

### Product Information

DuraVision G5 fully-automated hardness testing machine (0,3 – 3.000 kgf)  
DuraVision 250 G5 (0.3 - 250kg) / 350 G5 (3 - 3,000kg)



#### Areas of usage

Fully-automated small load and makro hardness tester in the peerlessly broad test load ranges of 0,3 kgf – 250 kgf or 3 kgf – 3.000 kgf according to the following standards:

- Brinell DIN EN ISO 6506, ASTM E10
- Vickers DIN EN ISO 6507, ASTM E384, ASTM E92
- Rockwell DIN EN ISO 6508, ASTM E18
- Carbon testing according to DIN EN 51917
- DV 250 G5: Knoop DIN EN ISO 4545, ASTM E384, ASTM E92
- DV 250 G5: plastics testing according to DIN EN ISO 2039

#### Advantages/features

- The CE-compliant protective housing ensures maximum protection and safety. This can optionally be omitted for automation purposes or outside the CE area of application.
- A light-barrier-system ensures that a safety door no longer needs to be opened to access the test area of the machines. For maximum user-friendliness and safety.
- The bending-resistant cast iron stand guarantees absolutely equal test conditions for the entire test load range
- (Optional) overview camera with „macro lens“ incl. 10x zoom for a large live image (field of view 195 x 160 mm) facilitates the setting of multiple test points

and complicated progression series. In combination with the evaluation lenses an unbeatable tool!

- Brinell SmartLight lenses (2.5x, 5x) use mirror systems to ensure that the light comes in exactly from above, thus preventing shadowing - for precise evaluation of the impressions without further adjustments by the operator
- Slim nose cone for testing even complex component geometries
- Clamped or unclamped testing and individual adjustment of the clamping force (patented design of the Z-axis)
- Star turret with up to 7 turret positions for testing with different indenters and objectives - enables a wide range of test methods with few tool changes
- Motorised cross slide with large process paths for optimal fully automatic hardness testing

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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 and (optionally) Jominy measurements
- Efficient data management
- Rights and role management for easy administration of user rights

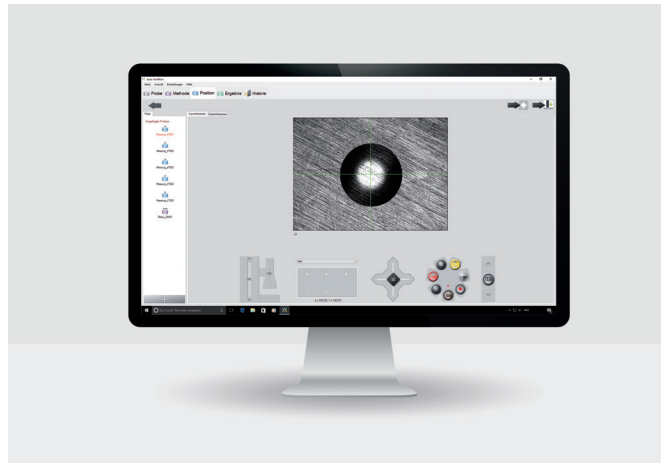
#### **Data output**

- Extensive 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, .csv, .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 input devices
- Individualization of test reports through standard form generator

#### **Series testing**

- Series testing with the DuraVision 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 optional 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.
- Quick and easy Jominy measurements (optional) - standardised to HV 30 or HRC (according to EN ISO 642 or ASTM A255) or user-defined: With standard-compliant testing, all test parameters are predefined and guaranteed compliant to the standard. With user-defined testing, the user selects the required test methods and defines his own test point patterns or distances and can even create several parallel test series.

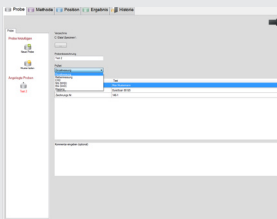


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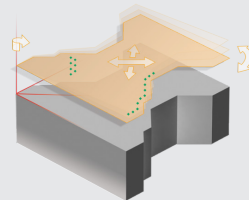
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### Step 1: Specimen

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



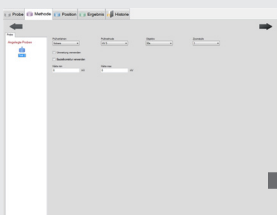
Selection of the test type



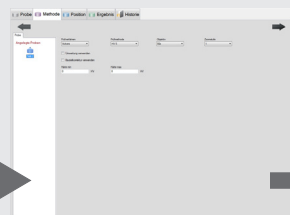
Time-saving template mode

### Step 2: Method

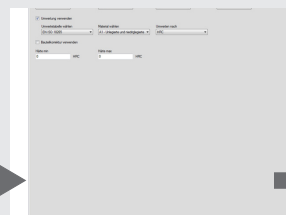
Select a measurement typ, lens, test method, zoom level and, if applicable, conversion, hardness limits and geometric correction according to standard as well.



