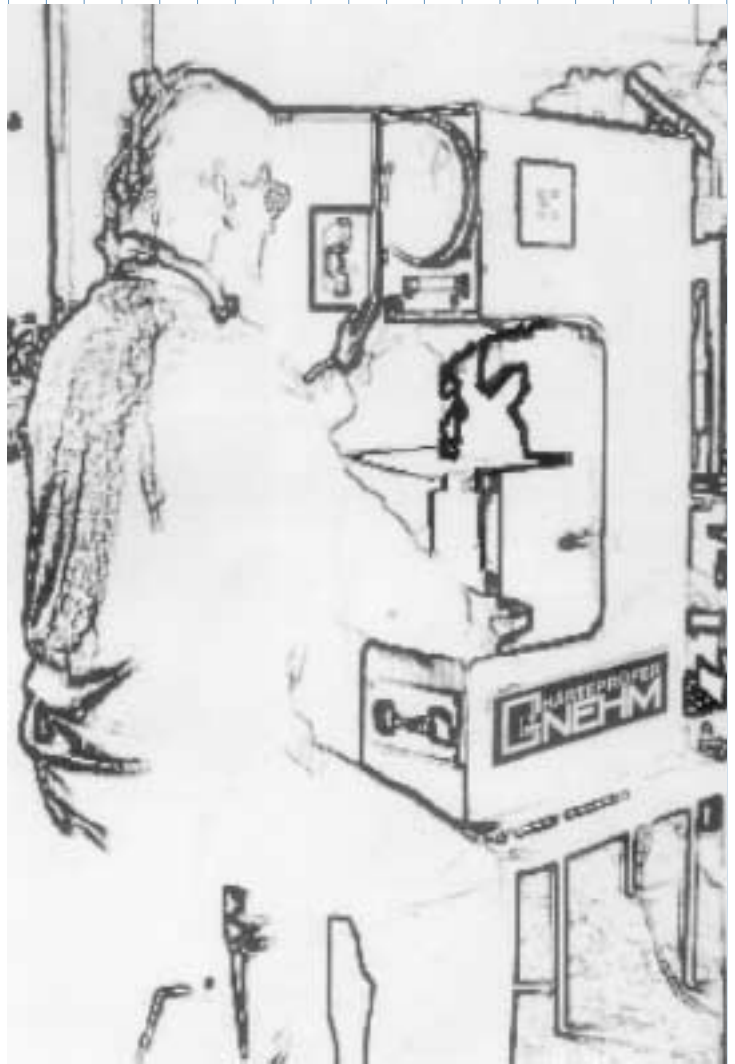
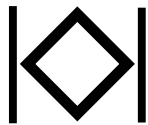




Quality assurance through Hardness testing



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Sales programme

Universal systems



SwissMax300

Vickers and Brinell testing, in a range of forces between 1 and 250; Rockwell and super-Rockwell testing; hardness of viscoelastic materials by ball pressure; Vickers and Brinell by depth. Knoop and HU are optional. Magnification up to 360 x. Large working space (320 x 250 mm), large pieces, up to 100 kg can be tested as well as very small ones. Instantaneous display of the hardness with possibility of report printing. It has a wide choice of procedures with programming and possibility to be connected to a network.



Photo: *SwissMax300*

Brickers230

The *Brickers230* has the same construction as the *SwissMax*, but it does not have a depth measurement device. This hardness tester finds its applications where only optical measurements are required, such as Vickers, Brinell and Knoop.

Fields of application

Laboratories, incoming materials testing, quality assurance, finishing, production control, schools and professional training centers, development, research, etc.

Uses

All steels, hardened or not, non ferro metals, cast materials, alloys, tools of all kind, knives, dies, etc. With *SwissMax*, also synthetic materials or plastics.

