



A word to our valued customers,

CV Instruments developed and marketed their first hardness testing instrument in 1971. Now, 35 years later, CV Instruments has taken an important position in the metals and plastics industry, offering solutions for many materials testing problems.

Thousands of CV Instruments products have been supplied to customers around the globe. In 2004 CV Instruments moved the major part of its business to a new European distribution centre located in Maastricht, The Netherlands. This decision was made to offer knowledgeable support and first class service on a wider variety of products while having access to a good geographic environment for fast distribution throughout Europe.

At the same time, the product range of CV Instruments was completed with the portable testing instruments from the world famous manufacturer TIME Group Inc.

Reliable Testing Equipment is essential for the production of an endless variety of industrial and consumer products.

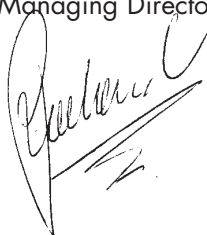
Our products are manufactured at facilities in the United Kingdom, Germany, Japan and China. We emphasize that regardless of the manufacturing location, each product is guaranteed to be of the finest quality, as you expect them to be from a first class manufacturer.

Our global sales network consisting of distributors and agents, located in almost each country of the world, offers you a fast and reliable access to local inventory and the best possible after sales service.

With our eyes firmly focused on the future, we will respond to the needs of the industry and laboratories who are demanding greater precision, improved speed and solid solutions for better efficiency.

We have the pleasure to offer you our 2007 CV Instruments Essential Testing Instruments catalogue. This free of charge catalogue will be your guide to the right solution for your testing requirements.

