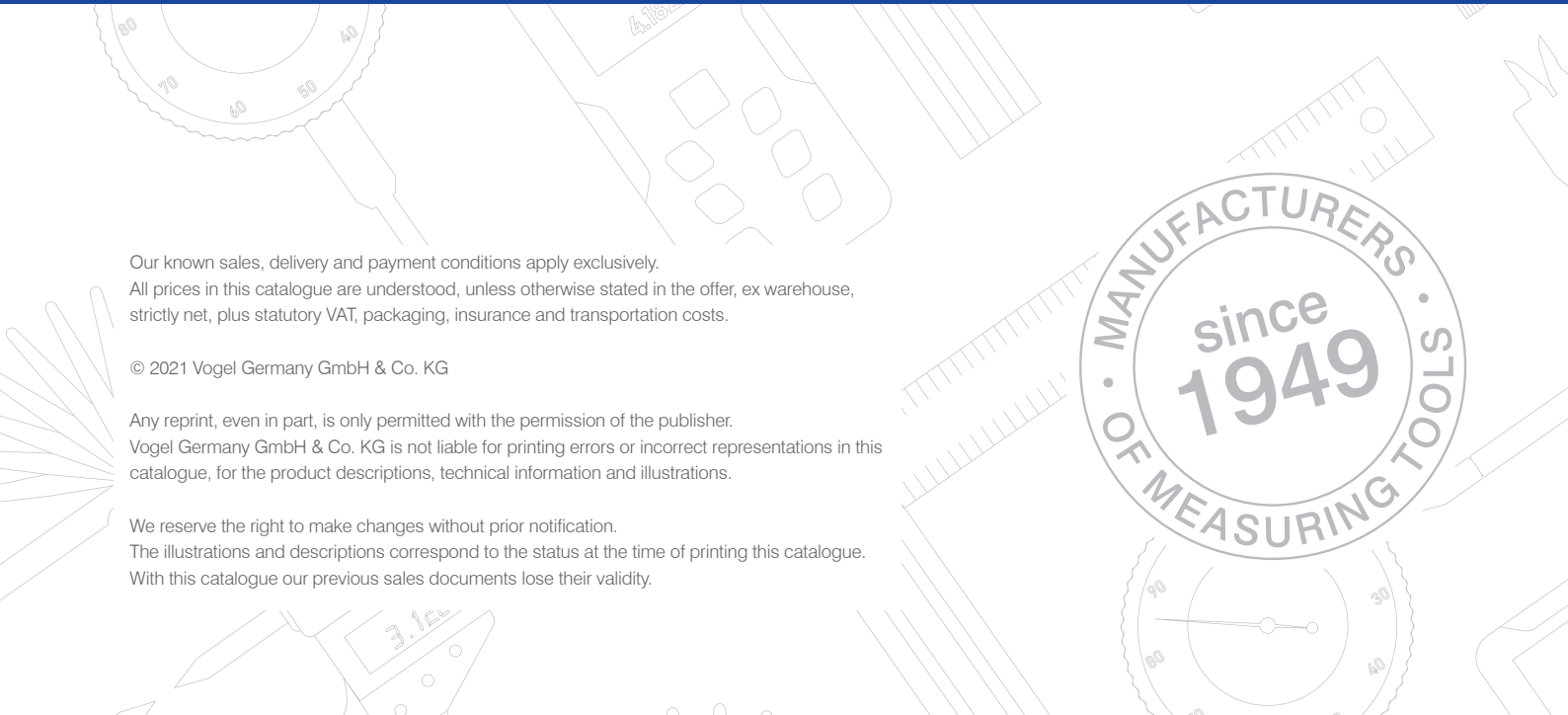
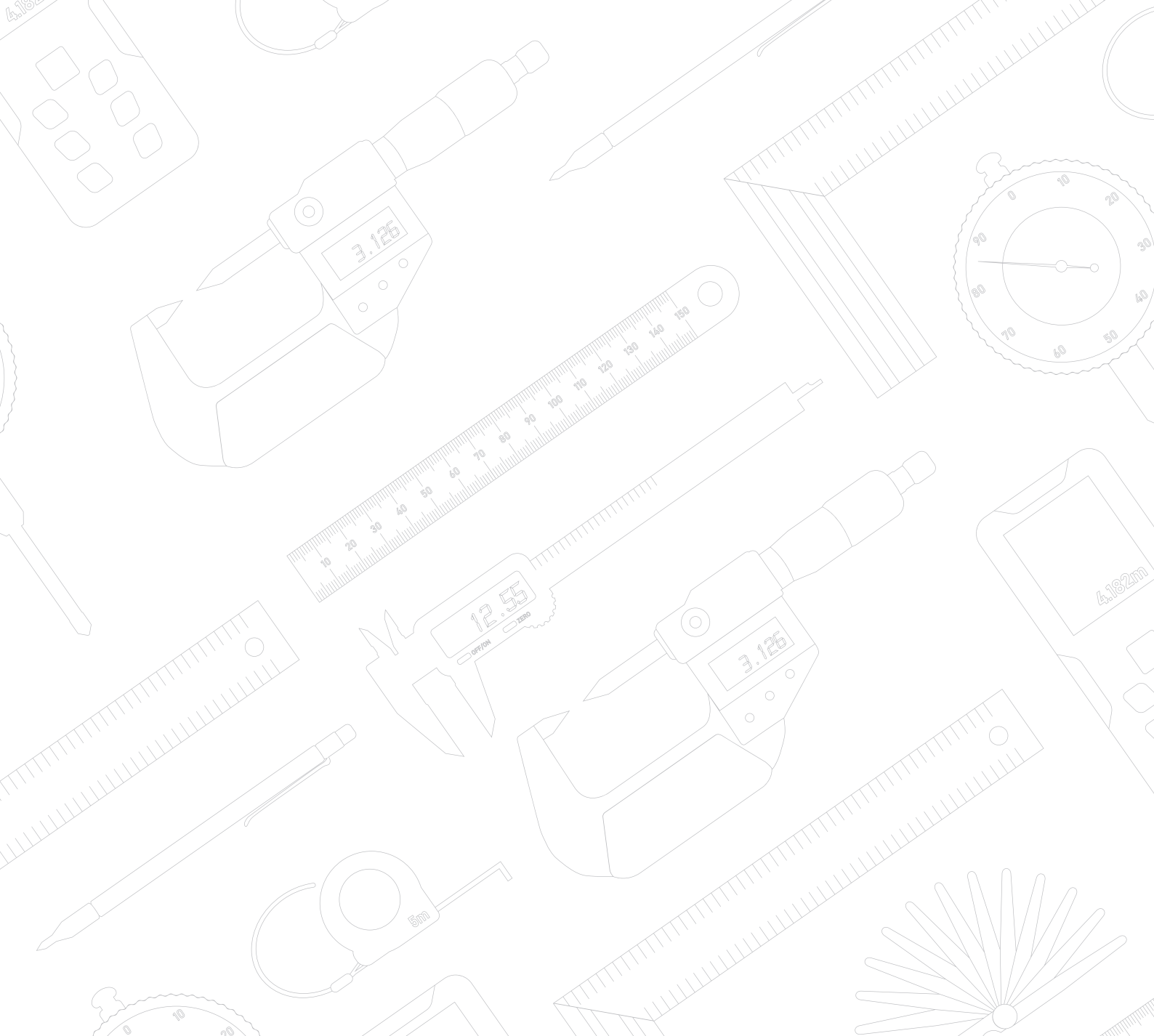




VOGEL[®]
GERMANY
Measuring Solutions

EDITION 2021
2022

www.vogel-germany.de



Our known sales, delivery and payment conditions apply exclusively.
All prices in this catalogue are understood, unless otherwise stated in the offer, ex warehouse,
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We reserve the right to make changes without prior notification.
The illustrations and descriptions correspond to the status at the time of printing this catalogue.
With this catalogue our previous sales documents lose their validity.



Welcome to the world of



Dear customers and business partners,

Although there is a very strong tendency towards a digital measuring tool catalogue, we nevertheless made a conscious decision to go for the more classic route of the „paper catalogue“. For us, the new 2021/2022 catalogue reflects our passion for measuring tools and provides a comprehensive overview of the diverse products, which is often not possible in the digital version in a hurry.

Take your time and leaf through our current catalogue in peace. Here you will find a large number of new products from the field of length measurement technology and material testing.

The experience that we have been able to gain during our more than 70 years of activity as a traditional manufacturer and our specialization in the field of precision measuring tools and gauges enable us to create individual solutions for our customers.

In our production of steel rules, we can implement lengths and scalings according to customer requirements, even if the steel rule is 20 meters or longer. You can find an extract of our steel rules starting with page 22.

We also offer you a quick and uncomplicated implementation of gauges for individual requested dimensions. These specific solutions cannot be shown in the catalogue and can be requested from our sales department. An overview of gauges can be found starting with page 232.

With our modern laser marking systems, we can still apply specific markings and labelling to the products according to customer requirements.

I would particularly like to recommend our own development of the MasterLine® length measuring system, which you will find on pages 40/41. This means that dimensions up to 3.0 m can be read and documented without parallax error. The corresponding camera is also available as an individual variant on page 42. It can also be used as a mobile variant with the help of the built-in scale of 3 – 0 – 3 mm on the display for numerous tests. The measuring system has an LED light unit with 4x white light and 4x UV/black light for many different applications.

With the recently implemented cooperation with the Saliger Gruppe, we offer a cross-industry and manufacturer-independent DAkkS-accredited calibration service. In addition to factory calibrations, DAkkS calibrations can also be offered for almost the entire range.

We are sure you will discover interesting innovations in the catalog.

We are pleased that you share our passion for our measuring tools and gauges with us!

I hope you enjoy leafing through the new catalogue.

With best regards from Kevelaer,

Stephan Rex
Managing Director

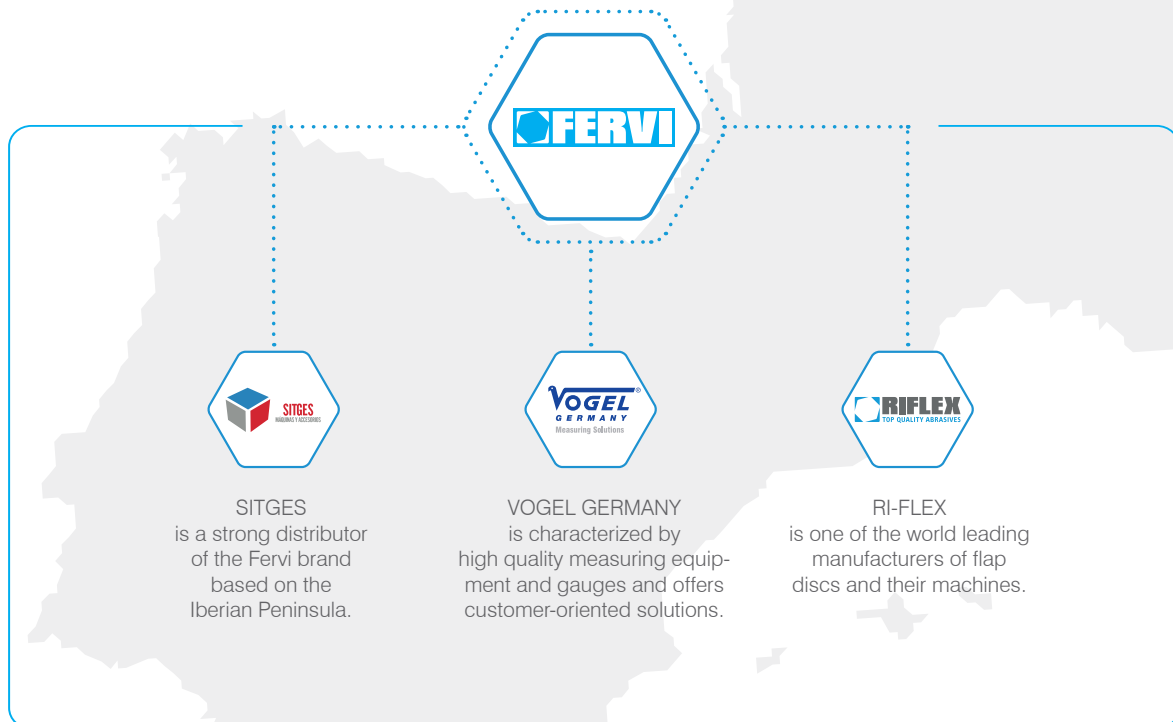
FERVI - A strong partner

Vogel Germany has been part of the Italian group of companies Fervi SpA since April 1st, 2019, which is an established company in the field of MRO (Materials, Repair and Operations). Fervi stands out as a solid, reliable and competitive company that focuses on the manufacture and procurement of machines and tools for industry, workshops and the automotive sector.

According to Ri-Flex Abrasives S.R.L. - leading manufacturer of high-quality flap discs - and Sitges S.L. - long-standing sales partner of the Fervi brand on the Iberian Peninsula - Vogel Germany GmbH & Co. KG is now joining the Fervi Group.

This merger allows our customers and business partners to benefit from the expanded portfolio of products and services. From small orders to large projects, all inquiries are processed.

With all the strength of this group growing and helping others grow, Fervi is a strong and reliable partner. Vogel Germany can thus offer an improved range of products for its worldwide customers.





Fervi (Vignola, Italy)

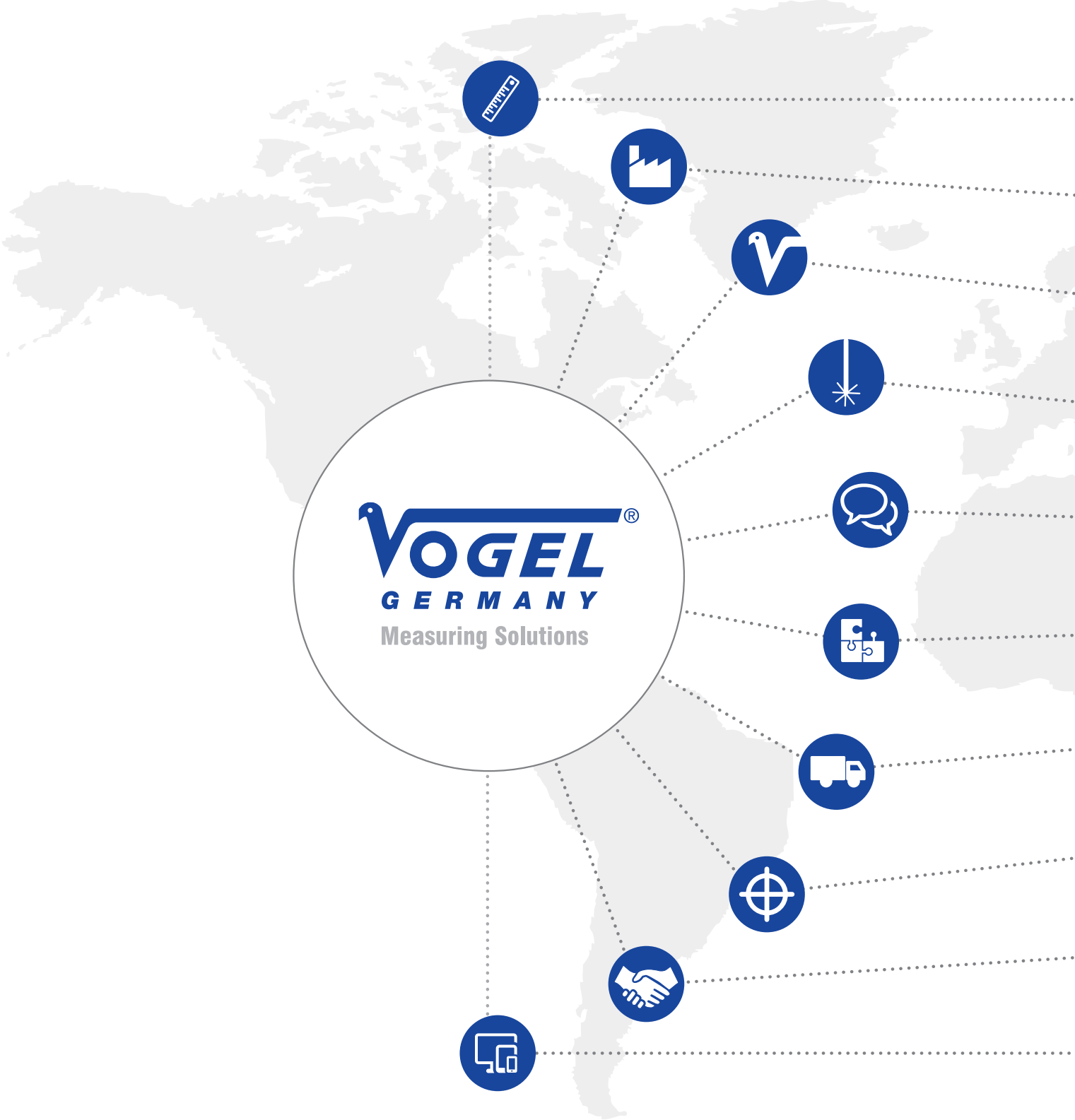


Ri-Flex (Spilamberto, Italy)



Vogel Germany (Kevelaer, Germany)

About us



Product Range

You will find more than 4500 precision measuring tools e.g. for purposes of length measuring technology and material testing in our catalogue and online shop.

Production

In our own production we manufacture steel rules (from page 19), thickness gauge foils (page 235), bevel squares (page 223), mitre squares (page 223) or squares (page 221) - 100% Made in Germany.

Measuring Solutions

We constantly try to offer you the right solution. Custom-made products are welcome and our daily business.

Laser Engravings

We engrave special scales, trademarks, logos etc. according to your specifications on our measuring tools.

Support

Our technically experienced sales team is characterized by speed and flexibility. We are happy to visit you and demonstrate our services and measuring tools on site.

Suppliers

Thanks to long-term partnerships with our reliable suppliers, we can guarantee you the highest quality and availability of our products.

Shipping Service

Our articles are available from our warehouse in Kevelaer (Germany) and can be sent worldwide, whether to Europe, Asia, Africa, Australia or North and South America.

Calibration

You need a factory calibration or DAkkS calibration? We offer an uncomplicated calibration service for almost the entire product range. When ordering, please indicate which calibration you require.

Stability

Thanks to the backing of our strong parent company Fervi, we can be there for you and support you even in difficult times. Trust is a principle of our business.

Digital Media

Current information on new products, trade fairs and offers can be found on our website and on Facebook. A current digital version of the catalogue is available as well.







a strong partnership

Vogel Germany and the Saliger-Gruppe have agreed on a far-reaching cooperation in the procurement and calibration of measuring equipment. With the new orientation, Vogel Germany is strengthening its offer of having measuring equipment tested in an independent calibration laboratory.

The Saliger-Gruppe offers a cross-industry and manufacturer-independent DAkkS-accredited calibration service. In addition to factory calibrations, DAkkS calibrations can now also be offered for the almost complete range of Vogel Germany.

In order to be able to offer its customers an accelerated and simplified process flow, Vogel Germany has chosen this further route of combining calibration service with the procurement of new measuring equipment. In cooperation with the Saliger-Gruppe, the procurement of measuring equipment for the customers of the Saliger-Gruppe is taken over by Vogel Germany.

Stephan Rex, Managing Director of Vogel Germany: "We are pleased to have found a new partner in the Saliger-Gruppe. The focus of the cooperation is an improved service for all aspects of measuring equipment. This will be reflected above all by a strong simplification in the complex procurement of measuring equipment and its calibration for the customer, as this service is available from a single source now. The Saliger-Gruppe offers a variety of calibration options that Vogel Germany has not been able to offer to this extent before."

Ulrich Saliger, Managing Director of the Saliger-Gruppe: "Looking for a way to redesign our Saliger measuring equipment sales department, we are happy to have entered into close cooperation with Vogel Germany. In times of increased demands on the calibration business, our main concern is to be able to continue to offer our customers a comprehensive range of services. The cooperation with Vogel Germany enables us to concentrate on our core competencies and at the same time to expand the product portfolio for our customers."

Inquiries can now be submitted to your usual contact person or by email to info@vogel-germany.de or by telephone on +49 2832 9239-0.



Our certified QM-System is constantly controlled and improved by internal and external Audits of TÜV Rheinland.



Calibration certificates for our products on request, please!



Workshop Calibration Certificate in german or english language, acc. to DIN/ISO etc.

- Scope: Calibration certificate indicating the deviation and limits of normal and with the test curve(s) for the measured according to the criteria of standards, confirmation of their performance. Confirmation of traceability to national normal, indicating an identification number.
- Validity: Individually for each single instrument/device. Period of validity in accordance with your quality management manual (usually 12 month)
- Price: See our price list, prices valid only for initial delivery from the factory, price for re-calibration on request, please.




































Calibration test report by an accredited testing laboratory











- Scope: As mentioned above, calibration test report as mentioned above, but accredited by testing laboratory.
- Validity: Individually for each single instrumen/device. Period of validity in accordance with your quality management manual (usually 12 month)
- Price: See our price list, prices valid only for initial delivery from the factory, price for re-calibration on request, please.

Explanations






In our catalogue you will find several pictograms beside the text description. They should be helpful for a quick and easier explanation of the articles and their attributes.

Norms, accuracy-classes, regulations		Several Icons	
I	Article fulfils the standard of the tolerance class I		Article-Number
II	Article fulfils the standard of the tolerance class II		Reading / Resolution
III	Article fulfils the standard of the tolerance class III		Cross section of the article
E1	Article fulfils the respective verification standard		Max. total accuracy(±)
CC	Workshop calibration certificate, inclusive		Repeatability (±)
	Article with CE classification		Individual measuring range
	Directive of the European Parliament and of the council on measuring instruments		Article dimension
T2	Article with strengths tolerances acc. to DIN 2275		Measuring- and weighing-unit selectable or swichtable
T3	Article with strengths tolerances acc. to DIN 2275		Optical tolerance signal
ASTM	Article fulfils the respective American standard		Corresponding battery included
ANSI	Article fulfils the respective American standard		Corresponding battery included
BS	Article fulfils the respective British standard		Corresponding cell battery included
JIS K	Article fulfils the respective Japanese standard		Corresponding cell battery included
DIN	Article fulfils the respective DIN standard		Corresponding lithium battery included
DIN EN	Article fulfils the respective DIN EN standard		Corresponding lithium battery included
ISO	Article fulfils the respective ISO standard		Accu
DIN ISO	Article fulfils the respective DIN ISO standard		Power supply
	Article manufactured acc. to tolerances of workshop standard		Laser protection class
	Article with seal: "TÜV/Geprüfte Sicherheit (GS)"		Magnet power
	Article with seal: "TÜV"		Induction
IEC / EN	Article fulfils the respective norm standard		Laser wavelength
			Shock proof
			Stand out
			Reading in mm and inch
			Reading in cm and inch
			Article with ABS/INC measuring system
			Article with ABSOLUTE measuring function
			Warranty 1, 2 or 3 years





Protection (IP class) acc. to DIN 40050 / IEC 60529 etc.

 IP 40	Protected against solid particles $\varnothing > 1 \text{ mm}$
 IP 44	Splash water resistant
 IP 51	Drop water resistant
 IP 52	Drop water resistant
 IP 53	Dust and spray water resistant
 IP 54	Dust and spray water resistant
 IP 65	Dust and jet water resistant
 IP 67	Water and oil resistant (at times)
 Ex	Article is explosion proof
 UL	Article with UL-certificate (american safety norm)












Manufacturing process

	Article with laser engraved scale / graduation
	Article with etched scale / graduation
	Article with printed scale / graduation (Pad print)
	Hardened
	Carbide measuring faces
INOX	Stainless steel








Prices and delivery

	We charge transport and packing costs
	Article price
	Certificate inclusive (no additional costs)
	Certificate price

Product specifications

	Caliper jaw length
	Measuring internal dimension
	Caliper jaws (cross shape)
	Caliper jaws (knife shape)
	Depth Gauge
	Fine adjustment
	Thread pitch
	Measuring inside
	Measuring outside
	Pointer rotation
	Setting gauge

Icons for data process

	RS232 data output by data cable
	Opto RS232 data output
	Proximity data output, inductive, contactless
	Data output by USB and data cable
	Data output by USB and Mini USB (compatible with Mitutoyo Digimatic)
	wireless communication (WiFi / WLAN) possible
Bluetooth	wireless communication via Bluetooth® possible
	Software on CD-Rom
ORIGIN	Setting the absolute zero point

Navigation

Find it even better now

Dear customers and business partners,

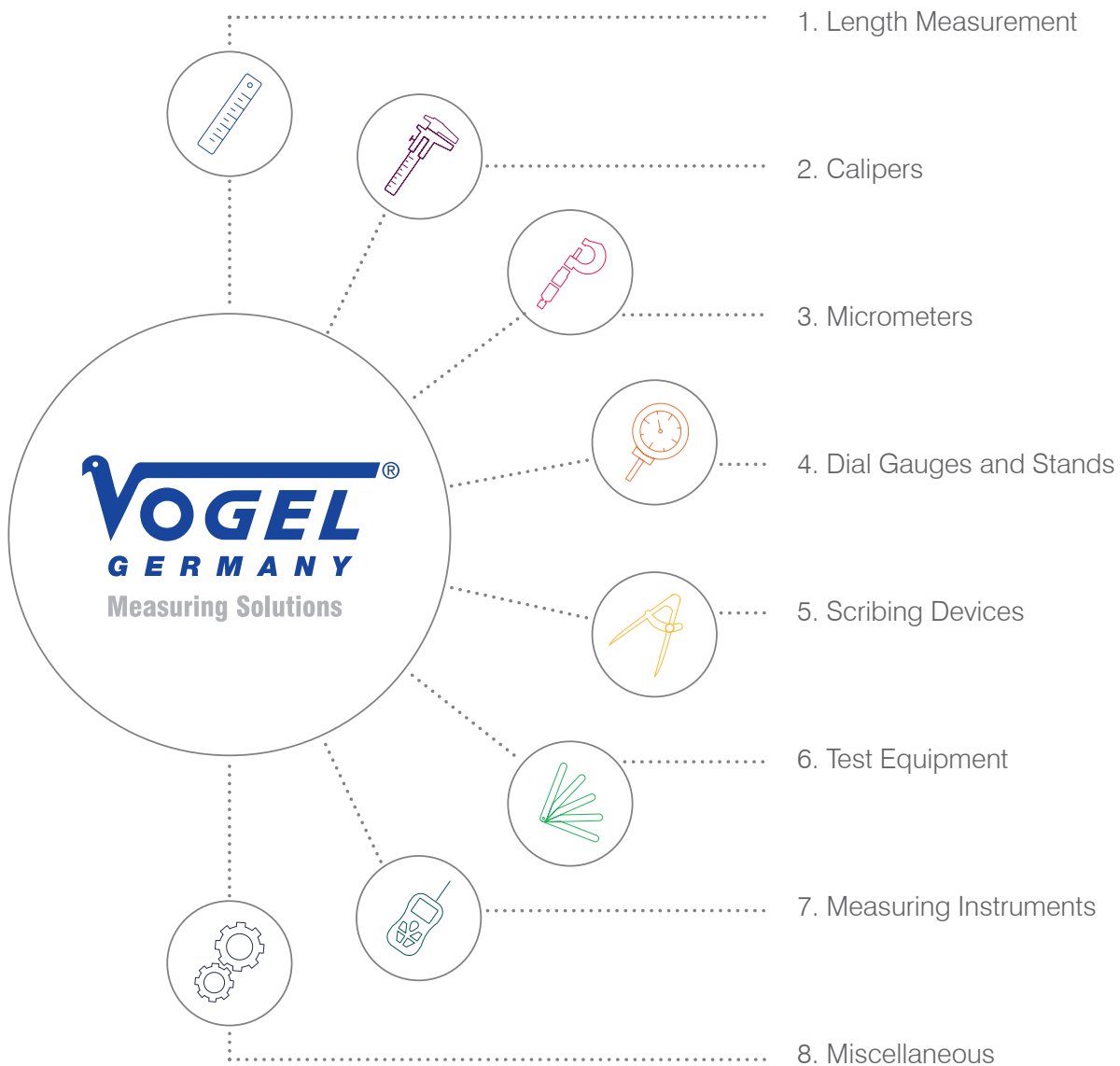
With this edition of our catalogue we have implemented some innovations. We attached great importance to findability and logical structuring.

We have reorganized our entire range so that you can find the items you want even faster.

All articles are divided into 8 newly created categories.

These categories have been renamed and illustrated with distinctive and meaningful icons.

Our categories



Length Measurement

Page 18 – 51

- Flexible Steel Rules • Stainless Steel Rules • Double Side Steel Rules • Steel Rules with Laser Engraving • Steel Rules with etched or lasered graduation
- Steel Rules black • Steel Rules with magnetic inserts • Stainless Steel Rules with stop hook 90° • Steel Rules with a central zero point
- Circumference Measuring Tapes • Precision assembly Rules • Straight Edges • Precision graduated Straight Edge • Straight Edges with bevel
- Digital Distance and Positioning Measurement Systems • Digital Measuring Magnifiers • Electr. Digital Scale • Electr. Digital Measuring Wheels
- Steel Measuring tapes • Wood folding rules • Pocket Measuring Tapes • Digital Measuring Tapes • Pocket Measuring Tape with Laser Distance Meter
- Laser Distance Meter • Measuring Tapes in light metal angled frames • Measuring tapes in a light metal triangle frame
- Measuring Tapes in a flat capsule • Tank Tapes

Length Measurement



Calipers

Page 52 – 85

- Ultra-light Caliper • Electr. Digital Caliper • Electr. Digital pointed Caliper • Electr. Digital splines Caliper • Electr. Digital special Caliper
- Measuring Bridge • Precision Pocket Vernier Caliper • Dial Caliper • Small Pocket Vernier Caliper • Electr. Digital Workshop Calipers
- Workshop Calipers • Digital Caliper for Inside and Outside Grooves • Groove Caliper • Electr. Digital Brake Disc Calipers • Brake Disc Calipers
- Brake Drum Caliper • Electr. Digital Gear Teeth Caliper • Brass Button G • Electr. Digital Tread Depth Gauge • Electr. Digital Depth Caliper
- Depth Caliper • Measuring Tool Sets

Calipers



Micrometers

Page 86 – 143

- External Micrometer • Electr. Digital Micrometer • Dial Indicator • Precision External Micrometer • Counter Micrometers • Disc Type Micrometer
- V-Anvil Micrometer • Wire Thickness Micrometer • Micrometer for external threads • Thread Flanks Measuring Inserts • Measuring Ball Holder
- Measuring Pressure Test Gauge • Optical Parallels • Setting Gauges for Micrometer • Thread Setting Gauges • Micrometer Stand
- Electr. Digital Micrometer Heads • Micrometer Heads • Precision Depth Gauge • Electr. Digital Depth Gauge • Electr. Digital Inside Micrometers
- Stand for Micro Gauge • Electr. Digital 3-point internal Micrometers • Electr. Digital 3-Point Pistol Grip Bore Gauge
- Electr. Digital 2-Point Bore Gauge Sets • Extensions rods for 3-Point Bore Micrometers • Telescopic Gauges • Bore Gauge Set with Dial Indicator
- Extension for Bore Gauges • Saw Teeth Setting Dial Indicator • Thickness Gauge • Thickness Gauges with Wheels • Foil Thickness Gauge
- Quicktest "Pocotest" • Electr. Digital Quicktest • Quicktest • Electr. Digital External Quicktest • Electr. Digital Internal Quicktest

Micrometers



Dial Gauges and Stands

Page 144 – 189

- Electr. Digital Dial Indicators • Electr. Digital small Dial Indicator • Small Dial Indicator • Dial Indicator • Precision Dial Indicators • Dial Indicators
- Spindle Lifting Lever • Lifting Device • Extensions • Measuring Bridge for Depth measurements • Inside Test Indicator • Angel Test Indicators
- Centering Holder • Clamp Holder • Clamping Shaft • Electr. Digital Test Indicator • Crankshaft Test Instruments • Electr. Digital Zero Setting Device
- Centering Indicator • Edge Finder • 3-D Probe with dial Indicator • Universal Magnetic Measuring Stands
- Universal Magnetic Measuring Stands with Ball Joint • Measuring Stand with Vacuum-Base • Magnetic Base • Vacuum Base
- Measuring Stand Columns • Wooden Box for Measuring Stands • Precision Measuring Tables

Dial Gauges and Stands



Scribing Devices

Page 190 – 225

- Spring Divider • Internal and External Spring Joint Compass • Divider and Divider with Setting Wing • Internal and External Joint Compass
- Trammel • Precision In- and Outside Caliper • Compass Vernier Calipers • Electr. Digital Universal Protractor Set • Universal Bevel Protractor
- Protractor • Electr. Digital Protractor • Marking Gauge • Universal Marking Gauge • T-Marking Vernier Caliper • Metal Etching Pens
- Steel Scribers • Parallel-V-Block-Pairs • Prism Pair • Adjustable Angel Prism • Magnetic Measuring and clamping V-Block • Prism Lamellar Block
- V-Block with Clamp • Wooden Box • Granite Measuring Cubes • Electr. Digital Height and Marking Gauges • Parallel Surface Gauge
- Precision Inspection Square • Precision Workshop Square • Precision Bevel Edge Square • Precision Knife Straight Edge
- Square with Inside Bevelled Edge • Workshop Square • Mechanic Square • Flange Square • Carpenter's Squares • Universal Square
- Combination Square-Set • Center Square • Bevel Square • Mitre Square • Hex and octagonal Angles Square • Acute Angel Square
- Bevel Square

Scribing Devices



Test Equipment

Page 226 – 173

- Precision Feeler Gauges Sets • Feeler Gauges Set made from brass • Valve Regulation Gauge Set • Piston Feeler Gauges Set • Thickness Gauge Folds
- Screw Pitch Gauge • Radius Gauges • Angel Gauge • Angel Thread Cutting Gauge • Trapez Thread Cutting Gauge • Combined Turning and Thread Cutting Gauge
- ACME Thread Cutting Gauge • Lathe Tool Gauge • Twist Drill Grinding Gauge • Universal Twist Drill Grinding Gauge • Jet Gauge • Taper Gauge • Hole Gauge
- Electr. Digital Arc Test Set • Electr. Digital Keyways caliper • Spring Gauge • Precision Welding Gauge • Electr. Digital Welding Gauge • Welding Gauge „S“
- Pipe Welding Gauge / Edge Offset Gauge • Measuring Tool Set • Profil Gauge • Limit Plug Gauges • Setting Ring Gauges • „Go“ Thread Ring Gauge
- „No-Go“ Thread Ring Gauge • Limit Thread Plug Gauges • Cylindrical Measuring Pins • Pin Holder • Parallel Gauge Blocks • Optical Parallels
- Inspection Gauge Block Set for Micrometers • Inspection Gauge Block Set for Calipers • Angel Gauge Block Set • Accessory Set for Gauge Blocks
- Gauge Connector • Measuring Jaws in Pair • Centering Point • Maintenance Kit for Gauge Block • Maintenance Spray
- Universal Comparative Measuring Instrument • Granite Measuring and Control Plate • Safety-Stand • Levelling Jack • Tailstock Pairs
- Granite Master Aquares 90° • Precision Gauge Blocks • Precision Pair of Parallels • Maintenance Set for Granite Plates • Straightening Plates • Stands
- Lapping and Control Plate • Control-, Surface- and Testing Plates • Supporting Feet • Angel Plates • Precision Inspection Spirit Levels
- Precision Inspection Frame Spirit Levels • Precision Crank Pin Levels • Precision Alloy Spirit Level • Precision Parallel Support Sets

Test Equipment



Measuring Instruments

Page 274 – 313

- Hardness Testers • Universal Digital Rebound Tester • Hardness Reference Blocks • Analogous Hardness Tester • Test Stand for Hardness Tester
- Test Blocks • Impact Devices for Special Applications • Universal Coating Thickness Gauges • Universal Paint Thickness Gauge
- Ultrasonic Thickness Gauges • Ultrasonic Thickness Gauges • Ultrasonic Thickness Gauges with Echo-Echo System
- Electr. Digital Vibration Meters • Electr. Digital Hand Tachometers • Electr. Digital Stroboscopes • Electr. Digital Force Gauges
- Electr. Digital Compact Scale • Electr. Digital Precision Scales • Electr. Digital Parcel Platform Scale • Electr. Digital Industrial Counting Scales
- Electr. Digital Hanging Scale • Electr. Digital Crane Scale • Test Weights • Voltage Detector • Electr. Digital Miniature Current Clamp
- Two Pole Voltage Tester • Electr. Digital Multimeter • Magnet Field Detector • Brake Fluid Tester • Car Tester • Electr. Digital Thermometer
- Temperature Probe • Infrared Laser-Thermometer • Electr. Digital Moisture Meter • Electr. Digital Sound Level Meter • Electr. Digital Luxmeter
- Electr. Digital Anemometer • Electr. Digital Surface Roughness Measuring Devices • Surface Finish Specimen • Image/Video Borescope Console
- Image/Video Borescope Hoses

Measuring Instruments



Miscellaneous

Page 314 – 339

- Electr. Digital Angel Measurer Spirit Level • Electr. Digital Alloy Spirit Level • Electr. Digital Light Alloy Spirit Level • Marking Ink Dressing Paste
- Special Cleaner • Electr. Digital Angel-Sensor • Electr. Digital Protractor • Electr. Digital Stopwatch • LED Handheld Magnifier
- Precision Technical Magnifier • Watchmaker Magnifier and Stone Magnifier • Technical Stand Magnifier • Line Tester • Precision Folding Magnifier
- Magnifier with LED Lamp • Head-Wearing Magnifier • Professional LED Illuminated Magnifier • Inspection Tool Kit • Magnetic Tray
- Magnet Lifter • Electr. Digital Tire Pressure Gauge • Professional Inspection Mirror • Stroke Counter • Mechanical Manual Piece Counter
- Length Counter • Measuring Wheel • Data Cable and Accessories for Electr. Digital Measuring Devices • Interface Box • Keyboard Interface
- Electr. Digital LCD Display • Data Processing System • Measurement Data Transmission System • Batteries • LED Work Lamp
- Hand Held Refractometer

Miscellaneous



Advantages of our Stainless Steel Rules

✓ We use very high quality German steel from steel plants

- steel code 1.4310
- due to the high chromium content has this steel best stainless steel attributes

✓ Our stainless steel rules are permitted in food industry and medical technology

- because we only use high quality steel (1.4310)
- because we have a special process for scaling / marking (etching technology)

Our etching technology does not require aggressive acids and no toxic paints.

Our environmental friendly etching technology is developed in 1993 by our own engineers.

For this reason we do have the permission to supply our stainless steel rules to the food industry and medical technology. Other steel rule standards are not approved for these field in Europe.

Many manufacturers etch the scales and steel rules with aggressive acid. Afterwards the graduation is colored with toxic paint (mainly in black and red). But the color may be dissolved slowly in liquids.

That means these steel rules are not permitted in the tank construction and boiler industry: not for the drinks-, food industry and not for medical technology at all.

✓ Unique in the world:

Lengths from 4-16 meter in one piece, with high repeatability, acc. to workshop standard

- due to our unique production process we can provide you with extra ordinary lengths, with a high grade of repeatability

✓ Production of special-scales

- we offer interesting special scales for e.g. mechanical engineering, shipbuilding, container, tank- and boiler construction
- scales as desired, e.g. reading from bottom to top or from top to bottom
- scales according to your specifications and drawings

✓ Accuracy of our steel rules and scales

- We manufacture according to tolerance classes I and II (similar to MID 2014/32 / EU), or acc. to workshop grade

✓ Calibration Certificates on request

**Any questions?
We are pleased to advise!**

Factory standard

total length graduation in ± mm	500	1000	1500	2000	3000	4000
permitted tolerance in ± mm	0.80	0.80	1.20	1.20	2.0	2.0

tolerances according to accuracy class I

total length graduation in ± mm	500	1000	1500	2000	3000	4000
permitted tolerance in ± mm	0.15	0.20	0.25	0.30	0.40	0.50

tolerances according to accuracy class II

total length graduation in ± mm	500	1000	1500	2000	3000	4000
permitted tolerance in ± mm	0.40	0.50	0.60	0.70	0.90	1.10
Accuracy class II according to DIN 2014/32 / EU (MID)	0.70	0.70	0.90	0.90	1.10	1.30

tolerances according to British Standard (BS 4372:1968)

total length graduation in ± mm	150	300	500	1000
permitted tolerance in ± mm	0.10	0.10	0.20	0.25

Flat and assembly rules made of aluminium and steel

Aluminium rulers are particularly light and handy compared to steel rulers. Our aluminium rulers get their particularly high wear resistance and corrosion resistance through the special hard coating.