Technical data

Model	<i>SwissMax300</i>	<i>Brickers230</i>
Compliance	All Rockwell, Brinell, and Vickers procedures Brinell and Vickers by depth (Knoop and HU optional)	All Rockwell, Brinell, and Vickers procedures
Norms	DIN EN ISO / ASTM	DIN EN ISO / ASTM
Working height x depth	320 x 250 mm	320 x 250 mm
Ranges of forces	9.81-2452N (1-250)	9.81-2452N (1-250)
Choice of the force	Automatic, via controls panel	Automatic, via controls panel
Force application	By servomotor over a load cell	By servomotor over a load cell
Optical measurement	Patented, spirals using system	Patented, spirals using system
Hardness display	Digital display for all test procedures	Digital display for all test procedures
Magnifications	Approx. 75x, 175x, 360x (33x optional)	Approx. 75x, 175x, 360x (33x optional)
Interface	RS 232, parallel	RS 232, parallel
Net weight	159 kg	159 kg



Rocky 2000

Rocky 2000

Simple and efficient. Sturdy steel construction. Analogue, for the measurement of hardness according to the standard procedures HRA, HRB and HRC. This machine is supplied with a wide range of accessories.



SwissRock 180/190

SwissRock 180

Digital, universal Rockwell hardness tester has user friendly, programmable commands through dialogues on display; three languages are integrated. Automatic or manual measurement procedure. Statistics can be consulted at any time, and procedure correction can be introduced. Thanks to the integrated RS 232 interface, data can be forwarded to an external PC or to a network.

Fields of application

In laboratory, material reception, quality assurance, finishing and production control, in professionally training centers and in schools

Uses

All steels, hardened or not, non ferro metals, alloys, sintered hard metals, thin metallic sheets down to a thickness of 0,15 mm; plastics according to the ASTM norm, profiles, tools, raw materials, semi finished as finished parts

SwissRock 190

Construction and use are similar to those of the SwissRock 180. In addition, the SwissRock 190 is equipped with loads to determine the Vickers and Brinell imprints by depth; however, the hardness can still be determined by measuring the diagonals of the imprints by means of a magnifier or a microscope.

Technical data

Model	<i>Rocky 2000</i>	<i>SwissRock 190</i>	<i>SwissRock 180</i>
Compliance	Rockwell A, B, C, etc.	Rockwell, Super Rockwell Brinell- and Vickers by depth	Rockwell, Super Rockwell
Norms	DIN EN ISO / ASTM	DIN EN ISO / ASTM	DIN EN ISO / ASTM
Working height x depth	230 x 133 mm	230 x 200 mm	230 x 200 mm
Choice of the force	Crenelated wheel	cursor	cursor
Initial force	98.07N (10)	29.42N, 98.07N (3, 10)	29.42N, 98.07N (3, 10)
Ranges of test forces	588.4, 980.7, 1471N 60, 100, 150	147.1-1839N 15-187.5	147.1-1471N 15-150
Hardness display	Analogue	Digital	Digital
Force application	Shock absorber (oil)	Motorised	Motorised
Interface	None	RS 232, parallel	RS 232, parallel
Net weight	Approx. 65 kg	Approx. 95 kg	Approx. 87 kg
Power supply	None	230 V, 50 Hz	230 V, 50 Hz

Portable hardness testers



Rockwell

Handtester R2-R4

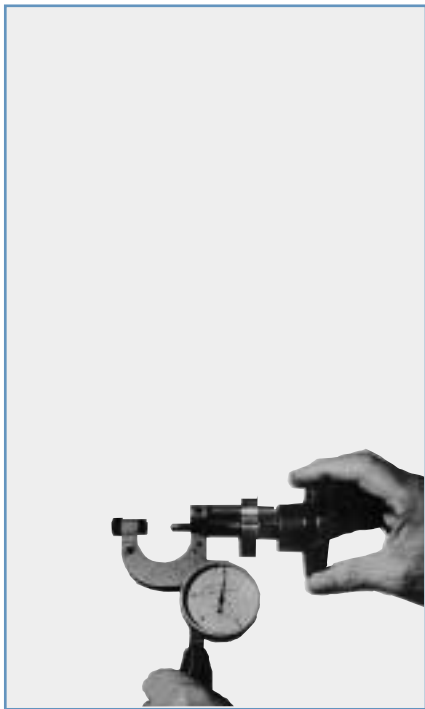
Portable analog and norm complying hardness tester to determine the hardness according to Rockwell. Its applications are anywhere where a stationary machine can't be used or when the parts to be tested are too large or too heavy.

