   | 2 x 2.2          | 2 x 2.2          | 2 x 2.2           | 2 x 2.2           |
| Weight                                  | kg   | 500              | 500              | 500               | 500               |
| <b>Side-slip tester</b>                 |      |                  |                  |                   |                   |
| Axle weight                             | t    | 4                | 4                | 4                 | 4                 |
| Measuring range                         | mm/m | 0 ± 20           | 0 ± 20           | 0 ± 20            | 0 ± 20            |
| Length x width x height                 | mm   | 500 x 570 x 50   | 500 x 570 x 50   | 500 x 570 x 50    | 500 x 570 x 50    |
| Weight                                  | kg   | 25               | 25               | 25                | 25                |

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