Scratch Test Station acc. to BMW/ERICHSEN Model 450

Servomotor-driven X-Y Specimen Table

Wide Scope of Test Possibilities

Touch-Screen Control Panel

testing equipment for quality management

BMW GS 97034-2
BMW GS 97034-3
BMW GS 97034-8
BMW GS 97034-9

Test Stand for defined and reproducible Testing of Scratch Resistance

Technical Description
Purpose and Application

The Scratch Test Station acc. to BMW/ERICHSEN, Model 450, is a PLC controlled test system for the execution of scratch resistance tests on lacquered and plastic surfaces.

Design and Function

The Scratch Test Station acc. to BMW/ERICHSEN, Model 450, comprises of a basic instrument and a control unit.

The basic instrument includes a motor-driven X-Y specimen table and a manual Z-type drive with universal tool holding fixture and pneumatic tool feed motion. The test load can be varied using slip-on weights.

The instrument is operated via a touch-screen control panel integrated in the control unit. This enables to preset the test modes (scratch strain by lines, curves or planiform stress) as well as the test parameters (scratch length, speed etc.).

Scratch Tests

The following scratch strains (test modes) are feasible:

- **Line scratching** = single linear movement
  Parameters: length/ speed

- **Rubbing** = repeated linear movements at the same place
  Parameters: length/ speed/ number

- **Matrix** = latticed linear movement
  Parameters: x length/ y length/ mesh size/ speed

- **Circuit** = single circular motion
  Parameters: circle diameter/ path speed

- **Lissajous figure** = superposition of two vertical sinusoidal movements with minor differences in frequency (see fig.)
  Parameters: frequency/ amplitude/ number

Technical Data

Dimensions (W x D x H)
Basic instrument: approx. 1100 x 720 x 1000 mm
Control unit: approx. 600 x 450 x 570 mm

Net weight
Basic unit: approx. 115 kg
Control unit: approx. 40 kg

Power supply 400 VAC, 50/60 Hz; TN or TT net
Compressed air supply min. 5 bar, max. 10 bar
Test load range (3 - 30) N (1-N grading)
Speed max. 1000 mm/s
Specimen size (L x W x H) max. 350 x 250 x 5 mm

Order Information

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<tr>
<td>0274.01.31</td>
<td>Scratch Test Station acc. to BMW/ERICHSEN, Model 450, comprising a basic unit and a control unit</td>
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The scope of supply includes:
1. Mains cable CEE 16A (5 m)
2. 4 Clamping claws
3. Air hose (5 m)
4. 1 Tool adapter for test tip
5. 1 Test tip acc to. ISO (Ø 1 mm)
6. 7 Load weights
7. 2 Fork wrenches
8. 2 Allen keys
9. 1 Operating Manual

Accessories / Spares

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<td>Tool adapter for test tips</td>
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<td>Test tip acc. to Bosch (Ø 0.75 mm) for scratch test acc. to BMW GS 97034-9</td>
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<td>Test tip acc. to ISO and GME 60280 (Ø 1 mm)</td>
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<td>Test tip (Ø 3 mm) for scratch inclination test acc. to BMW GS 97034-8</td>
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<td>PMMA Test discs for finger-nail test acc. to BMW GS 97034-2</td>
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<td>Rubber test disc for shoe sole test acc. to BMW GS 97034-3</td>
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Subject to technical modification.
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