Uses

All steels hardened or not, non ferro metals, alloys, sintered materials, thin sheets down to 0,15 mm thickness, plastics according to the ASTM norms, profiles, semi-finished and finished articles, norm parts, etc.

Brinell percussion hardness tester

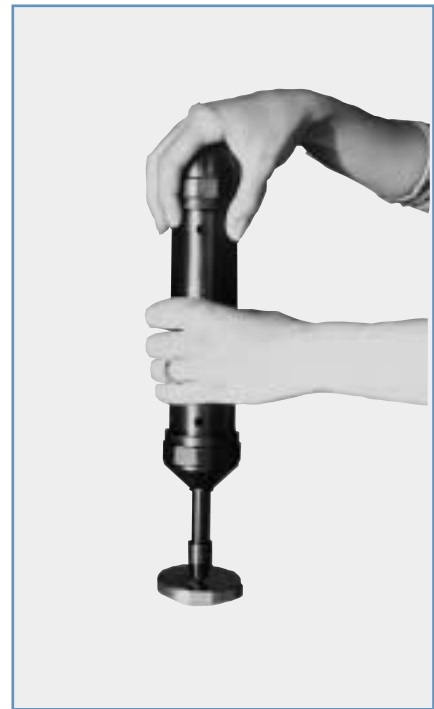
Portable apparatus for dynamic hardness testing with evaluation of the deformation. To determine the Brinell hardness of raw steel, cast parts with a minimum weight of about 30 kg. To be used anywhere where due to the size of the test pieces, a stationary machine would not be usable. Practical for all building sites, a power supply is not necessary.



Handtester



The handtester in its box



Percussion hardness tester

Technical data

Model	Handtester SR1	Handtester R2, R4	Percussion hardness tester
Procedure	HRN	HR	HB (Bauman procedure)
Compliance	Norm complying	Norm complying	-
Size of test samples	Up to 25 mm	Thickness of 50-100 mm	minimum 30 kg
Choice of the force	Hand wheel	Hand wheel	Setting ring, 2 levels
Application of the forces	Hand wheel	Hand wheel	Spring load
Hardness display	Analogue	Analogue	Magnifyer and tables
Net weight	2,0 kg	2,0 to 4,5 kg	4,0 kg

Hardness testers for synthetic materials



SwissPlast 101 KDP

Digital hardness tester for plastics by ball pressure.

Fields of applications

Laboratories, incoming material testing, quality assurance, production control, research and development, professional training centers, schools, etc.

Uses

Plastic parts, as well semifinished as finished products, profiles, frames, evaluation of technical materials, construction parts, synthetic materials, detection of production faults, etc.

SwissPlast 101 KDP

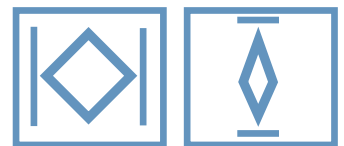
Technical data

Model	SwissPlast 101 KDP
Procedure	Ball pressure
Norm	DIN ISO 2039
Working height x depth	180 x 150 mm
Range of test forces	49-962N
Choice of the force	by cursor
Force application	dead weights, motorised
Hardness display	digital
Interface	RS 232, parallel
Net weight	50 kg

Vickers, Knoop

Technical data

Model	VMHT	VMHT MOT
Ranges of forces	12 levels 1/5/10/15/25/50/100/200/300/500/1000/2000 (p)(gf)	
Procedures	Vickers or Knoop (standard) Brinell (optional)	
Compliance	ASTM E-384 / DIN EN ISO 6507 / 1-3, CE-conformity	
Force application	Automatic	Automatic
Choice of the penetrator	Manual	Automatic
Dwell time	5-99 s	5-99 s
Choice of the force	Key pressure	via touch screen on display
Magnification	100x	100x
Data introduction	Key pressure	via touch screen on display
Interface	Centronic (printer)	Centronic (printer) RS 232 (PC)
Power supply	100-240 V, 50-60 Hz	100-240 V, 50-60 Hz
Net weight	35 kg	35 kg