Roland Engbersen
Managing Director

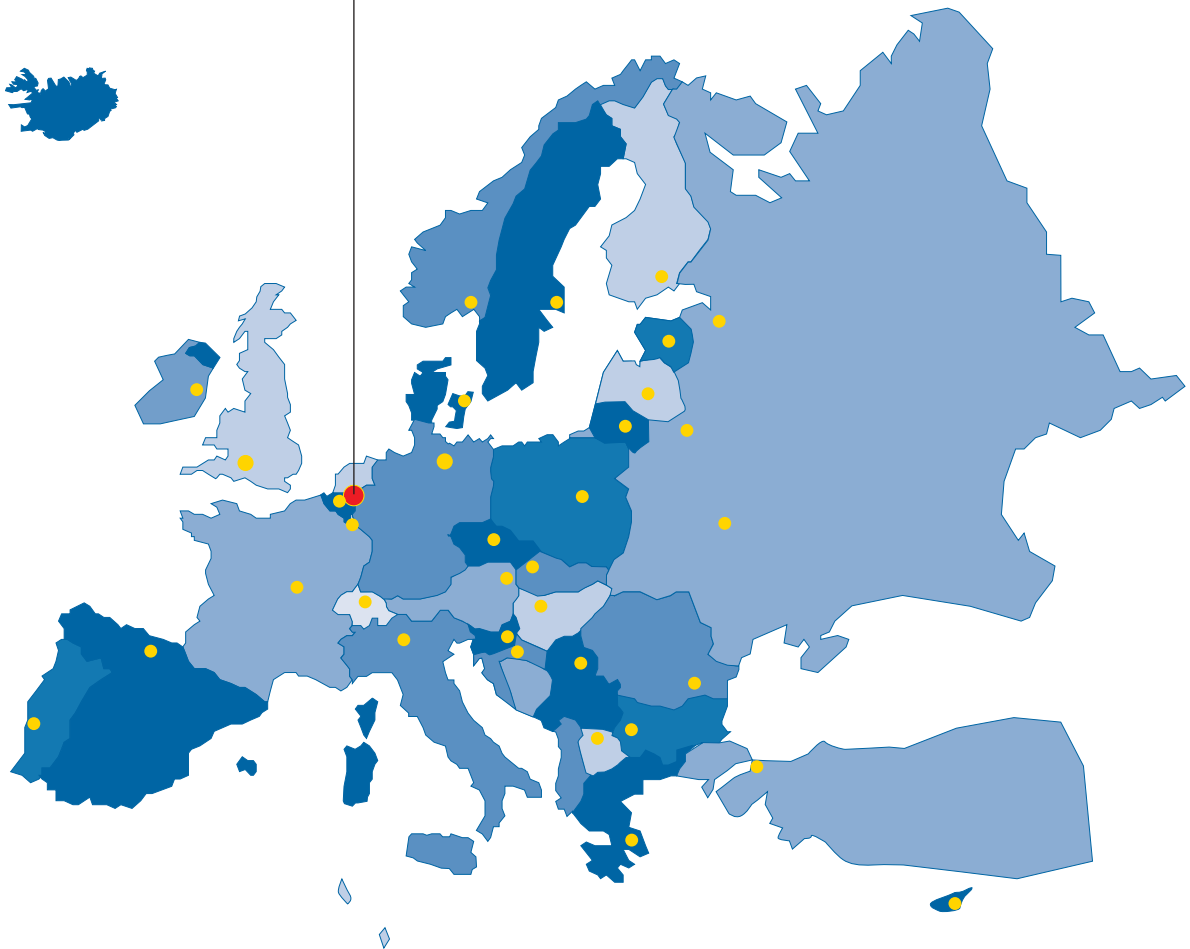


BOWERS METROLOGY GROUP

CV Instruments Europe BV
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The Bowers Metrology Group of companies