✓ Coat properties

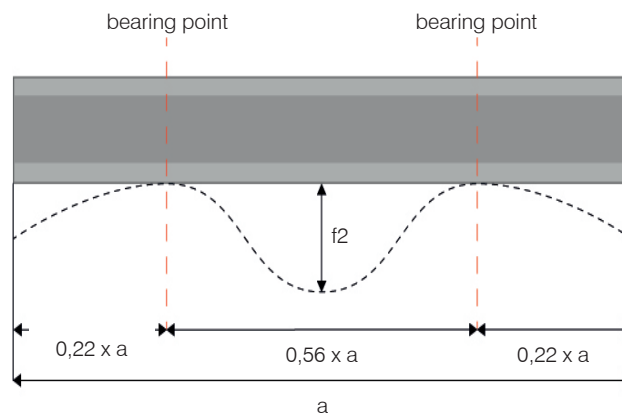
- Coat thickness approx. 50μ
- Hardness 500 - 55HV
- High electrical insulation / $4 \times 10^{15} \text{ W mm}^2/\text{m}$
- Minor thermal conductivity
- Good sliding property

✓ Flatness tolerances for straightedges according to DIN 874

The formulars given in the basic form the basis for the calculation of the flatness tolerances. (Rounded tolerances)

The sketch below shows the optimal support points for storage. Please note that the tolerances specified according to DIN are only valid if the support points are met. Double values apply for the parallelism of the measuring surfaces to one another.

 a = mm	GG 0 ($2+a/100$) μ	GG 1 ($4+a/60$) μ	GG 2 ($8+a/40$) μ
300	5	-	-
500	7	12	21
750	9,5	17	27
1000	12	21	33
1500	17	29	46
2000	22	37	58
2500	27	46	71
3000	32	54	83
4000	42	71	108
5000	52	87	133
6000	62	104	158



✓ Length tolerances

Length tolerances of folding rules, measuring tapes and roller tapes, are as per EC accuracy class

 a = mm	0.5	1	2	3	5	10	15	20	25	30	50
EG I / mm	0.2	0.2	0.3	0.4	0.6	1.1	1.6	2.1	2.6	3.1	5.1
EG II / mm	0.5	0.5	0.7	0.9	1.3	2.3	3.3	4.3	5.3	6.3	10.3
EG III / mm	1	1	1.4	1.8	2.6	4.6	6.6	8.6	10.6	12.6	20.6



Length Measurement

Flexible Steel Rules	22 – 23
Stainless Steel Rules, with etched graduation	24 – 25
Stainless Steel Rules, matt surface	26
Stainless Steel Rules, lasered graduation	27
Stainless Steel Rules, according to MID, etched	28
Stainless Steel Rules, according to MID, lasered	28
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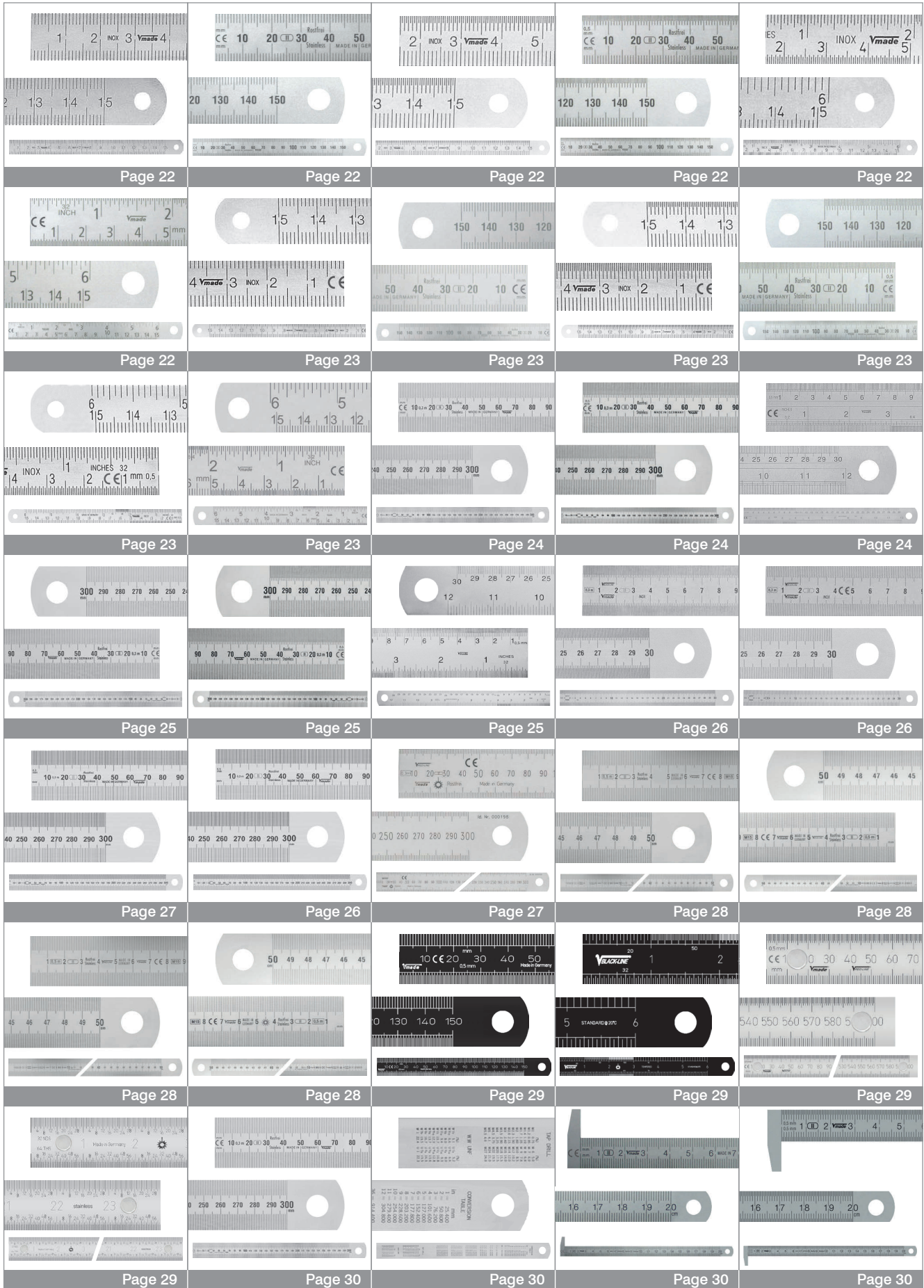
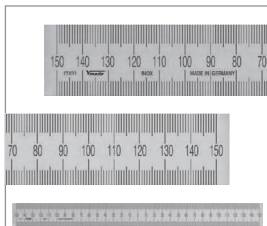
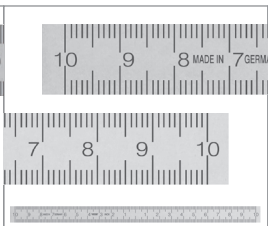

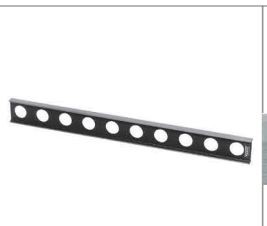
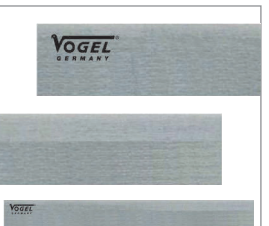
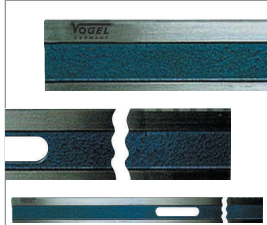
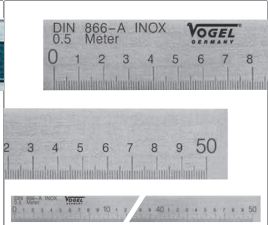
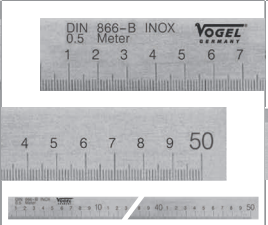
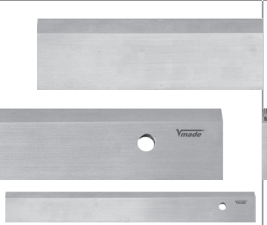
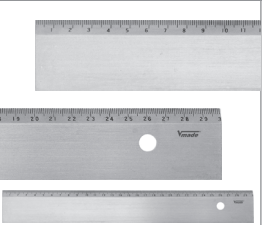
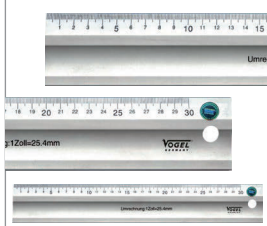
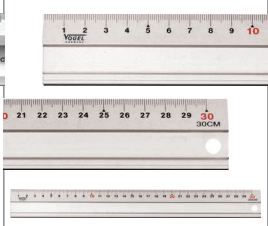


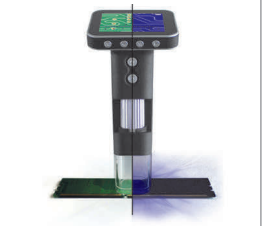








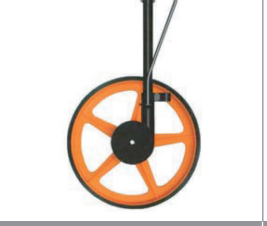













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Flexible Steel Rules

acc. to tolerance class II

- reading from left to right
- flexible version, small section
- stainless spring steel
- non glare, matt surface
- etched graduation for a clear reading
- CE classification at type A and type B

type A = mm / mm top and bottom 1/1 mm graduation

type B = 1/2 mm / mm top 1/2 mm and bottom 1/1 mm graduation

type C = inch / mm top 1/64 ; 1/32 and 1/16 inch graduation, bottom 1/2 mm and 1/1 mm,

type A

ART N° 1010010015



ART N° 1012010015



type B

ART N° 1010020015



ART N° 1012020015

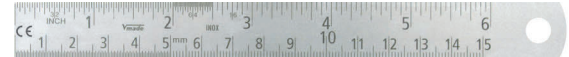


type C

ART N° 1010030015



ART N° 1012030015



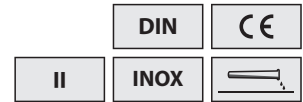
Numbering up to 500 mm length with continuing mm numbering at type A and type B.
With a cross section of 13 x 0.5 with cm numbering.

The rules from 1000 mm up to 4000 mm length with continuing cm numbering at type A and type B.

The rules up to 4000 mm length according to tolerance class II are qualified as reference pieces.

Therefore please order our calibration certificate together with the rule.

Steel Rules more than 4000 mm length are made according to workshop standard.



ART N°			mm	mm	€	EURO CC
Typ A	Typ B	Typ C				
1010010010	1010020010	1010030010	100	13 x 0.5	1.11	12.50
1010010015	1010020015	1010030015	150	13 x 0.5	1.31	12.50
1010010020	1010020020	1010030020	200	13 x 0.5	1.55	12.50
1010010025	1010020025	1010030025	250	13 x 0.5	1.78	12.50
1010010030	1010020030	1010030030	300	13 x 0.5	1.98	15.50
1010010035	—	—	350	13 x 0.5	2.26	15.50
1010010040	—	—	400	13 x 0.5	2.58	15.50
1010010050	—	—	500	13 x 0.5	3.17	15.50
1012010015	1012020015	1012030015	150	18 x 0.5	1.82	12.50
1012010030	1012020030	1012030030	300	18 x 0.5	2.50	15.50
1012010040	1012020040	1012030040	400	18 x 0.5	2.89	15.50
1012010050	1012020050	1012030050	500	18 x 0.5	3.37	15.50
1012010060	—	—	600	18 x 0.5	4.51	30.50
1012010080	—	—	800	18 x 0.5	5.60	30.50
1012010100	1012020100	1012030100	1000	18 x 0.5	8.32	30.50
1012010150	1012020150	1012030150	1500	18 x 0.5	12.92	42.00
1012010200	1012020200	1012030200	2000	18 x 0.5	20.34	42.00
1012010250	1012020250	1012030250	2500	18 x 0.5	24.17	54.00
1012010300	1012020300	1012030300	3000	18 x 0.5	27.40	54.00
1012010350	1012020350	1012030350	3500	18 x 0.5	30.04	66.00
1012010400	1012020400	1012030400	4000	18 x 0.5	57.94	66.00
1012010500	1012020500	—	5000	18 x 0.5	66.65	78.00
1012010600	1012020600	—	6000	18 x 0.5	87.95	78.00
1016010030	—	—	300	20 x 1.0	5.15	15.50
1016010050	1016020050	1016030050	500	20 x 1.0	7.26	15.50
1016010100	1016020100	1016030100	1000	20 x 1.0	12.15	30.50
1016010150	1016020150	1016030150	1500	20 x 1.0	23.64	42.00
1016010200	1016020200	1016030200	2000	20 x 1.0	27.60	42.00
1016010250	1016020250	1016030250	2500	20 x 1.0	39.42	54.00
1016010300	1016020300	1016030300	3000	20 x 1.0	44.83	54.00
1016010350	1016020350	1016030350	3500	20 x 1.0	50.25	66.00
1016010400	1016020400	1016030400	4000	20 x 1.0	73.92	66.00
1016010500	1016020500	—	5000	20 x 1.0	84.54	78.00
1016010600	1016020600	—	6000	20 x 1.0	97.45	78.00

Flexible Steel Rules

acc. to tolerance class II

- reading from right to left

- flexible version, cross section
- stainless spring steel
- non glare, matt surface
- etched graduation for a clear reading

type A = mm / mm top and bottom 1/1 mm graduation

type B = 1/2 mm / mm top 1/2 mm and bottom 1/1 mm graduation

type C = inch / mm top 1/64 ; 1/32 and 1/16 inch graduation, bottom 1/2 mm and 1/1 mm,

Numbering up to 500 mm length with continuing mm numbering at type A and type B. With a cross section of 13 x 0.5 with cm numbering.

The rules from 1000 mm up to 4000 mm length with continuing cm numbering at type A and type B.

The rules up to 4000 mm length according to tolerance class II are qualified as reference pieces.

Therefore please order our calibration certificate together with the rule.

Steel Rules more than 4000 mm length are made according to workshop standard.

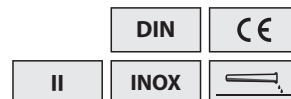
type A



type B



type C



ART No			mm	mm	€	EURO CC
Typ A	Typ B	Typ C				
1011010010	1011020010	1011030010	100	13 x 0.5	1.11	12.50
1011010015	1011020015	1011030015	150	13 x 0.5	1.31	12.50
1011010020	1011020020	1011030020	200	13 x 0.5	1.55	12.50
1011010025	1011020025	1011030025	250	13 x 0.5	1.78	12.50
1011010030	1011020030	1011030030	300	13 x 0.5	1.98	15.50
1011010035	—	—	350	13 x 0.5	2.26	15.50
1011010040	—	—	400	13 x 0.5	2.58	15.50
1011010050	—	—	500	13 x 0.5	3.17	15.50
1013010015	1013020015	1013030015	150	18 x 0.5	1.82	12.50
1013010030	1013020030	1013030030	300	18 x 0.5	2.50	15.50
1013010040	1013020040	1013030040	400	18 x 0.5	2.89	15.50
1013010050	1013020050	1013030050	500	18 x 0.5	3.37	15.50
1013010060	—	—	600	18 x 0.5	4.51	30.50
1013010080	—	—	800	18 x 0.5	5.60	30.50
1013010100	1013020100	1013030100	1000	18 x 0.5	8.32	30.50
1013010150	1013020150	1013030150	1500	18 x 0.5	12.92	42.00
1013010200	1013020200	1013030200	2000	18 x 0.5	20.34	42.00
1013010250	1013020250	1013030250	2500	18 x 0.5	24.17	54.00
1013010300	1013020300	1013030300	3000	18 x 0.5	27.40	54.00
1013010350	1013020350	1013030350	3500	18 x 0.5	30.04	66.00
1013010400	1013020400	1013030400	4000	18 x 0.5	57.94	66.00
1013010500	1013020500	1013030500	5000	18 x 0.5	66.65	78.00
1013010600	1013020600	1013030600	6000	18 x 0.5	87.95	78.00
1017010030	—	—	300	20 x 1.0	5.15	15.50
1017010050	1017020050	1017030050	500	20 x 1.0	7.26	15.50
1017010100	1017020100	1017030100	1000	20 x 1.0	12.15	30.50
1017010150	1017020150	1017030150	1500	20 x 1.0	23.64	42.00
1017010200	1017020200	1017030200	2000	20 x 1.0	27.60	42.00
1017010250	1017020250	1017030250	2500	20 x 1.0	39.42	54.00
1017010300	1017020300	1017030300	3000	20 x 1.0	44.83	54.00
1017010350	1017020350	1017030350	3500	20 x 1.0	50.25	66.00
1017010400	1017020400	1017030400	4000	20 x 1.0	73.92	66.00
1017010500	1017020500	1017030500	5000	20 x 1.0	84.54	78.00
1017010600	1017020600	1017030600	6000	20 x 1.0	97.45	78.00

Stainless Steel Rules

acc. to tolerance class II

- reading from left to right

- semi rigid version, with wide cross section
- stainless spring steel
- non glare, matt surface
- etched graduation for a clear reading

type A = mm / mm top and bottom 1/1 mm graduation

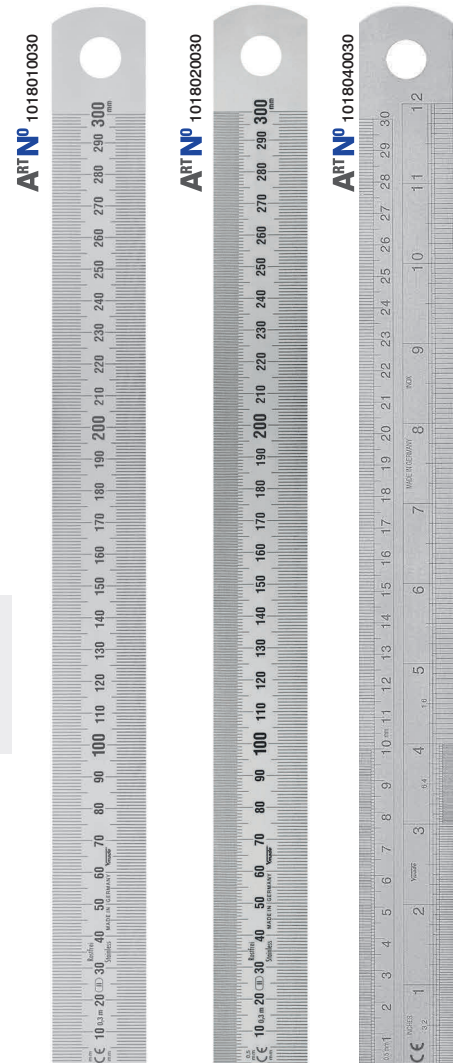
type B = 1/2 mm / mm top 1/2 mm and bottom 1/1 mm graduation

type D = inch / mm top 1/2 mm and 1/1 mm
bottom 1/64 ; 1/32 and 1/16 inch graduation,

type A

type B

type D



Numbering up to 500 mm length with continuing mm numbering at type A and type B.
The rules from 1000 mm up to 4000 mm length with continuing cm numbering at type A and type B.
The rules up to 4000 mm length according to tolerance class II are qualified as reference pieces.
Therefore please order our calibration certificate together with the rule.
Steel Rules more than 4000 mm length are made according to workshop standard.



ART N°			mm	mm	€	EURO CC
type A	type B	type D				
1018010030	1018020030	1018040030	300	30 x 1.0	4.45	15.50
1018010050	1018020050	1018040050	500	30 x 1.0	6.47	15.50
1018010060	1018020060	1018040060	600	30 x 1.0	7.31	30.50
1018010100	1018020100	1018040100	1000	30 x 1.0	11.58	30.50
1018010150	1018020150	1018040150	1500	30 x 1.0	19.98	42.00
1018010200	1018020200	1018040200	2000	30 x 1.0	29.27	42.00
1018010300	1018020300	1018040300	3000	30 x 1.0	57.97	54.00
1018010400	1018020400	1018040400	4000	30 x 1.0	78.90	54.00
1018010500	1018020500	—	5000	30 x 1.0	93.43	66.00
1018010600	1018020600	—	6000	30 x 1.0	113.96	78.00
1018010700	1018020700	—	7000	30 x 1.0	129.67	90.00
1018010800	1018020800	—	8000	30 x 1.0	149.81	102.00
1018010900	1018020900	—	9000	30 x 1.0	164.40	114.00
1018011000	1018021000	—	10000	30 x 1.0	222.08	126.00
1018011100	1018021100	—	11000	30 x 1.0	239.75	138.00
1018011200	1018021200	—	12000	30 x 1.0	267.88	150.00
1024010050	1024020050	1024040050	500	40 x 2.0	17.88	15.50
1024010100	1024020100	1024040100	1000	40 x 2.0	31.35	30.50
1024010150	1024020150	1024040150	1500	40 x 2.0	51.05	42.00
1024010200	1024020200	1024040200	2000	40 x 2.0	66.70	42.00

Stainless Steel Rules

acc. to tolerance class II

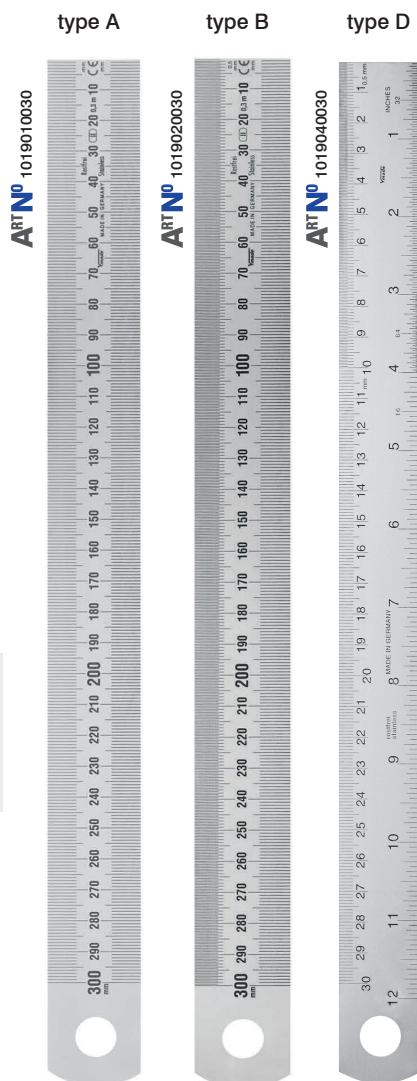
- reading from right to left
- semi rigid version, with wide cross section
- stainless spring steel
- non glare, matt surface
- etched graduation for a clear reading

type A = mm / mm top and bottom 1/1 mm graduation

type B = 1/2 mm / mm top 1/2 mm and bottom 1/1 mm graduation

type D = inch / mm top 1/2 mm and 1/1 mm
bottom 1/64 ; 1/32 and 1/16 inch graduation,

Numbering up to 500 mm length with continuing mm numbering at type A and type B.
The rules from 1000 mm up to 4000 mm length with continuing cm numbering at type A and type B.
The rules up to 4000 mm length according to tolerance class II are qualified as reference pieces.
Therefore please order our calibration certificate together with the rule.
Steel Rules more than 4000 mm length are made according to workshop standard.



ART N°			mm		€	EURO CC
type A	type B	type D				
1019010030	1019020030	1019040030	300	30 x 1.0	4.45	15.50
1019010050	1019020050	1019040050	500	30 x 1.0	6.47	15.50
1019010060	1019020060	1019040060	600	30 x 1.0	7.31	30.50
1019010100	1019020100	1019040100	1000	30 x 1.0	11.58	30.50
1019010150	1019020150	1019040150	1500	30 x 1.0	19.98	42.00
1019010200	1019020200	1019040200	2000	30 x 1.0	29.27	42.00
1019010300	1019020300	1019040300	3000	30 x 1.0	57.97	54.00
1019010400	1019020400	1019040400	4000	30 x 1.0	78.90	54.00
1019010500	1019020500	—	5000	30 x 1.0	93.43	66.00
1019010600	1019020600	—	6000	30 x 1.0	113.96	78.00
1019010700	1019020700	—	7000	30 x 1.0	129.67	90.00
1019010800	1019020800	—	8000	30 x 1.0	149.81	102.00
1019010900	1019020900	—	9000	30 x 1.0	164.40	114.00
1019011000	1019021000	—	10000	30 x 1.0	222.08	126.00
1019011100	1019021100	—	11000	30 x 1.0	239.75	138.00
1019011200	1019021200	—	12000	30 x 1.0	267.88	150.00
1025010050	1025020050	1025040050	500	40 x 2.0	17.88	15.50
1025010100	1025020100	1025040100	1000	40 x 2.0	31.35	30.50
1025010150	1025020150	1025040150	1500	40 x 2.0	51.05	42.00
1025010200	1025020200	1025040200	2000	40 x 2.0	66.70	42.00

Stainless Steel Rules, matt chromed

acc. to tolerance class II

- graduations on front and back

- graduation deeply etched
- matt chromed, non glare surface
- stainless spring steel
- cm graduation

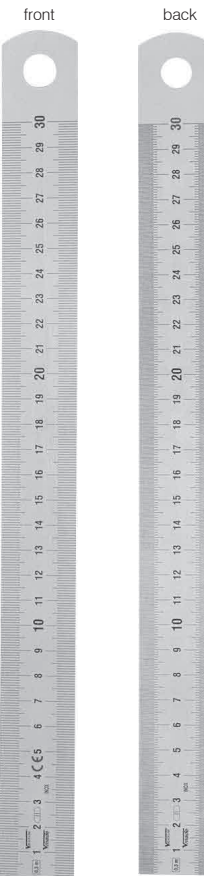
front top and bottom 1/1 mm graduation

back top 1/2 mm and bottom 1/2 mm graduation



ART NO	mm		€	EURO CC
1001040010	100	13 x 0.5	2.06	25.00
1001040015	150	13 x 0.5	3.99	25.00
1001040020	200	13 x 0.5	4.13	25.00
1001040030	300	13 x 0.5	6.37	31.00
1001240050	500	18 x 0.5	14.37	31.00
1001240100	1000	18 x 0.5	24.99	61.00
1001260030	300	30 x 1.0	14.72	31.00
1001260050	500	30 x 1.0	30.95	31.00
1001260100	1000	30 x 1.0	41.00	61.00

ART NO 1001040030



Stainless Steel Rules, double-sided

NEW

acc. to tolerance class II

- with identical reading on front- and backside

- etched graduation
- non glare surface
- stainless spring steel
- cm graduation

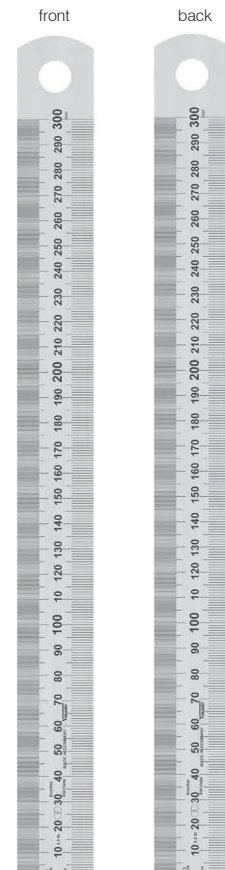
top 1/2 mm graduation

bottom 1/1 mm graduation



ART NO	mm		€	EURO CC
1010020010D	100	13 x 0.5	1.85	25.00
1010020015D	150	13 x 0.5	2.18	25.00
1010020020D	200	13 x 0.5	2.58	25.00
1010020025D	250	13 x 0.5	2.97	25.00
1010020030D	300	13 x 0.5	3.30	31.00
1010020050D	500	13 x 0.5	3.49	61.00
1012020050D	500	18 x 0.5	6.73	31.00
1012020100D	1000	18 x 0.5	8.45	61.00
1018020030D	300	30 x 1.0	5.31	31.00
1018020050D	500	30 x 1.0	8.32	31.00
1018020100D	1000	30 x 1.0	15.69	64.00
1018020150D	1500	30 x 1.0	21.79	84.00
1018020200D	2000	30 x 1.0	29.63	84.00
1018020300D	3000	30 x 1.0	43.02	108.00

ART NO 1010020010D



Stainless Steel Rules, with laser engraving

acc. to tolerance class I




- reading from left to right or right to left
- precise, deep laser engraved graduation, continuing numbers
- non glare, matt surface
- stainless spring steel

ART N° 1018060030



Numbering up to 500 mm length with continuing mm numbering.
 The rules from 1000 mm up to 2000 mm length with continuing cm numbering.
 The rules according to tolerance class I and are qualified as reference pieces.
 Therefore please order our calibration certificate together with the rule.
 Because of the deep graduation, due to the laser marking of the numbering,
 these scales are particularly suitable where high demands are placed on the scale.



ART N°	 mm		€	
graduation in mm/mm from left to right				
1010060015	150	13 x 0.5	2.22	12.50
1010060030	300	13 x 0.5	3.96	15.50
1010060050	500	13 x 0.5	5.86	15.50
1012060030	300	20 x 0.5	3.61	15.50
1012060050	500	20 x 0.5	6.73	15.50
1012060100	1000	20 x 0.5	10.78	30.50
1018060030	300	30 x 1.0	8.00	15.50
1018060050	500	30 x 1.0	11.65	15.50
1018060100	1000	30 x 1.0	20.84	30.50
1018060150	1500	30 x 1.0	35.97	42.00
1018060200	2000	30 x 1.0	52.69	42.00
graduation in mm/mm from right to left				
1011060015	150	13 x 0.5	2.22	12.50
1011060030	300	13 x 0.5	3.96	15.50
1011060050	500	13 x 0.5	4.23	15.50
1013060030	300	20 x 0.5	3.61	15.50
1013060050	500	20 x 0.5	6.73	15.50
1013060100	1000	20 x 0.5	10.78	30.50
1019060030	300	30 x 1.0	8.00	15.50
1019060050	500	30 x 1.0	11.65	15.50
1019060100	1000	30 x 1.0	20.84	30.50
1019060150	1500	30 x 1.0	35.97	42.00
1019060200	2000	30 x 1.0	52.69	42.00

Stainless Steel Rules, with etched scale

Accuracy class acc. to DIN 2014/32/EU

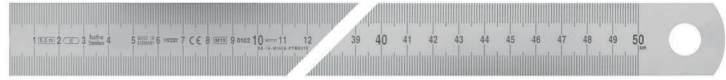
ART^{NO} 1018110050

• conformity assessment

- precise, etched scale, with clear reading
- stainless steel, non-glare, matt surface
- semi-rigid, with wide cross-section
- cm graduation
- with identification-no. and certificate of conformity

Option

- Workshop calibration certificate for a surcharge



ART^{NO} 1019110050



These Steel Rules are manufactured acc. to MID standard and are qualified as reference or master pieces. Tolerance accuracy acc. to tolerance class II.

type A = mm / mm top and bottom with 1/1 mm graduation

type B = ½ mm / mm top with 1/2 mm and bottom with 1/1 mm graduation



ART ^{NO} type A	ART ^{NO} type B	ART ^{NO} type A	ART ^{NO} type B	mm		€	EURO CC
graduation left to right		graduation right to left					
1018110050	1018120050	1019110050	1019120050	500	30 x 1.0	9.79	37.00
1018110100	1018120100	1019110100	1019120100	1000	30 x 1.0	15.98	39.00
1018110150	1018120150	1019110150	1019120150	1500	30 x 1.0	26.99	42.00
1018110200	1018120200	1019110200	1019120200	2000	30 x 1.0	43.29	42.00
1018110300	1018120300	1019110300	1019120300	3000	30 x 1.0	64.57	46.00
1018110400	1018120400	1019110400	1019120400	4000	30 x 1.0	85.50	48.00
1024110050	1024120050	1025110050	1025120050	500	40 x 2.0	22.38	37.00
1024110100	1024120100	1025110100	1025120100	1000	40 x 2.0	36.30	39.00
1024110200	1024120200	1025110200	1025120200	2000	40 x 2.0	71.65	42.00

Stainless Steel Rules, with laser engraved scale

Tolerance acc. to 2014/32/EU

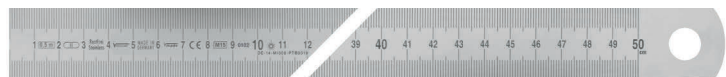
ART^{NO} 1008110050

• conformity assessment

- precise and deep, laser engraved scale, with clear reading
- stainless steel, non-glare, matt surface
- semi-rigid, with wide cross-section
- cm graduation
- with identification-no. and certificate of conformity

Option

- Workshop calibration certificate for a surcharge



ART^{NO} 1009110050



These Steel Rules are manufactured acc. to MID standard and are qualified as reference or master pieces. Tolerance acc. to tolerance class II.

type A = mm / mm top and bottom with 1/1 mm graduation

type B = ½ mm / mm top with 1/2 mm and bottom with 1/1 mm graduation



ART ^{NO} type A	ART ^{NO} type B	ART ^{NO} type A	ART ^{NO} type B	mm		€	EURO CC
graduation left to right		graduation right to left					
1008110050	1008120050	1009110050	1009120050	500	30 x 1.0	19.57	37.00
1008110100	1008120100	1009110100	1009120100	1000	30 x 1.0	28.76	39.00
1008110150	1008120150	1009110150	1009120150	1500	30 x 1.0	43.18	42.00
1008110200	1008120200	1009110200	1009120200	2000	30 x 1.0	60.61	42.00
1004110050	1004120050	1005110050	1005120050	500	40 x 2.0	36.53	37.00
1004110100	1004120100	1005110100	1005120100	1000	40 x 2.0	58.08	39.00
1004110200	1004120200	1005110200	1005120200	2000	40 x 2.0	114.65	42.00

Steel Rules, black anodized

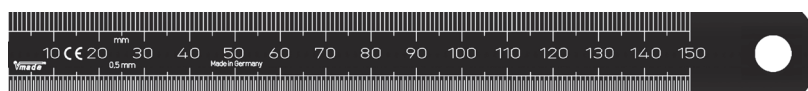
metric graduation acc. to tolerance class II or BS

- graduation on front- and rearside
- reading from left to right
- precise, deep laser engraved scale
- carbon spring steel, with black anodized surface

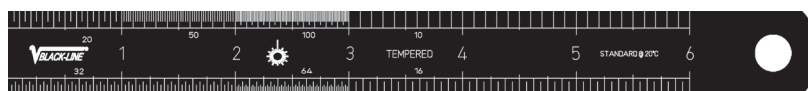
frontside 1/1 mm and 1/2 mm

backside 1/10; 1/16; 1/20; 1/32; 1/64; 1/50; 1/100 inch

ART N° 1026431015



frontside



backside



ART N°	mm / inch		€	
1026431015	150 / 6	18 x 0.5	6.07	25.00
1026431030	300 / 12	30 x 1.0	13.34	25.00
1026431045	450 / 18	30 x 1.0	19.81	31.00
1026431060	600 / 24	30 x 1.0	21.79	61.00
1026431100	1000 / 40	30 x 1.0	34.73	61.00

Stainless Steel Rules, with magnetic inserts

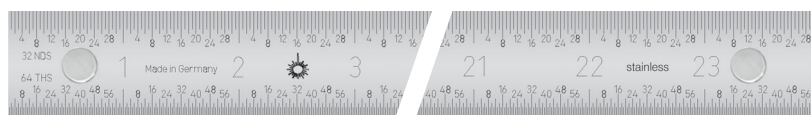
metric graduation acc. to tolerance class II or BS

- graduation on front- and rearside
- reading from left to right
- with two straight ends without whole
- precise, deep laser engraved scale
- non-glare, matt surface, with clear reading
- with detachable magnetic inserts

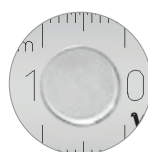
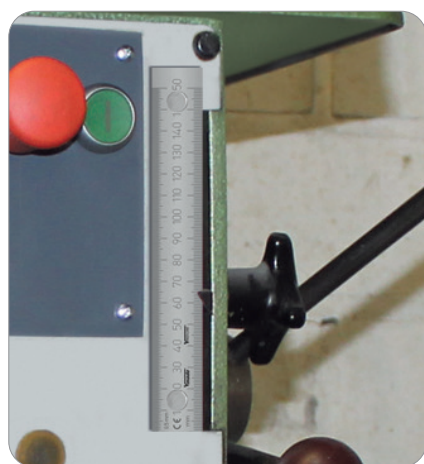
ART N° 1026433060



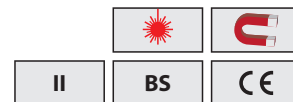
frontside: 1/2 mm and 1/1 mm



backside: 1/32 and 1/64 inch



with detachable magnetic inserts



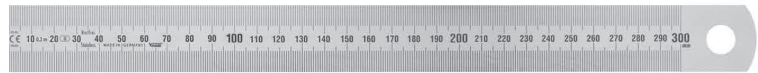
ART N°	mm / inch		€	
1026433015	150 / 6	30 x 1.0	12.68	25.00
1026433030	300 / 12	30 x 1.0	19.94	31.00
1026433060	600 / 24	30 x 1.0	26.41	61.00
1026433090	900 / 36	30 x 1.0	28.39	61.00
1026433120	1200 / 48	30 x 1.0	41.33	84.00

Stainless Steel Rules

acc. to tolerance class II

- reading from left to right
- with conversion table on the backside
- etched graduation for a clear reading
- non glare, matt surface
- stainless spring steel

ART N° 1055030030



type A • front



type A • back

type A = mm / mm top and bottom 1/1 mm graduation
 type B = ½ mm / mm top ½ mm and bottom 1/1 mm graduation



ART N°				€	EURO CC
type A	type B	mm			
1055030030	1055050030	300	30 x 1.0	6.67	15.50
1055030050	1055050050	500	30 x 1.0	9.71	15.50
1055030100	1055050100	1000	30 x 1.0	17.36	30.50
1055030200	1055050200	2000	30 x 1.0	43.91	42.00

Stainless Steel Rules with Hook 90°

acc. to tolerance class II

- with hook 90°
- reading from left to right

- flexible design because of narrow cross section
- stainless spring steel
- non glare, matt surface
- front: top 1/1 mm and bottom 1/1 mm graduation
- back: top 1/2 mm and bottom 1/2 mm graduation
- etched graduation for a clear reading
- cm graduation

ART N° 1033010020



front



back



ART N°	mm		€	EURO CC
1033010020	200	13 x 0.5	4.28	25.00
1033010030	300	13 x 0.5	5.07	30.00
1034010050	500	18 x 0.5	6.26	30.00



Our new slogan: Measuring Solutions

- ✓ more appropriate
- ✓ more meaningful
- ✓ more contemporary

This stands for the further development of the brand Vogel Germany to even more customer-oriented solutions in the measurement technology, development of the range, consulting, training, etc.



You would like to have a Rule with Special Scale? You are exactly right with us!

Use this form to send us your request:

- 1 download and fill out this form on the following link:
www.vogel-germany.de/request-rule-with-special-scale.pdf
- 2 send the form via eMail to info@vogel-germany.de
or send by fax to +49 2832 3621
- 3 get our offer

Any questions?
We are pleased to advise!

Inquiry Form • Rule with Special Scale

Your data

Customer Number: If already exist _____

Company Name: _____

Contact Person: _____

Phone: _____

Mail: _____

Information on your desired Rule with Special Scale

Quantity: _____

Standard length in mm: (if applicable, please check)

<input type="radio"/>	150	<input type="radio"/>	300	<input type="radio"/>	500	<input type="radio"/>	1000	<input type="radio"/>	1500	<input type="radio"/>	2000	<input type="radio"/>	2500
<input type="radio"/>	3000	<input type="radio"/>	3500	<input type="radio"/>	4000	<input type="radio"/>	4500	<input type="radio"/>	5000	<input type="radio"/>	5500	<input type="radio"/>	6000

Special length: Please specify the desired length in mm, we manufacture up to a length of 16,000 mm

Cross section (width):

<input type="radio"/>	13 x 0.5	<input type="radio"/>	18 x 0.5	<input type="radio"/>	20 x 1.0	<input type="radio"/>	30 x 1.0	<input type="radio"/>	40 x 2.0
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Type of scaling:

<input type="radio"/>	left – right	<input type="radio"/>	right – left	<input type="radio"/>	bottom – top	<input type="radio"/>	top – bottom
<input type="radio"/>	double-sided	<input type="radio"/>	only left	<input type="radio"/>	only right		

if double-sided:

		frontside			backside						
<input type="radio"/>	mm	<input type="radio"/>	cm	<input type="radio"/>	inch	<input type="radio"/>	mm	<input type="radio"/>	cm	<input type="radio"/>	inch

Tolerances:

<input type="radio"/>	Workshop standard	<input type="radio"/>	EC I	<input type="radio"/>	EC II	<input type="radio"/>	BS	<input type="radio"/>	MID
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You would like to send us a draw to your desired Rule with Special Scale?
Send by email to info@vogel-germany.de or by fax to +49 (0) 2832 3621.

