

Product information

DuraScan G5 fully-automated hardness testing machine (0.25 gf - 62.5 kgf)
DuraScan 50 G5, 70 G5, 80 G5



Fields of application

Suitable for all optical hardness testing methods in the load range (0.25 gf-62.5 kgf) for single and series according to the following standards:

- Vickers according to DIN EN ISO 6507, ASTM E384, ASTM E92
- Knoop according to DIN EN ISO 4545, ASTM E384, ASTM E92
- Brinell according to DIN EN ISO 6506, ASTM E10

The hardness tester is ideal for automated hardness testing to determine the values of the following methods:

- Case hardening depth CHD according to DIN EN ISO 2639
- Case hardening depth after surface hardening according to DIN EN 10328,
- nitriding hardening depth Nht according to DIN 501903

The DuraScan G5 series hardness testing machine covers the (steel producers, steel suppliers, hardening shops), automotive, aerospace and automotive, aerospace, universities and medical authorities and medical technology (ceramics and dental materials) and is mostly used in testing laboratories.

Advantages/Characteristics

- The groundbreaking standard load range from 10 gf to 62.5 kgf extends the application range of the hardness tester and is applied by means of a closed control loop. This can be optionally extended to 0.25 gf to 62.5 kgf.
- The hardness tester is developed as a „TopLoader“, so that the testing unit is automatically lowered to the specimen.
- The 12 Mpix camera offers high image quality.
- The 4x zoom allows a wide range of applications with a small number of objectives.
- The automatic 6-position turret of the DuraScan G5 series allows fast and convenient change of different indenters and objectives. The ecos Workflow software controls the hardness tester and evaluates the measurement data. The test report with the test parameters and the test results is generated automatically.

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ecos Workflow Pro - intuitive operating software with calibration assistant

Workflow-based measurement in 5 steps (sample, method, position, result, history).

Simple operation

Simple operation and guided measurement process up to data backup. Intuitive user interface shortens training time and reduces operating errors.

Calibration assistant

Integrated calibration assistant CIS (Calibration Information System) monitors all calibrated methods and simplifies the normatively required testing. CIS indicates when periodic and indirect tests are due, guides through the test procedure and assists with standard-compliant documentation.

Optional modules

The software can be customized to the customer's needs with optional modules.

Useful features

- Simple operation and guided testing process up to data backup (important for increasingly diverse testing tasks) and ensures simple sample management with sustainable data security
- Intuitive user interface shortens training time and reduces errors in operation
- Simple and standard-compliant single measurements, CHD, Nht and Rht measurements.
- Efficient data management with the template function
- Rights and role management for easy administration of user rights

Data output

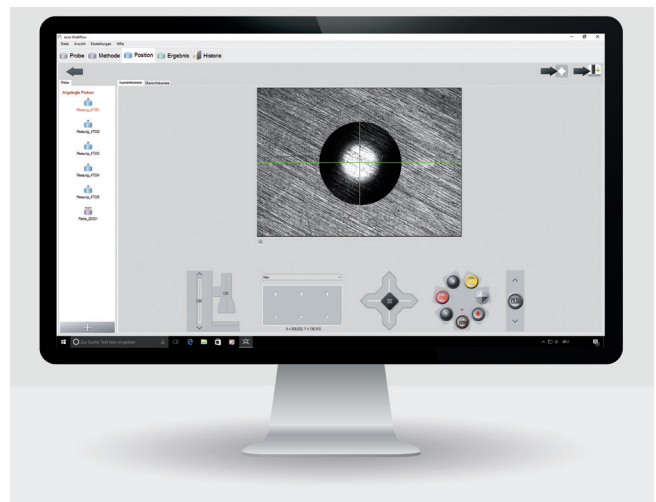
- Extensive range of options for data output and data backup through integrated export editor: backup of test results directly at the hardness tester, output and storage in .pdf, .xls or .xml format (easy connection to Q-DAS systems)
- ecos Workflow xChange: xml-based interface for connecting the hardness tester to databases and data entry devices
- Individualization of test reports through standard form generator

Series testing

- Series testing with the DuraScan G5 - simple and fast testing on many components
- Test point editor supports manual creation of test

points in a grid, manual entry of coordinates or automatic adjustment of test rows using the line or polygon line tool.

- Positioning via fixed reference point: Option to fix several test points or test series at a defined reference point and save them as a template
- Easy testing of identical parts - several parts with the same test requirements can be placed on the XY-slide and tested at once. All test parameters are taken from an existing template and transferred to the new specimens
- Easy positioning of even complex test rows with the standard (at DuraScan 70 G5 and DuraScan 80 G5) overview camera (10x zoom), with unique panorama function: captures a specimen size of 180x145mm - thus all test points can be set in one operation even with larger specimens.

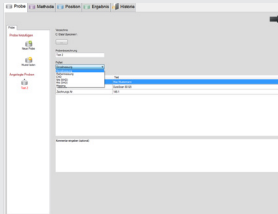


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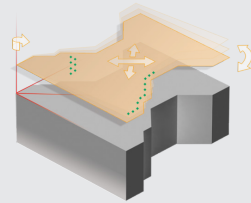
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Step 1: Specimen

Select the required test type. The available options are single measurement, serial measurement, CHD, SHD, and NHD processes.