CV Instruments Europe BV

European
Distribution
Centre

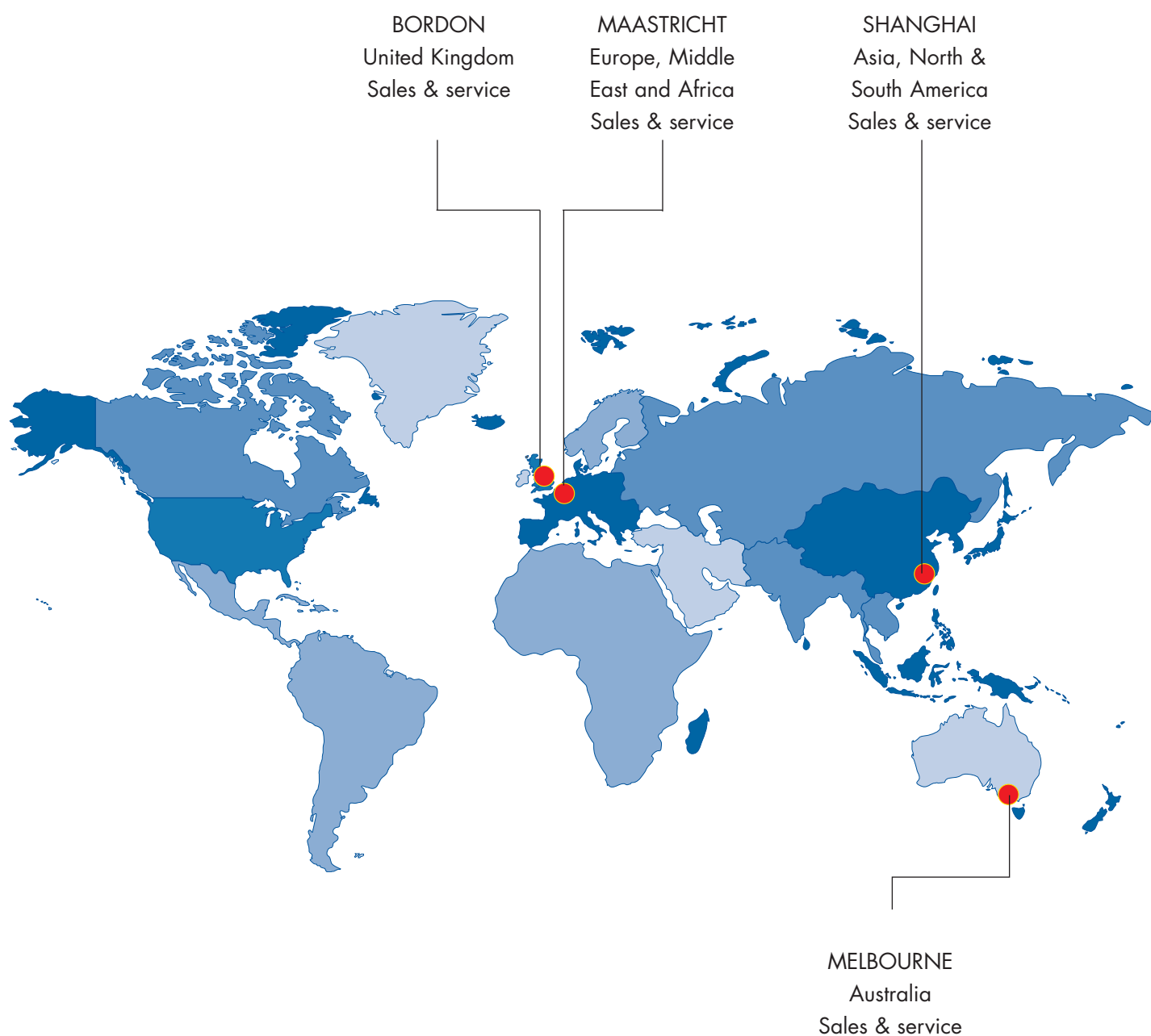


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**All instruments in this catalogue can be calibrated and supplied with a certificate on request.
Please do not hesitate to contact us for details.**

Mutual recognition of equivalent calibration certificates.
List of participating organisations in the multilateral agreement WECC
dated December 1st 1989 and brands showing on the calibration certificates.



The Netherlands

Raad voor Accreditatie (RvA)
(Dutch Council for Accreditation)

Raad voor Accreditatie
P.O. Box 2768, NL-3500 GT
Utrecht, The Netherlands
Tel: +31 30 239 4500
Fax: +31 30 239 4539



Sweden

The Swedish Board for Accreditation and
Conformity Assessment (SWEDAC)

SWEDAC
Box 878
SE-50115 Borås, Sweden
Tel: +46 33 17 7700
Fax: +46 33 10 1392



Germany

Deutscher Kalibrierdienst (DKD)
(German Calibration Service)

Physikalisch-Technische Bundesanstalt (PTB)
Bundesallee 100, D-38116
Braunschweig, Germany
Tel: +49 531 592 1901
Fax: +49 531 592 1905



Spain

Entidad Nacional de Acreditación (ENAC)

ENAC
Serrano, 240, 3º
ES-28016 Madrid, Spain
Tel: +34 91 457 3289
Fax: +34 91 458 6280



France

Comité Français d'Accreditation (COFRAC)

COFRAC
37, rue de Lyon
FR-75012 Paris, France
Tel: +33 1 44 68 82 20
Fax: +33 1 44 68 82 21



Denmark

Danish Accreditation and Metrology fund
(DANAK)

Danish Accreditation and Metrology fund
Dyregardsvej 5B
DK-2740 Skovlunde, Denmark
Tel: +45 77 33 95 00
Fax: +45 77 33 95 01



United Kingdom

United Kingdom Accreditation Service (UKAS)

Technical Enquiries Office UKAS
21-47 High Street, Feltham, Middlesex
England TW13 4UN
Tel: +44 181 917 8400
Fax: +44 181 917 8500



Belgium

Belgische Kalibratie Organisatie
Organisation Belge d'étalonnage (BKO-OBE)

Ministry of Economic Affairs
Boulevard Emile Jacqmain 154
BE-1000 Brussels, Belgium
Tel: +32 2 206 4680
Fax: +32 2 206 5742



Italy

Servizio di Taratura in Italia (SIT)
(Italian Calibration Service)

Comitato del SIT, C/IEI
Strada delle Cacce 73
IT-10135 Torino, Italy
Tel: +39 11 39 77 329
Fax: +39 11 39 77 372



Norway

Norwegian Accreditation, (NA)

Norwegian Metrology and Accreditation Service
Justervesenet
Fetveien 99
NO-2007 Kjeller, Norway
Tel: +47 64 848600
Fax: +47 64 848601