Rules 0 centre

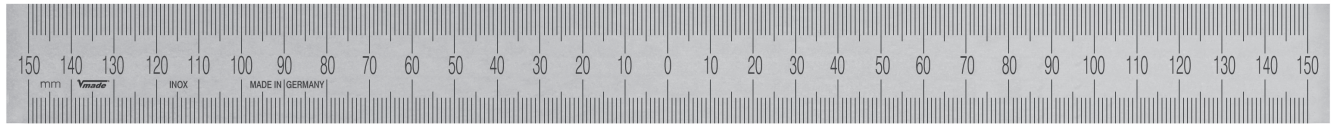
Stainless Steel Rules with zero-point in the middle

acc. to workshop grade

- suitable for craftsmen and industry

- stainless spring steel
- non glare, matt surface
- etched graduation for a clear reading
- graduation reading with zero-point in the middle
- top and bottom 1/1 mm graduation

ART^N 1018010030-0-






ART^N 1010010020-0-



INOX



ART ^N	 mm		€	
1010010010-0-	50 – 0 – 50	13 x 0.5	2.77	12.50
1010010015-0-	75 – 0 – 75	13 x 0.5	3.27	12.50
1010010020-0-	100 – 0 – 100	13 x 0.5	3.86	12.50
1010010030-0-	150 – 0 – 150	13 x 0.5	4.95	15.50
1010010040-0-	200 – 0 – 200	13 x 0.5	6.44	15.50
1010010050-0-	250 – 0 – 250	13 x 0.5	7.33	15.50
1010010060-0-	300 – 0 – 300	13 x 0.5	8.12	30.50
1010010080-0-	400 – 0 – 400	13 x 0.5	11.49	30.50
1010010100-0-	500 – 0 – 500	13 x 0.5	12.28	30.50
1012010010-0-	50 – 0 – 50	18 x 0.5	3.76	12.50
1012010015-0-	75 – 0 – 75	18 x 0.5	4.56	12.50
1012010020-0-	100 – 0 – 100	18 x 0.5	4.95	12.50
1012010030-0-	150 – 0 – 150	18 x 0.5	6.24	15.50
1012010040-0-	200 – 0 – 200	18 x 0.5	7.23	15.50
1012010050-0-	250 – 0 – 250	18 x 0.5	8.42	15.50
1012010060-0-	300 – 0 – 300	18 x 0.5	9.01	30.50
1012010080-0-	400 – 0 – 400	18 x 0.5	11.88	30.50
1012010100-0-	500 – 0 – 500	18 x 0.5	13.47	30.50
1016010010-0-	50 – 0 – 50	20 x 1.0	4.26	12.50
1016010015-0-	75 – 0 – 75	20 x 1.0	5.25	12.50
1016010020-0-	100 – 0 – 100	20 x 1.0	6.54	12.50
1016010030-0-	150 – 0 – 150	20 x 1.0	7.73	15.50
1016010040-0-	200 – 0 – 200	20 x 1.0	8.91	15.50
1016010050-0-	250 – 0 – 250	20 x 1.0	10.89	15.50
1016010060-0-	300 – 0 – 300	20 x 1.0	12.78	30.50
1016010080-0-	400 – 0 – 400	20 x 1.0	15.15	30.50
1016010100-0-	500 – 0 – 500	20 x 1.0	18.22	30.50
1018010010-0-	50 – 0 – 50	30 x 1.0	6.04	12.50
1018010015-0-	75 – 0 – 75	30 x 1.0	6.73	12.50
1018010020-0-	100 – 0 – 100	30 x 1.0	7.43	12.50
1018010030-0-	150 – 0 – 150	30 x 1.0	10.00	15.50
1018010040-0-	200 – 0 – 200	30 x 1.0	12.18	15.50
1018010050-0-	250 – 0 – 250	30 x 1.0	14.56	15.50
1018010060-0-	300 – 0 – 300	30 x 1.0	16.44	30.50
1018010070-0-	350 – 0 – 350	30 x 1.0	18.32	30.50
1018010080-0-	400 – 0 – 400	30 x 1.0	21.69	30.50
1018010100-0-	500 – 0 – 500	30 x 1.0	26.05	30.50
1018010120-0-	600 – 0 – 600	30 x 1.0	39.02	42.00
1018010150-0-	750 – 0 – 750	30 x 1.0	44.96	42.00
1018010200-0-	1000 – 0 – 1000	30 x 1.0	65.86	42.00
1018010250-0-	1250 – 0 – 1250	30 x 1.0	76.36	54.00
1018010300-0-	1500 – 0 – 1500	30 x 1.0	86.96	54.00
1018010400-0-	2000 – 0 – 2000	30 x 1.0	118.35	66.00
1018010500-0-	2500 – 0 – 2500	30 x 1.0	140.14	78.00

Circumference Measuring Tapes

Circumference Measuring Tape „UFM“

acc. to tolerance class II

- with etched or laser engraved scale
- for measuring diameters and circumferences
- application areas are among others manufacturers of: pipelines, boiler and tank construction, tire industry, forestry, etc.
- accuracy of total length with etched metric and laser engraved metric graduation according to EC II
- hardened spring steel or stainless spring steel



ART N° 181601



Graduation: mm
Version: etched



ART N° stainless	€	ART N° carbon steel	€	circumference mm	diameter mm	mm		EURO CC
181601	47.41	181611	35.55	60 – 950	20 – 300	0.1	16 x 0.20	24.00
181602	56.10	181612	44.88	940 – 2200	300 – 700	0.1	16 x 0.20	31.00
181603	63.92	181613	55.40	2190 – 3460	700 – 1100	0.1	16 x 0.20	31.00
181604	74.28	181614	71.31	3450 – 4720	1100 – 1500	0.1	16 x 0.20	31.00
181605	85.71	181615	81.99	4710 – 5980	1500 – 1900	0.1	16 x 0.20	37.00
181606	99.43	181616	94.70	5960 – 7230	1900 – 2300	0.1	16 x 0.20	37.00
181607	116.21	181617	110.09	7220 – 8500	2300 – 2700	0.1	16 x 0.20	37.00
181608	137.42	181618	129.33	8480 – 9760	2700 – 3100	0.1	16 x 0.20	37.00
181609	164.12	181619	153.18	9730 – 11010	3100 – 3500	0.1	16 x 0.20	42.00

Graduation: mm
Version: laser engraved



ART N° stainless	€	ART N° carbon steel	€	circumference mm	diameter mm	mm		EURO CC
181801	55.86	181811	44.69	60 – 950	20 – 300	0.1	16 x 0.20	24.00
181802	63.20	181812	50.83	940 – 2200	300 – 700	0.1	16 x 0.20	31.00
181803	71.45	181813	57.84	2190 – 3460	700 – 1100	0.1	16 x 0.20	31.00
181804	82.27	181814	67.11	3450 – 4720	1100 – 1500	0.1	16 x 0.20	31.00
181805	94.72	181815	78.01	4710 – 5980	1500 – 1900	0.1	16 x 0.20	37.00
181806	114.84	181816	91.87	5960 – 7230	1900 – 2300	0.1	16 x 0.20	37.00
181807	128.28	181817	109.93	7220 – 8500	2300 – 2700	0.1	16 x 0.20	37.00
181808	156.12	181818	134.83	8480 – 9760	2700 – 3100	0.1	16 x 0.20	37.00
181809	180.25	181819	170.24	9730 – 11010	3100 – 3500	0.1	16 x 0.20	42.00

Graduation: continuous in mm **NEW**
Version: raised markings and figures in bright natural steel colour on a dark, etched background

ART N° 183001



ART N°	circumference mm	diameter mm	mm		€	EURO CC
183001	60 – 950	20 – 300	0.1	13 x 0.20	56.59	24.00
183002	60 – 2200	20 – 700	0.1	13 x 0.20	69.33	31.00
183003	60 – 3780	20 – 1200	0.1	13 x 0.20	97.39	31.00
183004	60 – 4720	20 – 1500	0.1	13 x 0.20	109.60	31.00
183005	60 – 5980	20 – 1900	0.1	13 x 0.20	116.54	37.00
183006	60 – 7540	20 – 2400	0.1	13 x 0.20	123.47	37.00
183007	60 – 8500	20 – 2700	0.1	13 x 0.20	168.37	37.00
183008	60 – 9760	20 – 3100	0.1	13 x 0.20	176.29	37.00
183009	60 – 11310	20 – 3600	0.1	13 x 0.20	184.21	42.00

Straight Edges

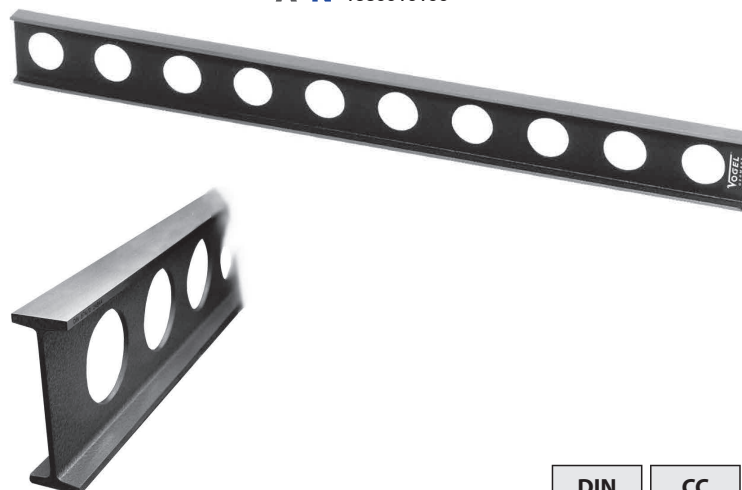
Precision Straight Edge

DIN 874

- accuracy acc. to DIN 874 page 1, accuracy GG 0
- made of steel

- shaped in I-form
- with weight reducing holes
- measuring surfaces extra fine ground
- with wide flat sides for resting spirit levels
- incl. calibration certificate

ART N° 1580010100



DIN CC

ART N° DIN 874 GG 0	€			CC	ART N° wooden case	€
1580010100	527.88	1000	160 x 50	inclusive	15998100	119.55
1580010150	754.11	1500	160 x 50	inclusive	15998150	149.20
1580010200	980.34	2000	160 x 50	inclusive	15998200	248.30
1580010250	1281.98	2500	160 x 50	inclusive	15998250	261.36
1580010300	2096.42	3000	180 x 60	inclusive	—	—
1580010400	2760.03	4000	180 x 60	inclusive	—	—
1580010500	3862.50	5000	200 x 80	inclusive	—	—

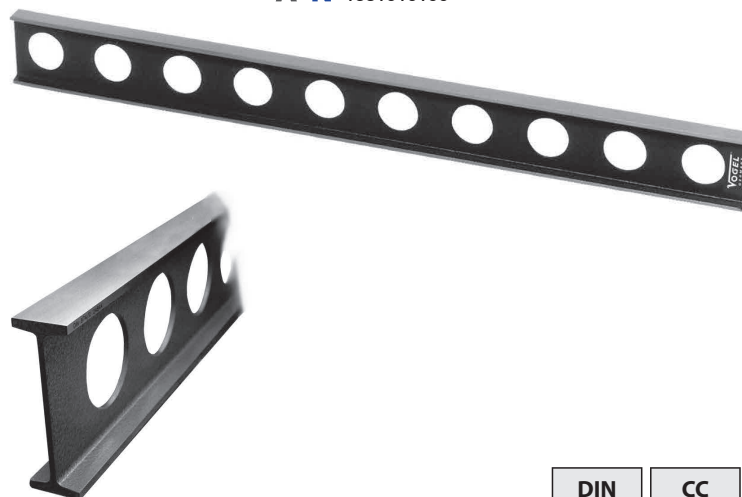
Precision Straight Edge

DIN 874

- accuracy acc. to DIN 874 page 1, accuracy GG 1
- made of steel

- shaped in I-form
- with weight reducing holes
- measuring surfaces extra fine grinded
- with wide flat sides for resting spirit levels
- incl. calibration certificate

ART N° 1581010100



DIN CC

ART N° DIN 874 GG 1	€			CC	ART N° wooden case	€
1581010100	396.98	1000	100 x 30	inclusive	15998100-1	119.55
1581010150	525.73	1500	100 x 30	inclusive	15998150-1	149.20
1581010200	703.83	2000	120 x 40	inclusive	15998200-1	248.30
1581010250	985.37	2500	120 x 40	inclusive	15998250-1	261.36
1581010300	1231.71	3000	140 x 40	inclusive	—	—
1581010400	1618.82	4000	140 x 40	inclusive	—	—
1581010500	2674.57	5000	160 x 40	inclusive	—	—

Precision Straight Edge

DIN 874

Quality DIN 874 page 1, accuracy GG 0, made of steel:

- edges and flat sides extra fine ground
- stainless and carbon steel quality available
- from up 2000 mm length shaped in I-form, with hand slots
- incl. calibration certificate

Quality DIN 874 page 1, accuracy GG 1, made of steel:

- edges and flat sides finely ground
- stainless and carbon steel quality available
- from up 2000 mm length shaped in I-form, with hand slots
- incl. calibration certificate

Accuracy acc. to DIN 874 page 1, accuracy GG 2, made of steel:

- edges finely ground and flat sides ground
- stainless and carbon steel quality available
- from up 4000 mm length shaped in I-form, with hand slots
- incl. calibration certificate

ART N° 159000050

form A



form B



DIN

CC

ART N°	€	ART N°	€	form			CC	ART N° wooden case	€
DIN 874 GG 0 INOX		DIN 874 GG 0							
1590000050	124.10	1590010050	68.95	A	500	50 x 10	inclusive	15990050	54.14
1590000100	294.29	1590010100	163.75	A	1000	60 x 12	inclusive	15990100	75.63
1590000150	515.00	1590010150	267.17	A	1500	70 x 15	inclusive	15990150	144.10
1590000200	800.53	1590010200	482.63	B	2000	80 x 15	inclusive	15990200	280.61
1590000300	2790.20	1590010300	980.34	B	3000	120 x 18	inclusive	—	—
1590000400	4449.23	1590010400	1628.87	B	4000	140 x 20	inclusive	—	—
1590000500	5565.31	1590010500	2081.34	B	5000	140 x 20	inclusive	—	—

DIN 874 GG 1 INOX		DIN 874 GG 1							
1591000050	68.95	1591010050	40.22	A	500	40 x 8	inclusive	15990050-1	54.14
1591000100	159.33	1591010100	84.46	A	1000	50 x 10	inclusive	15990100-1	75.63
1591000150	361.97	1591010150	160.88	A	1500	60 x 12	inclusive	15990150-1	144.10
1591000200	649.18	1591010200	361.97	B	2000	70 x 15	inclusive	15990200-1	280.61
1591000300	1236.39	1591010300	758.42	B	3000	100 x 16	inclusive	—	—
1591000400	2660.42	1591010400	1327.23	B	4000	120 x 18	inclusive	—	—
1591000500	3604.60	1591010500	1945.60	B	5000	140 x 20	inclusive	—	—

DIN 874 GG 2 INOX		DIN 874 GG 2							
1592000050	44.82	1592010050	28.15	A	500	30 x 6	inclusive	15990050-2	54.14
1592000100	105.10	1592010100	56.31	A	1000	40 x 8	inclusive	15990100-2	75.63
1592000150	220.71	1592010150	106.58	A	1500	50 x 10	inclusive	15990150-2	144.10
1592000200	399.39	1592010200	150.82	A	2000	60 x 12	inclusive	15990200-2	280.61
1592000300	799.54	1592010300	396.44	A	3000	80 x 15	inclusive	—	—
1592000400	1363.59	1592010400	896.31	B	4000	100 x 16	inclusive	—	—

Precision Straight Edge

DIN 874

ART^{NO} 1593000050

form B

- cross-section in I-form
- made of aluminium



characteristics and advantages compared to steel:

- very light, good handling, midsection lacquered
- high accuracy- and pliability-values
- HC-coated and compressed, coating thickness $50\mu \pm 5\mu$
- high grade of abrasion resistance, high grade of corrosion resistance
- hardness 500 – 550 HV, top gliding, low thermal conductivity
- for grade 0 and 1 from 2000 mm with hand slots, grade 2 from up 2500 mm
- incl. calibration certificate

quality DIN 874 page 1, accuracy GG 0

quality DIN 874 page 1, accuracy GG 1

quality DIN 874 page 1, accuracy GG 2

DIN	CC
-----	----

ART ^{NO}	form			€	CC	ART ^{NO} wooden case	€
DIN 874 GG 0							
1593000050	B	500	60 x 12	171.56	inclusive	15991050	29.78
1593000100	B	1000	60 x 12	356.32	inclusive	15991100	75.63
1593000150	B	1500	100 x 15	646.65	inclusive	15991150	187.58
1593000200	B	2000	100 x 15	884.19	inclusive	15991200	304.25
1593000250	B	2500	100 x 15	1095.34	inclusive	15991250	368.42
1593000300	B	3000	150 x 20	1887.15	inclusive	—	—
1593000400	B	4000	150 x 20	2639.38	inclusive	—	—
1593000500	B	5000	150 x 20	3167.25	inclusive	—	—
DIN 874 GG 1							
1593010050	B	500	60 x 12	151.76	inclusive	15991050	29.78
1593010100	B	1000	60 x 12	303.53	inclusive	15991100	75.63
1593010150	B	1500	100 x 15	554.27	inclusive	15991150	187.58
1593010200	B	2000	100 x 15	739.03	inclusive	15991200	304.25
1593010250	B	2500	100 x 15	923.78	inclusive	15991250	368.42
1593010300	B	3000	150 x 20	1517.64	inclusive	—	—
1593010400	B	4000	150 x 20	2243.47	inclusive	—	—
1593010500	B	5000	150 x 20	2575.00	inclusive	—	—
1593010600	B	6000	150 x 20	3167.25	inclusive	—	—
DIN 874 GG 2							
1593020050	B	500	60 x 12	137.25	inclusive	15991050	29.78
1593020100	B	1000	60 x 12	277.13	inclusive	15991100	75.63
1593020150	B	1500	60 x 12	435.50	inclusive	15991150	187.58
1593020200	B	2000	60 x 12	554.27	inclusive	15991200	304.25
1593020250	B	2500	100 x 15	818.21	inclusive	15991250	368.42
1593020300	B	3000	100 x 15	1016.16	inclusive	—	—
1593020400	B	4000	100 x 15	1319.69	inclusive	—	—
1593020500	B	5000	150 x 20	2266.08	inclusive	—	—
1593020600	B	6000	150 x 20	2311.71	inclusive	—	—

Precision Graduated Straight Edge

DIN 866

Quality DIN 866 form A

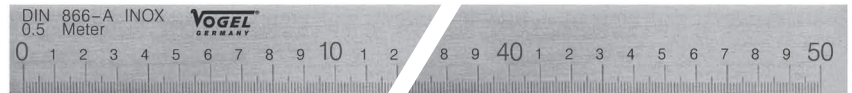
- mm graduation on bottom edge
- 5 mm protection space on both ends
- flat side finely ground
- vertical edges finely ground, can be used as a rule
- stainless or carbon steel quality available

Quality DIN 866 form B

- mm graduation on bottom edge
- without protection-space end, at left side
- flat side ground
- vertical edges ground
- stainless or carbon steel quality available

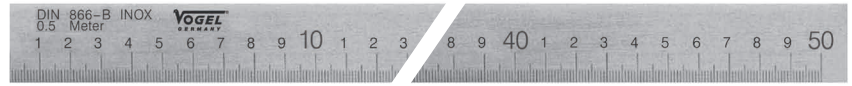
form A

ART N° 1691000050



form B

ART N° 1692000050



DIN

ART N°	€	ART N°	€				ART N° wooden case	€
DIN 866 / A INOX		DIN 866 / A						
1691000050	43.44	1691010050	24.13	500	30 x 6	on request	1699050-A	49.52
1691000100	101.35	1691010100	48.26	1000	40 x 8	on request	1699100-A	99.04
1691000150	159.27	1691010150	88.48	1500	40 x 8	on request	1699150-A	148.56
1691000200	297.62	1691010200	131.92	2000	50 x 10	on request	1699200-A	198.08
1691000300	546.98	1691010300	265.45	3000	50 x 10	—	—	—
1691000400	646.09	1691010400	466.54	4000	60 x 12	—	—	—
1691000500	1663.70	1691010500	740.03	5000	70 x 15	—	—	—
DIN 866 / B INOX		DIN 866 / B						
1692000050	21.76	1692010050	14.00	500	25 x 5	on request	1699050-B	49.52
1692000100	63.55	1692010100	28.96	1000	30 x 6	on request	1699100-B	99.04
1692000150	111.00	1692010150	45.05	1500	30 x 6	on request	1699150-B	148.56
1692000200	194.66	1692010200	77.22	2000	40 x 8	on request	1699200-B	198.08
1692000300	353.93	1692010300	141.57	3000	40 x 8	—	—	—
1692000400	627.42	1692010400	281.53	4000	50 x 10	—	—	—
1692000500	1074.14	1692010500	448.72	5000	60 x 12	—	—	—

Tolerances according to DIN 866

total length graduation mm	500	1000	1500	2000	3000	4000	5000
tolerance (mm) form A	0.03	0.04	0.05	0.06	0.08	0.10	0.12
tolerance (mm) form B	0.075	0.10	0.125	0.15	0.20	0.25	0.30

Straight Edges with bevel

Straight Edge with bevel

- for simple workshop use
- made of steel
- chromed version
- type A = without graduation, type B = with mm graduation
- graduation black etched, bevel edge matt chrome finish

type A **ART N°** 1794200030



type B **ART N°** 1794300030



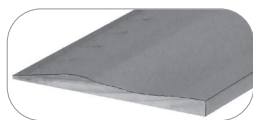
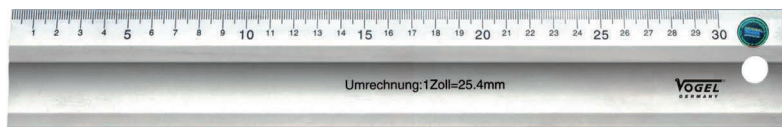
ART N° type A	€	ART N° type B	€	mm	mm
1794200030	19.81	1794300030	23.11	300	40 x 5
17942000400	28.06	17943000400	31.36	400	40 x 5
1794200050	29.71	1794300050	33.01	500	40 x 5
1794200080	39.43	1794300080	44.66	800	40 x 5
1794200100	41.27	1794300100	99.52	1000	40 x 5
🚚 1794200150	89.13	🚚 1794300150	135.35	1500	40 x 5
🚚 1794200200	125.45	🚚 1794300200	169.89	2000	40 x 5

Straight Edge with bevel

- for technicians
- made of hard aluminium, anodized quality

- anodised quality
- with black printed mm graduation and cm numbering

ART N° 1795300030



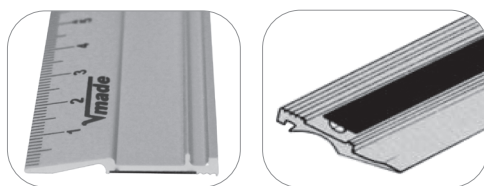
ART N°	mm	mm	€
1795300030	300	50 x 5	4.16
1795300060	600	50 x 5	7.53
1795300100	1000	50 x 5	12.20
1795300180	1800	50 x 5	20.09

Straight Edge with bevel

- e.g. for school, education, DIY and craftsmen
- made of hard aluminium, anodized quality

- made of hard aluminium, anodised quality
- with mm graduation, printed
- backside covered with anti-slip foam rubber

ART N° 1796300030



ART N°	mm	mm	€
1796300030	300	35 x 1.5	4.05
1796300060	600	35 x 1.5	8.14
1796300100	1000	35 x 1.5	12.38

Why actually Vogel Germany?

Besides a wide range of products which offer the right solution for every application, Vogel Germany is a service oriented company that is also powerful in consulting, training and logistics.

For further information on Vogel Germany please visit:

www.vogel-germany.de



Vogel Germany

- ✓ offers best customer service
- ✓ belongs to the strong Fervi Group
- ✓ offers quality Made in Germany

MASTER-LINE® Digital Distance and Positioning Measuring System incl. VGA Camera with Zoom Factor • IP54

NEW

- electronic unit and LCD fixed on the sliding parts
- stainless steel, hardened rail
- feet with magnet inserts, rubber caps (non-slip) and positioning arrows
- large color display with crosshair and zoom function
- LED light units with 4x white and 4x UV / black light, switchable

Elektronic

- large LCD with clear reading, digit height 14 mm
- On/Off switch, zero setting at any position, data hold function
- Preset, Origin switch
- unit switchable in mm/inch
- data transfer via WiFi or Bluetooth®
- incl. 2x 3 V battery (type CR 2032, art.-no.: 90112), with operation manual

Camera (art.-no. 601251)

- VGA camera sensor, Camera rechargeable
- focus manually adjustable via handwheel
- 10x zoom function (10% steps)
- 3.5" colour display, 720 pixels
- video format AVI, photo format JPG
- Mini USB port for charging cable
- Mini SD card slot
- incl. Micro SD card, 4 GB
- incl. Micro SD card adapter for transfer to PC

Option

- transmitter and receiver for wireless communication as a set, art.-no.: 2040101, see page 334



LED lighting units

- 4x white light
- 4x UV/black light
- switchable

VGA camera








bottom



Option
art.-no.: 2040101,
2023106 and 209000



ART NO	 mm / inch	 mm / inch	 mm	 mm	total length mm	€	
103052	135 / 5	0.01 / 0.0005	0.01	0.03	275	1667.62	inclusive
103053	185 / 7	0.01 / 0.0005	0.01	0.03	325	1765.71	inclusive
103054	285 / 11	0.01 / 0.0005	0.01	0.03	425	1863.81	inclusive
103055	480 / 18	0.01 / 0.0005	0.01	0.04	625	1961.90	inclusive

MASTER-LINE® Digital Distance and Positioning Measuring System incl. VGA Camera with Zoom Factor • IP40

NEW

- electronic unit and LCD fixed on the sliding parts
- extremely hardened rail made of aluminium
- feet with rubber caps (non-slip)
- large colour display with crosshair and zoom function
- LED light units with 4x white and 4x UV / black light, switchable

Elektronic

- large LCD with clear reading, digit height 14 mm
- On/Off switch, zero setting at any position, data hold function
- Preset, Origin switch
- unit switchable in mm/inch
- data transfer via WiFi or Bluetooth®
- incl. 2x 3 V battery (type CR 2032, art.-no.: 90112), with operation manual

Camera (art.-no. 601251)

- VGA camera sensor, camera rechargeable
- focus manually adjustable via hand wheel
- 10x zoom function (10% steps)
- 3,5" colour display, 720 pixels
- video format AVI, photo format JPG
- Mini USB port for charging cable
- Mini SD card slot
- incl. Micro SD card, 4 GB
- incl. Micro SD card adapter for transfer to PC

Options

- data transfer via WiFi, art.-no.: 2040101, see page 334
- data transfer via Bluetooth®, art.-no.: 2023106 + 209000, see page 334



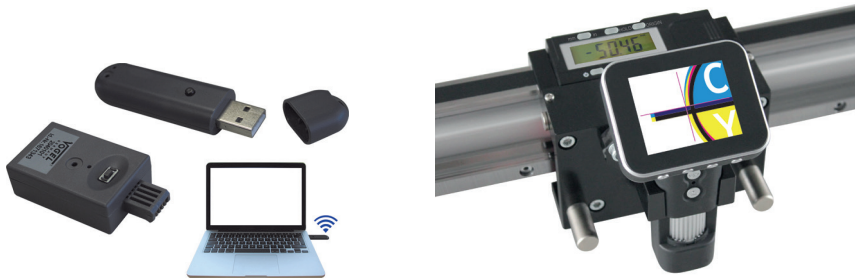
LED lighting units

- 4x white light
- 4x UV/black light
- switchable

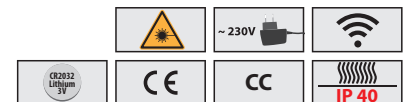
VGA camera



bottom



extremely hardened rail made of aluminium



ART N°	mm / inch	mm / inch	mm	mm	total length mm	€	CC	
102806	600 / 24	0.01 / 0.0005	1 mW	0.01	0.05	920	5688.54	inclusive
102807	1000 / 40	0.01 / 0.0005	1 mW	0.01	0.06	1320	5982.83	inclusive
102808	1500 / 60	0.01 / 0.0005	1 mW	0.01	0.10	1800	8007.51	inclusive
102809	2000 / 80	0.01 / 0.0005	1 mW	0.01	0.13	2300	8890.37	inclusive
102810	2500 / 100	0.01 / 0.0005	1 mW	0.01	0.20	2800	9773.23	inclusive
102811	3000 / 120	0.01 / 0.0005	1 mW	0.01	0.25	3300	10656.09	inclusive

Digital Measuring Magnifier

Digital Measuring Magnifier

NEW

- with parallax-free reading
- large colour display with scaling
- each LED light unit with 4x UV/black light and 4x white light, switchable

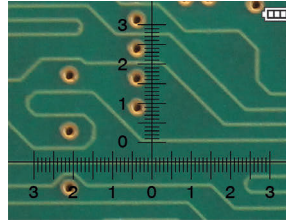
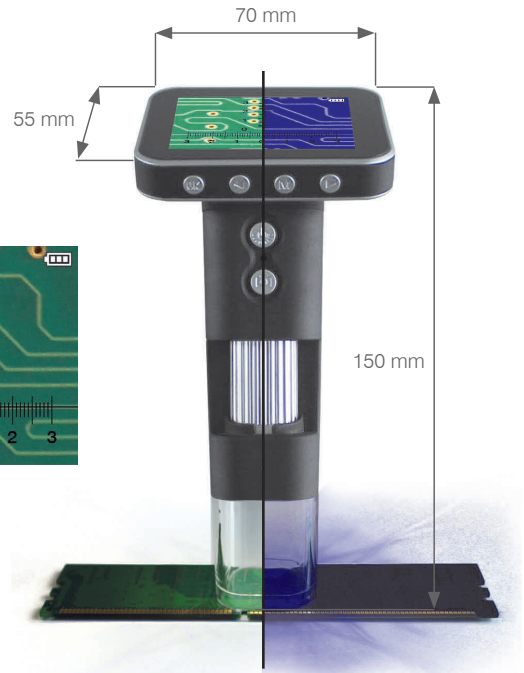
- VGA camera sensor, camera rechargeable
- focus manually adjustable via hand wheel
- 3.5" colour display, 720 pixels
- video format AVI, photo format JPG
- Mini-USB port for charging cable
- Mini SD card slot
- incl. Micro SD card, 4 GB
- incl. Micro SD card adapter for transfer to PC

Suitable for professional applications

- printing and circuit board industry
- tool and mechanical engineering
- textile manufacturing
- facade and window construction
- automotive industry
- building appraisal
- and many other technical applications

Option

- accessories: Stand, art.-no.: 601255



display

LED lighting units

- 4x white light
- 4x UV/black light
- switchable

VGA camera



bottom



Option: Stand
art.-no.: 601255



ART NO	mm / inch	mm	height in mm	€
601250	3 – 0 – 3	0.1	160	477.82
Option: Stand				
601255	—	—	170	120.17

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www.vogel-germany.de



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Measuring Solutions

Any questions?

We are pleased to advise.

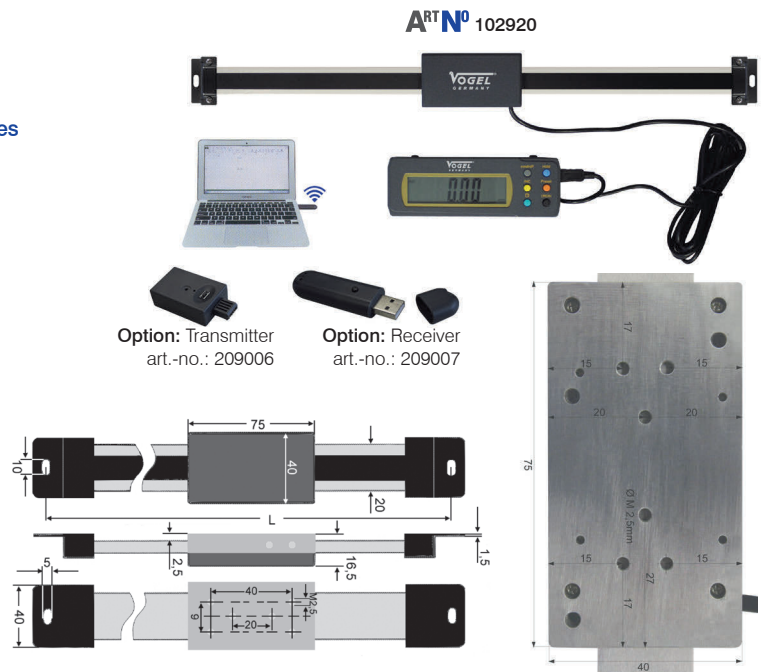
Electr. Digital Scale • IP67 (only scale)

- for horizontal and vertical use
- stainless steel, hardened rail
- with electronic unit and separate LCD display
- for mounting on machine tools, milling-, drilling machines and for many other purposes
- with data output, top model (connectivity also for Digimatic measuring devices)

- large LCD display with clear reading, digit height 18 mm
- rugged plastic housing, with built-in magnet on the backside
- incl. fixture for wall mounting of the LCD display, with accessories
- flexible application, in horizontal and vertical position
- expandable with additional electronic units and LCD displays
- On/Off switch, zero setting at any position, data hold function
- Preset-, Origin-, ABS / INC button
- unit switchable in mm/inch/fraction in inch
- incl. 2x 3 V battery (type CR2032, art.-no.: 90112), with operation manual

Options

- data box with USB port, art.-no.: 2420194
- footswitch for data box, art.-no.: 209011
- transmitter for wireless communication via WiFi, art.-no.: 209006, see page 334
- receiver for wireless communication via WiFi, art.-no.: 209007, see page 334
- transmitter and receiver for wireless communication as set, art.-no.: 2040101, see page 334



ART N°	mm / inch	mm / inch	mm	max. mm	L mm	€	EURO CC
102920	150 / 6	0.01 / 0.0005	0.01	0.06	284	94.20	30.50
102921	200 / 8	0.01 / 0.0005	0.01	0.08	334	112.01	30.50
102922	300 / 16	0.01 / 0.0005	0.01	0.10	436	122.54	30.50
102923	600 / 24	0.01 / 0.0005	0.01	0.15	735	164.96	30.50
102924	1000 / 40	0.01 / 0.0005	0.01	0.20	1135	208.75	30.50

Electr. Digital Scale • IP67

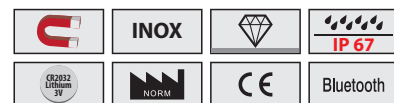
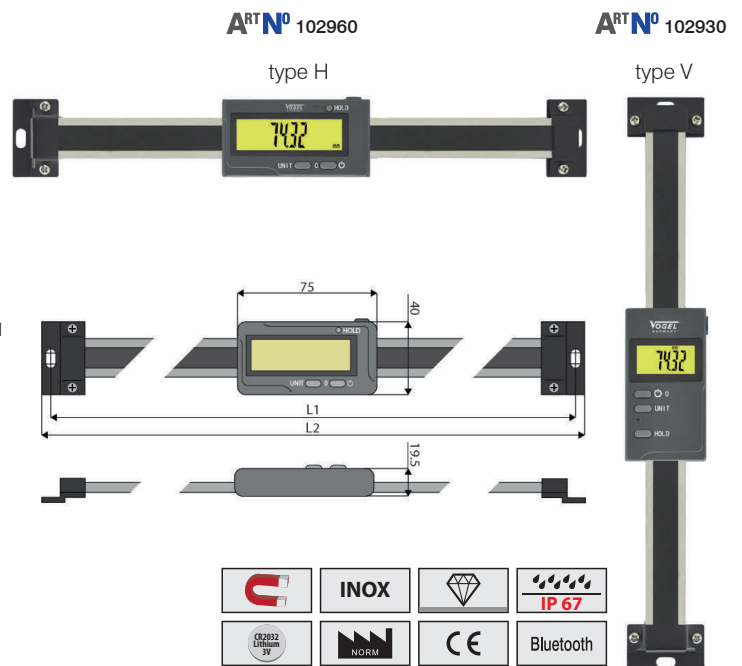
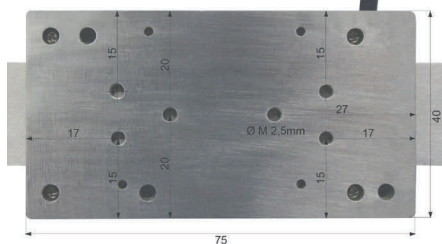
NEW

- in horizontal and vertical version
- stainless steel, hardened rail
- with LCD display on the rail
- for mounting on machine tools, milling-, drilling machines and for many other purposes
- with integrated Bluetooth® technology

- large LCD display with clear reading, digit height 10 mm
- flexible application, in horizontal and vertical position
- On/Off switch, data hold function
- zero setting at any position
- unit switchable in mm/inch
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual

Option

- data transfer via Bluetooth®, art.-no.: 2023106, see page 334



ART N° type H	€	ART N° type V	€	mm / inch	mm / inch	mm	max. mm	L 1 mm	L 2 mm	EURO CC
102960	91.96	102930	76.70	150 / 6	0.01 / 0.0005	0.01	0.02	277	286	30.50
102961	105.52	102931	91.57	200 / 8	0.01 / 0.0005	0.01	0.03	317	326	30.50
102962	119.38	102932	106.42	300 / 12	0.01 / 0.0005	0.01	0.03	417	426	30.50
102963	156.81	102933	146.00	500 / 20	0.01 / 0.0005	0.01	0.05	637	646	30.50
102964	182.45	102934	173.22	1000 / 40	0.01 / 0.0005	0.01	0.06	1137	1146	30.50

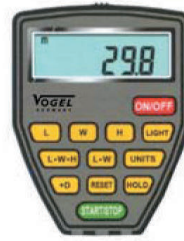
Digital Measuring Wheel and Steel Measuring Tapes

Electr. Digital Measuring Wheel • IP51

- lightweight construction made of black lacquered steel
- rugged foldable construction, for outdoor use, with battery
- large LCD display, 12 mm height of digits, with backlight
- dust- and drop-water resistant key panel
- On/Off-button, autom. shut-off after approx. 3 min.
- "Smart Wheel"-function (autom. includes wheel-diameter for accurate wall-to-wall measurements)
- Start/Stop Mode, prevents accidental measurements
- HOLD function, memory function, reset button
- reading in Meter / Feet / Yard / m² / m³ / feet² / yard² / m³ / feet³ / yard³
- plastic made measuring wheel with rubber cover and stand for parking
- area of application from up -10 °C ~ +60 °C, handle made of ABS plastic
- incl. 4x 1.5 V battery (type AAA, art.-no.: 90002), with operation manual



measuring wheel folded



operation panel



ART NO	m / ft	m	max. ± %	measuring wheel ø mm	mm	€
140210	999.999 / 999.999.9	0.1	0.5	318	1122 x 318 x 85	70.74

Steel Measuring Tapes

- e.g. for machine industry, workbenches, etc.
- polyamid coated
- adhesive
- wear off resistant and non corrosive graduation



Other length and graduations are available on request!