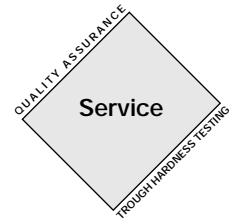
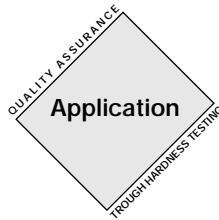
Portable Shore hardness tester

Shore A:

Soft rubber, all elastomers, natural rubber products, Neoprene, polyester, soft PVC, leather, waxes, etc.

Shore D:

Hard rubber, acrylics, polystyrol, thermoplastic products, cellulose acetate, vinyl sheets, calandar rolls, etc.



Quality assurance through hardness testing

The hardness of a material can be tested in a fast and economical way, it is very revealing about the overall properties. The hardness testing is one of the most important test procedures of the quality assurance.

A wide spectrum for every application

GNEHM HÄRTEPRÜFER AG provides hardness testers for all known applications: Rockwell, Super Rockwell, Brinell, Vickers, Knoop, Brinell and Vickers by depth measurement, hardness by ball pressure, Shore and percussion hardness. The spectrum reaches from simple analogue in-

struments to automatic digital network machines.

Customer service

Our reputation is based on a prompt and competent customer service. Our trained service contractors, as well as our own service people world wide, feel responsible for any hardness tester. Demonstrations and trial measurements are at any time possible, be it in our factory or in show rooms.

Please don't hesitate to contact us.

Quality has tradition

Since more than 60 years, highly valuable hardness testers have been manufactured and distributed world wide, GNEHM HÄRTEPRÜFER

AG is traditionally a Swiss factory exclusively specialised in the manufacture of hardness testers. 70% of the production is exported. The saying of Swiss Quality is, since the foundation of our company, the key of our success.

ISO 9001

In april 2000, we received the certification following ISO 9001. This distinction allows us to document our ambitions with regards to quality.

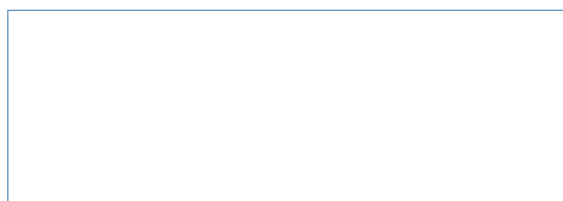
User friendly

All machines are simple to use even by untrained people. The patented system for the measurement is very precise and numerous subtle details help to simplify substantially the whole testing procedure.

Overview of the testing procedures of the GNEHM hardness testers

Ranges of forces	SwissMax 300					Brickers 230			SwissRock 190			SwissRock 180		Rocky 2000		Hand tester SR1 R2-R4		SwissPlast 101KOP	Percussion hardness [N]	
1													9,81
2	.																			19,61
2,5	.					.	.													24,52
3	.					.	.													29,42
4	.																			39,23
5	49,0
6,25	61,29
10	98,07
15				132
15,625			147,1
20													153,2
25													196,1
30			245,2
31,25			294,2
40	306,5
45	358
50	392,3
60	441,3
62,5	490,3
100	588,4
120	612,9
125	961
150	980,7
187,5	1177
250	1226
																				1471
																				1839
																				2452
	HV	HB	HK	HR	HRN	KD	HBT	HVT	HV	HB	HK	HR	HRN	HBT	HVT	HR	HRN			

HR = Rockwell HRN = Super-Rockwell HB = Brinell HV = Vickers HBT = Brinell by depth
HVT = Vickers by depth HK = Knoop KD = Ball pressure S = Shore SH = percussion hardness



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