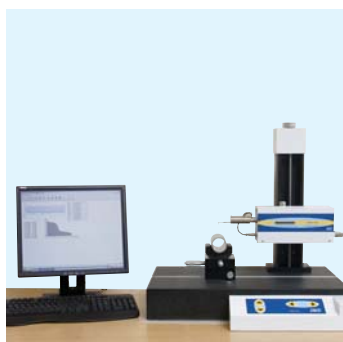


Instruments



HARDNESS TESTERS - DUROMETERS - SURFACE FINISH TESTERS
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ROCKWELL TYPE HARDNESS TESTER CV-600A™

Ready-to-test analogue Rockwell type tester with lever system for direct load application

- Basic regular Rockwell type tester offering accuracy, reliability and durability at an extremely affordable price
- Rugged construction, will stand up to the harshest environments
- Direct analogue reading of Rockwell scales HRC, B, A, F
- Accuracy conforms to EN-ISO 6508 and ASTM E-18
- Mechanical test cycle without the need of electricity
- Easy load force selection by robust dial knob
- Oil brake with variable damping by adjustable knob
- Large capacity to accommodate large test specimen
- Standard delivery including accessories ready for testing all scales



Technical specifications

Rockwell scales	A, B, C, F
Hardness resolution	0.5 of a Rockwell unit
Test loads	10kgf preload / 60, 100, 150kgf total load
Display	Dial indicator
Test force application	By force lever
Load duration	Manually set via oil damper
Data output	Non
Accuracy	Conforms to EN-ISO 6508 and ASTM E-18
Specimen accommodation	Vertical space 170mm (6.7")
	Horizontal space (from centre-line) 165mm (6.5")
Specimen access	External surfaces
	Cylindrical surfaces down to 3mm diameter
Power supply	Non
Machine dimensions	Width 150mm, depth 485mm, height 700mm
Machine weight	Approx. 85kg

Standard delivery

- Main unit
- Diamond Rockwell indenter
- Rockwell ball indenter 1/16"
- Hardness test block ±60HRC
- Hardness test block ±25HRC
- Hardness test block ±85HRB
- Spare balls 1/16" (5 pcs)
- Flat anvil ø 60mm
- Large flat anvil ø 150mm
- V-anvil ø 40mm
- Adjustable feet (4 pcs)
- Spindle protection cover
- Solid accessories case
- CV Instruments certificate
- Installation & user manual

Optional accessories

- Certified test blocks
- Certified indentors & balls

ROCKWELL TYPE HARDNESS TESTER CV-600MA™

Motorized hardness tester for regular Rockwell scales

- Regular Rockwell scales
- Electronic control of load duration (dwell time)
- Motorized testing procedure
- Accuracy, reliability and durability at an extremely affordable price
- Rugged construction, will stand up to the harshest environments
- Accuracy conforms to EN-ISO 6508
- Standard delivery including accessories ready for testing all scales



Technical specifications

Rockwell scales	A, B, C, F
Hardness resolution	0.5 of a Rockwell unit
Test loads	60, 100, 150kgf (10kgf preload)
Display	Dial indicator
Test cycle	Motorized (preload applied manually)
Dwell time	0-30 sec (5 sec. step)
Data output	Non
Accuracy	Conforms to EN-ISO 6508
Specimen accommodation	Vertical space 170 mm (6.7") Horizontal space from centre-line 160 mm (6.3")
Specimen access	External surfaces Cylindrical surfaces down to 3 mm diameter
Power supply	220V 50Hz
Machine dimensions	Width 150 mm, depth 485 mm, height 700mm
Machine weight	Approx. 85kg

Standard delivery

- Main unit
- Diamond Rockwell indenter
- Rockwell ball indenter 1/16"
- Spare lamps 6V - 12W (2 pcs)
- Hardness test block ±60HRC
- Hardness test block ±25HRC
- Hardness test block ±85HRB
- Spare balls 1/16" (5 pcs)
- Flat anvil ø 60 mm
- Flat anvil ø 150 mm
- V-anvil ø 40 mm
- Power cable
- Fuse 0.5A (2 pcs)
- Adjustable feet (4 pcs)
- Spindle protection cover
- Solid accessories case
- CV Instruments certificate
- Installation & user manual