ART NO	mm	mm	€
graduation from left to right			
1211310100	1000	13 x 0.5	8.09
1211310200	2000	13 x 0.5	14.53
1211310300	3000	13 x 0.5	21.79
1211310400	4000	13 x 0.5	33.52
1211310500	5000	13 x 0.5	36.31
1211310600	6000	13 x 0.5	43.74
graduation from right to left			
1211410100	1000	13 x 0.5	9.74
1211410200	2000	13 x 0.5	16.51
1211410300	3000	13 x 0.5	24.10
1211410400	4000	13 x 0.5	38.09
1211410500	5000	13 x 0.5	41.27
1211410600	6000	13 x 0.5	66.03

Wood Folding Rule

acc. to tolerance class III, CE

- surface coated with a water repellent, environmentally friendly UV-finish
- absolutely professional top tool, extremely sturdy and durable
- with double mm graduation on front and back
- with 10 links, closely spaced fins, fitting springs back
- with standard angle imprint at the 2nd link
- assembled with special 3 mm rivets
- precise 90° angle locking and ruler function
- optimal leverage and handy to use



Other colours or advertising print are available on request!



Example illustration: Wood Folding Rule with advertising print

Example illustration: Wood Folding Rule in different colours



ART NO	mm / inch	colour	each link	L x W in total	number of links	€
1312010200	2000 / 78.74	white	3.2 x 16	235 x 35	10	3.63

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Any questions?
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Pocket Measuring Tapes

Pocket Measuring Tape

tolerance class II acc. to MID

ART N° 141003

- exceptional tape stability
- suitable for craftsmen and industry
- ergonomic design
- lies save and non slip in your hand

- rugged and rubber covered housing with stainless metal clip and lanyard
- yellow coated blade, high rubb-off resistant and kink resistant
- self adjusting end-hook, with magnetic dots
- long-life spring made of special steel, automatic blade return and blade stop
- black/red figures, black scale
- from up to 25 mm blade with 3 rivets fixed
> 25 mm blade with 2 rivets fixed



with hanging card



ART N°						€
graduation in mm						
141003	3 m	0.9	16	65 x 65 x 35	1400	3.31
141005	5 m	1.3	19	65 x 73 x 35	1750	4.57
141008	8 m	1.8	25	80 x 85 x 40	2100	7.46
141010	10 m	1.8	25	80 x 85 x 40	2100	9.21
graduation in mm/inch						
141103	3 m / 122 inch	0.9	16	65 x 65 x 35	1400	3.31
141105	5 m / 197 inch	1.3	19	65 x 73 x 35	1750	4.57
141108	8 m / 315 inch	1.8	25	80 x 85 x 40	2100	7.46

Pocket Measuring Tape, in stainless steel metal housing

tolerance class II acc. to MID

- exceptional tape stability
- suitable for craftsmen and industry
- with graduation on front- and backside
- backside with crosswise graduation for comfortable vertical reading
- autom. blade-stop
- lies save and non slip in your hand

- rugged and rubber covered housing, with stainless metal clip and lanyard
- yellow coated blade, high rubb-off resistant and kink resistant
- self adjusting end-hook, with magnetic dots
- long-life spring made of special steel, automatic blade return and blade stop
- black/red figures, black scale
- from up to 25 mm blade with 3 rivets fixed
> 25 mm blade with 2 rivets fixed

ART N° 141408

ART N° 141405

ART N° 141403



backside: vertical reading



ART N°						€
141403	3	0.9	19	80 x 75 x 35	1750	6.77
141405	5	1.3	25	80 x 75 x 42	2100	8.17
141408	8	1.8	25	80 x 75 x 42	2100	11.36

Pocket Measuring Tapes and Laser Distance Meter

Electr. Digital Measuring Tape

- exceptional tape stability
- LCD display with clear digits
- weatherproof housing
- lies save and non slip in your hand
- rugged and rubber covered housing with stainless metal clip and lanyard
- yellow coated blade, high rubb-off resistant
- self adjusting end-hook, automatic blade return and blade stop
- adjustable readout in display from either side of the housing, mm/inch switchable
- black/red figures, black graduation, no holes punched in the blade
- zero setting at any position, with data hold function, On/Off button
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), and operation manual



ART NO								
140105	5 m / 16 ft	1	1.5	19	75 x 70 x 32	1700	33.75	31.00

Pocket Measuring Tape with Laser Distance Meter

NEW

tolerance class II acc. to MID

- exceptional tape stability
- only suitable for indoor use
- nylon-wrapped, black tape, extremely scratch resistant and kink resistant
- sliding hook, for internal and external measurement
- long-life spring made of special steel
- automatic blade return and blade stop
- white/red figures, white scale
- scaling on both sides in mm/cm



Laser Distance Meter

- the instrument measures distance, area and volume
- indirect measuring for height measuring
- calculation of angles and triangular areas, trapezoidal faces and much more
- measuring range 0 – 30 m, reading 0,001 m
- max. total accuracy $\pm 1,5$ mm, laser wavelength 19 nm
- „low-battery display“
- measuring in meter, inch or engl. feet, measurement speed 0.5 sec.
- autom. power off: after ~20 sec.
- operation temperature -10 °C ~ $+40$ °C, storage temperature -20 °C ~ $+60$ °C
- user-friendly rubber buttons, sound signal by pressing the buttons
- laser class II, FCC test part 15, EN 60825-1:2007 and others
- laser parameter 620 – 660 nm, output max.1 mW
- with 3.7 V Li-Ion rechargeable battery, incl. charger 5 V AC and operation manual



display on the backside



with point laser



laser output



ART NO								
140108	5 m / 16ft	1	1.5	19	65 x 4.3 x 65	1700	37.87	95.00

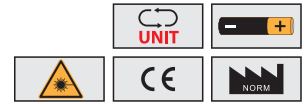
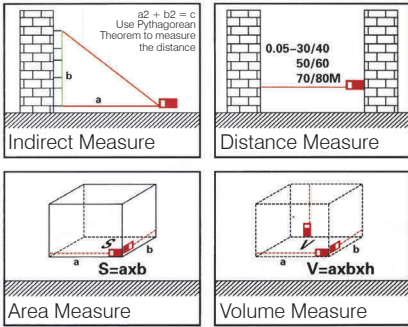
Laser Distance Measurer

Laser Distance Meter

NEW

- the instrument measures distance, area and volume
- distances can be added or subtracted
- indirect measuring for height measuring
- calculation of angles and triangular areas, trapezoidal faces and much more
- Pythagoras-Function 1: calculation of distance using two related measurements
- Pythagoras-Function 2: calculation of distance using three related measurements

- „low-battery-display“, with backlight, memory function for 20 measurements
- measuring in meter, inch or engl. feet switchable, measurement speed 0.1 ~ 4 sec.
- autom. power off: laser beam after ~15 sec., device after ~120 sec.
- operation temperature -10 °C ~ +40 °C, storage temperature -20 °C ~ +65 °C
- user-friendly rubber buttons, sound signal by pressing the buttons
- laser class II, FCC test (part 15), EN 60825-1:2007
- laser parameter 620 – 670 nm, output max. 1 mW
- carrying bag with belt loop, hand loop, 2x 1.5 V battery (type AAA, art.-no.: 90002) and operation manual



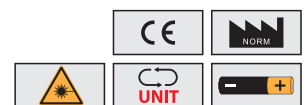
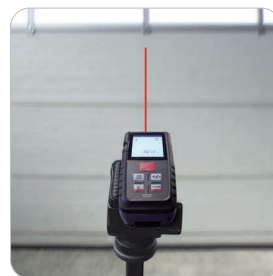
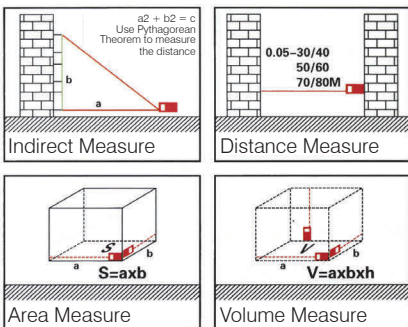
ART NO	m	m	max ± mm	nm	W mW	mm	€	EURO CC
140134	0.05 – 100	0.001	5	620 ~ 670	max. 1	120 x 56 x 27	50.11	95.00

Laser Distance Meter

NEW

- the instrument measures distance, area and volume
- distances can be added or subtracted
- indirect measuring for height measuring
- calculation of angles and triangular areas, trapezoidal faces and much more
- Pythagoras-Function 1: calculation of distance using two related measurements
- Pythagoras-Function 2: calculation of distance using three related measurements
- angle sensor 0° – 150°

- „low-battery-display“, with backlight, memory function for 50 measurements
- measuring in meter, inch or engl. feet switchable, measurement speed 0,5 sec.
- autom. power off: laser beam after ~ 30 sec., device after ~ 180 sec.
- operation temperature -10 °C ~ +40 °C, storage temperature -20 °C ~ +65 °C
- user-friendly rubber buttons, sound signal by pressing the buttons
- laser class II, FCC test (part 15), EN 60825-1:2007
- laser parameter 620 – 690 nm, output max. 1 mW
- carrying bag with belt loop, hand loop, 2x 1.5 V battery (type AAA, art.-no.: 90002) and operation manual



ART NO	m	m	max ± mm	nm	W mW	mm	€	EURO CC
140132	0.05 – 100	0.001	2	620 ~ 690	max. 1	117 x 52 x 27	85.48	95.00

Measuring tapes in a light metal diagonal frame

NEW

ART N° 143201

acc. to tolerance class II

• **product for highest demands**

- in a robust and rigid light metal frame
- ergonomic handle
- crank core with metal shaft, ensures fatigue-free measurement work
- lasting ease of the tape when rolling in and out
- with different beginnings for the tabs
- measuring tape made of steel, painted white, with black figures
- graduation and numbering through transparent lacquer protected against abrasion
- graduation in mm, one side



Beginning of tape

type A



type B



type C



ART N°	type	→ ← m	— mm	€
143201	type A	10	13	25.47
143202		20	13	29.99
143203		30	13	38.48
143204	type B	50	13	51.78
143205		10	13	25.47
143206		20	13	29.99
143207	type C	30	13	38.48
143208		50	13	51.78
143209		10	13	25.47
143210	type C	20	13	29.99
143211		30	13	38.48
143212		50	13	51.78

Measuring tapes in a light metal triangle frame

NEW

ART N° 143301

acc. to tolerance class II

• **product for highest demands**

- in a robust and rigid light metal frame
- ergonomic handle
- crank core with metal shaft, ensures fatigue-free measurement work
- lasting ease of the tape when rolling in and out
- with different beginnings for the tabs
- measuring tape made of steel, painted white, with black figures
- graduation and numbering through transparent lacquer protected against abrasion
- graduation in mm, one side



Beginning of tape

type A



type B



type C



ART N°	type	→ ← m	— mm	€
143301	type A	10	13	29.15
143302		20	13	33.67
143303		30	13	42.16
143304		50	13	55.46
143305	type B	10	13	29.15
143306		20	13	33.67
143307		30	13	42.16
143308		50	13	55.46
143309	type C	10	13	29.15
143310		20	13	33.67
143311		30	13	42.16
143312		50	13	55.46

Measuring Tapes

Measuring Tapes in a light PVC coated steel case

NEW

acc. to tolerance class II

ART N° 143101



• product for highest demands

- in a robust and PVC coated steel case
- crank core with metal shaft, ensures fatigue-free measurement work
- Lasting ease of the tape when rolling in and out
- with different beginnings for the tabs
- Measuring tape made of steel, painted white, with black figures
- graduation and numbering through transparent lacquer protected against abrasion
- graduation in mm, one side

Beginning of tape

type A





type B



type C



ART N°	type	 m	 mm	€
143101	type A	10	13	17.17
143102		20	13	25.89
143103		30	13	33.76
143104		50	13	48.50
143105	type B	10	13	17.17
143106		20	13	25.89
143107		30	13	33.76
143108		50	13	48.50
143109	type C	10	13	17.17
143110		20	13	25.89
143111		30	13	33.76
143112		50	13	48.50



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Tank Dipping Tapes of stainless steel

NEW

acc. to tolerance class II

- tolerance class II, $\pm a + bL$
(a = 0,3mm, b = 0,2 mm, L = length in m)
- available on request:
tolerance class I, $\pm a + bL$
(a = 0,1mm, b = 0,1 mm, L = length in m)
- strong frame of anodised light metal with oblique handle
- strong foldable winding arm of anodised light metal
- winding drum of durable plastic
- bright graduation and figures, on dark background
- graduation in mm, one side

Tension

- the tension force of the tape is in accordance with the weight of the dip weight (indicate when ordering for which dip weight the tapes should be used)

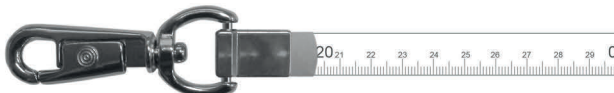
Options

- type plumb U, art.-no.:143601
- type plumb D, art.-no.:143602

Dipping Tapes dimensions for other applications on request!

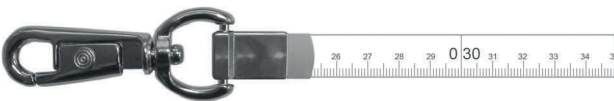
Beginning of tape

type U



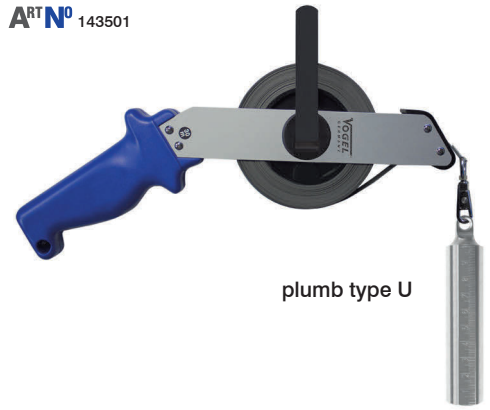
steel, high etched

type D



stainless steel, high etched

ART N° 143501



plumb type U

ART N° 143511



plumb type D

ART N° 143601



ART N° 143602





plumb type U

- material stainless steel
- weight is attached by a swivel hook
- graduated one side only
- cylindrical with flat bottom
- 121 mm long, \varnothing 25 mm
- graduation: mm
- weight: 400 g

plumb type D

- material brass
- weight is attached by a swivel hook
- graduated one side only
- cylindrical with tip
- 171 mm long, \varnothing 22 mm
- graduation: mm
- weight: 400 g

II

ART N°	plumb type	 m	 mm	€
143501	U	10	13 x 0.2	43.90
143502		20	13 x 0.2	51.75
143503		30	13 x 0.2	58.86
143504		50	13 x 0.2	79.70
143511	D	10	13 x 0.2	38.99
143512		20	13 x 0.2	46.84
143513		30	13 x 0.2	53.95
143514		50	13 x 0.2	74.80





















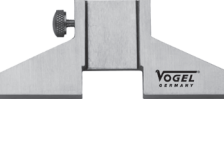


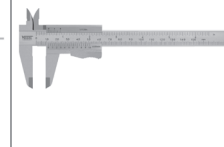
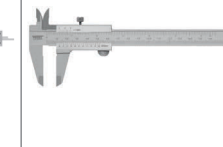


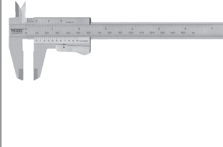
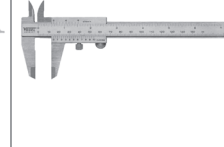
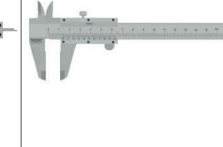


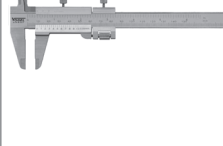

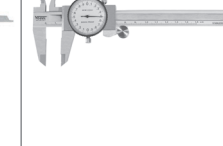


Calipers

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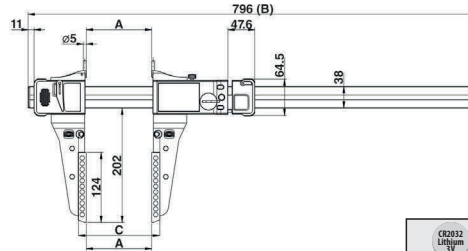
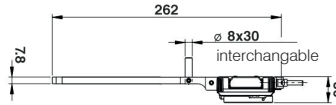
Sylvac • Ultra-light Caliper UL4 • IP67

DIN 862

NEW

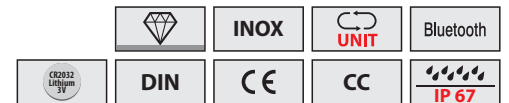
• with integrated Bluetooth® technology

- ultra light caliper for external and internal measurements
- new series with extra large display, digit height 20 mm
- aluminium beam reinforced by four stainless steel rods
- long jaws 200 mm coated with titanium
- new carbide upper internal tips
- measuring force applied control
- mm/inch switchable
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual



Options

- data transfer via cable, Proximity – USB, art.-no.: 2023101, see page 334
- data transfer via cable, Proximity – RS 232, art.-no.: 2023100, see page 334
- data transfer via Bluetooth®, art.-no.: 2023106S, see page 334



ART No	mm / inch	mm / inch	mm	mm	mm	A mm	B mm	€	CC
200950	400 / 16	0.01 / 0.0005	0.02	0.03	202	0 – 478	796	1372.48	inclusive
200951	600 / 24	0.01 / 0.0005	0.02	0.04	202	0 – 683	1001	1620.96	inclusive
200952	1000 / 40	0.01 / 0.0005	0.02	0.05	202	0 – 1093	1411	1915.80	inclusive
200953	1500 / 60	0.01 / 0.0005	0.02	0.09	202	0 – 1608	1926	2882.28	inclusive
200954	2000 / 80	0.01 / 0.0005	0.03	0.12	202	0 – 2123	2441	3776.67	inclusive
200955	2500 / 100	0.01 / 0.0005	0.03	0.15	202	0 – 2638	2956	4875.62	inclusive
200956	3000 / 120	0.01 / 0.0005	0.03	0.20	202	0 – 3153	3471	5422.95	inclusive

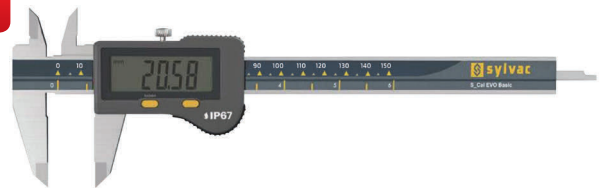
Sylvac • Caliper S_Cal EVO STANDARD • IP67

DIN 862

NEW

• professional standard caliper

- new extra-large display
- without data output
- water and coolant resistant, protection class IP67
- automatic switch-on by moving the slide (absolute system S.I.S.)
- switching to economy mode after 20 minutes of inactivity
- storage of the position in economy mode
- mechanics made of stainless steel, hardened and lapped
- mm/inch switchable
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual



ART No	mm / inch	mm / inch	mm	mm	mm	mm	mm	mm	mm	€	EURO CC
202195	150 / 6	0.01 / 0.0005	0.01	0.02	40	16	flat	151.93	7.50		
202196	200 / 8	0.01 / 0.0005	0.01	0.03	50	19	flat	242.05	7.50		
202197	300 / 12	0.01 / 0.0005	0.01	0.03	64	19	—	320.59	12.00		

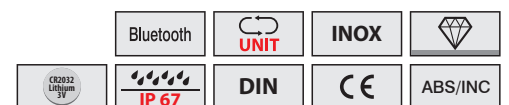
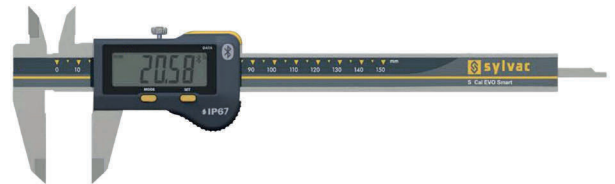
Sylvac • Caliper S_Cal EVO SMART • IP67

DIN 862

NEW

• with integrated Bluetooth® technology

- new extra large display
- customizable button for selectable function
- water and coolant resistant, protection class IP67
- automatic switch-on by moving the slide (absolute system S.I.S.)
- switching to economy mode after 20 minutes of inactivity
- storage of the position in economy mode
- mechanics made of stainless steel, hardened and lapped
- mm/inch switchable
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual



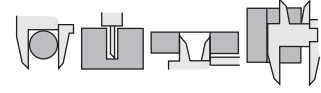
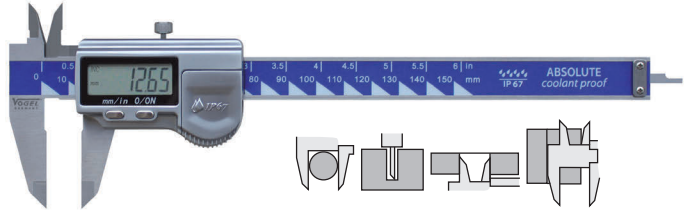
ART No	mm / inch	mm / inch	mm	mm	mm	mm	mm	mm	mm	€	EURO CC
202190	150 / 6	0.01 / 0.0005	0.01	0.02	40	16	flat	245.03	7.50		
202191	200 / 8	0.01 / 0.0005	0.01	0.03	50	19	flat	374.18	7.50		
202192	300 / 12	0.01 / 0.0005	0.01	0.03	64	19	—	463.50	12.00		

Precision Digital Calipers

“Absolute“ Electr. Digital Caliper • IP67

DIN 876

- professional standard caliper
- with metal housing and metal function buttons
- water- a. coolant proof acc. to DIN 40050 / IEC 60529
- without data output
- sturdy quality, stainless steel, hardened
- large LCD display with clear reading, 9 mm digit height
- jaws finely ground and lapped
- On/Off button, autom. shutdown, with ABS/INC measuring system
- With locking screw, with screwed battery compartment cover
- mm/inch switchable, zero setting at any position
- incl. 1x 3 V battery (type CR1632, art.-no.: 90101), with operation manual

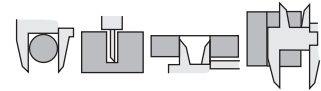
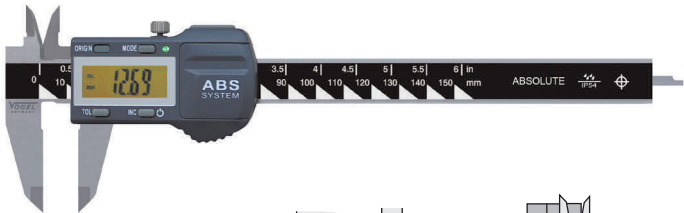


ART NO	mm / inch	mm / inch	mm	mm	mm	mm	mm	mm	€	EURO CC
202130-2	150 / 6	0.01 / 0.0005	0.01	0.03	40	16	flat	122.62	7.50	
202131-2	200 / 8	0.01 / 0.0005	0.01	0.03	50	19.5	flat	150.93	7.50	
202132-2	300 / 12	0.01 / 0.0005	0.01	0.03	60	20.5	flat	182.76	12.00	

“Absolute“ Electr. Digital Caliper • IP54

DIN 862

- professional standard caliper
- with optical tolerance alarm by LED signal
- with glass rail for more accuracy
- with data output (micro USB)
- spray water proof acc. to DIN 40050 / IEC 60529



- sturdy quality, stainless steel, hardened
- large LCD display with clear reading, 9 mm digit height
- jaws finely ground and lapped, with fixing screw
- with PRESET/ORIGIN/ABS/INC-system
- On/Off button, autom. power off
- mm/inch switchable, zero setting at any position
- incl. 2x 3 V battery (type CR2032, art.-no.: 90112), with operation manual

Options

- data transfer via cable, art.-no.: 3420195, see page 334
- data transfer via WiFi, art.-no.: 2040102, see page 334
- data transfer via Bluetooth®, art.-no.: 209009, see page 334



ART NO	mm / inch	mm / inch	mm	mm	mm	mm	mm	mm	€	EURO CC
202180	150 / 6	0.01 / 0.0005	0.01	0.02	40	16	flat	102.08	7.50	
202181	200 / 8	0.01 / 0.0005	0.01	0.03	50	19.5	flat	139.25	7.50	
202182	300 / 12	0.01 / 0.0005	0.01	0.03	60	20.5	flat	173.05	12.00	



Our new slogan: Measuring Solutions

- ✓ more appropriate
- ✓ more meaningful
- ✓ more contemporary

This stands for the further development of the brand Vogel Germany to even more customer-oriented solutions in the measurement technology, development of the range, consulting, training, etc.

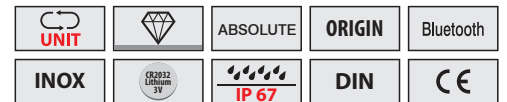
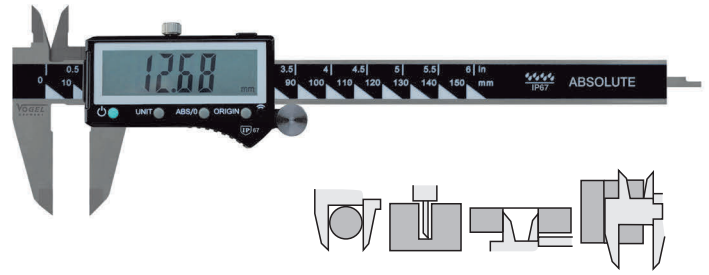
„Absolute“ Electr. Digital Caliper • IP67

NEW

DIN 862

- professional standard caliper
- water and coolant proof acc. to DIN 40050 / IEC 60529
- with integrated Bluetooth® technology (max. 5m distance)

- mechanic parts stainless, hardened steel
- large LCD display with clear reading, digit height 13 mm
- Absolute-System, with "ORIGIN"-system
- measuring jaws finely ground and lapped
- On/Off-button, with fixing screw, with thumbroll
- mm/inch switchable, zero-setting at any position
- incl. 2x 3 V battery (type CR2032, art.-no. 90112), with operation manual



Option

- data transfer via Bluetooth®, art.-no.: 2023106, see page 334

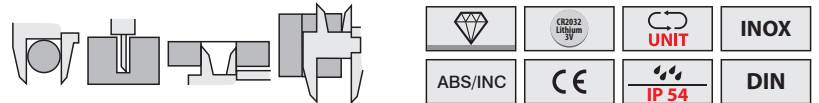
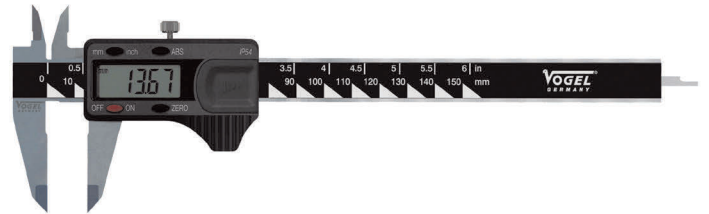
ART NO	mm / inch	mm / inch	mm	mm	mm	mm	mm	mm	€	EURO CC
202420-2	150 / 6	0.01 / 0.0005	0.01	0.02	40	16.5	flat	95.74	7.50	
202421-2	200 / 8	0.01 / 0.0005	0.01	0.02	50	19.5	flat	118.85	7.50	
202422-2	300 / 12	0.01 / 0.0005	0.01	0.03	60	20.5	flat	138.65	12.00	

Electr. Digital Caliper • IP54

DIN 862

- standard caliper
- with glass rail for more accuracy
- spray water proof acc. to DIN 40050 / IEC 60529

- sturdy quality, stainless steel, hardened
- large LCD display with clear reading, 9 mm digit height
- jaws finely ground and lapped, with fixing screw
- On/Off button, with ABS/INC measuring system
- graduation in mm or inch, zero setting at any position
- incl. 1x 3 V battery (type CR2032, art.-no. 90112), with operation manual



ART NO	mm / inch	mm / inch	mm	mm	mm	mm	mm	mm	€	EURO CC
202160-2	150 / 6	0.01 / 0.0005	0.01	0.02	40	16	flat	58.86	7.50	
202161-2	200 / 8	0.01 / 0.0005	0.01	0.03	50	19.5	flat	82.80	7.50	
202162-2	300 / 12	0.01 / 0.0005	0.01	0.03	60	20.5	flat	123.00	12.00	

Electr. Digital Caliper

DIN 862

- standard caliper
- with glass rail for more accuracy
- housing with metal cover and metal buttons
- with data output (mini USB)

- sturdy quality, stainless steel, hardened
- with or without thumbroll (included, for self installation)
- large LCD display with clear reading, 9 mm digit height
- jaws finely ground and lapped
- On/Off-button, with flat or round depth gauge
- mm/inch switchable, zero setting at any position
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual



with removeable thumbroll



Option

- data transfer via cable, art.-no.: 209001, see page 334

ART NO	mm / inch	mm / inch	mm	mm	mm	mm	mm	mm	€	EURO CC
202040-3	150 / 6	0.01 / 0.0005	0.01	0.02	40	16.5	flat	48.43	7.50	
202041-3	200 / 8	0.01 / 0.0005	0.01	0.03	50	19.5	flat	63.92	7.50	
202042-3	300 / 12	0.01 / 0.0005	0.01	0.03	60	20.5	flat	111.49	12.00	
202043-3	150 / 6	0.01 / 0.0005	0.01	0.02	40	16.5	round	53.74	7.50	

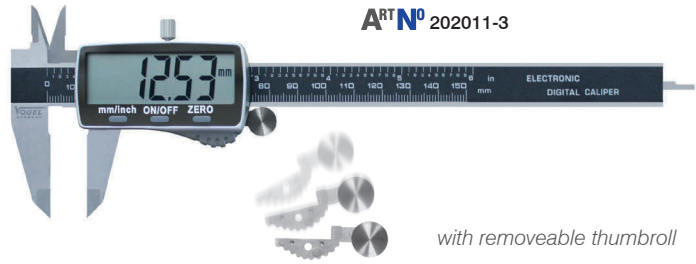
Precision Digital Calipers

Electr. Digital Caliper

DIN 862

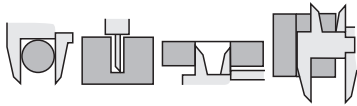
- standard caliper
- with extrem large LCD display

- mechanic parts stainless steel, hardened
- large LCD display with clear reading, digit height 15 mm
- measuring jaws finely ground and lapped
- On/Off-button, with fixing screw
- mm/inch/frac in inch switchable, Zero-setting at any position
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual

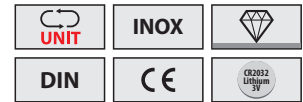


ART No 202011-3

with removeable thumbroll



display with fraction number in inch



ART No	mm / inch	mm / inch	mm	max. mm	mm	mm	mm	mm	€	EURO CC
202011-3	150 / 6	0.01 / 0.0005	0.01	0.03	40	16.5	flat		31.36	7.50
202012-3	200 / 8	0.01 / 0.0005	0.01	0.03	50	19.5	flat		48.73	7.50
202013-3	300 / 12	0.01 / 0.0005	0.01	0.04	60	20.5	flat		63.17	12.00

Electr. Digital Caliper

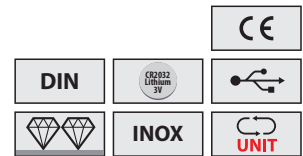
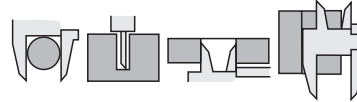
DIN 862

- jaws and measuring tips with carbide
- with metal cover and metal buttons
- with data output (mini USB)

- sturdy quality, stainless steel, hardened
- with or without thumbroll (included, for self installation)
- large LCD display with clear reading, 9 mm digit height
- jaws finely ground and lapped, with fixing screw
- On/Off button
- mm/inch switchable, zero setting at any position
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual



with removeable thumbroll



Option

- data transfer via cable, art.-no.: 209001, see page 334

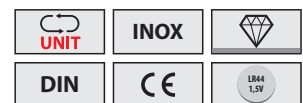
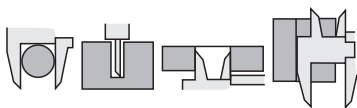
ART No	mm / inch	mm / inch	mm	max. mm	mm	mm	mm	mm	€	EURO CC
202020-3	150 / 6	0.01 / 0.0005	0.01	0.03	40	16.5	flat		112.95	7.50

Electr. Digital Caliper

DIN 862

- with metal housing and metal buttons

- sturdy quality, stainless steel, hardened
- large LCD display with clear reading, 8 mm digit height
- jaws finely ground and lapped, with fixing screw
- On/Off button
- mm/inch switchable, zero setting at any position
- incl. 2x 1.5 V battery (type LR44, art.-no.: 90213), with operation manual



ART No	mm / inch	mm / inch	mm	max. mm	mm	mm	mm	mm	€	EURO CC
202140	100 / 4	0.01 / 0.0005	0.01	0.02	30.5	12.5	flat		48.19	7.50

Electr. Digital Caliper

NEW

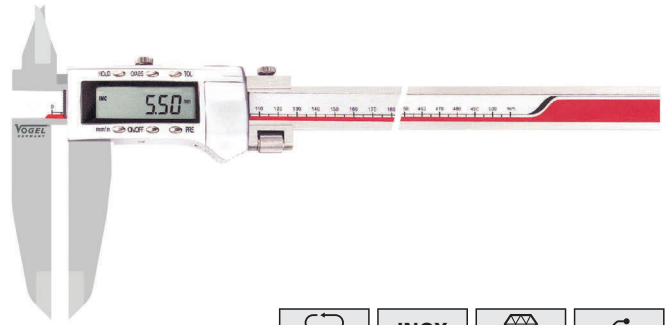
DIN 862

- with metal housing and metal buttons
- standard model for larger measuring range
- with data output (mini USB)

- sturdy quality, stainless steel, hardened
- large LCD display with clear reading, 9 mm digit height
- jaws finely ground and lapped, with fixing screw and fine adjustment
- On/Off button, with ABS/INC measuring system
- mm/inch switchable, zero setting at any position
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual

Option

- data transfer via cable, art.-no. 209001, see page 334



ART N°	mm / inch	mm / inch	mm	mm	mm	mm	mm	€	EURO CC
202065	400 / 16	0.01 / 0.0005	0.01	0.05	100	45	234.39	18.00	
202066	500 / 20	0.01 / 0.0005	0.01	0.05	100	45	283.91	18.00	
202067	600 / 24	0.01 / 0.0005	0.01	0.05	100	45	359.84	35.00	
202068	800 / 32	0.01 / 0.0005	0.01	0.06	125	60	643.75	35.00	
202069	1000 / 40	0.01 / 0.0005	0.01	0.07	125	60	713.08	35.00	

Electr. Digital Caliper

NEW

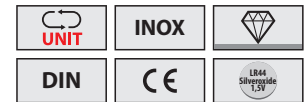
DIN 862

- for left hand use

- stainless, hardened
- large LCD display with clear reading, 10 mm digit height
- jaws finely ground and lapped
- On/Off button, with flat depth gauge
- mm/inch switchable, zero setting at any position
- incl. 1x 1.5 V battery (type LR 44, art.-no.: 90213), with operating manual

Option

- data transfer via cable, art.-no.: 209001 see page 334



ART N°	mm / inch	mm / inch	mm	mm	mm	mm	mm	€
202037	150 / 6	0.01 / 0.0005	0.01	0.03	40	16.5	flat	71.33
202038	200 / 8	0.01 / 0.0005	0.01	0.03	50	19.5	flat	132.65

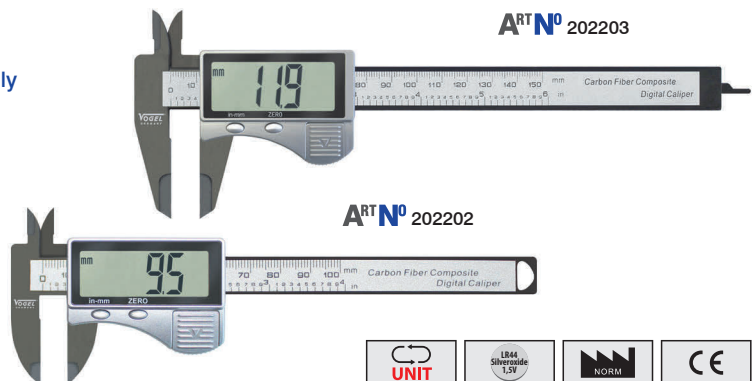
Electr. Digital Caliper

NEW

DIN 862

- made of carbon fiberglass, non-conductive and especially made for electronic and sensitive purposes, like food sector and automotive parts

- large LCD display with clear reading, 13 mm digit height
- autom. On/Off
- mm/inch switchable, zero setting at any position
- art.-no. 202202 without depth gauge, made of carbon fiberglass
- art.-no. 202203 with flat depth gauge, made of carbon fiberglass
- incl. 1x 1,5 V battery (type LR44, art.-no.: 90213), with operation manual



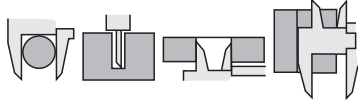
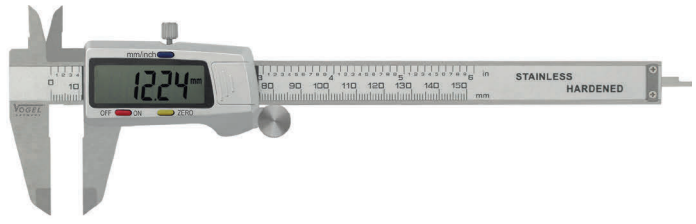
ART N°	mm / inch	mm / inch	mm	mm	mm	mm	mm	€
202202	100 / 4	0.01 / 0.0005	0.01	0.02	30	12	—	12.35
202203	150 / 6	0.01 / 0.0005	0.01	0.02	40	16	flat	14.82

Precision Digital Calipers

Electr. Digital Caliper

- for standard requirements
- mechanic in stainless steel, hardened
- with thumbroll

- large LCD display with clear reading, 13 mm high
- jaws finely ground and lapped, flat depth gauge
- On/Off button, mm/inch, zero setting at any position
- incl. 1x 1.5 V battery (type LR44, art.-no.: 90213)

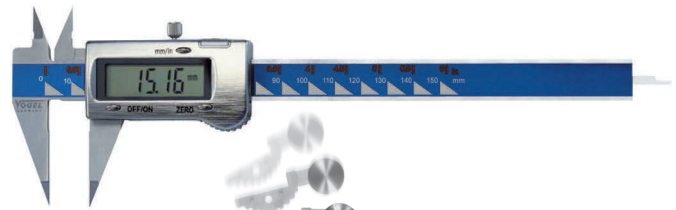


ART No	mm / inch	mm / inch	mm	max. mm	mm	mm	mm	flat	€	EURO CC
202002	150 / 6	0.01 / 0.0005	0.01	0.03	40	16	flat	18.19	7.50	

Electr. Digital Pointed Caliper

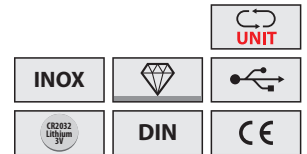
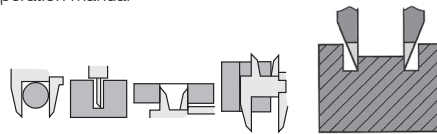
- to measure narrow groove widths etc.
- with metal cover and metal button
- with data output (mini USB)

- sturdy quality, stainless steel, hardened
- with or without thumbroll (included, for self installation)
- large LCD display with clear reading, 9 mm digit height
- jaws finely ground and lapped
- On/Off button, with flat depth gauge
- mm/inch switchable, zero setting at any position
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual



with removeable thumbroll

- Option**
- data transfer via cable, art.-no.: 209001, see page 334



ART No	mm / inch	mm / inch	mm	max. mm	mm	mm	flat	€	EURO CC
202025	150 / 6	0.01 / 0.0005	0.01	0.03	40	16	flat	72.31	7.50

Electr. Digital Splines Caliper

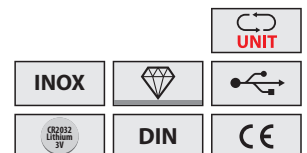
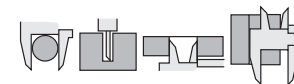
- to measure narrow grooves
- with metal cover and metal button
- with data output (mini USB)

- sturdy quality, stainless steel, hardened
- with or without thumbroll (included, for self installation)
- large LCD display with clear reading, 9 mm digit height
- jaws finely ground and lapped
- On/Off button, with flat depth gauge
- mm/inch switchable, zero setting at any position
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual



with removeable thumbroll

- Option**
- data transfer via cable, art.-no.: 209001, see page 334



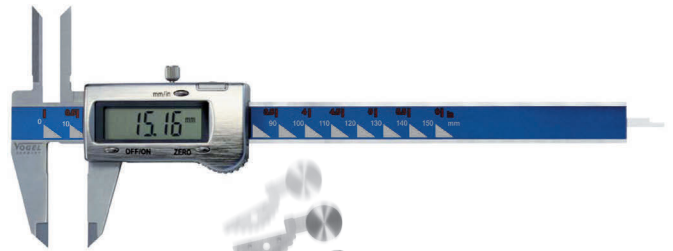
ART No	mm / inch	mm / inch	mm	max. mm	mm	mm	flat	€	EURO CC
202026	150 / 6	0.01 / 0.0005	0.01	0.03	40	16.5	flat	66.95	7.50

You can't find the right caliper?
We are happy to help you to find a solution.

