TL2000
Opto-electronics Chip Tester
ficonTEC’s series of testing machines is focused on automated electro-optical characterization of semiconductor chips. The ficonTEC TL2000 is a fully automated test and inspection system for unmounted laser diode bars, single chips and chips on submounts.

The system can be configured to perform measurements on the complete bar at once or on each individual emitter of the bar. Typical measurements are LIV tests, spectral characterization, and examination of the far field distribution.

**Vacuum Chuck**

The temperature controlled vacuum chuck is the element responsible for reliable fixture of the device under test (DUT) and temperature control.

- Changeable chuck allows various DUT designs
- Temperature range 20°C to 60°C
- Temperature stability +/- 1°C
- Small capacity enables fast current pulsing
- 1 or 3 chuck geometry possible

**Test Chamber**

The test chamber is the area where the characterization of the DUT is performed.

- Laser safety design (Laser Class 1)
- Easy to change probe head
- Electronically adjustable force control
- Camera system for automated process control and process observation
- Integration sphere with option for water cooling

**Housing & Control**

- Steel base
- Cover with pneumatic door
- Control System with PC
- 2x 17" TFT-Displays, Keyboard & Trackball
- Motion Control System for Linear and rotary motion systems
- Pneumatic switchboard panel
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Measurement Technology
Current driver, integrating sphere, photo diodes, spectrum analysers and test equipment is chosen according to the customer application. The following boundaries can be set:
- Current range: 0 to 5 A Single
- Emitter: 0 to 100 A Full Bar (higher on request)
- Pulse width: 500 ns to 10 ms
- Spectral range: 100 nm out of 350 to 1600 nm

Applications
- Electro-optical characterization of unmounted laser diode bars
- Characterization of VCSEL
- Characterization of bare single chips
- Test of photodiode bars
- Test of chip on submount (COS)
- Full test of high power laser diode bars (Full Bar Test)

Key Features
- LIV, spectral and far & near field tests
- Fully automatic handling of devices
- Easy to change probe head
- Option for component top side and facet inspection
- Flexible integration of external test algorithms and test systems
- Compatible to SQL and other database systems for data traceability

Control
- Pneumatic door
- System with PC displays, Trackball control System for rotary motion system switchboard panel

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**TL2000 Motion System**

<table>
<thead>
<tr>
<th>Features</th>
<th>X, Y, Z Axis</th>
<th>Phi-Z Axis</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Travel</td>
<td>800, 200, 100 mm</td>
<td>270°</td>
</tr>
<tr>
<td>• Resolution</td>
<td>100 nm</td>
<td>2 arcsec</td>
</tr>
<tr>
<td>• Repeatability</td>
<td>± 1 µm</td>
<td>8 arcsec</td>
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</tbody>
</table>

**Easy Operation Interface**

As a unique feature all ficonTEC machines offer a sophisticated component tracking throughout the entire machine process and across ficonTEC machines.

All machines run the same machine software for easy operation and portability.

**Contact us**

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