Optional accessories

- Certified test blocks
- Certified indentors & balls

ROCKWELL TYPE HARDNESS TESTER CV-600D™

Bright LCD display with hardness conversion, tolerance check, built-in printer and data-output

- Digital LCD reading of 15 regular Rockwell scales!
- Conversion to all other hardness scales such as Vickers and Brinell
- Menu operated LCD screen with many functions such as GO/NO GO judgement, Conversions, Load cycle indication, Date, Time
- Integrated printer for test result and statistics
- RS-232 data output to Microsoft Hyperterminal, 'Win Wedge' etc
- Accuracy, reliability and durability at extremely affordable price
- Rugged construction, will stand up to the harshest environments
- Accuracy conforms to EN-ISO 6508 and ASTM E-18
- Easy load force selection by robust dial knob
- Large working space accomodates also larger specimen
- Standard delivery including accessories ready for testing
- Electronic software calibration mode



Technical specifications

Rockwell scales	A, B, C, D, E, F, G, H, K, L, M, P, R, S, V
Display conversion to	HV, HB, HR scales
Hardness resolution	0.1 of a Rockwell unit
Test loads	60, 100, 150kgf (10kgf preload)
LCD Display	Hardness value, Rockwell scale, Test force indicator, Dwell time, limits with tolerance check GO/NG, number of tests, X-bar average, standard deviation, range R
Data entry	Membrane keypad
Test force application	Automatic main load application
Dwell time	4-99 sec
Data output	Built-in printer and RS-232C
Accuracy	Conforms to EN-ISO 6508 and ASTM E-18
Specimen accommodation	Vertical space 170mm (6.7") Horizontal space (from centre-line) 165mm (6.5")
Specimen access	External surfaces, Cylindrical surfaces down to 3mm diameter
Power supply	220/240V 50Hz
Machine dimensions	227mm x 516mm x 715mm
Net weight	85kg

Standard delivery

- CV-600D main unit
- Built-in thermal printer
- Data-output RS-232C
- Diamond Rockwell indenter
- Rockwell ball indenter 1/16"
- Spare balls 1/16" (5 pcs)
- Flat anvil ø 60mm
- Flat anvil ø 150mm
- V-anvil ø 40mm
- Hardness test blocks:
±60HRC, ±40HRC, ±85HRB
- Power cable
- Fuse 1A (2 pcs)
- Adjustable feet (4 pcs)
- Spindle protection cover
- Solid accessories case
- CV Instruments certificate
- Installation & users manual

Optional accessories

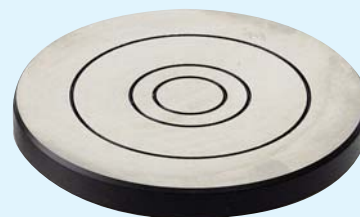
- Clamping nose
- Certified test blocks
- Certified indentors & balls
- Pedestal spot anvil ø 10mm

HARDNESS ACCESSORIES CV-600 SERIES™

Selection of anvils for correct hardness testing

Tips on using an anvil for accurate hardness testing

- To keep the test specimen stable and provide support, always use the smallest anvil possible.
- When using test blocks, a pedestal spot anvil is recommended.
- Always ensure that the anvil's top surface and its supporting contact surface are free of dirt, swarf, oil or corrosion.
- If the indenter or other object has left a mark on the anvil test surface or seat, the anvil will cause false readings and should be replaced.



Testing table large

The \varnothing 150mm table is the most popular work support for large test specimens. The table is screwed onto the elevating screw. The vertical capacity will be reduced by about 25mm.



Flat anvil

The \varnothing 60mm flat anvil is used to support many flat specimens perpendicular to the indenter.