Electr. Digital Special Caliper

- to measure especially deep grooves
- with metal cover and metal button
- with data output (mini USB)

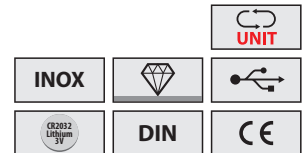
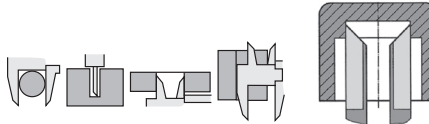
- sturdy quality, stainless steel, hardened
- with or without thumbroll (included, for self installation)
- large LCD display with clear reading, 9 mm digit height
- jaws finely ground and lapped
- On/Off button, with flat depth gauge
- mm/inch switchable, zero setting at any position
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual



with removeable thumbroll

Option

- data transfer via cable, art.-no.: 209001, see page 334



ART NO	mm / inch	mm / inch	mm	max. mm	mm	mm	mm	flat	€	EURO CC
202027	150 / 6	0.01 / 0.0005	0.01	0.04	40	45			153.31	7.50

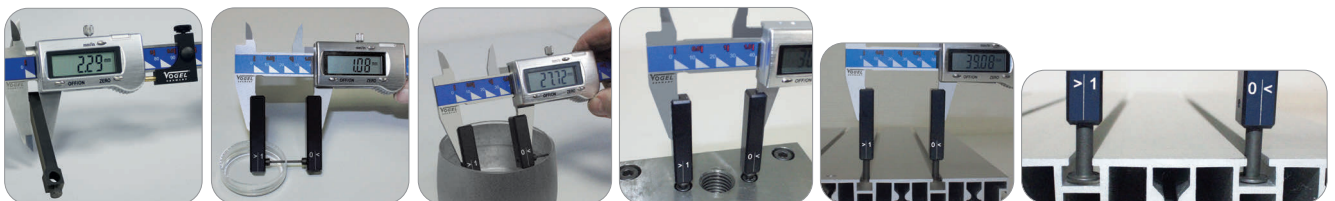
Accessories for Digital Calipers

- for many purposes

- 6 pairs of different probes
- 2 adapter pairs, different sizes
- with measuring force system (for permanent uniform pressure)
- for calipers up to 300 mm



measuring force testing system

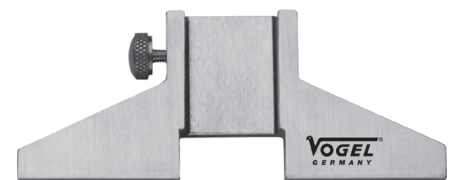
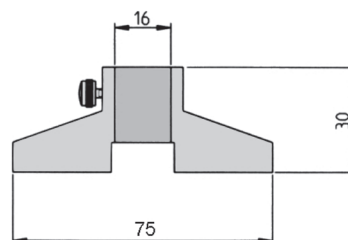


ART NO	description	€
209333	Accessories for Digital Calipers	163.31

Measuring Bridge

- for depth measuring
- for all pocket vernier calipers up to 200 mm

- stainless steel, hardened
- with fixing screw



ART NO	mm	€
2002092	75	11.17

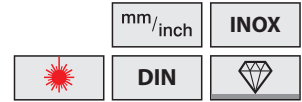
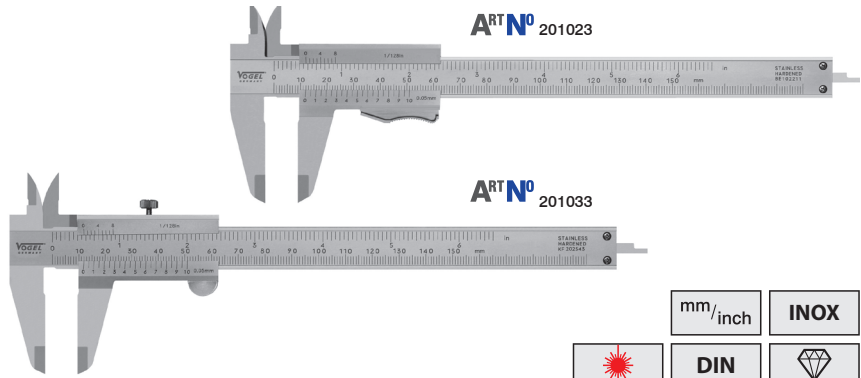
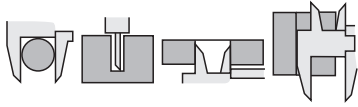
Precision Pocket Vernier Calipers

Precision Pocket Vernier Caliper

DIN 862

- professional standard caliper

- stainless steel, hardened
- reading in mm/inch, scale laser engraved
- reading satin chrome finish
- jaws fine ground and lapped
- mono-block vernier
- flat depth gauge



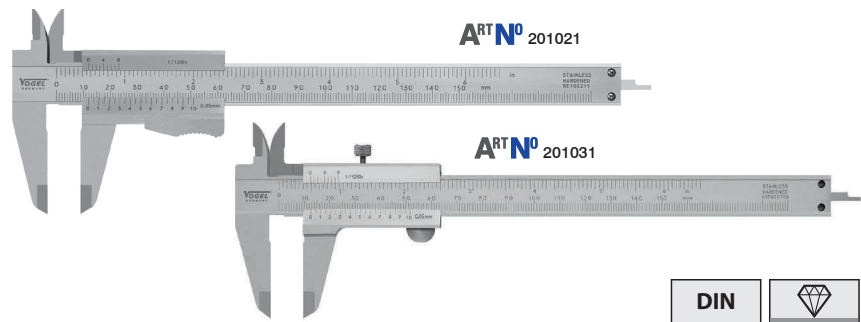
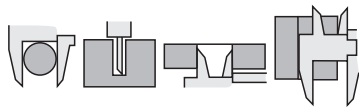
ART No	type	mm / inch	mm bottom	inch top	mm	mm		€	EURO CC
201023	thumb locking	150 / 6	0.05	1/128	40	16	flat	32.02	7.50
201033	fixing screw	150 / 6	0.05	1/128	40	16	flat	38.06	7.50

Pocket Vernier Caliper

DIN 862

- standard caliper

- stainless steel, hardened
- reading in mm/inch, scale laser engraved
- reading satin chrome finish
- jaws fine ground and lapped
- mono-block vernier
- flat or round depth gauge



ART No	€	ART No	€	mm / inch	mm bottom	inch top	mm	mm		EURO CC
thumb locking		fixing screw								
201021	23.08	201031	24.63	150 / 6	0.05	1/128	40	16	flat	7.50
201022	23.08	201032	26.05	150 / 6	0.05	1/128	40	16	round	7.50
201024	33.77	201034	35.70	200 / 8	0.05	1/128	50	19	flat	7.50
201025	22.96	201035	25.09	150 / 6	0.02	1/1000	40	16	flat	7.50
201026	33.55	201036	36.31	200 / 8	0.02	1/1000	40/50	16/19	flat	7.50
—	—	201038	36.64	200 / 8	0.05	1/128	40	16	round	7.50
—	—	201013	59.25	300 / 12	0.05	1/128	60	20	flat	18.00
—	—	201015	105.48	300 / 12	0.02	1/1000	64	20	flat	18.00

Did you already know?

Join us for success is now
Measuring Solutions

The new slogan stands for even more
Service, Solutions and Consulting.

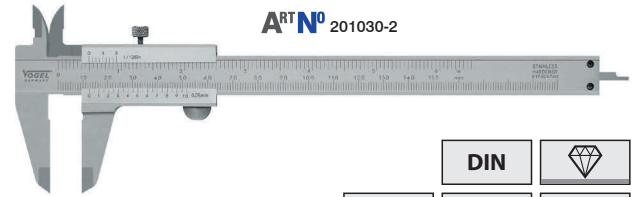
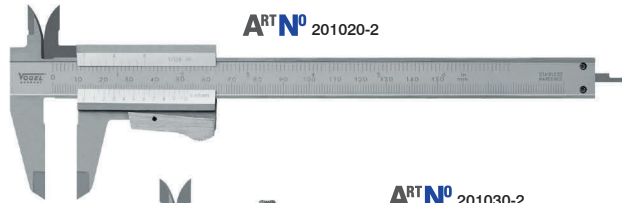
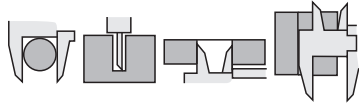


Precision Pocket Vernier Calipers

Pocket Vernier Caliper

DIN 862

- professional standard caliper
- inox, hardened
- graduation in mm/inch, scale etched
- reading satin chrome finish, flat depth gauge
- jaws finely ground and lapped

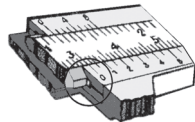
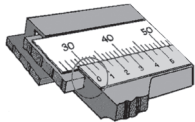
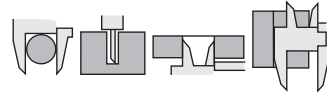


ART No thumb locking	€	ART No fixing screw	€	mm / inch	mm bottom	inch top	mm	mm	flat
201020-2	19.30	201030-2	20.47	150 / 6	0.05	1/128	40	16	flat

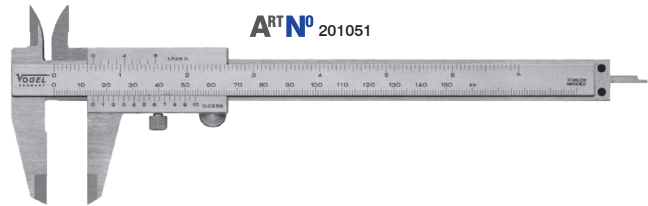
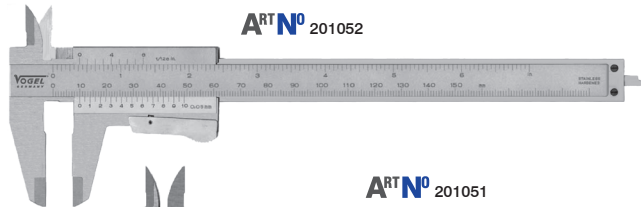
Pocket Vernier Caliper

DIN 862

- with parallaxfree reading
- stainless steel, hardened
- graduation in mm/inch, laser engraved scale
- reading satin chrome finish
- jaws finely ground and lapped, flat depth gauge
- mono-block vernier



with double-prism guide

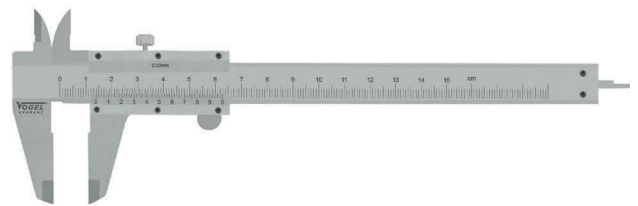
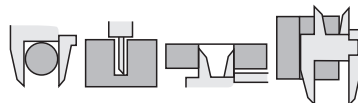


ART No thumb locking	€	ART No fixing screw	€	mm / inch	mm bottom	inch top	mm	mm	flat	EURO CC
201052	41.56	201051	41.59	150 / 6	0.05	1/128	40	16	flat	7.50

Pocket Vernier Caliper

DIN 862

- for DIY requirements
- reading in mm/cm
- reading satin chrome finish
- hardened
- jaws fine ground
- with fixing screw
- flat depth gauge



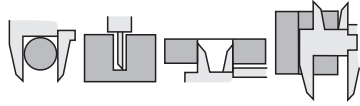
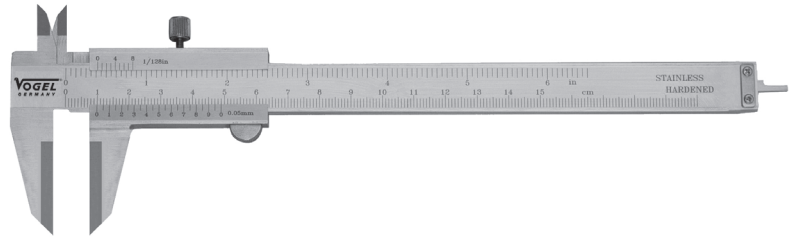
ART No	mm	mm	mm	mm	flat	€
201005	150	0.02	40	16	flat	9.28

Pocket Vernier Calipers

Pocket Vernier Caliper

DIN 862

- with tungsten carbide measuring jaws and tips
- stainless steel, hardened
- graduation in cm/inch, laser engraved scale
- scale and vernier satin chrome finish
- jaws finely ground and lapped
- mono block vernier

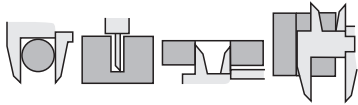


ART NO	mm / inch	mm bottom	inch top	mm	mm	flat	€	EURO CC
201039	150 / 6	0.05	1/128	40	16	flat	107.88	7.50

Pocket Vernier Caliper

DIN 862

- with thumb locking
- for left-handed use
- stainless steel, hardened
- graduation in mm/inch, laser engraved scale
- scale and vernier satin chrome finish
- jaws finely ground and lapped
- mono block vernier

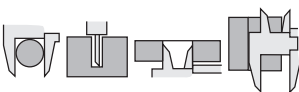
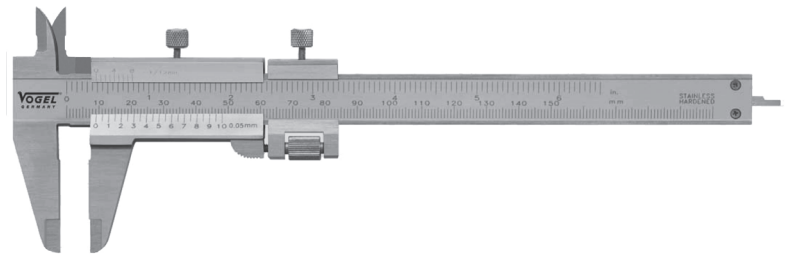


ART NO	mm / inch	mm bottom	inch top	mm	mm	flat	€	EURO CC
201027	150 / 6	0.05	1/128	40	16	flat	29.33	7.50

Pocket Vernier Caliper

acc. to workshop grade

- with fine adjustment and long jaws
- stainless steel, hardened
- graduation in mm/inch, laser engraved scale
- scale and vernier satin chrome finish
- jaws finely ground and lapped
- mono block vernier
- with fine adjustment



ART NO	mm / inch	mm bottom	inch top	mm	mm	flat	€	EURO CC
201063	130 / 5	0.02	1/1000	40	16.5	flat	27.54	7.50

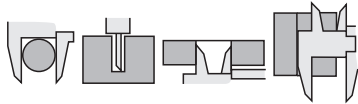
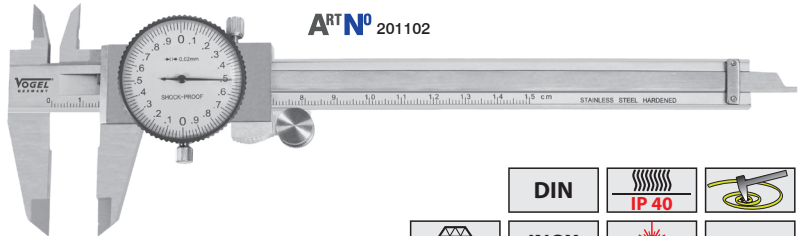
Precision Dial Calipers and Small Pocket Vernier Calipers

Dial Caliper • IP40

DIN 862

- economic model, shock proof mechanics
- for fast and accurate reading

- stainless steel, hardened
- measuring rail matt chrome finish, laser engraved scale
- jaws finely ground and lapped
- dust proof housing, flat depth gauge
- with thumb roll for fine adjustment
- with fixing screw



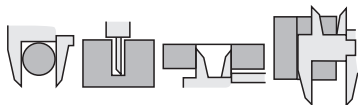
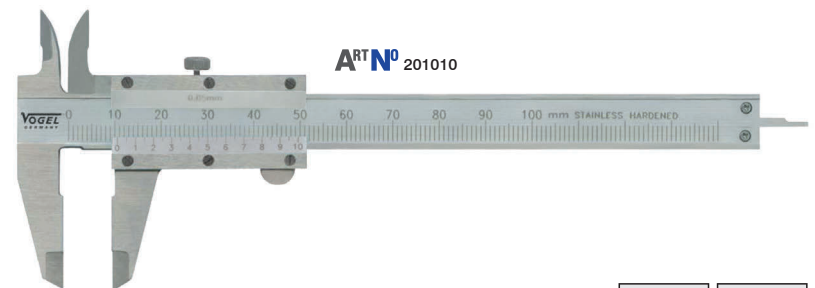
ART N°	mm	mm	mm	mm	mm		€	EURO CC
201101	150	0.01	1	40	16.5	flat	46.84	7.50
201108	200	0.01	1	48	19.5	flat	64.40	7.50
201109	300	0.01	1	62	22.0	flat	93.11	18.00
201102	150	0.02	2	40	16.5	flat	36.27	7.50
201103	200	0.02	2	48	19.5	flat	59.85	7.50
201104	300	0.02	2	62	22.0	flat	82.53	18.00

Small Pocket Vernier Caliper

DIN 862

- for crafts, also very popular promotional item

- stainless steel, hardened
- scale and vernier satin chrome finish, laser engraved scale
- jaws finely ground and lapped
- with fixing screw



ART N°	mm	mm	mm	mm		€	EURO CC
201009	70	0.05	20	9	flat	21.43	7.50
201010	100	0.05	30	13	flat	18.01	7.50

Precision Digital Workshop Calipers

Electr. Digital Workshop Caliper

NEW

acc. to workshop grade

• modern design, lightweight model

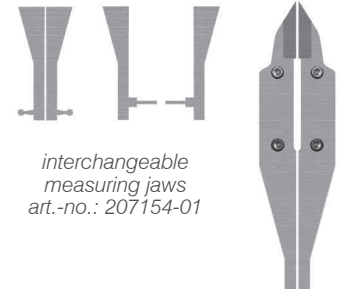
- solid shape, made of anodized hard aluminium
- stainless, hardened jaws and Inside measuring approaches
- with two adjustable, exchangeable measuring jaws
- LCD display with clear reading, digit height 10 mm
- On/Off button, mm/inch switchable, „0“ setting at any position, ABS system
- for inside and outside measurements (PRESET)
- slides perfectly because of double-prismatic-lead
- slide rail made of oxide coated aluminium
- with measuring force limitation for permanent uniform pressure
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual

Options

- art.-no. 207154-01: pair of measuring jaws, jaw length 90mm changeable, contact points at the lower ends, thread M 2.5 (€ 127.52)
- art.-no. 207154-02: setting gauge (€ 102.51)
- art.-no. 207154-03: holder for probes (€ 19.62)



setting gauge
art.-no.: 207154-02

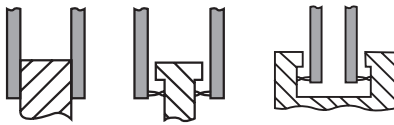


interchangeable
measuring jaws
art.-no.: 207154-01



holder for probes
art.-no.: 207154-03

Probes are shown
on page 168



ART NO	mm / inch	mm / inch	mm	max. mm	mm	mm	∅ mm	€	EURO CC
207150	300 / 12	0.01 / 0.0005	0.01	0.04	90	35	10	225.62	18.00
207151	500 / 20	0.01 / 0.0005	0.01	0.05	90	35	10	333.52	18.00
207152	800 / 32	0.01 / 0.0005	0.01	0.06	90	35	10	451.24	35.00
207153	1000 / 40	0.01 / 0.0005	0.01	0.06	90	35	10	588.57	35.00

Electr. Digital Workshop Caliper

NEW

acc. to Workshop grade

• for simple workshop use • modern design, lightweight model

- solid shape, made of anodized hard aluminium
- stainless, hardened jaws and Inside measuring approaches
- with two adjustable, exchangeable measuring jaws
- LCD display with clear reading, digit height 10 mm
- On/Off push button, mm/inch switchable, „0“ position on each position, ABS system
- for inside and outside measurements (PRESET)
- perfectly sliding sliding parts thanks to plastic bearings double prism guide
- slide rail made of aluminium oxide coated
- with measuring force limitation for permanent uniform pressure
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112) with operation manual

Option

- art.-no. 207159-0: pair of measuring jaws, jaw length 150 mm interchangeable, contact points at the lower ends, thread M 2.5 (€ 127.52)
- art.-no. 207154-02: setting gauge (€ 102.51)
- art.-no. 207154-03: holder for probes (€ 19.62)



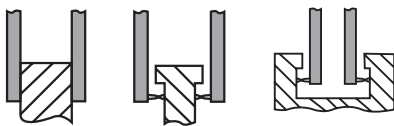
setting gauge
(art.-no.: 207154-02)



Interchangeable
measuring jaws
(art.-no.: 207159-01)



holder for probes
(art.-no.: 207154-03)



ART NO	mm / inch	mm / inch	mm	max. mm	mm	∅ mm	€	EURO CC
207155	1500 / 60	0.01 / 0.0005	0.01	0.10	150	20	1177.14	49.00
207156	2000 / 80	0.01 / 0.0005	0.01	0.13	150	20	1373.33	49.00
207157	2500 / 100	0.01 / 0.0005	0.01	0.20	150	20	1765.71	64.00
207158	3000 / 120	0.01 / 0.0005	0.01	0.25	150	20	2354.29	64.00

Precision Digital Workshop Calipers

Electr. Digital Workshop Caliper • IP66

acc. to workshop grade

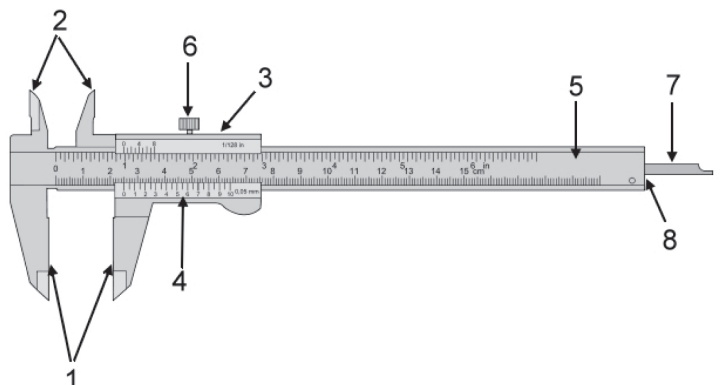
- water and coolant proof acc. to DIN 40050 / IEC 60529
- stainless steel, hardened
- large LCD display with clear reading, digit height 11 mm
- jaws finely ground and lapped
- offset jaws for inside measurements
- On/Off button, automatic shutdown, mm/inch switchable
- zero setting at any position, with REL-, ABS- and PRESET-mode
- function buttons made of metal
- with fine adjustment, with or without knife points
- incl. 1 x 3 V battery (type CR2032, art.-no.: 90112), with operation manual
- incl. calibration certificate



ART No	mm / inch	mm / inch	mm	max. mm	mm	mm	ø mm	€	EURO CC
207040	500 / 20	0.01 / 0.0005	0.01	0.06	100	56	20	367.27	18.00
207041	500 / 20	0.01 / 0.0005	0.01	0.06	150	56	20	420.91	18.00
207140	500 / 20	0.01 / 0.0005	0.01	0.06	100	—	20	676.76	18.00
207141	500 / 20	0.01 / 0.0005	0.01	0.06	150	—	20	344.82	18.00
207144	800 / 32	0.01 / 0.0005	0.01	0.07	150	—	20	540.04	35.00
207145	800 / 32	0.01 / 0.0005	0.01	0.07	200	—	20	662.80	35.00
207146	1000 / 40	0.01 / 0.0005	0.01	0.07	150	—	20	785.56	35.00
207147	1000 / 40	0.01 / 0.0005	0.01	0.08	200	—	20	796.43	35.00
207048	1000 / 40	0.01 / 0.0005	0.01	0.07	150	67	20	799.54	35.00
207049	1000 / 40	0.01 / 0.0005	0.01	0.08	200	67	20	871.74	35.00

Important components of a mechanical caliper

- 1) measuring jaws for external measurement
- 2) measuring tips for inside measurement
- 3) vernier slide
- 4) vernier
- 5) measurement rail with scale
- 6) locking screw
- 7) depth gauge
- 8) measuring surface for depth measurement



Precision Digital Workshop Calipers

„Absolute“ Electr. Digital Workshop Caliper • IP54

acc. to workshop grade

- water- and coolant proof acc. 40050 / IEC 60529

- large LCD display with clear reading, 11 mm digit height
- mechanic parts, stainless steel, hardened
- measuring jaws finely ground and lapped
- offset jaws for inside measurements
- with PRESET/ORIGIN/ABS/INC-system
- On/Off button, mm/inch switchable
- zero-setting at any position, DATA HOLD function
- with fine adjustment, with or without knife points
- incl. 2x 3 V batteries (type CR2032, art.-no.: 90112), with operation manual



Options

- data transfer via cable, art.-no.: 2420194, see page 334
- data transfer via WiFi, art.-no.: 2040101, see page 334
- data transfer via Bluetooth®, art.-no.: 2023106 + 209000, see page 334



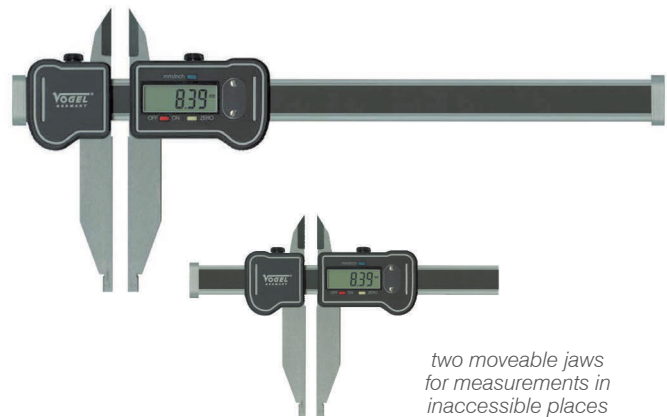
ART No	mm / inch	mm / inch	mm	mm	mm	mm	mm	ø mm	€	EURO CC
207030	300 / 12	0.01 / 0.0005	0.01	0.03	90	38	10	137.27	18.00	
207031	500 / 20	0.01 / 0.0005	0.01	0.05	150	60	20	222.19	18.00	
207032	1000 / 40	0.01 / 0.0005	0.01	0.06	150	63	20	528.12	35.00	
207130	300 / 12	0.01 / 0.0005	0.01	0.03	90	—	10	115.62	18.00	
207131	500 / 20	0.01 / 0.0005	0.01	0.05	150	—	20	188.96	18.00	
207132	1000 / 40	0.01 / 0.0005	0.01	0.06	150	—	20	468.78	35.00	

Electr. Digital Workshop Caliper

acc. to workshop grade

- with two moveable, exchangeable jaws
- modern design, lightweight model, made of anodized hard aluminium

- stainless, hardened measuring jaws and tips
- jaws finely ground
- with two adjustable, exchangeable measuring jaws
- LCD display with clear reading, digit height 10 mm
- On/Off button, mm/inch switchable, zero setting at any position
- slides perfectly because of double-prismatic-lead
- rail and electronic housing made of anodized aluminium
- incl. 1x 1.5 V battery (type LR44, art.-no. 90213), with operation manual



two moveable jaws for measurements in inaccessible places

measuring jaw-pair

Options

- art.-no. 200891: measuring jaw-pair, jaw length 125 mm, exchangeable
- art.-no. 200892: measuring jaw-pair, jaw length 150 mm, exchangeable



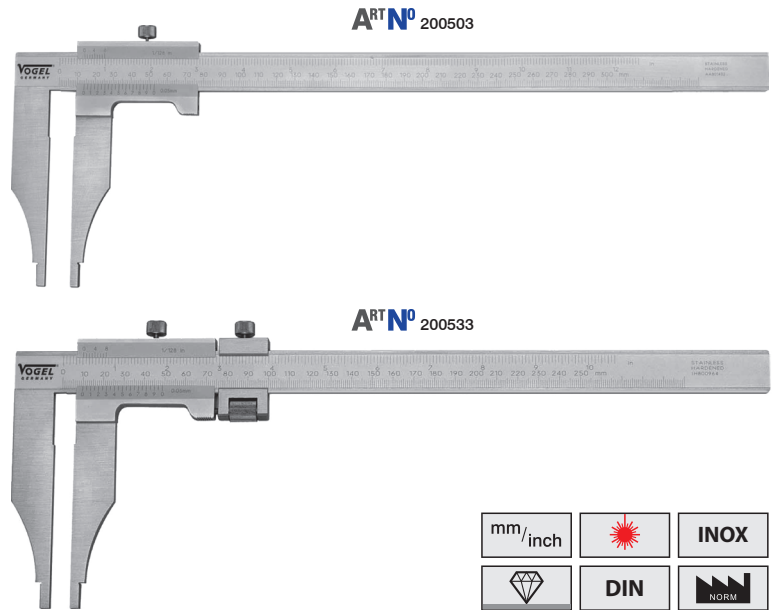
ART No	mm / inch	mm / inch	mm	mm	mm	mm	mm	ø mm	€	EURO CC
200880	300 / 12	0.01 / 0.0005	0.01	0.04	90	40	10	189.25	18.00	
200881	500 / 20	0.01 / 0.0005	0.01	0.05	90	40	10	315.38	18.00	
200882	800 / 32	0.01 / 0.0005	0.01	0.06	90	40	10	441.74	35.00	





















Workshop Caliper

DIN 862 or in special sizes acc. to workshop grade

• precision class

- stainless steel, hardened
- scale and vernier satin chrome finish, laser engraved scale
- jaws finely ground offset jaws for inside measurements
- with or without fine adjustment, without knife points
- with fixing screw
- mono block vernier
- with identification number
- 0 – 600 mm R mm-pitch
- < 600 mm R cm-pitch



	€		€							
200501	59.92	200531	61.97	200 / 8	0.05	1/128	65	—	10	7.50
200502	74.28	200532	79.87	250 / 10	0.05	1/128	80	—	10	18.00
200503	86.48	200533	92.64	300 / 12	0.05	1/128	100	—	10	18.00
—	—	200533-1	186.03	300 / 12	0.05	1/128	150	—	20	18.00
200504	153.41	200534	172.65	400 / 16	0.05	1/128	100	—	20	18.00
200505	262.98	200535	271.98	500 / 20	0.05	1/128	150	—	20	18.00
—	—	200535-1	281.20	500 / 20	0.05	1/128	200	—	20	18.00
200505-2	344.81	200535-2	356.70	500 / 20	0.05	1/128	300	—	20	18.00
200506	315.77	200536	318.01	600 / 24	0.05	1/128	150	—	20	35.00
—	—	200536-1	334.76	600 / 24	0.05	1/128	200	—	20	35.00
—	—	200536-2	368.24	600 / 24	0.05	1/128	300	—	20	35.00
200508	454.69	200538	460.30	800 / 32	0.05	1/128	150	—	20	35.00
—	—	200538-1	462.98	800 / 32	0.05	1/128	200	—	20	35.00
—	—	200538-2	509.05	800 / 32	0.05	1/128	300	—	20	35.00
200510	636.03	200540	658.14	1000 / 40	0.05	1/128	150	—	20	35.00
—	—	200541	675.08	1000 / 40	0.05	1/128	200	—	20	35.00
—	—	200542	742.02	1000 / 40	0.05	1/128	300	—	20	35.00
—	—	200543	1089.00	1000 / 40	0.05	1/128	500	—	20	35.00
—	—	200551	1133.00	1250 / 50	0.05	1/128	200	—	20	49.00
 200512	1006.89	 200552	1122.44	1500 / 60	0.05	1/128	200	—	20	35.00
—	—	 200552-1	1170.45	1500 / 60	0.05	1/128	300	—	20	49.00
 200513	1785.99	 200553	2575.00	2000 / 80	0.05	1/128	200	—	20	49.00
—	—	 200553-1	2806.09	2000 / 80	0.05	1/128	300	—	20	49.00
 200514	3113.11	 200554	3140.42	2500 / 100	0.05	1/128	200	—	20	64.00
 200515	4179.42	 200555	4186.03	3000 / 120	0.05	1/128	200	—	20	64.00
—	—	 200555-1	5070.77	3000 / 120	0.05	1/128	300	—	20	64.00

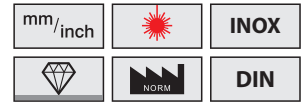
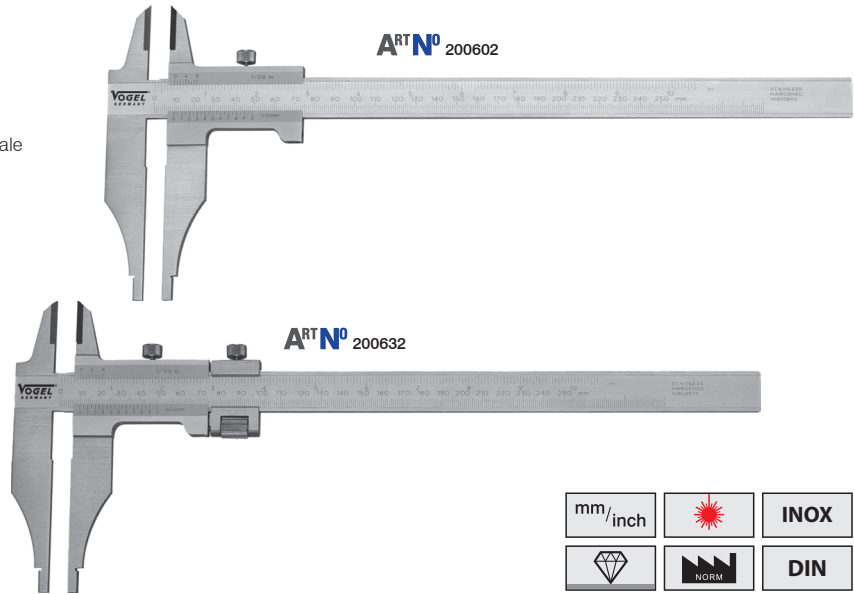
Workshop Calipers

Workshop Caliper

DIN 862 or in special sizes acc. to workshop grade

• precision class

- stainless steel, hardened
- scale and vernier satin chrome finish, laser engraved scale
- jaws finely ground
- offset jaws for inside measurements
- with or without fine adjustment, with knife points
- with fixing screw
- mono block vernier



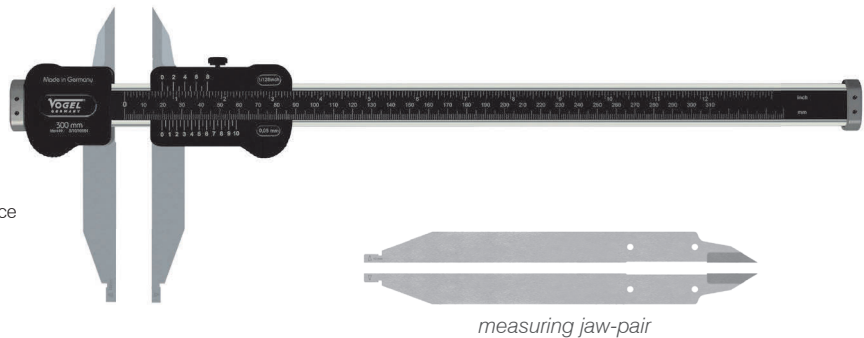
ART No	€	ART No	€	mm / inch	bottom mm	top inch	mm	mm	ø mm	EURO CC
200601	66.94	200631	69.76	200 / 8	0.05	1/128	65	32	10	7.50
200602	82.72	200632	86.48	250 / 10	0.05	1/128	80	32	10	18.00
200603	95.22	200633	110.92	300 / 12	0.05	1/128	100	32	10	18.00
200604	172.96	200634	178.53	400 / 16	0.05	1/128	125	56	10	18.00
200605	237.69	200635	254.20	500 / 20	0.05	1/128	150	67	20	18.00
200606	401.66	200636	407.27	600 / 24	0.05	1/128	150	67	20	35.00
200608	629.85	200638	643.75	800 / 32	0.05	1/128	150	67	20	35.00
200610	759.29	200640	833.48	1000 / 40	0.05	1/128	150	67	20	35.00
200612	1330.42	200652	1459.17	1500 / 60	0.05	1/128	200	80	20	49.00
200613	2139.23	200653	2264.68	2000 / 80	0.05	1/128	200	80	20	49.00
200614	3251.76	200654	3595.10	2500 / 100	0.05	1/128	200	80	20	64.00
200615	4918.91	200655	4975.03	3000 / 120	0.05	1/128	200	80	20	64.00
200616	5050.96	200656	5361.28	3000 / 120	0.05	1/128	300	80	20	64.00
200617	5156.60	200657	5463.62	3500 / 140	0.05	1/128	200	80	20	64.00
200618	5836.67	200658	6232.82	3500 / 140	0.05	1/128	300	80	20	64.00

Workshop Caliper

DIN 862

- parallaxfree finished, with flat vernier
- with exchangeable jaws
- modern design, lightweight model, made of anodized hard aluminium

- stainless, hardened measuring jaws and tips
- jaws finely ground
- good contrast because of white scaling on black surface
- reading in mm and inch
- slides perfectly because of double-prismatic-lead
- rail and housing made of anodized aluminium
- with operation manual



Options

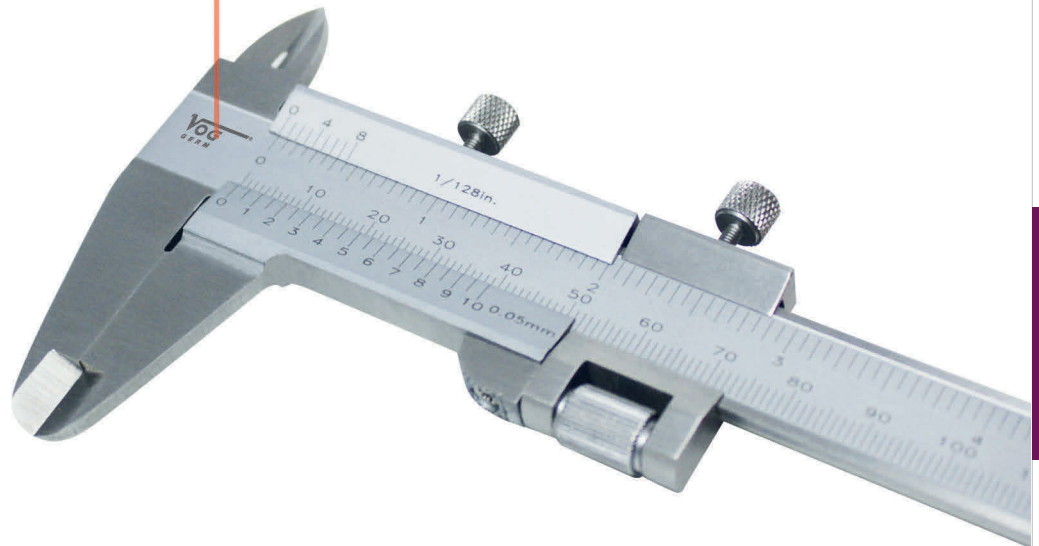
- art. no. 200890: measuring jaw-pair, jaw length 90 mm, exchangeable
- art. no. 200891: measuring jaw-pair, jaw length 125 mm, exchangeable
- art. no. 200892: measuring jaw-pair, jaw length 150 mm, exchangeable



ART No	mm / inch	bottom mm	top inch	mm	mm	ø mm	€	EURO CC
200831	300 / 12	0.05	1/128	90	40	10	137.33	18.00
200832	500 / 20	0.05	1/128	90	40	10	215.81	18.00
200833	700 / 28	0.05	1/128	90	40	10	304.10	35.00
200834	900 / 36	0.05	1/128	90	40	10	392.38	35.00



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- ✓ cast iron
- ✓ non-ferrous metal
- ✓ special plastic material