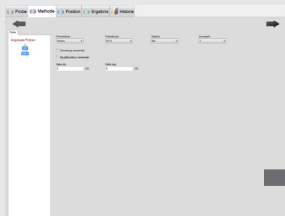
Selection of the test type



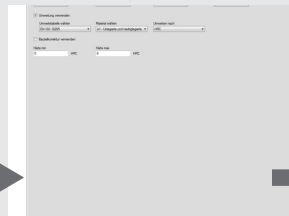
Time-saving template mode

Step 2: Method

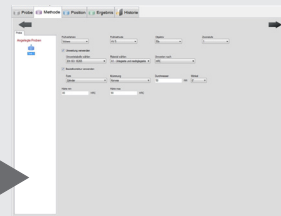
Select a measurement type, lens, test method, zoom level and, if applicable, conversion, hardness limits and geometric correction according to standard as well.



Select Test type method and lense.



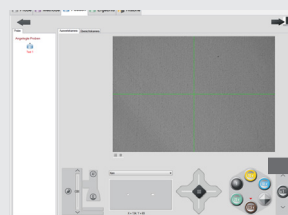
Selection of the desired conversion



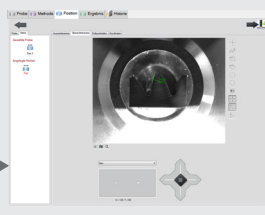
Setting the desired limits

Step 3: Position

Position your test point on the workpiece. With the integrated tools, such as the surface lighting, this is quickly accomplished. Then simply start the test.



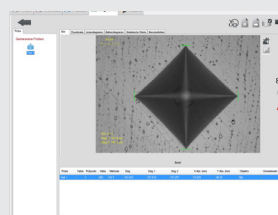
Position your test point on the workpiece in the Workflow step "Position".



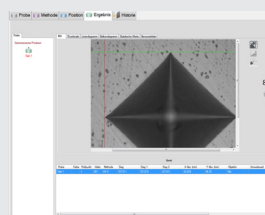
The turret shows the currently swiveled-in objective or indenter

Step 4: Result

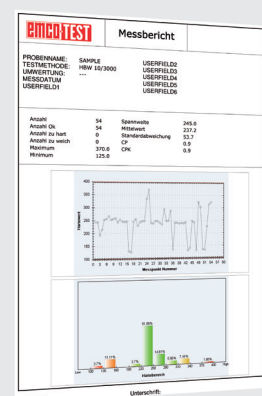
The result is shown clearly and is available for further use. The measurement can also be repeated automatically or manually if required.



The value from the test is displayed clearly together with the indent image.



If necessary, the indent can be remeasured

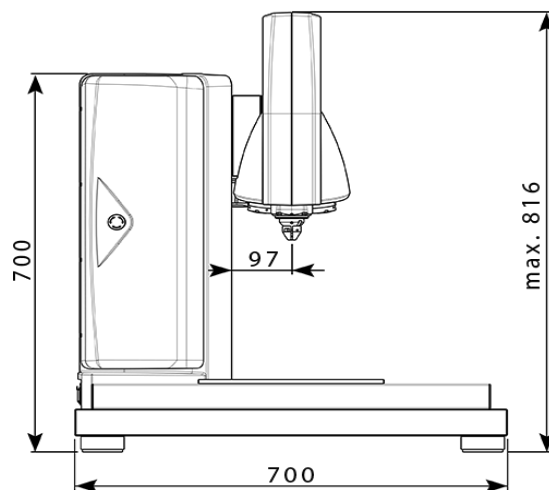
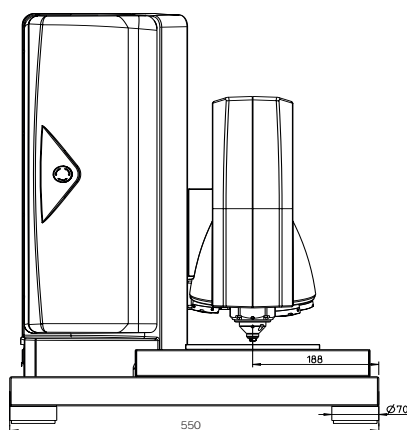


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Typ	DuraScan 50 G5/70 G5	DuraScan 80 G5
Load range	0.098–612.9 N (0.01–62.5 kgf)	0.098–612,9 N (0,01–62,5 kgf)
Optional Load range	0.002452–612.9 N (0.25 gf – 62.5 kgf)	0.002452–612,9 N (025 gf – 62,5 kgf)
Positioning accuracy	0.0035 mm	0.0035 mm
Positioning accuracy with glass scale	< 0,25 µm	< 0,25 µm
Dimensions (W x H x D)	550 x 700 x 450 (mm)	700 x 700 x 450 (mm)
Weight	87 kg	ca. 98 kg
Max. test height	260 mm	260 mm
Voltage supply	110 ... 230 V (PH,N,PE)	110 ... 230 V (PH,N,PE)
Frequency	50/60 Hz	50/60 Hz
Power consumption	120 W	120 W
Test anvil (W x D)	150 x 200 mm	150 x 300 mm
Resolution evaluation camera	12 Mpix with CMOS Sensor	12 Mpix with CMOS Sensor
Room temperature (to ISO/ASTM)	23 (± 5)°C	23 (± 5)°C
Humidity	max. 70% (non-condensing)	max. 70% (non-condensing)
Operating system	Windows 10/64 bit	Windows 10/64 bit
Max. workpiece weight	50 kg	50 kg
Protection class to EN 60529	IP20	IP20
Overview camera	only DuraScan 70 G5	ja



Accessories

Description

Indenter adapter for 6-fold turret DuraScan G5

Test anvils

Lenses