Product Information Model 2091
Compression Test Machine ToniPACT II

Application
For determination of compression strength on building material, especially for the efficient quality control on concrete cubes and cylinders. Design in accordance with DIN 51220, optional EN 12390-4. Accuracy class one in accordance with DIN EN ISO 7500-1.

Advantages
• Full automatic test machine with microprocessor and servo-hydraulic, closed loop controlled
• Rigid four-column load frame, deliverable with test certificate in compliance with EN 12390-4 annex A
• Delivery as ready-for-use, space-saving compact unit: “installation, connection, testing”.
• Up to 99 test programs storable.
• Two selectable value display, e.g. load and strength.
• Extremely simple programming and operation
• Test speed control in dependence on the test load (standard), displacement or deformation (option)
• Young’s modulus measurement (option)
• Additional possibility to connect scale, gauge or measuring station for weight and dimension of specimens
• Future-proof by software extensions, see product information of model 0510
• Software and printer for automatic raw data printing (option), alternatively, PC with evaluation program testXpert or connection to LIMS through software ToniDAT

Design
Rigid four-column load frame in space-saving compact design. Base mounted actuator with plunger piston. Hardened piston; piston and cylinder microfinished. Piston equipped with protecting gap and stroke indicator. Hydraulic elements, servo valve and pressure oil unit (pump delivery 1.4 l/min) directly installed in the base part of the load frame. Volume of oil tank 6 l. Control column attached at the right side with integrated power supply aggregates and measuring and control system ToniTROL mounted on top. Optional construction of the sphericaf seat in compliance with EN 12390-4.

Working Principle
The load frame is connected to the ToniTROL control system (see product information model 0510). Tests are prepared, performed, monitored, and evaluated via software. Controlled by a servo valve in closed loop. Load measuring with precision oil pressure transducer.

Ordering Information
For the compression testing machine ToniPACT II, one ball seat and a set of the following pressure plates must be ordered.

Optional Ball Seats and Pressure Plates
Load frame 2091.X000.001 designed in accordance with standard EN 12390-4 upper pressure plate spherically seated in an oil-filled double ball seat.
Load frame 2091.X000.002 with standard ball seat
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Compression Testing Machine Toni\textit{PACT II}

**Pressure plates** 2091.X000.31
- ø 300 mm, 75 mm high

**Pressure plates** 2091.X000.36
- 320 x 320 mm, 75 mm high

**Pressure plates** 2091.X000.32
- 320 x 520 mm, 75 mm high

**Optional Accessories Frame**
- Two auxiliary plates 2091.X000.44
  - ø 300 mm, 65 mm high, to be placed below the lower pressure plate
  - Only suitable with pressure plates ø 300 mm.

**Auxiliary plate** 4090.004
- 210 x 210 mm, 115 mm high, hardened and ground

**Auxiliary plate** 4090.005
- 210 x 210 mm, 50 mm high, hardened and ground

**Auxiliary plate movable by sliding rails** 2091.X000.61
- 320 x 520 mm, 75 mm high, hardened and ground
  - Only suitable with pressure plates ø 300 mm

**Centering template** 4400.001
- to be placed on the lower pressure plate; suitable for cubes 100 mm. (fitting to pressure plates 300 mm diameter)

**Centering template** 4400.002
- to be placed on the lower pressure plate; suitable for cubes 150 mm and cylinder ø 150 mm. (fitting to pressure plates 300 mm diameter)

**Test area protection** 2091.X000.82
- Consisting of an all-around closed cage, made of profiles with makrolon panels (high-strength plastic material).
  - One door (front side) with electrical safety switch.
  - (Requested in EU for CE conformity)

**Waste trap sheet** 2091.X000.39
- Lower pressure plate equipped with waste trap sheet (right and left)

**Optional Accessories Young’s modulus**
- **Deformation transducer** 0712.001
  - Inclusive a pre-amplifier with evaluation of average and counterbalance. (Youngs modulus in accordance with DIN 1048)

**Deformation Transducer** 0712.002
- Inclusive two pre-amplifier with counterbalance
  - (Youngs modulus in accordance with DIN 6784)

**Software module** 0510.105
- “Test of Young’s modulus” in compliance with DIN 1048 and ISO 6784

For further information please contact
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### Technical Data

<table>
<thead>
<tr>
<th>Model</th>
<th>2091.2000</th>
<th>2091.3000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maximum test load</strong></td>
<td>kN</td>
<td>2000</td>
</tr>
<tr>
<td><strong>Load measuring range</strong></td>
<td>kN</td>
<td>40 ... 2000</td>
</tr>
<tr>
<td><strong>Distance between columns</strong></td>
<td>mm</td>
<td>355</td>
</tr>
<tr>
<td>- left / right</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- front / back</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pressure plates</strong></td>
<td>mm</td>
<td>300</td>
</tr>
<tr>
<td><strong>Hardness of pressure plates</strong></td>
<td>HRC</td>
<td>&gt; 55</td>
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<tr>
<td><strong>Distance between pressure plates</strong></td>
<td>mm</td>
<td>340</td>
</tr>
<tr>
<td><strong>Piston stroke</strong></td>
<td>mm</td>
<td>65</td>
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<tr>
<td><strong>Expansion</strong></td>
<td>mm</td>
<td>1.0</td>
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<tr>
<td><strong>Working pressure</strong></td>
<td>bar</td>
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<tr>
<td><strong>Pump delivery</strong></td>
<td>l/min</td>
<td>1.4</td>
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<tr>
<td><strong>Tank capacity</strong></td>
<td>l</td>
<td>6</td>
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<tr>
<td><strong>Working height</strong></td>
<td>mm</td>
<td></td>
</tr>
<tr>
<td>- without auxiliary plate</td>
<td></td>
<td>1060</td>
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<tr>
<td>- with 2 auxiliary plates</td>
<td>mm</td>
<td>1190</td>
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<tr>
<td><strong>Total height</strong></td>
<td>mm</td>
<td>1740</td>
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<tr>
<td><strong>Required space</strong></td>
<td>mm</td>
<td>960 x 500</td>
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<tr>
<td><strong>Weight (basic version)</strong></td>
<td>kg</td>
<td>1700</td>
</tr>
</tbody>
</table>

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All data at ambient temperature. Subject to technical modification.