Groove Caliper

„Absolute“ Digital Caliper for Inside or Outside Grooves • IP54

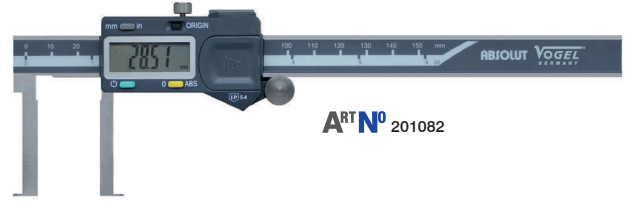
DIN 862

- art.-no. 201082 – 201084 for inside groove measurement
- art.-no. 201096 – 201098 for outside groove measurement
- top model for industry purposes
- with glass rail for more accuracy
- spray water proof acc. to DIN 40050 / IEC 60529
- with data output, top model (connectivity also for Digimatic measuring devices)

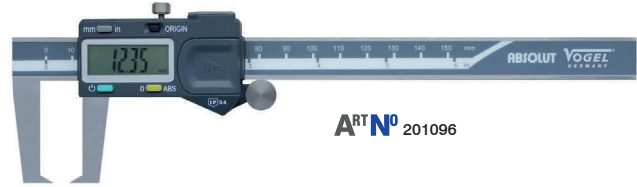
- sturdy quality, stainless steel, hardened
- large LCD display with clear reading, 9 mm digit height
- jaws finely ground and lapped, with fixing screw
- On/Off button, with „ORIGIN“ system, with thumbroll
- mm/inch switchable, zero setting at any position
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual

Options

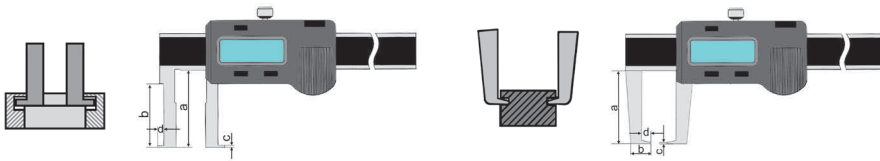
- data transfer via cable, art.-no.: 2420194, see page 334
- data transfer via WiFi, art.-no.: 2040101, see page 334
- data transfer via Bluetooth®, art.-no.: 2023106 + 209000, see page 334



ART No 201082



ART No 201096

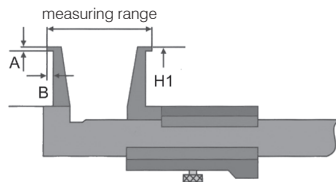
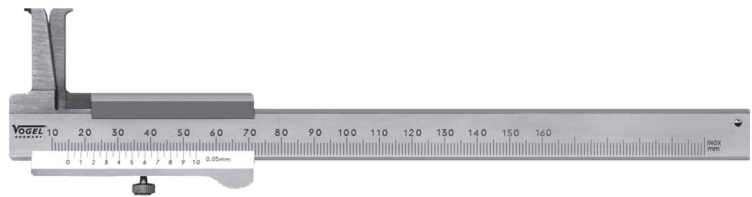


ART No	type	mm / inch	mm / inch	mm	mm / inch	A mm	B mm	C mm	D mm	€
201082	inside	20 – 150 / 0 – 6	0.01 / 0.0005	0.01	0.03 / 0.0015	36	15	1	6	84.21
201083	inside	25 – 200 / 0 – 8	0.01 / 0.0005	0.01	0.03 / 0.0015	36	15	1	6	98.25
201084	inside	30 – 300 / 0 – 12	0.01 / 0.0005	0.01	0.04 / 0.002	56	15	1	6	140.36
201096	outside	0 – 150 / 0 – 6	0.01 / 0.0005	0.01	0.03 / 0.0015	40	15	1	5	88.43
201097	outside	0 – 200 / 0 – 8	0.01 / 0.0005	0.01	0.03 / 0.0015	50	19.5	1.8	7	103.17
201098	outside	0 – 300 / 0 – 12	0.01 / 0.0005	0.01	0.04 / 0.002	60	21	1.8	8	147.38

Groove Caliper

- to measure groove dimensions

- stainless steel, hardened
- scale and vernier satin chrome finish, laser engraved scale
- with fixing screw



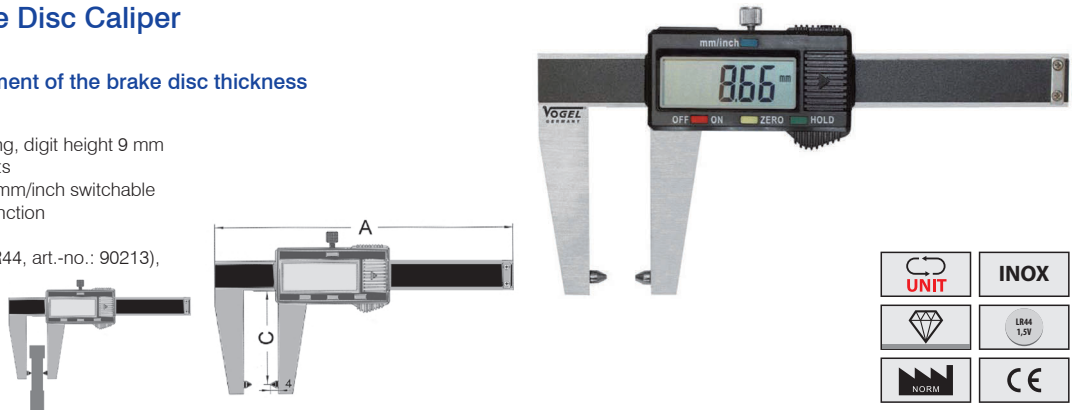
ART No	mm	mm	A mm	B mm	H1 mm	€	EURO CC
201075	10 – 160	0.05	0.9	3.0	25	78.40	7.50
201076	20 – 160	0.05	2.0	5.0	40	82.89	7.50
201077	26 – 200	0.05	3.0	7.0	60	126.06	7.50
201085	30 – 250	0.05	4.0	8.5	80	152.80	18.00
201086	35 – 300	0.05	5.0	10.0	105	171.90	18.00

Electr. Digital Brake Disc Caliper

acc. to workshop grade

- fast and easy measurement of the brake disc thickness

- stainless steel, hardened
- LCD display with clear reading, digit height 9 mm
- conical, hardened knife points
- zero setting at any position, mm/inch switchable
- On/Off button, with HOLD function
- fixing screw
- incl. 2x 1.5 V battery (type LR44, art.-no.: 90213), with operation manual



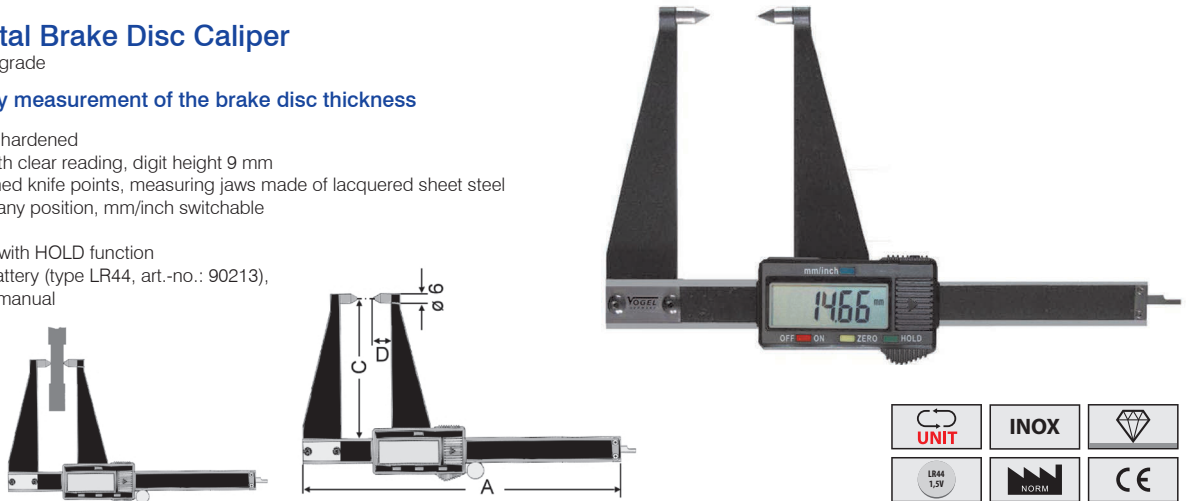
ART No	mm / inch	mm / inch	mm	max. mm	A mm	C mm	€	EURO CC
206020	60 / 2.4	0.01 / 0.0005	0.01	0.04	158	50	59.76	7.50

Electr. Digital Brake Disc Caliper

acc. to workshop grade

- fast and easy measurement of the brake disc thickness

- stainless steel, hardened
- LCD display with clear reading, digit height 9 mm
- conical, hardened knife points, measuring jaws made of lacquered sheet steel
- zero setting at any position, mm/inch switchable
- depth gauge
- On/Off button, with HOLD function
- incl. 2x 1.5 V battery (type LR44, art.-no.: 90213), with operation manual

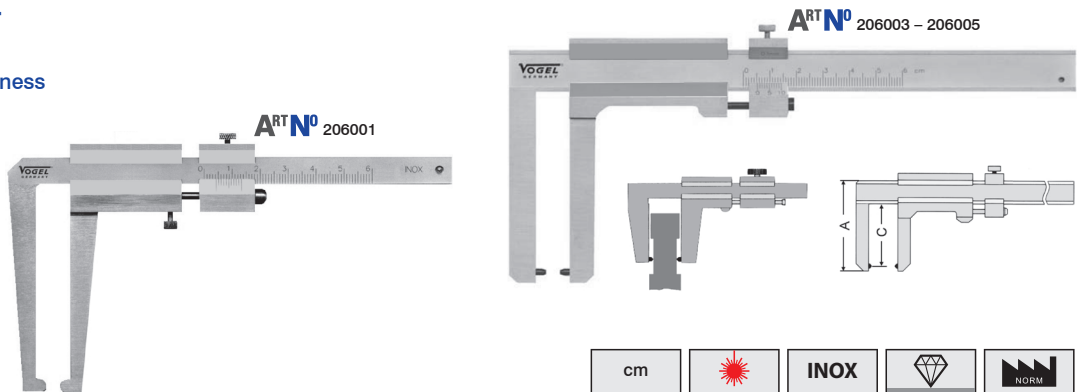


ART No	mm / inch	mm / inch	mm	max. mm	A mm	C mm	D mm	€	EURO CC
206021	100 / 4	0.01 / 0.0005	0.01	0.05	208	91.5	11.5	70.60	7.50

Brake Disc Caliper

- with drag pointer
- for measuring the thickness of installed brake discs

- stainless steel, hardened
- scale and vernier satin chrome finish, laser engraved scale
- art.-no. 206001 with locking screw



ART No	mm	mm	A mm	C mm	mm	€	EURO CC
206001	0 - 60	0.10	86	74	77	39.76	7.50
206003	0 - 60	0.10	67	50	55	40.83	7.50
206004	0 - 60	0.10	102	79	83	40.84	7.50
206005	0 - 90	0.10	142	119	120	54.67	7.50

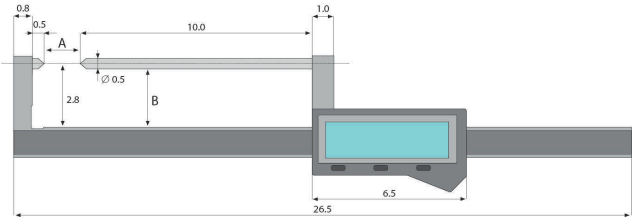
Brake Disc Caliper and Drum Calipers

Electr. Digital Brake Disc Caliper • IP54

NEW

acc. to workshop grade

- for quick and easy measurement **WITHOUT** removing the tires (only aluminium rims)
- mechanic in stainless steel, hardened
- LCD display with clear reading, digit height 13 mm
- conical, hardened knife points
- zero setting at any position, mm / inch / fraction switchable
- On/Off button, with HOLD function
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual



fractional display in inches

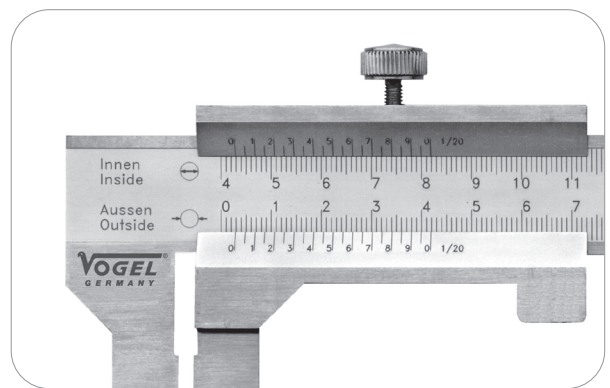
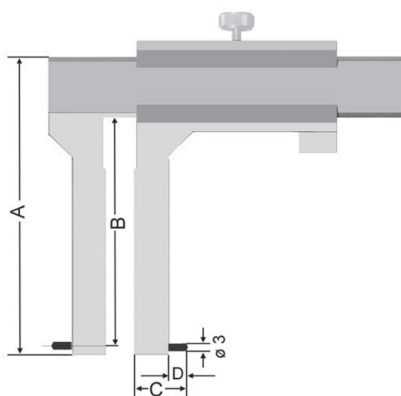
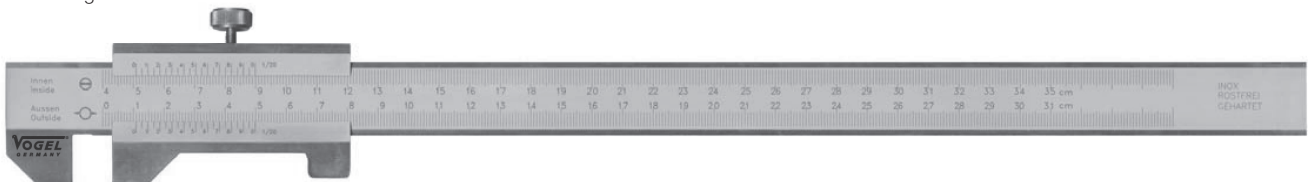


ART N°	mm / inch	mm / inch	mm	mm	A mm	B mm	€
206022	80 / 3.2	0.01 / 0.0005	0.02	0.02	85.1	25.5	58.07

Brake Drum Caliper

acc. to workshop grade

- for measuring internal and external diameters
- stainless steel, hardened
- scale and vernier satin chrome finish, laser engraved scale
- with fixing screw

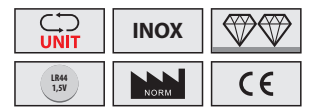
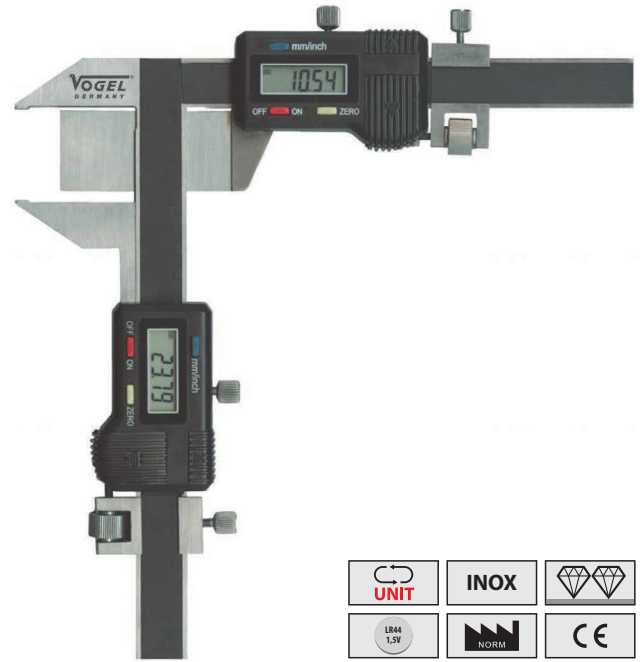
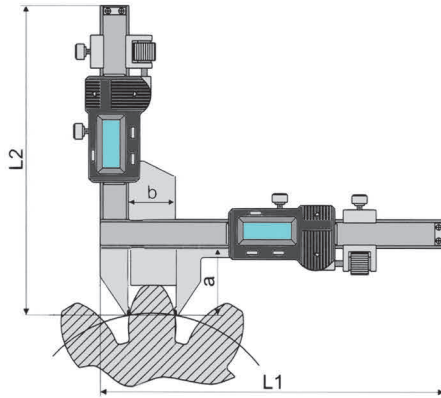






ART N°	inside mm	outside mm	mm	mm	A mm	B mm	C mm	D mm	€	EURO CC
205203	40 – 300	0 – 300	0.05	93	116	90	20	7	172.96	18.00
205206	50 – 500	0 – 500	0.05	153	177	150	25	9	267.79	18.00

Electr. Digital Gear Teeth Caliper

acc. to workshop grade

- to measure the gear teeth at front-and helical gears, etc.
- stainless steel, hardened
- LCD display with clear reading
- carbide jaws, finely ground
- with fixing screw and fine adjustment on both sides
- On/Off button, zero setting at any position, mm/inch switchable
- incl. 2x 1.5 V battery (type LR44, art.-no.: 90213), with operation manual



ART ^N	modules mm	 mm / inch	 mm	 mm	L1 mm	L2 mm	a mm	b mm	€	
202301	3 – 25	0.01 / 0.0005	0.01	0.03	156	156	30.5	21	211.28	15.00
202302	5 – 50	0.01 / 0.0005	0.01	0.03	210	185.5	50.5	50.5	244.15	15.00

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Never miss any news about our products, promotions and offers.



Any questions?
We are pleased to advise.

facebook.com/VogelGermany

Brass Button Gauges and Tread Depth Gauges

Brass Button Gauge

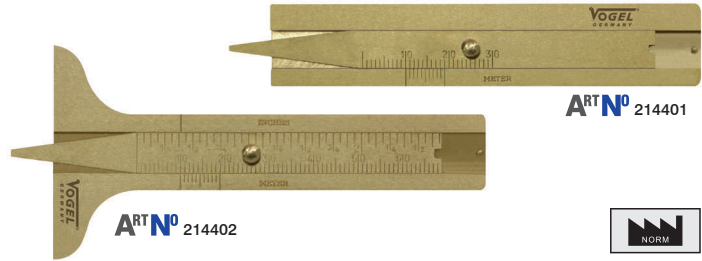
- also very popular as a promotional gift
- made of hard brass
- surface finely ground
- with dove-tail guiding, vernier reading
- promotional engraving possible on the front or rear



ART No round jaws	€	ART No with inside measurement	€	mm / inch	mm	mm	
214001	5.92	214301	5.15	80 / 3	0.10	25 (214001)	20 (214301)
214003	6.74	214303	6.54	100 / 4	0.10	25 (214003)	20 (214303)

Brass Tread Depth Gauge

- also very popular as a promotional gift
- surface finely ground
- with dove-tail guiding, vernier reading
- promotional engraving possible on the front or rear



ART No	mm / inch	mm	mm	€
214401	30 / 1.2	0.10	20	4.67
214402	60 / 2.4	0.10	50	6.48

Individually laser engraved articles!

We engrave special scales, trademarks, pictures, drawings, etc. according to your specifications.

Laser marking is particularly suitable for permanent, tamperproof engravings..

Thanks to our unique flexibility we can offer to our customers favourable prices for marking single pieces as well as for mass production.



Laser engraving is possible on:

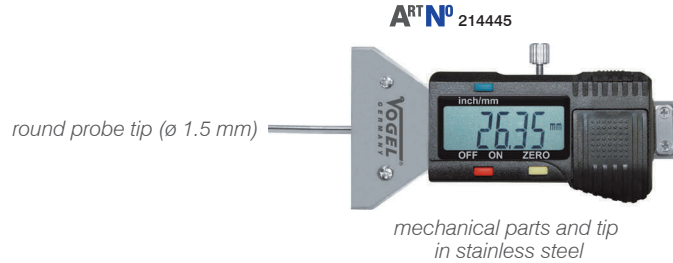
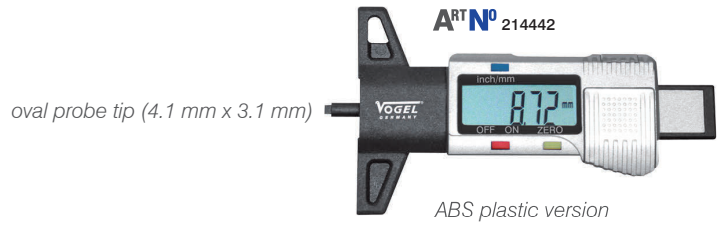
- steel, high-grade steel
- cast iron
- non-ferrous metals
- plastic
- self-adhesive foils

Any questions?
We are pleased to advise!

Digital Tread Depth Gauges and Digital Depth Calipers

Electr. Digital Tread Depth Gauge

- suitable for craftsmen and industry
- large LCD display, digit height 9.5 mm
- On/Off button, zero setting at any position
- mm/inch switchable
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual



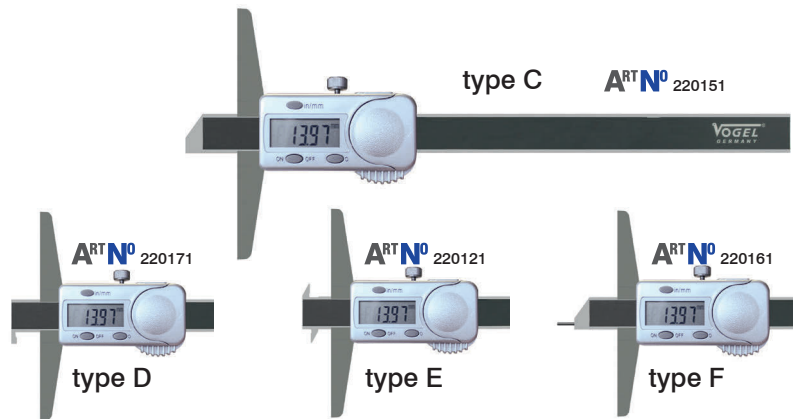
ART N°	mm / inch	mm / inch	mm	mm	€
214442	0 - 25 / 0 - 1	0.01 / 0.0005	0.03	60.0	8.55
214445	0 - 25 / 0 - 1	0.01 / 0.0005	0.03	45.0	28.44

Electr. Digital Depth Caliper • IP54

DIN 862

- standard model for industry and craft
- with glass rail for more accuracy
- spray water proof acc. to DIN 40050 / IEC 60529

- sturdy quality, stainless steel, hardened
- large LCD display with clear reading, 9 mm digit height
- stainless, hardened, with fixing screw
- On/Off button
- mm/inch switchable
- zero setting at any position
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual



ART N°	type	mm / inch	mm / inch	max. mm	mm	type / size of measuring surface mm	€	EURO CC
220151	C	150 / 6	0.01 / 0.0005	0.02	100	5.5	48.19	7.50
220152		200 / 8	0.01 / 0.0005	0.03	100	5.5	67.48	7.50
220153		300 / 12	0.01 / 0.0005	0.03	150	5.5	103.61	18.00
220171	D	150 / 6	0.01 / 0.0005	0.02	100	6 / 3.5	62.63	7.50
220172		200 / 8	0.01 / 0.0005	0.03	100	6 / 3.5	93.29	7.50
220173		300 / 12	0.01 / 0.0005	0.03	150	7 / 3.5	119.71	18.00
220121	E	150 / 6	0.01 / 0.0005	0.02	100	20.5 x 6.0/3.5	70.10	7.50
220122		200 / 8	0.01 / 0.0005	0.03	100	20.5 x 6.0/3.5	98.70	7.50
220123		300 / 12	0.01 / 0.0005	0.03	150	20.5 x 6.0/3.5	127.73	18.00
220161	F	150 / 6	0.01 / 0.0005	0.02	100	∅ 1.5 / 7	50.61	7.50
220162		200 / 8	0.01 / 0.0005	0.03	100	∅ 1.5 / 7	68.77	7.50
220163		300 / 12	0.01 / 0.0005	0.03	150	∅ 1.5 / 7	103.93	18.00

Digital Depth Calipers

Electr. Digital Depth Caliper • IP67

NEW

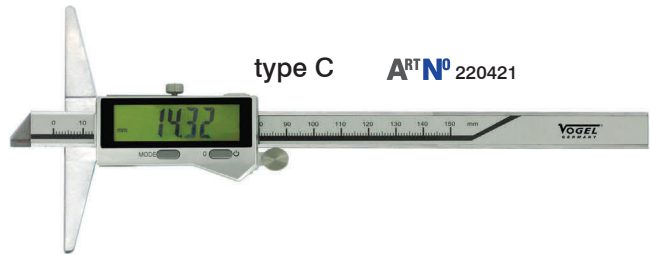
DIN 862

- with integrated Bluetooth® technology
- top model for industry purposes
- water- and coolant proof acc. to DIN 40050 / IEC 60529

- sturdy quality, stainless steel, hardened
- large LCD display with clear reading, 13 mm digit height
- jaws finely ground and lapped, with fixing screw
- On/Off button, data transfer button
- mm/inch switchable, zero setting at any position
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual

Option

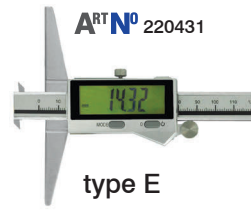
- data transfer via Bluetooth® (art.-no.: 2023106, see page 334)



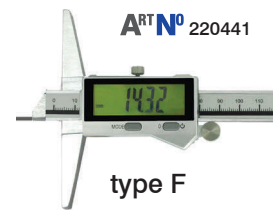
type C ART No 220421



type D



type E



type F



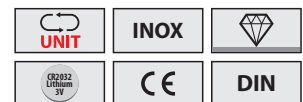
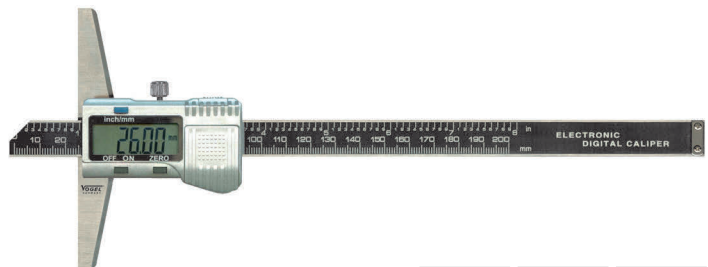
ART No	type	mm / inch	mm	max. mm	mm / inch	Type / size of measuring surface mm	€	EURO CC
220421	C	150 / 6	0.01 / 0.0005	0.03	100	5.5	94.32	7.50
220422		200 / 8	0.01 / 0.0005	0.03	100	5.5	113.48	7.50
220423		300 / 12	0.01 / 0.0005	0.04	150	5.5	147.38	18.00
220451	D	150 / 6	0.01 / 0.0005	0.03	100	5 / 2	109.06	7.50
220452		200 / 8	0.01 / 0.0005	0.03	100	5 / 2	126.75	7.50
220453		300 / 12	0.01 / 0.0005	0.04	150	5 / 2	162.12	18.00
220431	E	150 / 6	0.01 / 0.0005	0.03	100	26.4 / 4	117.90	7.50
220432		200 / 8	0.01 / 0.0005	0.03	100	26.4 / 4	141.48	7.50
220433		300 / 12	0.01 / 0.0005	0.04	150	26.4 / 4	182.75	18.00
220441	F	150 / 6	0.01 / 0.0005	0.03	100	∅ 1.5 / 6	100.22	7.50
220442		200 / 8	0.01 / 0.0005	0.03	100	∅ 1.5 / 6	117.90	7.50
220443		300 / 12	0.01 / 0.0005	0.04	150	∅ 1.5 / 6	153.27	18.00

Electr. Digital Depth Caliper

DIN 862

- with plastic housing cover

- stainless steel, hardened, measuring surface finely ground
- with fixing screw
- large LCD display with clear reading, digit height 10 mm
- On/Off button, zero setting at any position
- mm / inch switchable
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual



ART No	mm / inch	mm / inch	max. mm	mm	type / size of measuring surface mm	€	EURO CC
228251	150 / 6	0.01 / 0.0005	0.03	100	6	38.52	7.50
228252	200 / 8	0.01 / 0.0005	0.03	100	6	56.61	7.50
228253	300 / 12	0.01 / 0.0005	0.04	100	6	72.82	18.00

Electr. Digital Depth Gauge

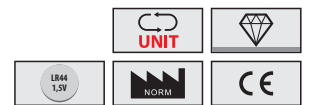
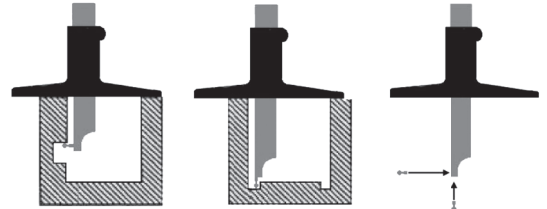
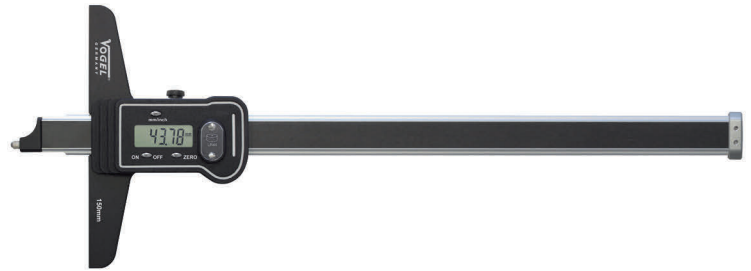
acc. to workshop grade

- modern design, lightweight model
- made of anodized hard aluminium
- with exchangeable measuring tips (M2.5)
- with 3 measuring bridges with different length (150 mm, 300 mm, 450 mm)

- LCD display with clear reading, digit height 10 mm
- incl. hardened measuring tips with M2.5 thread, exchangeable
- On/Off button, mm/inch switchable, zero setting at any position
- slides perfectly because of double-prismatic-lead
- rail and electronic housing made of anodized aluminium
- incl. 1x 1.5 V battery (type LR44, art.-no.: 90213), with operation manual and hexagon-key

Spare Measuring Bridge:

- art.-no. 220890: measuring bridge, 150 mm, anodized aluminium (€ 127.52)
- art.-no. 220891: measuring bridge, 300 mm, anodized aluminium (€ 147.14)
- art.-no. 220892: measuring bridge, 450 mm, anodized aluminium (€ 176.57)
- other measuring tips with M2.5 thread, please follow on page 168 – 169



ART NO	mm / inch	mm / inch	mm	max. mm	mm	€	EURO CC
220880	300 / 12	0.01 / 0.0005	0.01	0.04	150 / 300 / 450	294.38	18.00
220881	500 / 20	0.01 / 0.0005	0.01	0.05	150 / 300 / 450	399.50	18.00
220882	800 / 32	0.01 / 0.0005	0.01	0.06	150 / 300 / 450	492.24	35.00

Electr. Digital Depth Gauge

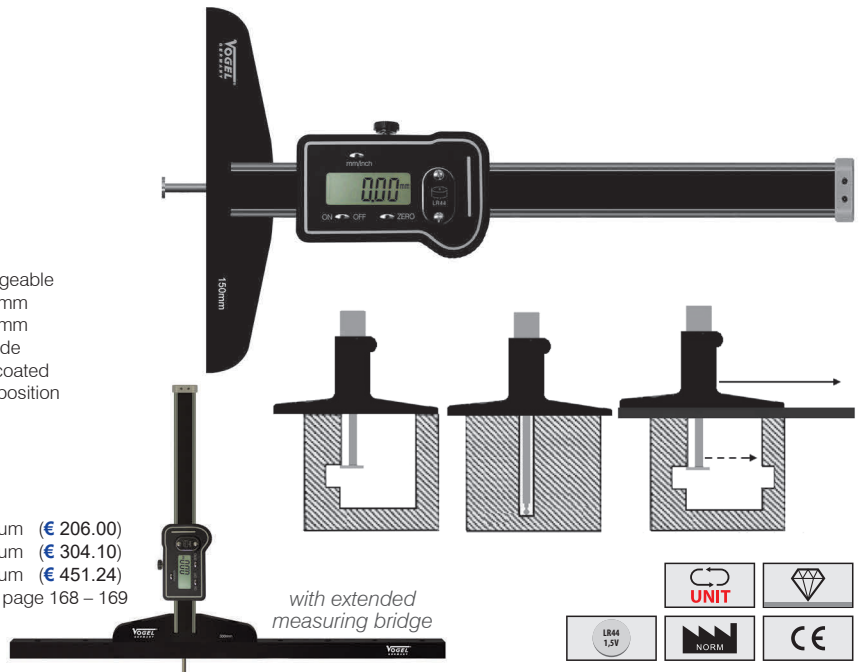
acc. to workshop grade

- especially for narrow bore depth
- with round depth measuring bar
- modern design, lightweight model
- made of anodized hard aluminium
- with exchangeable measuring tips (M2.5)
- with exchangeable disc inserts
- incl. 2 measuring bridges

- LCD display with clear reading, digit height 10 mm
- incl. hardened measuring tips with M2.5 thread, exchangeable
- incl. plate insert with ø 10 mm with measuring rods-ø 4 mm
- incl. plate insert with ø 20 mm with measuring rods-ø 6 mm
- all sliding parts slide in plastic bearing double prism guide
- rail and electronics housing made of aluminium, oxide-coated
- On/Off button, mm/inch switchable, zero setting at any position
- incl. 1x 1.5 V battery (type LR44, art.-no.: 90213), with operation manual and hexagon-key
- further probe tips with M2.5 thread see page 168 – 169

Options

- art.-no. 220893: measuring bridge, 550 mm, duraluminium (€ 206.00)
- art.-no. 220894: measuring bridge, 750 mm, duraluminium (€ 304.10)
- art.-no. 220895: measuring bridge, 950 mm, duraluminium (€ 451.24)
- other measuring tips with M2.5 thread, please follow on page 168 – 169



with extended measuring bridge



ART NO	mm / inch	mm / inch	mm	max. mm	meas.-beam-ø mm	mm	€	EURO CC
220840	200 / 8	0.01 / 0.0005	0.01	0.03	4	150/350	306.21	7.50
220841	300 / 12	0.01 / 0.0005	0.01	0.04	4	150/350	408.29	18.00
220842	500 / 20	0.01 / 0.0005	0.01	0.05	6	150/350	510.37	18.00
220843	800 / 32	0.01 / 0.0005	0.01	0.06	6	150/350	653.26	35.00

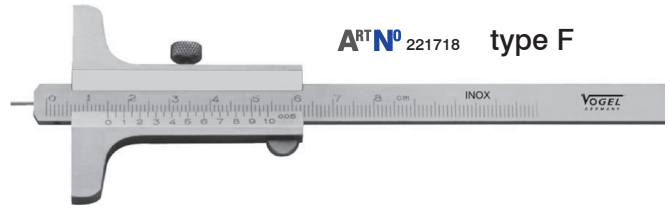
Depth Calipers

Depth Caliper

DIN 862

- suitable for craftsmen and industry

- stainless steel, hardened, vernier and scale matt chrome finish
- surfaces finely ground, with fixing screw
- mono block vernier, reading 0.05 mm
- straight bar, series 221530, type "C"
- straight and 90°-hook bar, reversible, series 221630, type "A"
- straight and with 2-hook bar, reversible, series 221830, type "B"
- exchangeable tip, reversible, series 221730, type "G"
- fixed tip, (art.-no.: 221718), type "F"

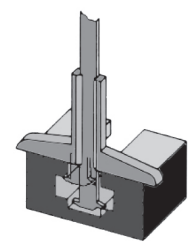
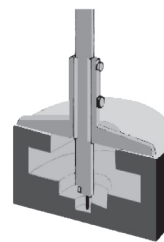
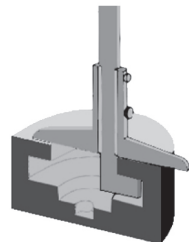
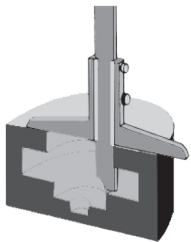
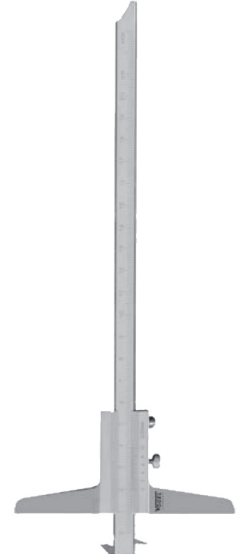
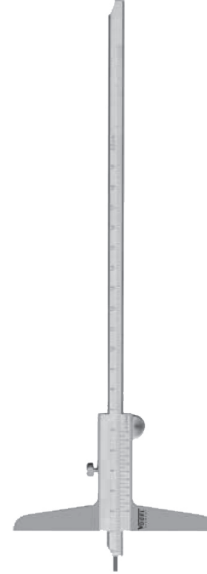
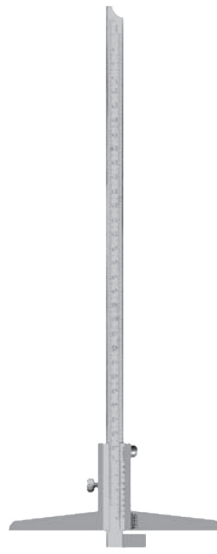
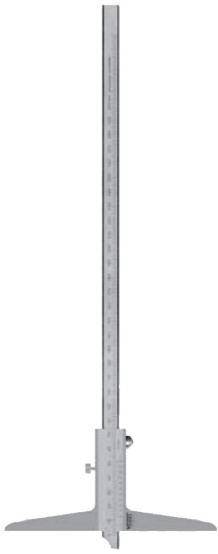


ART No 221532 type C

ART No 221632 type A

ART No 221732 type G

ART No 221832 type B

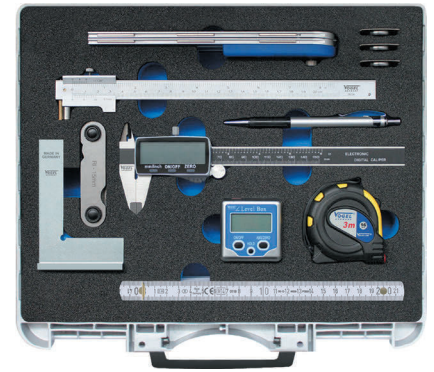


ART No	€	ART No	€	ART No	€	ART No	€	ART No	€	mm	mm	mm	CC
type C		type A		type B		type G		type F					
—	—	—	—	—	—	—	—	221718	22.86	80	0.05	50	7.50
221530	22.85	221630	58.95	221830	59.86	221730	35.38	—	—	150	0.05	100	7.50
221531	26.11	221631	59.82	221831	73.48	221731	50.55	—	—	200	0.05	100	7.50
221535	35.79	221633	97.85	—	—	221733	63.38	—	—	250	0.05	125	18.00
221532	46.76	221632	98.13	221832	123.52	221732	89.85	—	—	300	0.05	150	18.00
221533	64.15	221634	249.58	—	—	—	—	—	—	400	0.05	150	18.00
221534	101.06	221635	140.60	—	—	221735	110.92	—	—	500	0.05	150	18.00
221536	187.46	221636	213.92	—	—	—	—	—	—	500	0.05	250	18.00
221537	275.89	—	—	—	—	—	—	—	—	800	0.05	250	35.00
221538	329.64	—	—	—	—	—	—	—	—	1000	0.05	250	35.00

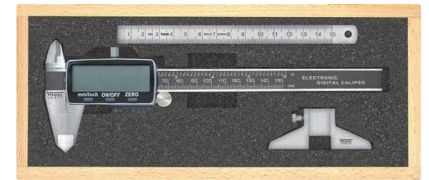
Measuring Tool Set

- selection of need-based compilations

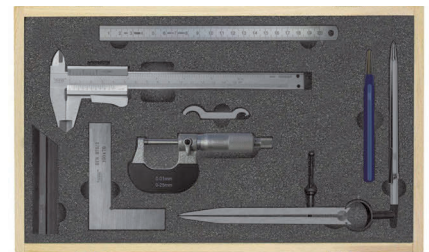
ART NO SET	pieces	consisting of	article	€
330002	10	Electr. Digital Caliper stainless steel, 150 x 0.01 mm / 6 x 0.0005"	202011-3	244.77
		Marking Gauge stainless steel, 200 x 0,1 mm, hardened carbide scriber	335070	
		Digital Angle Sensor „Level Box“ +/- 180 x 0.1°	320010	
		Digital Protractor 0 – 360 x 0.05°, 200 x 200 mm	320021	
		Workshop Square with back special steel, 100 x 70 mm	312473	
		Carbide Marker with clip, exchangeable tips, push technic	334615	
		Pocket Measuring Tape 3 meter, self adjusting end-hook, with magnetic dots and lanyard	141003	
		Radius Gauge Set 2 pcs.	472105 472106	
		Wood Folding Rule white, 2 meter, 10 links	1312010200	



ART NO SET	pieces	consisting of	article	€
202091	3	Digital Caliper • 150 x 0.01 mm • mm / inch • stainless • hardened	202011-3	63.67
		Measuring Bridge • 75 mm • stainless • hardened	2002092	
		Stainless Steel Rule • 150 x 13 x 0.5 mm • stainless • graduation mm/mm	1010010015	

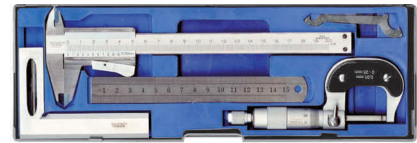


ART NO SET	pieces	consisting of	article	€
239908	8	Precision Vernier Caliper • 150 x 0.05 mm • mm / inch • stainless • hardened	201020-2	125.81
		Micrometer • 0 – 25 mm x 0.01 mm • with carbide surfaces	231351	
		Flat Square, DIN 875/2 • 100 x 70 mm	310062	
		Knife straight edge, bevelled edge • 100 mm	310323	
		Spring Divider • 125 mm	302421	
		Carbide Steel Scriber • 150 mm	334608	
		Stainless Steel Rule • 200 x 13 x 0.5 mm • stainless • graduation mm/mm	1010010020	
		Center Punch • 120 x ø 10 mm	239999	



Measuring Tool Sets

ART N° SET	pieces	consisting of	€
239911	4	Vernier Caliper • 150 x 0.05 mm • stainless • hardened	51.03
		Micrometer • 0 – 25 mm x 0.01 mm • with carbide surfaces	
		Square, bevelled edge • 100 x 70 mm • chromed	
		Stainless Steel Rule • 150 x 18 x 0.5 mm • stainless • graduation mm/inch	



ART N° SET	pieces	consisting of	article	€
479901	4	Welding Gauge stainless steel, fan shape, quantity of blades 12, 3 – 12 mm	474401	141.48
		Precision Welding Gauge stainless steel, hardened and fine ground, with vernier reading, scale matt chromed, with fixing screw	474403	
		Precision Welding Gauge stainless steel, hardened and fine ground, reading through a window by a reference line	474404	
		Pipe Welding Gauge / Edge Offset Gauge with opposite movable measuring jaws, for pipe welds up to 35 mm wall thickness, stainless, hardened, reading 1.0 mm	474409	



Other combinations available
on request, please!



