VAS 741 083

Tyre diagnosis system TDS
VAS 741 083 optical diagnostic system: high-precision tyre tread measurement via CCL technology*

High-precision light section method

The light section method provides accurate results
The LED projection through a special transmission foil with coloured stripes (see below) onto the tyre is captured by cameras and turned into a 3D cloud. Based on this cloud, changes in the spectrum of colours are translated into information concerning the tread depth.

Advantages of CCL measurements*

- Top precision: 18 measurement lines with a width of 1.8 mm each allow a surface-based measurement at the maximum tyre contact area. In comparison: Laser projections use a measurement line with a width of 1 mm.
- High resolution: Measurements with up to 2500 pixels. Other measurement methods often only use half the resolution.
- 100 frames per second
- Flicker-free: Unlike measurements with lasers, LED projection prevents any flickering – thus no gaps in the tyre measurement
- In comparison with laser systems, CCL measurement* doesn’t use any delicate or moving parts. TDS is thus highly resistant to dust, vibrations, moisture or changing temperatures

Advantages for the vehicle reception:

The tyres are a vehicle’s only point of contact with the road. It is the quality of this connection that decides upon a vehicle’s acceleration and braking behaviour. Therefore, the measurement of the tread depth is part of legal safety checks.

But unevenly worn tyre treads can also be an important indicator for workshops to adjust the toe correctly by performing a wheel alignment.

Using the VAS 741 083 tyre diagnosis system, the procedures in the workshop are standardised and therefore simplified. All four tyres are analysed right at the vehicle reception. With these measured values at hand, it is much easier to consult the customer.

Even after a professional test, positive test results will contribute to increased customer loyalty.
At the CCL (colour coded light) technology, a precise CCCSSA-3D analysis (curved colour coded spatial spectrum analysis) is performed.
Tyre diagnosis at the vehicle reception: VAS 741 083 tread measurement with automatic number plate identification

All 4 tyres are measured as they roll across
• Drive-over speed: 8 km/h (maximum speed)
• Measurement in a single drive-over without stopping
• Latest camera technology (measurement accuracy: +/-0.25 mm)
• Distinctive coloured CCL light section method thanks to large wheel contact area
• Measurement of the tread depth on all of the 4 wheels within seconds
• Additional evaluation of wear patterns

Valuable data for tyre specialists
• Browser-based measurement results on smart TV, PC or tablet
• Clear display of tyre tread depth and wear information
• Integrated database for statistic evaluations
• Storage of results on Windows systems
• Interface for workshop connectivity (optional)

Easy to install
• No internet or compressed-air connection required
• Low installation height: just 85 mm from ground level (or optionally on ground level, see page 9)
• Robust structure for vehicles featuring up to 4 t (max. axle load)
VAS 741 083 at the vehicle reception
The shown example is combined with VAS 6767 wheel alignment, digital headlight tester and DAS adjustment
Expanded tyre analysis
Precise recognition of tyre wear

**Key / typical wear patterns:**
- Normal
- Air pressure too low
- Air pressure too high
- Incorrect camber

**Workshop information**
Quick and neatly arranged:
Tread depth (mm) measured at 3 different zones:
- Left – centre – right.
- Only the decisive, smallest value is displayed (here: 2.0 mm)
Record

**Recommended action:**
- Adjust tyre pressure?
- Replace tyres?
- Sell tyres?
- Wheel alignment?

**Tyre manufacturers, tyre size and DOT**
can easily and quickly be entered manually at VAS 741 083. Once entered, these data will also be shown on the printed record.

**Vehicle status picture:**
Overall evaluation of the vehicle safety

**ANPR camera:** Vehicle number plates can be identified automatically

**Date and time of the test**

**Green:** tyres are OK
Option: Automatic number plate identification at the drive-over

OCR software generates numerical values

Connection to TDS via big or small cable tunnel
ANPR camera (camera for automatic number plate identification)

- Universal set-up for front or rear number plate identification
- Country and state identification
- Roll-over speed of up to 8 km/h
- Data transfer to VAS 741 083 via LAN
- Simple installation and calibration
- Robust steel housing as drive-over protection (up to 4 t)
- CDC varnish protects against corrosion
- IP65 rated housing dust / moisture

Independent and fully automatic infrared camera, self timer, 3 FPS

VAS 741 083 is also available as in-ground version
User interface: intuitive and easily understood

Integrated database function with analysis for the creation of tyre statistics. The software solution protects customer data in accordance with GDPR.

Easily understood classification of the tyre condition based on the traffic light colours (red, yellow and green).