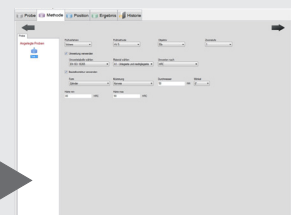
Information on method & objective, conversion, limits and component correction



The test procedure is selected with the choice of the indenter.



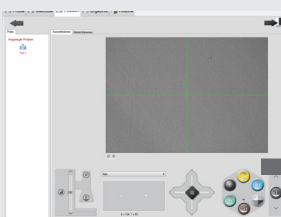
Selection of the desired conversion



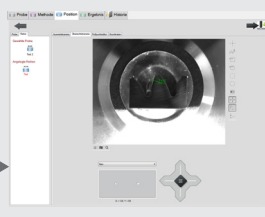
Setting the desired limits

### 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.



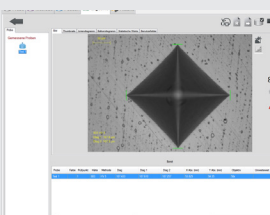
Position your test point on the workpiece in the Workflow step "Position".



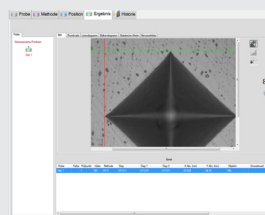
The turret shows the currently swiveled-in objective or indenter

### 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

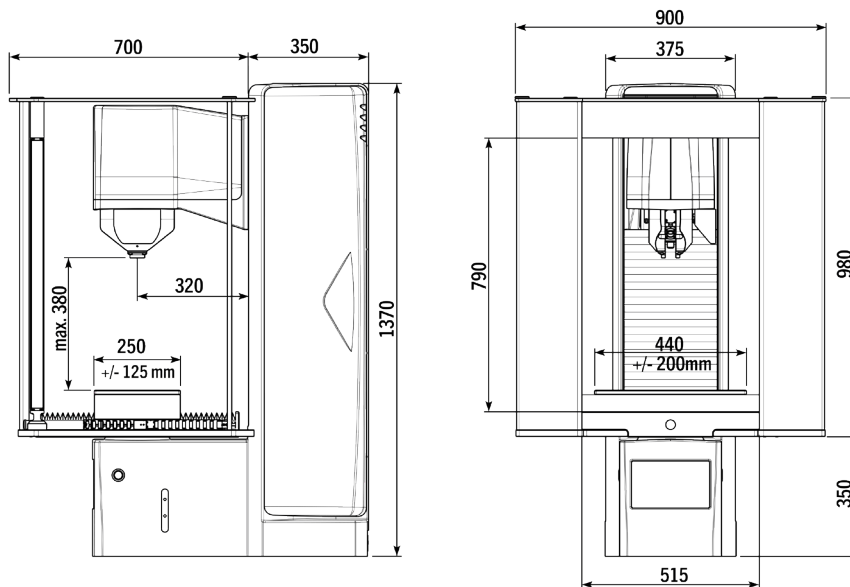
EMCO-TEST		Messbericht	
PROBENNAME:	SAWBLE	USERFELD 00	
FESTLEITUNG:	HW 10/3000	USERFELD 01	
UNWERTUNG:		USERFELD 02	
MESCHUNG:		USERFELD 03	
USERFELD 01		USERFELD 04	
USERFELD 01		USERFELD 05	
Anzahl	54	Speicherte	249.0
Anzahl zu	54	Rückstände	225.7
Anzahl zu	0	Standardabweichung	21.7
Anzahl zu	0	CP	0.9
Maximum	370.0	CPK	0.9
Minimum	120.0		
Datum	Unterschrift		

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#### DuraVision 250 G5/350 G5

Typ	DuraVision 250 G5	DuraVision 350 G5
Load range	2,942-2452 N (0,3 - 250 kgf)	29,42-29420 N (3 - 3000 kgf)
Test force application resolution	0,45 nm	0,45 nm
Length measuring probe resolution	0,05 µm	0,05 µm
Dimensions (W x H x D)	900 x 1370 x 1050 mm	900 x 1370 x 1050 mm
Weight of basic unit	ca. 500 kg	ca. 500 kg
Max. test height	380 mm	380 mm
Voltage supply	110 ... 230 V (PH,N,PE)	110 ... 230 V (PH,N,PE)
Frequency	50/60 Hz	50/60 Hz
Power consumption	720 W	720 W
Test anvil (W x D)	440 x 250 mm	440 x 250 mm
Resolution evaluation camera	12 Mpix with CMOS Sensor	12 Mpix with CMOS Sensor
Room temperature (to ISO/ASTM)	+5°C to +40°C	+5°C to +40°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
Max. speed on Z-axis	up to 25 mm/s	up to 25 mm/s



#### Accessories

##### Description

- Dust protection system for harsh environments
- Base for stability and ergonomics
- Test anvils
- Laser for easy test point positioning