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partnership request



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Repair Service

Benefit from our many years of experience in the repair of measuring tools and the procurement of spare parts and accessories. By having the measuring tools checked by us or our calibration laboratory, you save time, money and unnecessary transport when troubleshooting errors.

Repair, adjustment and testing / calibration from a single source ensure that your measuring tools are in perfect condition.

Overview of services:

- ✓ Visual and functional test
- ✓ Dismantling and cleaning
- ✓ Replacement of the defect parts
- ✓ Assembly with function test
- ✓ Calibration if desired

Any questions?

We are happy to help.





IP65
75 - 100 mm 0.001 mm

25-50mm
0.01mm

0-25 mm 0.001 mm
IP54

71.8947 mm
ON/OFF
ZERO ABS
in/mm DATA

ON/OFF
SET ABS
UNIT

25 30
0 5
45
VOGEL
GERMANY

Micrometers

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Precision Digital Micrometers

Sylvac • Professional micrometer S_Mike • IP67

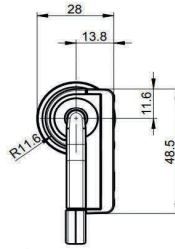
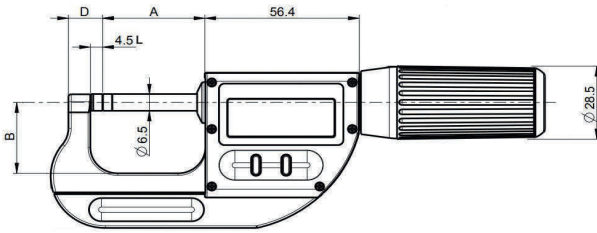
DIN 863

NEW

- auto. wake-up by moving the measuring spindle
- large LCD display with clear reading, digit height 8 mm
- sleeping mode after 20 min. of no use
- position memorized in sleeping mode, absolute system S.I.S
- with carbide measuring surfaces, lapped, spindle hardened
- water and coolant resistant, protection class IP67 acc. to IEC 60529
- quick movement of the measuring spindle 10 mm / rotation
- spindle Ø 6.5 mm
- with ratchet for constant measuring pressure
- repeatability and reproducibility never reached before
- incl. 1x 3 V battery (type CR2032, art.-no. 90112), with operating manual

Options

- data output via cable, Proximity – USB, art.-no. 2023101, see page 334
- data output via cable, Proximity – RS 232, art.-no. 2023100, see page 334



ART NO	mm / inch	mm / inch	ø mm	mm	A mm	B mm	D mm	L mm	max. mm	€	CC
230155	0 – 30 / 0 – 1.2	0.001 / 0.00005	28.5	10	37.3	27.5	12.5	4.5	0.003	424.88	inclusive
230156	33 – 66 / 1.2 – 2.6	0.001 / 0.00005	28.5	10	73.3	43.0	13.5	4.5	0.004	605.13	inclusive
230157	66 – 102 / 2.6 – 4.0	0.001 / 0.00005	28.5	10	109.3	60.0	14.5	4.5	0.005	755.76	inclusive
230158	100 – 136 / 4.0 – 5.4	0.001 / 0.00005	28.5	10	143.3	95.0	19.5	4.5	0.007	1784.48	inclusive
230159	125 – 161 / 5.0 – 6.4	0.001 / 0.00005	28.5	10	168.3	110.0	19.5	4.5	0.008	1932.54	inclusive

Sylvac • Professional micrometer S_Mike • IP67

DIN 863

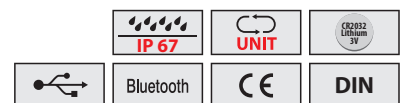
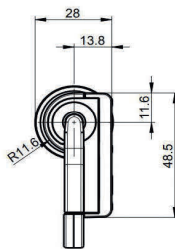
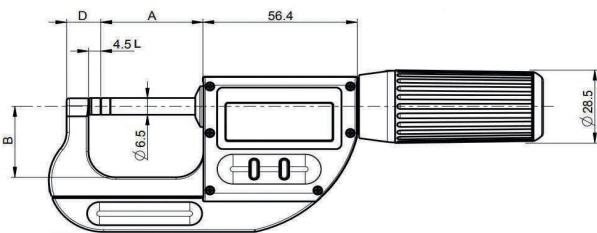
NEW

• with integrated Bluetooth® technology

- auto. wake-up by moving the measuring spindle
- large LCD display with clear reading, digit height 8 mm
- sleeping mode after 20 min. of no use
- position memorized in sleeping mode, absolute system S.I.S
- with carbide measuring surfaces, lapped, spindle hardened
- water and coolant resistant, protection class IP67 acc. to IEC 60529
- quick movement of the measuring spindle 10 mm / rotation
- spindle Ø 6.5 mm
- with ratchet for constant measuring pressure
- repeatability and reproducibility never reached before
- incl. 1x 3 V battery (type CR2032, art.-no. 90112), with operating manual

Options

- data output via Bluetooth®, art.-no. 2023106S, see page 334



ART NO	mm / inch	mm / inch	ø mm	mm	A mm	B mm	D mm	L mm	max. mm	€	CC
230184	0 – 30 / 0 – 1.2	0.001 / 0.00005	28.5	10	37.3	27.5	12.5	4.5	0.003	552.34	inclusive
230185	33 – 66 / 1.2 – 2.6	0.001 / 0.00005	28.5	10	73.3	43.0	13.5	4.5	0.004	750.61	inclusive
230186	66 – 102 / 2.6 – 4.0	0.001 / 0.00005	28.5	10	109.3	60.0	14.5	4.5	0.005	919.28	inclusive

Sylvac • Professional micrometer S_Mike • IP67

DIN 863

NEW

- auto. wake-up by moving the measuring spindle
- large LCD display with clear reading, digit height 8 mm
- sleeping mode after 20 min. of no use
- position memorized in sleeping mode, absolute system S.I.S
- with carbide measuring surfaces, lapped, spindle hardened
- water and coolant resistant, protection class IP67 acc. to IEC 60529
- quick displacement of the measuring spindle 10 mm / rotation
- with ratchet for constant measuring pressure
- repeatability and reproducibility never reached before
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operating manual

Options

- data output via cable, Proximity – USB, art.-no.: 2023101, see page 334
- data output via cable, Proximity – RS 232, art.-no.: 2023100, see page 334



ART NO	mm / inch	mm / inch	set contents	ø mm	mm	spindle-Ø mm	€	CC
230188	0 – 102 / 0 – 4.0	0.001 / 0.00005	3	28.5	10	6.5	1918.38	inclusive

Electr. Digital Micrometer • IP65

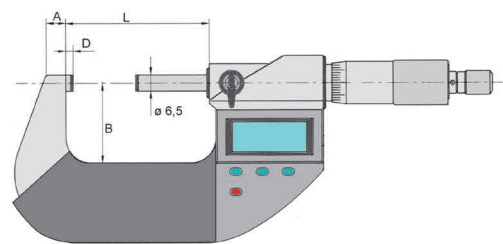
DIN 863

- water and coolant resistant acc. to DIN 40050 / IEC 60529
- with data output

- sturdy quality, frame lacquered, with insulation plates
- large LCD display, clear reading, digit height 7 mm
- carbide surfaces, lapped, spindle hardened and ground
- On button, automatic shutdown, zero setting at any position
- mm/inch switchable, ABS/INC measuring system
- locking lever for quick and precise fixing
- with ratchet for constant measuring pressure
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112),
- with operation manual
- from up 25 mm with setting gauge

Options

- data transfer via cable, art.-no.: 3420195, see page 334
- data transfer via WiFi, art.-no.: 2040102, see page 334
- data transfer via Bluetooth®, art.-no.: 209009, see page 334



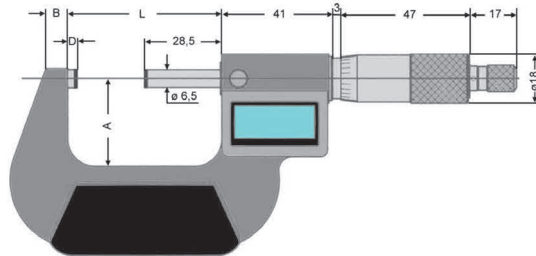
ART NO	mm / inch	mm / inch	ø mm	mm	A mm	B mm	D mm	L mm	max. mm	€	EURO CC
230130	0 – 25 / 0 – 1	0.001 / 0.00005	18	0.5	9	24	3.5	35	0.003	86.69	22.00
230131	25 – 50 / 1 – 2	0.001 / 0.00005	18	0.5	9	32	3.5	60	0.003	97.95	29.00
230132	50 – 75 / 2 – 3	0.001 / 0.00005	18	0.5	12	47	3.5	86	0.004	121.78	29.00
230133	75 – 100 / 3 – 4	0.001 / 0.00005	18	0.5	14	60	3.5	111	0.004	134.26	29.00

Precision Digital Micrometers

Electr. Digital Micrometer

DIN 863

- large LCD display with clear reading, digit height 7 mm
- frame lacquered, with insulation plates
- carbide surfaces, lapped, spindle hardened and ground
- autom. shutdown, zero setting at any position
- mm/inch switchable, without data output
- locking wheel for quick and precise fixing
- with ratchet for constant measuring pressure
- incl. 1x 1.5 V battery (type LR44, art.-no.: 90213), with operation manual
- from up 25 mm with setting gauge

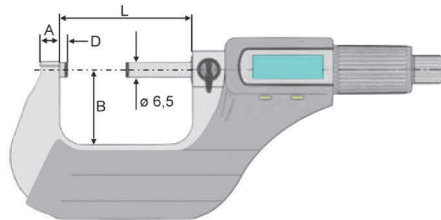


ART N°	mm / inch	mm / inch	\varnothing mm	mm	A mm	B mm	D mm	L mm	max. mm	€	EURO CC
231088	0 – 25 / 0 – 1	0.001 / 0.00005	18	0.5	24	6	3	32	0.002	124.76	22.00
231089	25 – 50 / 1 – 2	0.001 / 0.00005	18	0.5	32	8	3	57	0.002	137.82	29.00
231090	50 – 75 / 2 – 3	0.001 / 0.00005	18	0.5	45	8	3	82	0.003	152.09	29.00

Electr. Digital Micrometer • IP40

DIN 863

- dust resistant acc. to DIN 40050 / IEC 60529
- Absolute Measurement System (ABS-system)
- frame lacquered, with insulation plates, sturdy quality
- large LCD display, clear reading, digit height 8 mm
- with carbide surfaces, lapped, spindle hardened and ground
- On/Off button, zero setting at any position
- mm/inch switchable, ABS/INC measuring system
- locking lever for quick and precise fixing
- with friction ratchet for constant measuring pressure
- friction ratchet with rubber studs for better handling
- incl. 1x 3 V battery (type CR2032, art.-no. 90112), with operation manual
- from up 25 mm with setting gauge



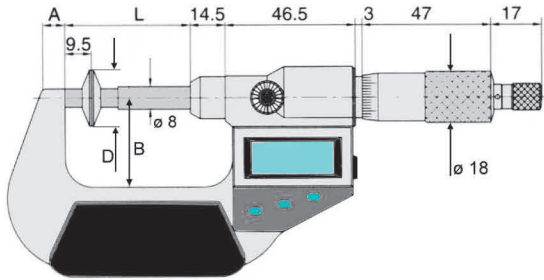
ART N°	mm / inch	mm / inch	\varnothing mm	mm	A mm	B mm	D mm	L mm	max. mm	€	EURO CC
231061	0 – 25 / 0 – 1	0.001 / 0.00005	22	0.5	6	25	3.5	32	0.003	64.87	22.00
231062	25 – 50 / 1 – 2	0.001 / 0.00005	22	0.5	6	32	3.5	57	0.003	83.11	29.00
231063	50 – 75 / 2 – 3	0.001 / 0.00005	22	0.5	7	44	3.5	82	0.004	105.85	29.00
231064	75 – 100 / 3 – 4	0.001 / 0.00005	22	0.5	8	59	3.5	108	0.005	121.75	29.00

Precision Digital Micrometers and Digital Micrometer Set

Electr. Digital Micrometer • IP40

DIN 863

- dust resistant acc. to DIN 40050 / IEC 60529 for chordal measurement of gear teeth, keys, ribs, fins, etc.
- Absolute Measurement System (ABS-system)
- LCD display, with clear reading, digit height 7 mm, mm/inch switchable
- frame lacquered, with insulated plates
- non-rotating spindle with disc measuring faces
- ABS/INC measurement system, zero setting at any position, On/Off button
- locking wheel for quick and precise fixing
- with ratchet for constant measuring pressure
- incl. 1x 1.5 V battery (type LR44, art.-no.: 90213), with operation manual
- from up 25 mm with setting gauge



ART NO	mm / inch	mm / inch	A mm	B mm	D mm	L mm	max. mm	€	EURO CC
231171	0 - 25 / 0 - 1	0.001 / 0.00005	0.7	32.0	20	43.0	0.004	270.90	22.00
231172	25 - 50 / 1 - 2	0.001 / 0.00005	0.7	44.5	20	68.0	0.004	293.01	29.00
231173	50 - 75 / 2 - 3	0.001 / 0.00005	0.7	57.0	20	93.0	0.005	315.12	29.00
231174	75 - 100 / 3 - 4	0.001 / 0.00005	0.7	70.0	20	118.5	0.005	348.30	29.00

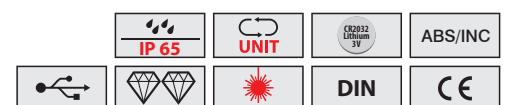
Electr. Digital Micrometer Set • IP65

DIN 863

- water and coolant resistant acc. to DIN 40050 / IEC 60529
- with data output
- sturdy quality, frame lacquered, with insulation plates
- large LCD display, clear reading, digit height 7 mm
- carbide surfaces, lapped, spindle hardened and ground
- On button, automatic shutdown, zero setting at any position
- mm/inch switchable, ABS/INC measuring system
- locking lever for quick and precise fixing
- with ratchet for constant measuring pressure
- incl. 3 V batteries (type CR2032, art.-no.: 90112), with operation manual
- from up 25 mm with setting gauge

Options

- data transfer via cable, art.-no.: 3420195, see page 334
- data transfer via WiFi, art.-no.: 2040102, see page 334
- data transfer via Bluetooth®, art.-no.: 209009, see page 334



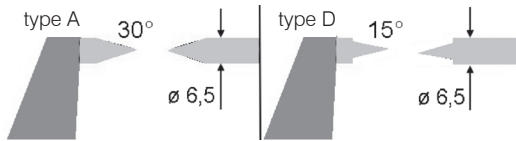
ART NO	mm / inch	mm / inch	set contents	ø mm	mm	max. mm	€	EURO CC
232171	0 - 100 / 0 - 4	0.001 / 0.00005	4	18	0.5	0.003 / 0.004	615.18	109.00

Precision Digital External Micrometers, Special Design

Electr. Digital Micrometer

DIN 863

- with 30° and 15° measuring tips
- Absolute Measurement System (ABS-system)
- LCD display, with clear reading, digit height 7 mm, mm/inch switchable
- frame lacquered, with insulation plates, carbide surfaces, lapped
- ABS/INC measurement system
- zero setting at any position, On/Off button
- locking wheel for quick and precise fixing
- with ratchet for constant measuring pressure
- incl. 1x 1.5 V battery (type LR44, art.-no.: 90213), with operation manual
- form up 25 mm setting with gauge



ART N° type A	€	ART N° type D	€	mm / inch	mm / inch	meas. tips radius mm	max. mm	ø mm	EURO CC
232971	223.28	232961	223.28	0 - 25 / 0 - 1	0.001 / 0.00005	0.3	0.002	18	22.00

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Any questions?
We are pleased to advise.

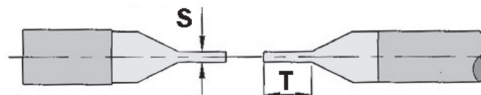
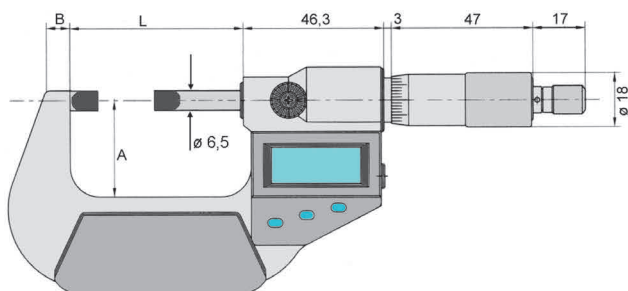
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Precision Digital External Micrometers, Special Design

Electr. Digital Micrometer • IP40

DIN 863

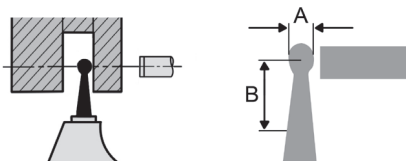
- dust resistant acc. to DIN 40050 / IEC 60529 to measure small grooves, etc.
- Absolute Measurement System (ABS-system)
- LCD display, with clear reading, digit height 7 mm, mm/inch switchable
- drum with metric scale
- frame lacquered, with insulated plates
- non-rotating spindle with blade measuring faces
- ABS/INC measurement system
- zero setting at any position, On/Off button
- locking wheel for quick and precise fixing
- with ratchet for constant measuring pressure
- incl. 1x 1.5 V battery (type LR44, art.-no.: 90213), with operation manual
- from up 25 mm with setting gauge



ART NO	mm / inch	mm / inch	A mm	B mm	L mm	S mm	T mm	max. mm	€	EURO CC
232381	0 - 25 / 0 - 1	0.001 / 0.00005	26.5	6	57.0	0.75	6.5	0.002	255.85	22.00
232382	25 - 50 / 1 - 2	0.001 / 0.00005	32.0	8	82.0	0.75	6.5	0.002	268.61	29.00
232383	50 - 75 / 2 - 3	0.001 / 0.00005	44.5	8	107.0	0.75	6.5	0.003	283.81	29.00
232384	75 - 100 / 3 - 4	0.001 / 0.00005	57.0	8	132.6	0.75	6.5	0.003	304.11	29.00

Electr. Digital Micrometer

- for measuring pipe wall thicknesses etc.
- Absolute Measurement System (ABS-system)
- LCD display, with clear reading, digit height 7 mm, mm/inch switchable
- frame lacquered, with insulated plates, carbide surface, hardened anvil
- ABS/INC measurement system
- zero setting at any position, On/Off button
- locking wheel for quick and precise fixing
- with ratchet for constant measuring pressure
- incl. 1x 1.5 V battery (type LR44, art.-no.: 90213), with operation manual



ART NO	mm / inch	mm / inch	ø mm	A ø mm	B mm	max. mm	€	EURO CC
232813	0 - 25 / 0 - 1	0.001 / 0.00005	18	4.7	25	0.003	216.08	22.00



WORLDWIDE CONTACTS
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WORLDWIDE CONTACTS



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Since 1949 Vogel Germany is at home around the world.

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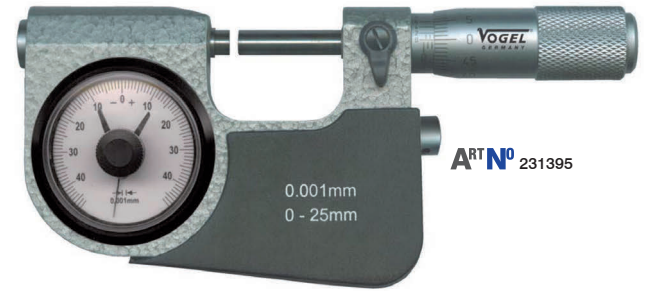
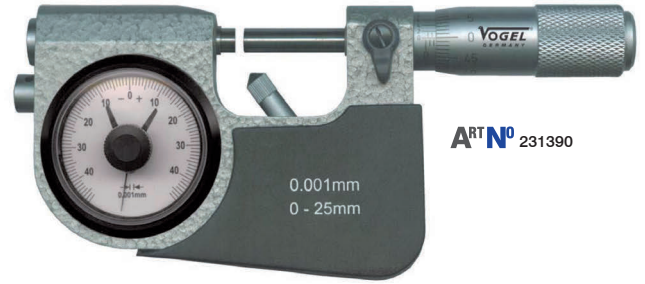
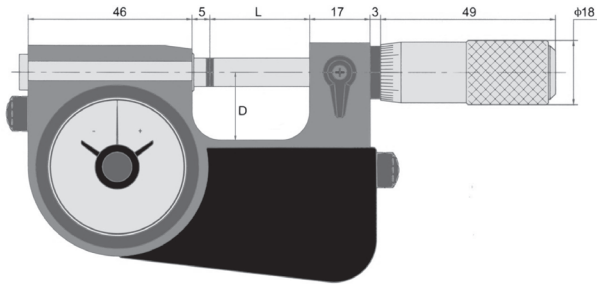
Any questions?
We are pleased to advise.

Indicator Snap Micrometers and Precision Micrometers

Indicator Snap Micrometer

- reading in μm
- for precise measurements in the series production

- drum and sleeve matt chrome
- frame hammer blow grey, with insulation plates
- carbide surfaces, lapped, spindle hardened and ground
- locking lever for quick and precise fixing
- art. no. 231390 with anvil-lifting, adjustable depth stop
- accuracy micrometer $\pm 0.003 \text{ mm}$
- accuracy indicator $\pm 0.001 \text{ mm}$

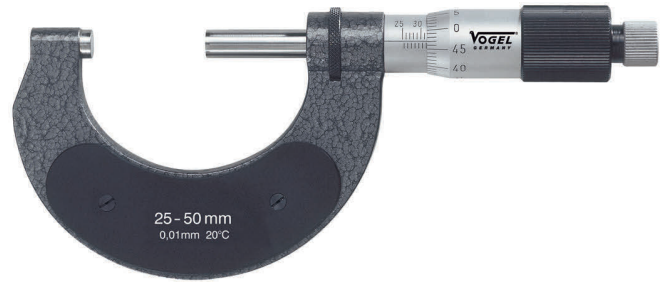
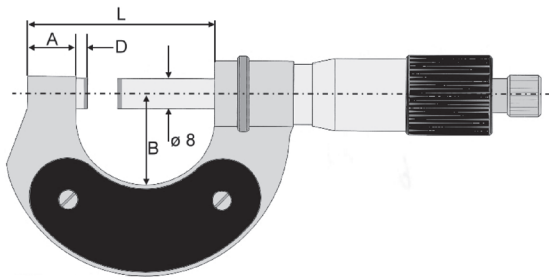


ART N°	mm	drum mm	dial mm	indicator mm	ø mm	L mm	D mm	€	EURO CC
231390	0 - 25	0.002	0.001	± 0.001	18	28.5	19.0	302.63	24.00
231395	0 - 25	0.002	0.001	± 0.001	18	28.5	19.0	302.63	24.00

Precision External Micrometer

- for professional industry purposes
- accuracy better than DIN 863

- sturdy quality, in high precision version
- drum and sleeve matt chrome finish
- hammer blow grey lacquered frame, with insulation plates
- carbide surfaces, lapped, spindle hardened and ground
- locking wheel for quick and precise fixing
- with ratchet for constant measuring pressure
- with adjusting key, from up 25 mm with setting gauge



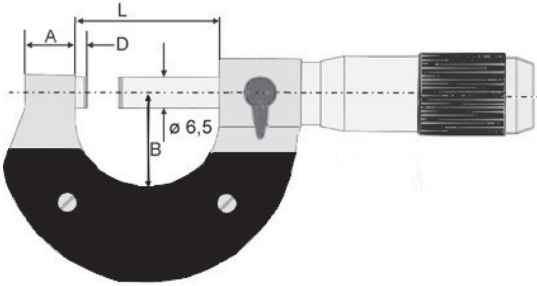
ART N°	mm	mm	ø mm	mm	A mm	B mm	D mm	L mm	max. mm	€	EURO CC
230586	0 - 25	0.01	21	0.5	13	24	3	37	0.002	187.13	22.00
230587	25 - 50	0.01	21	0.5	13	34	3	62	0.002	250.52	29.00
230588	50 - 75	0.01	21	0.5	15	46	3	87	0.003	271.10	29.00
230589	75 - 100	0.01	21	0.5	15	60	3	112	0.003	291.68	29.00

Precision Micrometers

External Micrometer

DIN 863

- sturdy quality, in top precision version
- drum and sleeve matt chromed finish
- hammer blow grey lacquered frame, with insulation plates
- carbide surfaces, lapped, spindle hardened and ground
- locking lever for quick and precise fixing
- with ratchet for constant measuring pressure
- with adjusting key, from up 25 mm with setting gauge

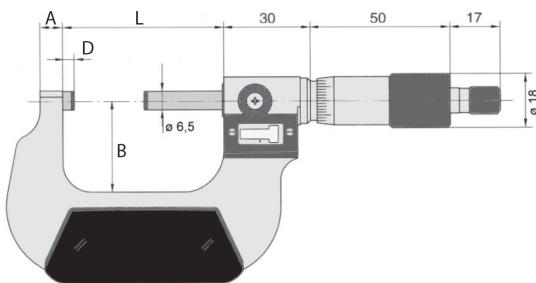


ART N°	mm	mm	\varnothing mm	mm	A mm	B mm	D mm	L mm	max. mm	€	EURO CC
231321	0 – 25	0.01	20.5	0.5	7	26	3	32	0.004	39.59	22.00
231322	25 – 50	0.01	20.5	0.5	8	31	3	57	0.004	66.82	29.00
231323	50 – 75	0.01	20.5	0.5	9	45.5	3	83	0.005	77.58	29.00
231324	75 – 100	0.01	20.5	0.5	9	56.5	3	109	0.005	84.18	29.00

Counter External Micrometer

- easy handling and precise reading

- mechanical digital counter, frame lacquered, with insulation plates
- carbide surfaces, lapped, spindle hardened and ground
- with ratchet for constant measuring pressure
- locking wheel for quick and precise fixing
- with adjustment key, from up 25 mm with setting gauge

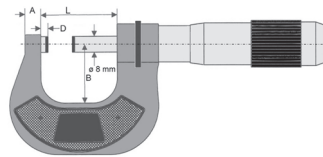


ART N°	mm	mm	\varnothing mm	A mm	B mm	D mm	L mm	max. mm	€	EURO CC
231451	0 – 25	0.01	18	6	26	3.5	32	0.004	69.63	22.00
231452	25 – 50	0.01	18	8	32	3.5	57	0.004	75.60	29.00

External Micrometer

DIN 863

- sturdy quality, in precision version
- drum and sleeve matt chrome finish
- hammer blow grey lacquered frame, with insulation plates
- carbide surfaces, lapped, spindle hardened and ground
- locking wheel for quick and precise fixing
- with ratchet for constant measuring pressure
- with adjusting key, from up 25 mm with setting gauge



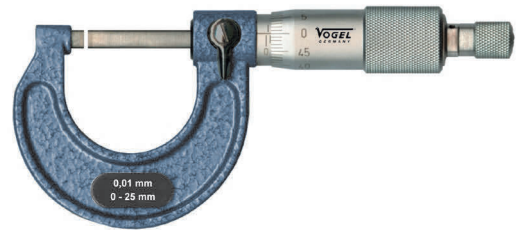
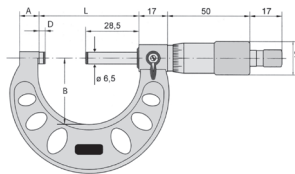
ART NO	mm	mm	ø mm	mm	A mm	B mm	D mm	L mm	max. mm	€	EURO CC
231330	0 – 25	0.01	23	0.5	9	32	3	32.5	0.004	33.35	22.00
231331	25 – 50	0.01	23	0.5	15	33	3	57.5	0.004	37.62	29.00
231332	50 – 75	0.01	23	0.5	15	40	3	82.5	0.005	41.64	29.00
231333	75 – 100	0.01	23	0.5	15	55	3	107.5	0.005	48.69	29.00
231334	100 – 125	0.01	23	0.5	32	80	3	168.5	0.006	54.75	35.00
231335	125 – 150	0.01	23	0.5	32	80	7.5	168.5	0.006	60.79	35.00

External Micrometers

DIN 863

- lightweight design, metric graduation
- e.g. for use in the workshop

- drum and sleeve matt chrome finish
- frame hammer blow blue lacquered
- carbide surfaces, lapped, spindle hardened and ground
- locking lever for quick and precise fixing
- with ratchet for constant measuring pressure
- with adjustment key, from up 25 mm with setting gauge



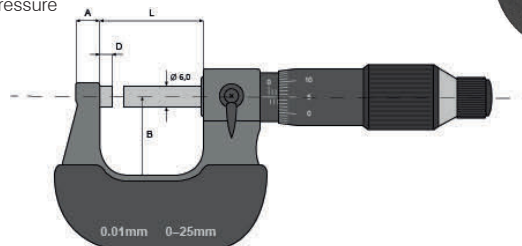
ART NO	mm	mm	ø mm	mm	A mm	B mm	D mm	L mm	max. mm	€	EURO CC
231301	0 – 25	0.01	18	0.5	9.0	28	3.0	32	0.004	20.15	22.00
231302	25 – 50	0.01	18	0.5	14.0	38	3.0	57	0.004	26.88	29.00
231303	50 – 75	0.01	18	0.5	15.0	49	3.0	82	0.005	27.90	29.00
231304	75 – 100	0.01	18	0.5	15.0	60	3.0	107	0.005	29.93	29.00
231305	100 – 125	0.01	18	0.5	16.5	73	3.0	133	0.006	40.72	35.00
231306	125 – 150	0.01	18	0.5	16.5	85	3.0	158	0.006	44.09	35.00

External Micrometer

NEW

DIN 863

- drum and sleeve black anodized surface
- black powder coated frame, with insulation plates
- carbide surfaces, lapped, spindle hardened and ground
- locking lever for quick and precise fixing
- with ratchet for constant measuring pressure
- with adjusting key



ART NO	mm	mm	ø mm	mm	A mm	B mm	D mm	L mm	max. mm	€	EURO CC
231309	0 – 25	0.01	19.5	0.5	7	24	3	31	0.004	29.00	22.00

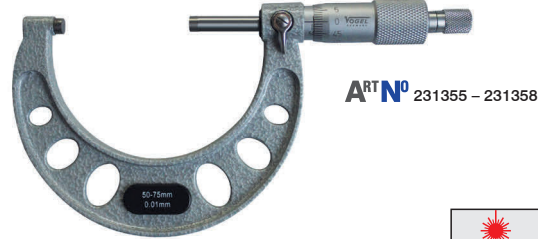
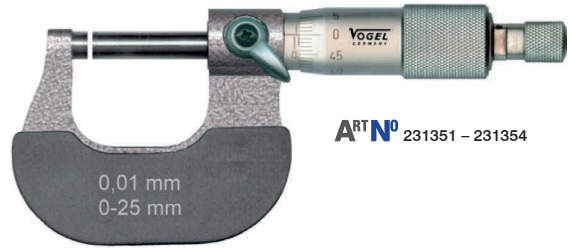
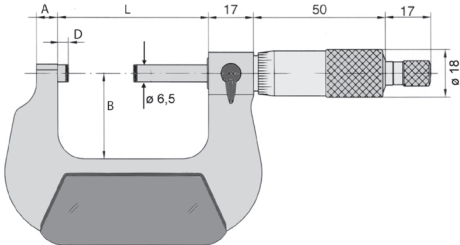
Precision Micrometer and Sets

External Micrometer

DIN 863

• for standard expectations

- drum and sleeve matt chrome finish
- frame hammer blow grey lacquered, with insulated handle
- carbide surfaces, lapped, spindle hardened and ground
- locking lever for quick and precise fixing
- with ratchet for constant measuring pressure
- with adjustment key, from up 25 mm with setting gauge



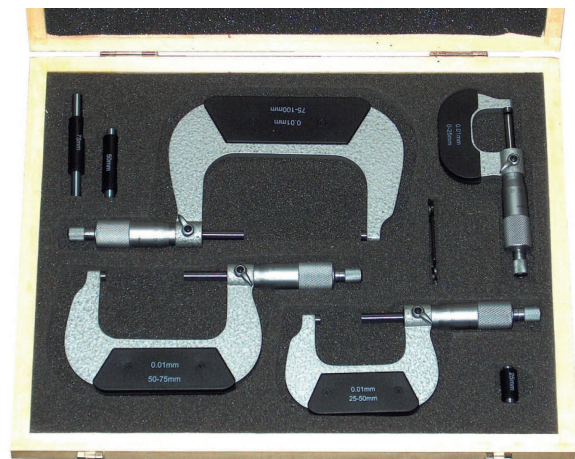
ART N°	mm	mm	ø mm	mm	A mm	B mm	D mm	L mm	max. mm	€	EURO CC
231351	0 – 25	0.01	18	0.5	6	24	3.0	32	0.004	26.44	22.00
231352	25 – 50	0.01	18	0.5	8	32	3.0	57	0.004	31.76	29.00
231353	50 – 75	0.01	18	0.5	8	45	3.0	82	0.005	40.43	29.00
231354	75 – 100	0.01	18	0.5	8	57	3.0	107	0.005	45.65	29.00
231355	100 – 125	0.01	18	0.5	8	70	3.0	133	0.006	47.29	35.00
231356	125 – 150	0.01	18	0.5	8	82	3.0	158	0.006	54.11	35.00
231357	150 – 175	0.01	18	0.5	8	95	5.5	183	0.007	69.02	35.00
231358	175 – 200	0.01	18	0.5	8	107	5.5	209	0.007	70.83	35.00

External Micrometer Set

DIN 863

• for standard expectations

- drum and sleeve matt chrome finish
- frame hammer blow grey lacquered, with insulation plates
- carbide surfaces, lapped, spindle hardened and ground
- locking lever for quick and precise fixing
- with ratchet for constant measuring pressure
- with adjustment key, from up 25 mm with setting gauge



ART N° 232003 – 232004

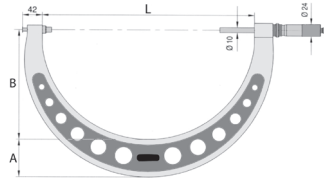


ART N°	mm	mm	set content	ø mm	mm	spindle-ø mm	€	EURO CC
232003	0 – 75	0.01	3	18	0.5	6.5	69.13	80.00
232004	0 – 100	0.01	4	18	0.5	6.5	117.09	109.00
232006	0 – 150	0.01	6	18	0.5	6.5	219.50	179.00
232107	150 – 300	0.01	6	18	0.5	6.5	452.84	210.00
232108	0 – 300	0.01	12	18	0.5	6.5	672.37	389.00
232109	100 – 200	0.01	4	18	0.5	6.5	212.72	134.00

External Micrometer

DIN 863

- with 50 mm spindle revolution
- 100 step graduation
- drum and sleeve matt chrome finish
- lightweight metal frame, hammer blow grey lacquered
- carbide surfaces, lapped, spindle hardened and fine ground
- locking wheel for quick and precise fixing
- with ratchet for constant measuring pressure
- with adjusting key, without setting gauges, for setting gauges see page 111



Version with insulated handle on request

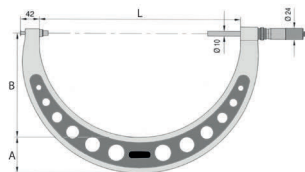
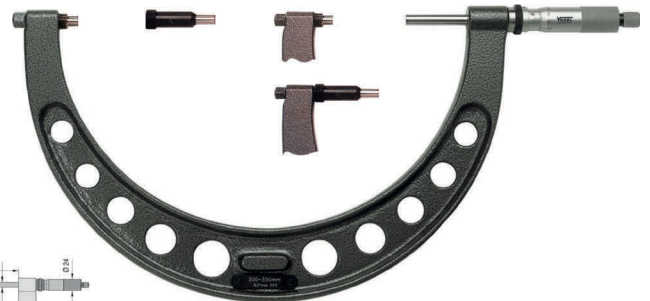


ART NO	mm	mm	ø mm	mm	L mm	B mm	A mm	max. mm	€	EURO CC
230290	300 – 350	0.01	24	1.0	370	190	42	0.006	724.43	35.00
230291	350 – 400	0.01	24	1.0	430	220	42	0.006	756.41	35.00
230292	400 – 450	0.01	24	1.0	475	250	42	0.007	808.55	35.00
230293	450 – 500	0.01	24	1.0	530	273	42	0.007	860.05	35.00
230294	500 – 550	0.01	24	1.0	570	291	42	0.008	916.70	35.00
230295	550 – 600	0.01	24	1.0	630	323	42	0.008	971.63	35.00

External Micrometer

DIN 863

- for large measuring ranges
- with exchangeable extension
- with lightweight metal frame
- drum and sleeve matt chrome finish, spindle revolution 50 mm
- lightweight metal frame, hammer blow grey lacquered
- carbide surfaces, lapped, spindle hardened and fine ground
- locking wheel for quick and precise fixing
- with ratchet for constant measuring pressure
- with adjusting key
- without wooden box, without setting gauges, for setting gauges see on page 111



Version with insulated handle on request



ART NO	mm	mm	ø mm	mm	L mm	B mm	A mm	max. mm	€	EURO CC
230170	200 – 300	0.01	24	1.0	325	165	64	0.006	890.95	35.00
230171	300 – 400	0.01	24	1.0	430	220	74	0.007	927.00	35.00
230172	400 – 500	0.01	24	1.0	530	273	87	0.008	1019.70	35.00
230173	500 – 600	0.01	24	1.0	630	323	102	0.009	1131.28	35.00
230174	600 – 700	0.01	24	1.0	730	378	107	0.009	1248.02	64.00
230175	700 – 800	0.01	24	1.0	830	423	113	0.009	1359.60	64.00
230176	800 – 900	0.01	24	1.0	930	473	118	0.010	1471.18	64.00
230177	900 – 1000	0.01	24	1.0	1030	520	129	0.010	1608.52	128.00
230178	1000 – 1100	0.01	24	1.0	1135	585	142	0.011	1766.45	128.00
230179	1100 – 1200	0.01	24	1.0	1230	635	156	0.011	1926.10	128.00
230180	1200 – 1300	0.01	24	1.0	1335	685	168	0.012	2089.18	128.00
230181	1300 – 1400	0.01	24	1.0	1430	735	171	0.012	2255.70	128.00
230182	1400 – 1500	0.01	24	1.0	1530	780	180	0.013	2424.08	128.00