V-anvil

The standard V-anvil is used with cylindrical shaped rods or tubes of \varnothing 6mm or larger. (Not suitable for thin wall or soft tubing).



Pedestal spot anvil

The \varnothing 10mm spot anvil is used with small parts and sheet metal where not much support is required. This anvil should be used with test blocks.



Cylindrical anvil

This anvil is designed to support cylindrical work and has a capacity of 50mm to 203mm (2"-8"). A smaller version is also available from 6mm to 76mm (1/4"-3").



Eyeball anvil

Mounted on an elevating screw, this anvil is designed for test pieces that have a slight taper. The ball is clamped into position by a clamping nut which allows the indenter to come into contact with a flat surface.



Clamping protection nose

Device to be mounted on indenter head, to keep the specimen in place by internal spring force, and to protect the indenter against collision.

PREMIUM ROCKWELL TYPE HARDNESS TESTER EW-650 SERIES™

LCD touch screen, superior functionality, ultra high precision, 3 models available

- Measures all standard Rockwell hardness values
- Superior GR & R results!
- Simultaneous conversion to HV, HB and other HR scales
- Rugged fine casted frame, allowing large dimension work pieces
- ASTM, ISO, JIS compliant
- ESELOAD™ unique motorized load application system, auto selection of main loads depending on HR scale (656 & 657 only)
- Superior depth measuring system through Heidenhain (Germany) transducer
- ESETOUCH™ advanced LCD touch screen & operator panel with user friendly menu operation in multiple languages
- High speed preload, loading and unloading procedure for ultra high efficiency
- ESELIFT™ (657 and 677 only) motorized elevating screw simplifies and speeds up test operation
- Automatic measurement procedure, load / dwell / unload (655 & 656 models)
- ESEMATIC™ fully automatic positioning and measuring procedure (positioning, preload, load, dwell, unload (657 only))
- Storage of 50 test programs and tester settings, allowing you to set up your tester in just seconds
- Alpha numerical data entry
- Continuous automatic "online" statistics, incl. average of readings etc.
- Storage of 20,000 single hardness values
- Go / No Go mode
- Convex and concave measuring mode
- Calibration date expired (reminder)
- Service mode including electronic linearity calibration, tests counter, maintenance system
- Prints statistics to built-in printer or external printer
- Connects with PC or SPC network via built-in bi-directional USB2 connector

The EW-657 ESEMATIC™ model features standard a fully automatic system for high speed production measurement.

Technical specifications

Rockwell scales	A,B,C,D,E,F,G,K,L,M,P,R,V
Conversion to	HV, HB, other HR scales
Hardness resolution	0.1 or 0.01 of a Rockwell unit
Pre-load	10kgf
Main loads	60, 100, 150kg
Pre-load application	Manual (automatic for 657 ESEMATIC™)
Test load application	Fully automatic
Data output	Built in high speed printer & USB2
LCD Display	Hardness value, conversion value, test force indicator, dwell time, memory contents, all machine settings, go / no go, all statistics
Specimen accommodation	Vertical space 275mm Horizontal space (from centre of elevator) 190mm
Power supply	110/240V, 50 – 60Hz
Machine dimensions	Approx. 940mm x 390mm x 670mm (HxWxD)
Net weight	Approx. 140kg

EW-655 ESETOUCH™	Manual load Manual elevator lead screw
EW-656 ESELOAD™	Automatic load selection Manual elevator lead screw
EW-657 ESEMATIC™	Automatic load selection Manual elevator lead screw/ Full automatic



Standard delivery

- Main unit
- Built-in printer
- Data-output USB2 and RS-232C
- Diamond Rockwell indenter
- Rockwell ball indenter 1/16"
- Rockwell testing balls
- Flat testing anvil ø 60mm
- Flat anvil ø 150mm
- V-anvil 40mm
- Hardness test blocks: ± 60 HRC, ±40 HRC, ±85 HRB
- Power cable
- Spare fuse
- Adjustable feet (4 Pcs)
- Spindle protection cover
- Machine cover
- Solid accessories case
- ESEWAY® certificate
- User and installation manual