<table>
<thead>
<tr>
<th>Technical data</th>
<th>Tyre diagnosis system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size in mm (H x W x D)</td>
<td>85 x 2245 x 1040</td>
</tr>
<tr>
<td>Max. tyre width</td>
<td>450 mm</td>
</tr>
<tr>
<td>track width</td>
<td>1080 – 1820 mm</td>
</tr>
<tr>
<td>Max. speed</td>
<td>8 km/h</td>
</tr>
<tr>
<td>Max. axial load</td>
<td>4 t</td>
</tr>
<tr>
<td>Voltage supply</td>
<td>100 to 230 VAC, 50 – 60 Hz, 1 phase</td>
</tr>
<tr>
<td>Operating temperature / range of functionality</td>
<td>0 – 40 °C</td>
</tr>
<tr>
<td>Protection class of the measurement modules</td>
<td>IP65</td>
</tr>
<tr>
<td>Software languages</td>
<td>18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Accessories</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour printer</td>
<td>1 693 770 415</td>
</tr>
<tr>
<td>Desiccant (2 pieces)</td>
<td>1 691 201 005</td>
</tr>
</tbody>
</table>

Display solutions for VAS 741 083 with browser-based display

Workshop computer with trolley (standard)
Direct access to customer data, measured values and for statistics and evaluation

Customers own smart TV mounted onto the wall or a column

Transparent measurement results on the tablet
This allows the workshop to recommend new tyres or diagnose if a wheel alignment is required using the captured data.
TDS: Configuration with and without ANPR camera

<table>
<thead>
<tr>
<th>Illustration</th>
<th>Tyre diagnosis system (above ground)</th>
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</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Illustration" /></td>
<td>TDS modules incl. drive-on ramps for above-ground installation (scope of delivery: measurement modules, drive-on ramps, trolley with PC, mouse, keyboard, monitor LAN cable, main switch box, glass squeegee)</td>
<td>1 691 200 017</td>
</tr>
</tbody>
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<thead>
<tr>
<th>Illustration</th>
<th>Tyre diagnosis system (in ground)</th>
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<tbody>
<tr>
<td><img src="image2.png" alt="Illustration" /></td>
<td>TDS modules incl. drive-on ramps for above-ground installation (scope of delivery: measurement modules, drive-on ramps, trolley with PC, mouse, keyboard, monitor LAN cable, main switch box, glass squeegee)</td>
<td>1 691 200 017</td>
</tr>
<tr>
<td><img src="image3.png" alt="Illustration" /></td>
<td>Foundation frame to be set into concrete incl. filler pieces</td>
<td>1 691 200 010</td>
</tr>
<tr>
<td><img src="image4.png" alt="Illustration" /></td>
<td>Centre cover for in-ground version without ANPR camera</td>
<td>1 691 202 069</td>
</tr>
</tbody>
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Tyre diagnosis system with ANPR camera

<table>
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<tr>
<th>Illustration</th>
<th>Tyre diagnosis system with ANPR camera (above ground)</th>
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<tbody>
<tr>
<td><img src="image5.png" alt="Illustration" /></td>
<td>TDS modules incl. drive-on ramps for above-ground installation (scope of delivery: measurement modules, drive-on ramps, trolley with PC, mouse, keyboard, monitor LAN cable, main switch box, glass squeegee)</td>
<td>1 691 200 017</td>
</tr>
<tr>
<td><img src="image6.png" alt="Illustration" /></td>
<td>ANPR camera with housing for above-ground installation (scope of delivery: ANPR camera, housing, LAN cable)</td>
<td>1 691 200 008</td>
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</tbody>
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<tr>
<th>Illustration</th>
<th>Optional accessories</th>
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</tr>
</thead>
<tbody>
<tr>
<td><img src="image7.png" alt="Illustration" /></td>
<td>Cable tunnel to be used as cable bridge for the gaps between the ANPR camera housing and the TDS modules (left and right) and as roll-over protection for lateral cable outlets (scope of delivery comprises 1 piece. Cable tunnel can be ordered in the desired quantity)</td>
<td>1 691 201 023</td>
</tr>
</tbody>
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<td><img src="image8.png" alt="Illustration" /></td>
<td>TDS modules incl. drive-on ramps for above-ground installation (scope of delivery: measurement modules, drive-on ramps, trolley with PC, mouse, keyboard, monitor LAN cable, main switch box, glass squeegee)</td>
<td>1 691 200 017</td>
</tr>
<tr>
<td><img src="image9.png" alt="Illustration" /></td>
<td>Foundation frame to be cemented in with filling pieces and ANPR camera socket</td>
<td>1 691 200 010</td>
</tr>
<tr>
<td><img src="image10.png" alt="Illustration" /></td>
<td>In-ground ANPR camera with housing (in ground) and centre cover</td>
<td>1 691 200 009</td>
</tr>
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