Optional accessories

- Clamping and indenter protection nose
- UKAS, DKD, ASTM/NIST Certified test blocks
- UKAS, DKD, ASTM/NIST Indentors & balls
- Pedestal spot anvil
- Special support systems for large work pieces

PREMIUM TWIN SCALE ROCKWELL TYPE HARDNESS TESTER EW-670 SERIES™

LCD touch screen, superior functionality, ultra high precision, 3 models available

- Measures all Standard & Superficial Rockwell hardness values
- Superior GR & R results!
- Simultaneous conversion to HV, HB and other HR scales
- Rugged fine casted frame allowing large dimension work pieces
- ASTM, ISO, JIS compliant
- ESELOAD™ unique motorized load application system, auto selection of main loads depending on HR scale (676 & 677 only)
- Superior depth measuring system through Heidenhain (Germany) transducer
- ESETOUCH™ advanced LCD touch screen & operator panel with user friendly menu operation in multiple languages
- High speed preload, loading and unloading procedure for ultra high efficiency
- ESELIFT™ (677 only) motorized elevating screw simplifies and speeds up test operation
- Automatic measurement procedure, load / dwell / unload (677 only)
- ESEMATIC™ fully automatic positioning and measuring procedure (positioning, preload, load, dwell, unload (676 and 677 models))
- Storage of 50 test programs and tester settings, allowing you to set up your tester in just seconds
- Alpha numerical data entry
- Continuous automatic "online" statistics, incl. average of readings etc.
- Storage of 20,000 single hardness values
- Go / No Go mode
- Convex and concave measuring mode
- Calibration date expired (reminder)
- Service mode including electronic linearity calibration, tests counter, maintenance system
- Prints statistics to built-in printer or external printer
- Connects with PC or SPC network via built-in bi-directional USB2 connector



The EW-677 ESEMATIC™ model offers standard a fully automatic system for high speed production measurement.

Technical specifications

Rockwell scales	Standard Superficial	A,B,C,D,E,F,G,K,L,M,P,R,V 15N, 30N, 45N, 15T, 30T, 45T, 15W, 30W, 45W, 15X, 30X, 45X, 15Y, 30Y, 45Y
Conversion to	HV, HB, other HR scales	
Hardness resolution	0.1 or 0.01 of a Rockwell unit	
Pre-load	3kgf / 10kgf	
Main loads	15, 30, 45, 60, 100, 150kg	
Pre-load application	Manual (automatic for 677 ESEMATIC™)	
Test load application	Fully automatic	
Data output	Built-in high speed printer & USB2	
LCD Display	Hardness value, conversion value, test force indicator, dwell time, memory contents, all machine settings, go / no go, all statistics	
Specimen accommodation	Vertical space 275mm	
	Horizontal space (from centre of elevator shaft) 190mm	
Power supply	110/240 volt, 50 – 60Hz	
Machine dimensions	Approx. 940mm x 390mm x 670mm (HxWxD)	
Net weight	Approx. 140 kg	

EW-675 ESETOUCH™	Manual load Manual elevator lead screw
EW-676 ESELOAD™	Automatic load selection Manual elevator lead screw
EW-677 ESEMATIC™	Automatic load selection Motorized elevator lead screw/ Full automatic

Standard delivery

- Main unit
- Built-in printer
- Data-output USB2 and RS-232C
- Diamond Rockwell indenter
- Rockwell ball indenter 1/16"
- Rockwell testing balls
- Flat testing anvil ø 60mm
- Flat anvil ø 150mm
- V-anvil 40mm
- Hardness test blocks:
± 60 HRC, ±40 HRC, ±85 HRB
- Power cable
- Spare fuse
- Adjustable feet (4 Pcs)
- Spindle protection cover
- Machine cover
- Solid accessories case
- ESEWAY® certificate
- User and installation manual

Optional accessories

- Clamping and indenter protection nose
- UKAS, DKD, ASTM/NIST
Certified test blocks
- UKAS, DKD, ASTM/NIST
Indentors & balls
- Pedestal spot anvil
- Special support systems for large work pieces