Precision Micrometers

External Micrometer

DIN 863

- large measuring range
- with adjustable anvil
- with lightmetal frame
- with 50 mm spindle revolution
- drum and sleeve matt chrome finish
- frame hammer blow lacquered, carbide surfaces, lapped, spindle hardened and fine ground
- locking wheel for quick and precise fixing
- with ratchet for constant measuring pressure
- with adjusting key
- without wooden box, without setting gauges, for setting gauges see on page 102



Version with insulated handle on request



ART NO	mm	mm	ø mm	mm	spindle-ø mm	max. mm	€	EURO CC
234205	0 – 300	0.1 / 0.01	24	1.0	10.0	0.006	1002.53	35,00
234206	300 – 600	0.1 / 0.01	24	1.0	10.0	0.009	1385.35	35,00
234207	600 – 900	0.1 / 0.01	24	1.0	10.0	0.012	1828.25	64,00
234208	900 – 1200	0.1 / 0.01	24	1.0	10.0	0.015	2296.90	128,00
234209	1200 – 1500	0.1 / 0.01	24	1.0	10.0	0.018	2786.15	128,00
234210	1500 – 1800	0.1 / 0.01	24	1.0	10.0	0.023	4926.83	128,00
234211	1700 – 2000	0.1 / 0.01	24	1.0	10.0	0.025	5438.40	128,00

External Micrometer

- for measuring plates and panels
- 100 step graduation
- with deep frame

- drum and sleeve matt chrome finish
- frame hammer blow grey lacquered
- carbide surfaces, lapped, spindle hardened and fine ground
- without insulation plates
- with ratchet for constant measuring pressure



ART NO	mm	mm	ø mm	mm	spindle-ø mm	max. mm	€	EURO CC
232611	0 – 25 x 50	0.01	24	1.0	6.5	0.002	216.64	22.00
232612	0 – 25 x 100	0.01	24	1.0	8.0	0.003	238.62	22.00
232613	0 – 25 x 150	0.01	24	1.0	6.5	0.005	250.63	22.00

Precision Special Micrometers

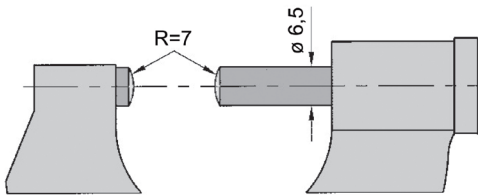
Micrometer

DIN 863

- with special measuring faces
- drum and sleeve matt chrome finish
- frame hammer blow grey lacquered
- with insulation plates
- carbide surfaces, finely ground
- locking wheel for quick and precise fixing
- with ratchet for constant measuring pressure



ART No 232910



ART No 232921



ART No	€	ART No	€	mm	mm	ø mm	mm	spindle-ø mm	max. mm	EURO CC
232910	295.27	232921	224.88	0 - 25	0.01	20	0.5	6.5	0.003	22.00
232911	324.45	232922	254.07	25 - 50	0.01	20	0.5	6.5	0.003	29.00

Micrometer

DIN 863

- with 30° and 60° pointed measuring faces

- drum and sleeve matt chrome finish
- frame hammer blow grey lacquered
- with insulation plates
- carbide surfaces, finely ground
- anvil length 15 mm
- locking wheel for quick and precise fixing
- with ratchet for constant measuring pressure



Other measuring forms for art.-no. 230065 - 230068 are available on request, e.g. 15° / 20° / 45°

Suitable setting gauges are on page 111



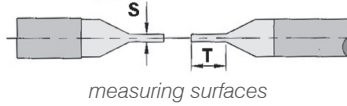
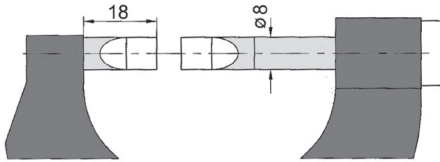
ART No	mm	mm	ø mm	mm	measuring surfaces	spindle-ø mm	max. mm	€	EURO CC
230065	0 - 25	0.01	20	0.5	30° / R = 0.4	6.5	0.003	355.35	22.00
230066	25 - 50	0.01	20	0.5	30° / R = 0.4	6.5	0.003	367.37	29.00
230067	50 - 75	0.01	20	0.5	30° / R = 0.4	6.5	0.004	382.82	29.00
230068	75 - 100	0.01	20	0.5	30° / R = 0.4	6.5	0.004	401.70	29.00
230075	0 - 25	0.01	20	0.5	60° / R = 0.4	6.5	0.003	357.07	22.00
230076	25 - 50	0.01	20	0.5	60° / R = 0.4	6.5	0.003	369.08	29.00
230077	50 - 75	0.01	20	0.5	60° / R = 0.4	6.5	0.004	384.53	29.00
230078	75 - 100	0.01	20	0.5	60° / R = 0.4	6.5	0.004	401.70	29.00

Precision Special Micrometers

Precision Blade Micrometer

DIN 863

- to measure small punctures, grooves, etc.
- drum and sleeve matt chrome finish
- frame hammer blow lacquered
- with insulation plates
- flat measuring ends, flat surfaces
- anvil length 18 mm
- hardened measuring surfaces, finely ground
- non-rotating spindle
- with ratchet for constant measuring pressure

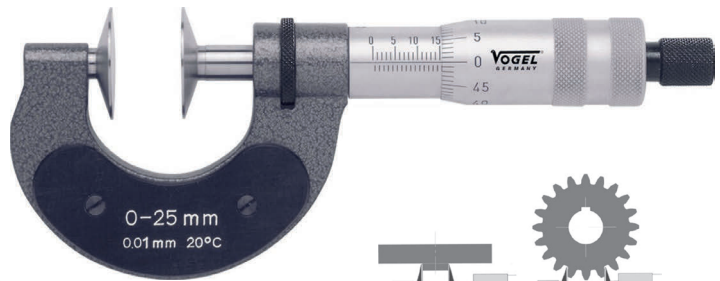


ART NO	mm	mm	ø mm	mm	measuring surfaces S x T mm	spindle-ø mm	max. mm	€	EURO CC
230380	0 – 25	0.01	20	0.5	0.40 x 4.0	8.0	0.003	422.30	22.00
230381	25 – 50	0.01	20	0.5	0.40 x 4.0	8.0	0.003	453.20	29.00
230382	50 – 75	0.01	20	0.5	0.75 x 7.0	8.0	0.004	487.53	29.00
230383	75 – 100	0.01	20	0.5	0.75 x 7.0	8.0	0.004	521.87	29.00
230384	100 – 125	0.01	20	0.5	0.75 x 7.0	8.0	0.005	561.35	35.00
230385	125 – 150	0.01	20	0.5	0.75 x 7.0	8.0	0.005	604.27	35.00

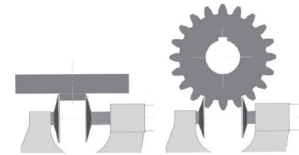
Precision Disc-Type Micrometer

DIN 863

- for chordal measurement of gear teeth, keys, ribs, fins, etc.
- drum and sleeve matt chrome finish
- spindle pitch 1 mm
- frame hammer blow grey lacquered
- hardened measuring plates, parallel lapped
- with insulation plates
- locking wheel for quick and precise fixing
- with ratchet for constant measuring pressure



Other measuring plate-ø available on request! Other measuring ranges from 300 – 1000 mm available on request!

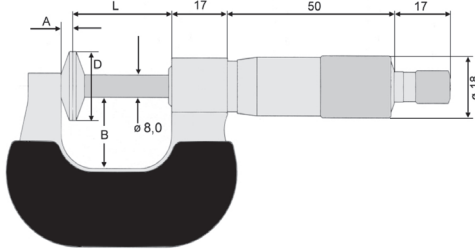


ART NO	mm	mm	ø mm	mm	measuring disc-ø mm	spindle-ø mm	max. mm	€	EURO CC
230001	0 – 25	0.01	20	0.5	25	8	0.004	326.17	22.00
230002	25 – 50	0.01	20	0.5	25	8	0.004	360.50	29.00
230003	50 – 75	0.01	20	0.5	25	8	0.005	391.40	29.00
230004	75 – 100	0.01	20	0.5	25	8	0.005	427.45	29.00
230005	100 – 125	0.01	20	0.5	25	8	0.006	461.78	35.00
230006	125 – 150	0.01	20	0.5	25	8	0.006	496.12	35.00
230007	150 – 175	0.01	20	0.5	25	8	0.006	530.45	35.00
230008	175 – 200	0.01	20	0.5	25	8	0.006	564.78	35.00
230009	200 – 225	0.01	20	0.5	25	8	0.007	599.12	35.00
230010	225 – 250	0.01	20	0.5	25	8	0.007	635.45	35.00
230011	250 – 275	0.01	20	0.5	25	8	0.007	667.78	35.00
230012	275 – 300	0.01	20	0.5	25	8	0.007	702.12	35.00

Disc-Type Micrometer

DIN 863

- for chordal measurement of gear teeth, keys, ribs, fins, etc.
- drum and sleeve matt chrome finish
- non-rotating spindle
- frame lacquered, with insulation plates
- carbide measuring plates, parallel lapped
- with ratchet for constant measuring pressure
- with adjusting key, from up 25 mm with setting gauge



ART No	mm	mm	ø mm	mm	A mm	B mm	D mm	L mm	max. mm	€	EURO CC
231121	0 – 25	0.01	18	0.5	3.3	20	20	34	0.004	133.70	22.00
231122	25 – 50	0.01	18	0.5	3.3	28	20	59	0.004	146.53	29.00
231123	50 – 75	0.01	18	0.5	3.3	41	20	85	0.005	171.90	29.00
231124	75 – 100	0.01	18	0.5	3.3	53	20	110	0.005	179.97	29.00

V-Anvil Micrometer

- for measuring odd fluted taps, milling cutters, reamers, etc.

- drum and sleeve matt chrome finish
- non-rotating spindle
- frame lacquered, with insulation plates
- carbide measuring plate, flat lapped
- with ratchet for constant measuring pressure
- locking wheel for quick and precise fixing
- with adjusting key and setting gauge
- for 3 anvils 60°



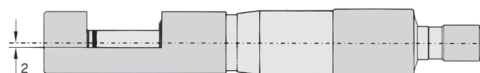
ART No	mm	mm	ø mm	mm	max. mm	€	EURO CC
230080	1 – 15	0.01	18	0.5	0.004	224.62	22.00
230081	5 – 20	0.01	18	0.5	0.004	233.62	22.00
230082	20 – 35	0.01	18	0.5	0.005	278.79	29.00
230083	35 – 50	0.01	18	0.5	0.005	343.98	29.00
230084	50 – 65	0.01	18	0.5	0.006	368.50	29.00
230085	65 – 80	0.01	18	0.5	0.006	398.85	29.00

Wire Thickness Micrometer

DIN 863

- to measure wire, rods etc.

- drum and sleeve matt chrome finish
- carbide surfaces, finely ground
- with ratchet for constant measuring pressure



ART No	mm	mm	ø mm	mm	spindle-ø mm	max. mm	€	EURO CC
232902	0 – 10	0.01	19	0.5	6.5	0.004	92.96	22.00

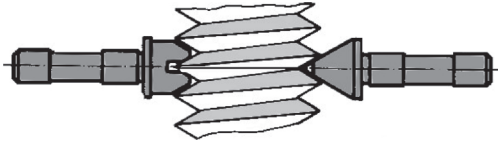
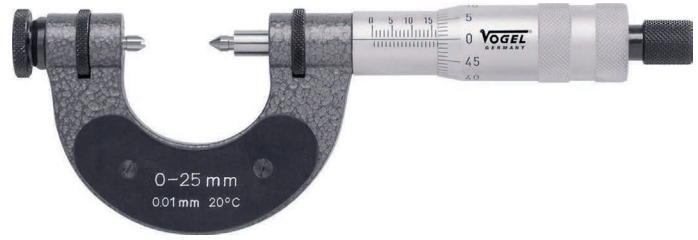
Precision Special Micrometers

Micrometer for external threads

DIN 863

• for external thread measurements

- drum and sleeve matt chrome finish
- frame hammer blow grey lacquered, with insulation plates
- hardened thread flanks measuring inserts, exchangeable
- delivery **without** inserts and **without** setting gauges
- locking wheel for quick and precise fixing
- with ratchet for constant measuring pressure



Suitable setting gauges can be found on page 110



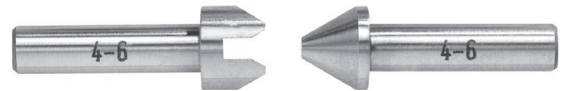
ART No	ART No	mm	mm	ø mm	mm	spindle setting mm	mm	€	EURO CC
230420	230450	0 – 25	0.01	20	0.5	25 mm	0.003	303.85	22.00
230421	230451	25 – 50	0.01	20	0.5	25 mm	0.003	314.15	29.00
230422	230452	50 – 75	0.01	20	0.5	25 mm	0.004	339.90	29.00
230423	230453	75 – 100	0.01	20	0.5	25 mm	0.004	372.52	29.00
230424	230454	100 – 125	0.01	20	0.5	25 mm	0.004	406.85	35.00
230425	230455	125 – 150	0.01	20	0.5	25 mm	0.004	442.90	35.00
230426	230456	150 – 200	0.01	20	0.5	50 mm	0.005	631.73	35.00
230427	230457	200 – 250	0.01	20	0.5	50 mm	0.005	688.38	35.00
230428	230458	250 – 300	0.01	20	0.5	50 mm	0.005	757.05	35.00

Thread Flanks Measuring Inserts, exchangeable

DIN 863

• suitable for series 230420 – 230428 and 230450 – 230458

- hardened and finely ground
- each insert marked with thread pitch
- delivery in pair (groove and cone)
- calibration certificate available on request



ART No	ART No	mm	€
2304206-001	2304506-001	0.35 – 0.50	115.02
2304206-002	2304506-002	0.60 – 0.80	99.57
2304206-003	2304506-003	0.90 – 1.25	99.57
2304206-004	2304506-004	1.50 – 2.00	99.57
2304206-005	2304506-005	2.50 – 3.50	99.57
2304206-006	2304506-006	4.00 – 6.00	115.02



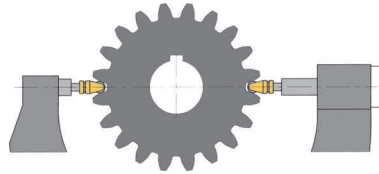
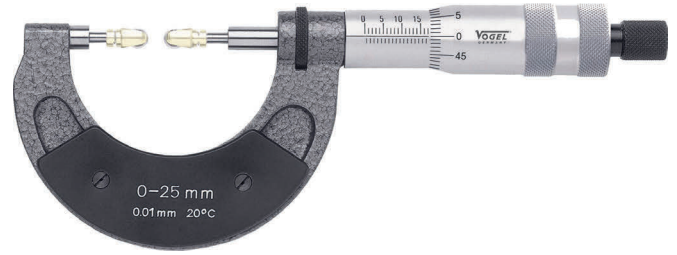
ART No	ART No	mm	€
2304207-001	2304507-001	1.5	291.53
2304207-002	2304507-002	2	212.87
2304207-003	2304507-003	3	187.12
2304207-004	2304507-004	4	187.12
2304207-005	2304507-005	5 – 6	187.12
2304207-006	2304507-006	7 – 8	187.12
2304207-007	2304507-007	9 – 10	212.87
2304207-008	2304507-008	12 – 14	291.83

ART No	ART No	thread/inch	€
2304205-501	2304505-501	60 – 48	125.32
2304205-502	2304505-502	40 – 32	108.15
2304205-503	2304505-503	28 – 22	108.15
2304205-504	2304505-504	20 – 16	108.15
2304205-505	2304505-505	14 – 11	127.03
2304205-506	2304505-506	10 – 7	108.15
2304205-507	2304505-507	6 – 4	108.15
–	–	–	–

Precision Gear Tooth Outside Micrometer

DIN 863

- to measure over-pin diameter of external gears
- drum and sleeve matt chrome finish
- interchangeable ball anvil-spindle tips for various gear modules
- borehole for measuring ball holder- \varnothing 3.0 mm, hardened measuring balls
- frame hammer blow grey lacquered, with insulation plates
- locking wheel for quick and precise fixing
- with ratchet for constant measuring pressure
- delivery **without** measuring ball holder, see on page 110



ART N°	mm	mm	\varnothing mm	mm	measuring end- \varnothing \times length mm	mm	€	
230901	0 – 25	0.01	20	0.5	3 x 8	0.002	264.37	22.00
230902	25 – 50	0.01	20	0.5	3 x 8	0.002	274.67	29.00
230903	50 – 75	0.01	20	0.5	3 x 8	0.003	290.12	29.00
230904	75 – 100	0.01	20	0.5	3 x 8	0.003	309.00	29.00
230905	100 – 125	0.01	20	0.5	3 x 8	0.004	329.60	35.00
230906	125 – 150	0.01	20	0.5	3 x 8	0.004	348.48	35.00
230907	150 – 175	0.01	20	0.5	3 x 8	0.004	369.08	35.00
230908	175 – 200	0.01	20	0.5	3 x 8	0.004	387.97	35.00
230909	200 – 225	0.01	20	0.5	3 x 8	0.005	405.13	35.00
230910	225 – 250	0.01	20	0.5	3 x 8	0.005	424.02	35.00

Precision Gear Tooth Inside Micrometer

DIN 863

- to measure the pitch circle of internal gears
- drum and sleeve matt chrome finish
- borehole for measuring ball holder- \varnothing 3.0 mm, hardened measuring balls
- with insulation handles
- with ratchet for constant measuring pressure
- delivery **without** measuring ball holder, see on page 110



Suitbale setting gauges are on page 110



ART N°	version or extensions	mm	mm	\varnothing mm	mm	measuring end- \varnothing \times length mm	mm	€	
230919	jaws	25 – 50	0.01	21	0.5	3 x 6	0.003	995.67	40.00
230920	jaws	50 – 75	0.01	21	0.5	3 x 8	0.003	1064.33	40.00
230921	measuring body	75 – 100	0.01	17	0.5	3 x 8	0.003	334.75	40.00
230922	25/50	75 – 175	0.01	17	0.5	3 x 8	0.006	497.83	40.00
230923	25/50/100	75 – 275	0.01	17	0.5	3 x 8	0.008	585.38	40.00
230924	25/50/100/200	75 – 475	0.01	17	0.5	3 x 8	0.010	694.72	40.00
230925	25/50/100/200/400	75 – 875	0.01	17	0.5	3 x 8	0.012	844.60	40.00
230926	25/50/100/200/400/600	75 – 1475	0.01	17	0.5	3 x 8	0.015	1045.73	40.00

Accessories for Precision Micrometers

Measuring Ball Holder

- for series 230901 - 230910 and 230921 - 230926
- for external and internal gearing
- with hardened steel balls
- carbide balls available on request



ART No	ball-ø mm	module	max. mm	€
230928	1.5	0.9 / 1	0.001	207.72
230928-1	1.75	1.125	0.001	207.72
230929	2.0	1.25	0.001	181.97
230929-1	2.25	1.5	0.001	207.72
230930	2.5	1.75	0.001	166.52
230931	3.0	2	0.001	142.48
230932	3.5	2.25	0.001	142.48
230933	4.0	2.5 / 2.75	0.001	142.48
230934	4.5	3	0.001	142.48
230935	5.0	3.25 / 3.5	0.001	142.48
230936	5.5	3.75	0.001	142.48
230937	6.0	4	0.001	142.48

ART No	ball-ø mm	module	max. mm	€
230938	6.5	4.25 / 4.5	0.001	142.48
230939	7.0	4.5	0.001	166.52
230940	7.5	5	0.001	166.52
230941	8.0	5.5	0.001	166.52
230942	9.0	6	0.001	166.52
230943	10.0	6.5	0.0015	181.97
230944	10.5	7	0.0015	181.97
230945	11.0	7.5	0.0015	181.97
230946	12.0	8	0.0015	181.97
230947	13.0	8.5 / 9	0.0015	181.97
230948	14.0	9.5	0.0015	181.97
230949	15.0	10	0.0015	181.97

Measuring Pressure Test Gauge

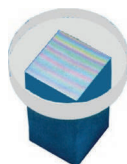
- for micrometers
- pressure range 5 – 12 N
- for spindle-ø up to 8 mm



ART No	mm	€
230998	25 / 50 / 75 / 100	40.76
230999	25	11.76

Optical Parallels

- designed to inspect parallelism and flatness of measuring faces of micrometers
- each glass is marked with an identification-number (glued)
- ground and polished on both sides, polished and faceted border



example



ART No	nominal size mm	glass-ø mm	accuracy of flatness μm	parallelism μm	€	DAkkS
350305-1	15	55	≤ 0.10	—	321.88	110.00
350309	12.00 / 12.12 / 12.25 / 12.37	30	≤ 0.15	≤ 0.30	466.72	440.00
350309-1	25.00 / 25.12 / 25.25 / 25.37	30	≤ 0.15	≤ 0.40	466.72	440.00



Setting Gauges for Micrometers

DIN 863

- hardened surfaces, ground and lapped
- surfaces- \varnothing 6,5 mm, from size 300 mm with \varnothing 10 mm
- with insulation handle

Other sizes available on request!



ART NO	mm	max. mm	€	EURO CC
2309302	25	0.00125	31.06	6.50
2309303	50	0.00125	32.19	6.50
2309304	75	0.00150	33.80	6.50
2309305	100	0.00200	37.02	6.50
2309306	125	0.00250	40.23	11.00
2309307	150	0.00250	43.45	11.00
2309308	175	0.00250	46.67	11.00
2309309	200	0.00300	49.89	11.00
2309310	225	0.00300	53.11	11.00
2309311	250	0.00300	56.33	11.00
2309312	275	0.00300	61.16	11.00
2309313	300	0.00300	64.38	11.00
2309314	325	0.00350	80.47	16.00
2309315	350	0.00350	88.52	16.00
2309316	375	0.00350	96.56	16.00
2309317	400	0.00350	103.00	16.00
2309318	425	0.00350	109.44	16.00
2309319	450	0.00350	115.88	16.00
2309320	475	0.00350	122.31	16.00
2309321	500	0.00350	128.75	16.00
2309322	525	0.00350	135.19	30.00
2309323	550	0.00350	141.63	30.00
2309324	575	0.00350	148.06	30.00
2309325	600	0.00350	154.50	30.00
2309326	625	0.00400	160.94	30.00

ART NO	mm	max. mm	€	EURO CC
2309327	650	0.004	168.98	30.00
2309328	675	0.004	173.81	30.00
2309329	700	0.004	193.13	30.00
2309330	725	0.004	186.69	30.00
2309331	750	0.004	193.13	30.00
2309332	775	0.004	201.17	30.00
2309333	800	0.004	209.22	30.00
2309334	825	0.004	214.05	30.00
2309335	850	0.004	218.88	30.00
2309336	875	0.004	225.31	30.00
2309337	900	0.005	233.36	30.00
2309338	925	0.005	241.41	30.00
2309339	950	0.005	249.45	30.00
2309340	975	0.005	257.50	30.00
2309341	1000	0.005	265.55	30.00
2309342	1050	0.005	278.42	48.00
2309343	1150	0.006	297.73	48.00
2309344	1250	0.007	321.88	48.00
2309345	1350	0.007	354.06	48.00
2309346	1450	0.007	402.34	48.00
2309347	1550	0.009	600.30	48.00
2309348	1650	0.010	627.66	48.00
2309349	1750	0.010	659.84	48.00
2309350	1850	0.011	685.59	48.00
2309351	1950	0.012	724.22	48.00

Thread Setting Gauges

DIN 863

- for external measuring

- hardened steel surfaces
- with insulation plates

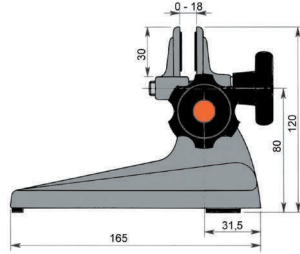


ART NO metr. ISO 60°	€	ART NO whitworth 55°	€	mm	max. mm	ART NO ISO trapez (DIN 103)	available for the following thread pitches mm	mm	€	EURO CC
2304216-001	70.38	2304215-501	70.38	25	0.003	2304216-501	2 / 3 / 4 / 5 - 6 / 7 - 8 / 9 - 10	0.004	157.93	23.00
2304216-002	73.82	2304215-502	73.82	50	0.003	2304216-502	2 / 3 / 4 / 5 - 6 / 7 - 8 / 9 - 10	0.004	161.37	23.00
2304216-003	73.82	2304215-503	73.82	75	0.003	2304216-503	2 / 3 / 4 / 5 - 6 / 7 - 8 / 9 - 10	0.004	166.52	23.00
2304216-004	75.53	2304215-504	77.25	100	0.004	2304216-504	3 / 4 / 5 - 6 / 7 - 8 / 9 - 10 / 12 - 14	0.005	173.38	23.00
2304216-005	77.25	2304215-505	80.68	125	0.004	2304216-505	4 / 5 - 6 / 7 - 8 / 9 - 10 / 12 - 14	0.005	187.12	36.00
2304216-006	85.83	2304215-506	92.70	175	0.004	2304216-506	4 / 5 - 6 / 7 - 8 / 9 - 10 / 12 - 14	0.005	224.88	36.00
2304216-007	96.13	2304215-507	106.43	225	0.004	2304216-507	5 - 6 / 7 - 8 / 9 - 10 / 12 - 14	0.005	272.95	41.00
2304216-008	104.72	2304215-508	121.88	275	0.004	2304216-508	5 - 6 / 7 - 8 / 9 - 10 / 12 - 14	0.005	333.03	41.00

Micrometer Stands

Micrometer Stand

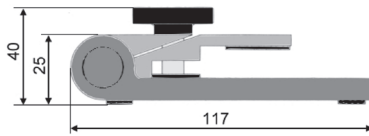
- with stable base
- made of cast iron
- hammer blow lacquered
- clamps equipped with rubber, to protect the instruments
- clamps rotate in axially position
- with fixing screw



ART No	for micrometer measuring range mm	→ mm ←	€
239004	0 – 100	165 x 120 x 120	17.65

Micrometer Stand

- with stable base
- steel version
- hammer blow lacquered
- clamps equipped with rubber, to protect the instruments
- clamps rotate in axially position
- with central fixing



ART No	for micrometer measuring range mm	→ mm ←	€
239005	0 – 100	117 x 70 x 40	15.51

Repair Service

Our well experienced service department offers you all usually repairs of our products. Require our service for all kind of:

- repair or replacement
- general overhaul of **VOGEL GERMANY** measuring tools and devices



Electr. Digital Micrometer Head • IP65

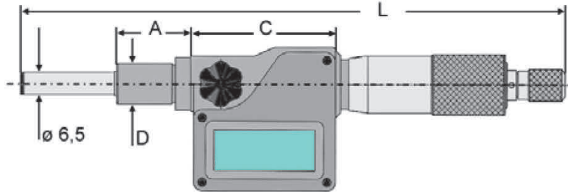
DIN 863

- splash water proof acc. to DIN 40050 / IEC 6052

- LCD display with clear reading
- with carbide surfaces, flat, lapped, rotating spindle hardened and ground
- mm/inch switchable, with ABS/INC measurement system, SET function
- On/Off button, zero setting at any position
- incl. 1x 1.5 V battery (type LR44, art.-no.: 90213), with operation manual

Option

- data transfer via cable, art.-no.: 2323100, see page 334

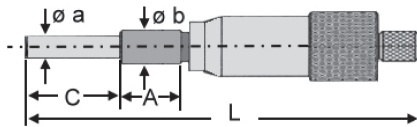


ART NO	mm / inch	mm / inch	ø mm	mm	A mm	C mm	D mm	L mm	max. mm	€	EURO CC
231287	0 - 25 / 0 - 1	0.001 / 0.00005	18	0.5	17.5	47.6	12	165.5	0.003	141.28	27.00

Micrometer Head

DIN 863

- drum and sleeve matt chrome finish
- hardened, rotating spindle, carbide, ground thread
- measuring surface in flat version, finely ground lapped



ART NO	mm	mm	ø mm	mm	A mm	C mm	L mm	ø a mm	ø b mm	max. mm	€	EURO CC
231012	0 - 25	0.01	23	0.5	17.5	28.5	113	6.5	12	0.003	28.88	27.00

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GERMANY
Measuring Solutions

Any questions?








We are pleased to advise.

Precision Depth Gauges

Precision Depth Gauge

- suitable for standard requirements
- drum and sleeve matt chrome finish
- measuring pin and surface hardened and ground
- measuring face half round shape
- clamping screw for quick and precise fixing
- with ratchet for constant measuring pressure










ART N°	 mm	 mm	 ø mm	 mm	 mm	measuring pin-ø mm	quantity of pins	 max. mm	€	
231800	0 – 25	0.01	18	0.5	63 x 18	4.5	1	0.004	59.16	29.00
231801	0 – 25	0.01	18	0.5	100 x 18	4.5	1	0.004	59.16	29.00
231802	0 – 100	0.01	18	0.5	100 x 18	4.5	4	0.005	89.75	56.00
231803	0 – 150	0.01	18	0.5	100 x 18	4.5	6	0.005	115.64	80.00

Precision Depth Gauge

DIN 863

- high standard quality, for calibration purposes
- drum and sleeve matt chrome finish
- measuring pin and surface hardened and fine ground
- measuring face plane ground and lapped
- clamping wheel for quick and precise fixing
- with ratchet for constant measuring pressure



ART N°	 mm	 mm	 ø mm	 mm	 mm	measuring pin-ø mm	quantity of pins	 max. mm	€	
230812	0 – 75	0.01	20	0.5	50 x 17	4.0	3	0.005	293.55	47.00
230814	0 – 100	0.01	20	0.5	100 x 17	4.0	4	0.005	324.45	56.00
230815	0 – 150	0.01	20	0.5	100 x 17	4.0	6	0.006	379.38	80.00
230816	0 – 200	0.01	20	0.5	100 x 17	4.0	8	0.007	439.47	104.00
230818	0 – 300	0.01	20	0.5	100 x 17	4.0	12	0.009	609.42	172.00

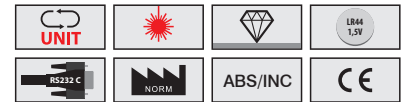
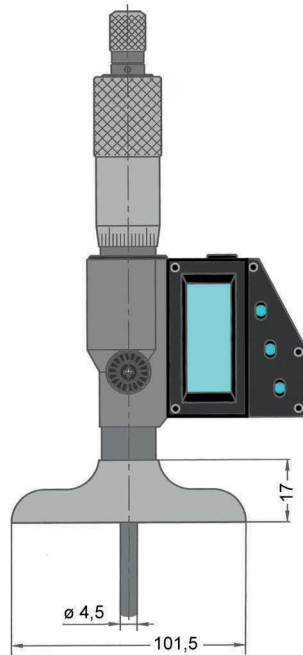
Electr. Digital Depth Micrometer

- absolute System, high accuracy, with data output RS232

- LCD display with clear reading, mm/inch switchable
- frame lacquered, with insulation plates
- ORIGIN button, ABS/INC measurement system
- zero setting at any position, On/Off button
- clamp wheel for quick and precise fixing
- measuring pins and surface hardened and ground
- exchangeable measuring pins, half round shape
- no need to readjust after the change of anvils
- with ratchet for constant measuring pressure
- incl. 1x 1.5 V battery (type LR44, art.-no.: 90213), with operation manual

Option

- data transfer via cable, art.-no.: 2323100, see page 334



ART No	mm / inch	mm / inch	ø mm	mm	quantity of pins	max. mm	€	EURO CC
231830	0 - 25 / 0 - 1	0.001 / 0.00005	18	0.5	1	0.004	227.94	38.00
231831	0 - 50 / 0 - 2	0.001 / 0.00005	18	0.5	2	0.004	238.55	47.00
231833	0 - 100 / 0 - 4	0.001 / 0.00005	18	0.5	4	0.005	259.74	65.00
231836	0 - 300 / 0 - 12	0.001 / 0.00005	18	0.5	12	0.007	354.27	172.00

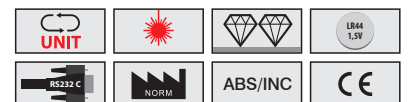
Electr. Digital Internal Micrometer

- for easy and rapid measurement of various internal intervals
- Absolute Measuring System, with data output RS232

- LCD display with clear reading, mm/inch switchable
- frame lacquered, with insulation plates, rounded carbide surfaces
- ORIGIN button, ABS/INC measurement system
- zero setting at any position, On/Off switch
- clamp wheel for quick and precise fixing
- with ratchet for constant measuring pressure
- incl. 1x 1.5 V battery (type LR44, art.-no.: 90213), with operation manual
- art.-no. 231620 with setting ring

Option

- data transfer via cable, art.-no.: 2323100, see page 334



ART No	mm / inch	mm / inch	ø mm	mm	max. mm	€	EURO CC
231620	5 - 30 / 0.2 - 1.2	0.001 / 0.00005	18	0.5	0.003	394.17	29.00
231621	25 - 50 / 1.0 - 2.0	0.001 / 0.00005	18	0.5	0.003	365.36	29.00
231622	50 - 75 / 2.0 - 3.0	0.001 / 0.00005	18	0.5	0.004	352.37	29.00
231623	75 - 100 / 3.0 - 4.0	0.001 / 0.00005	18	0.5	0.004	400.88	29.00
231624	100 - 125 / 4.0 - 5.0	0.001 / 0.00005	18	0.5	0.005	419.40	35.00
231625	125 - 150 / 5.0 - 6.0	0.001 / 0.00005	18	0.5	0.005	359.81	35.00
231626	150 - 175 / 6.0 - 7.0	0.001 / 0.00005	18	0.5	0.005	312.77	35.00
231627	175 - 200 / 7.0 - 8.0	0.001 / 0.00005	18	0.5	0.005	333.96	35.00

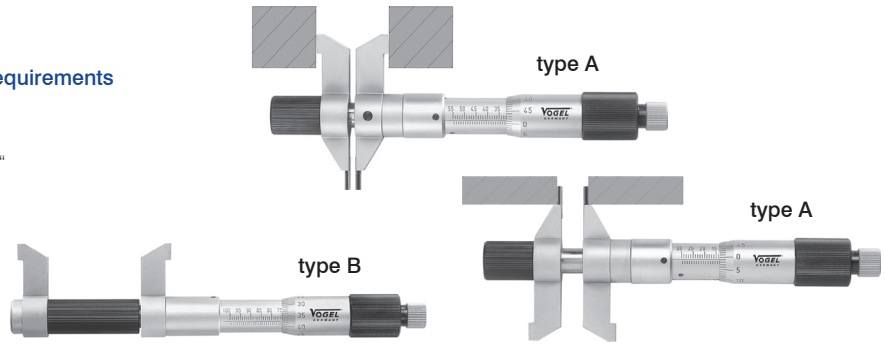
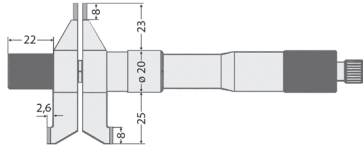
Precision Internal Micrometers

Internal Micrometer

DIN 863

- top quality measuring instrument, for top requirements

- drum and sleeve matt chrome finish
- carbide measuring faces in rounded shape
- two measuring jaws for two different ranges, type „A“
- same version, but with one-sided jaw, type „B“
- easy reading through scale on the front and back
- smoothly through ball bearing spindle
- with friction ratchet for constant measuring pressure
- with insulation handle



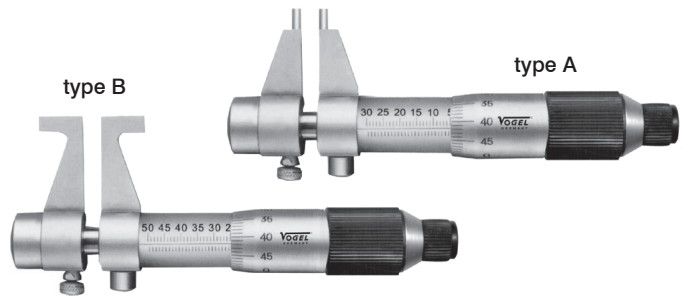
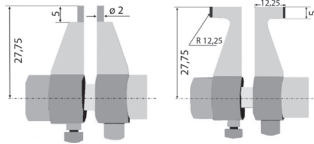
ART NO	mm	type	mm	ø mm	mm	mm	max. mm	€	EURO CC
230601	5 – 55	A	0.01	21	0.5	0.002	0.0025	815.42	24.00
230602	50 – 75	B	0.01	21	0.5	0.002	0.003	724.43	24.00
230603	75 – 100	B	0.01	21	0.5	0.002	0.003	758.77	24.00
230604	100 – 125	B	0.01	21	0.5	0.002	0.004	794.82	24.00
230605	125 – 150	B	0.01	21	0.5	0.002	0.004	827.43	24.00

Internal Micrometer

DIN 863

- for standard requirements in measuring

- drum and sleeve matt chrome finish
- carbide measuring faces in rounded shape
- clamping screw for quick and precise fixing
- with ratchet for constant measuring pressure
- with adjusting key



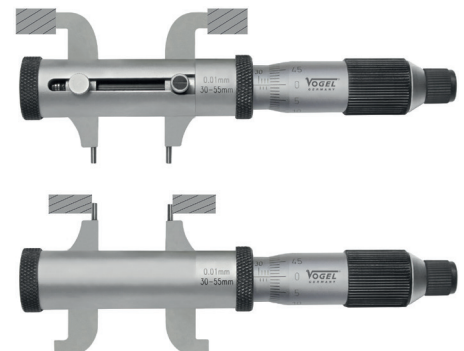
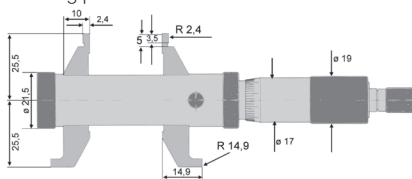
ART NO	mm	type	mm	ø mm	mm	mm	max. mm	€	EURO CC
231611	5 – 30	A	0.01	18	0.5	5	0.005	83.92	24.00
231612	25 – 50	B	0.01	18	0.5	25	0.006	90.94	24.00
231613	50 – 75	B	0.01	18	0.5	—	0.007	105.02	24.00
231614	75 – 100	B	0.01	18	0.5	—	0.008	119.10	24.00
231615	5 – 100 (Set)	A + B	0.01	18	0.5	5 + 25	0.005 / 0.006 / 0.007 / 0.008	362.26	109.00

Internal Micrometer

workshop grade

- with double-measuring jaws and setting ring
- quality measuring equipment, for standard requirements

- drum and sleeve matt chrome finish
- carbide measuring faces in rounded shape
- two measuring jaws for two different ranges
- easy reading through scale on the front and back
- clamping screw for quick and precise fixing
- with friction ratchet for constant measuring pressure
- with setting ring ø 30 mm
- with clamping screw for quick and precise fixing



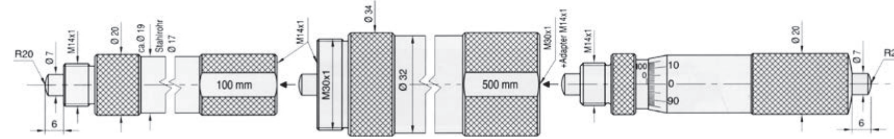
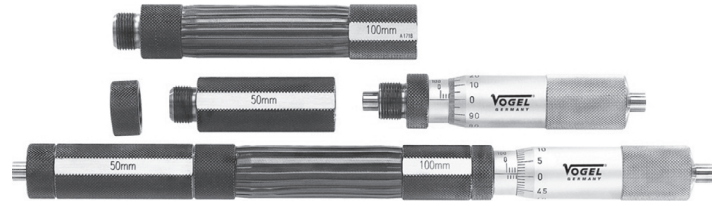
ART NO	mm	mm	mm	mm	max. mm	€	EURO CC
230610	5 – 55	0.01	0.5	30	0.006	162.47	24.00

Precision Internal Micrometers

Internal Micrometer Set

DIN 863

- spring loaded end gauges
- with screw-on extensions
- up to 6000 mm measuring range available
- drum and sleeve matt chrome finish
- carbide equipped measuring heads, spherically lapped, $\varnothing 7 \times 6$ mm
- high accuracy because of spring loaded measuring end
- with insulation handle
- individual packed extensions are available on request



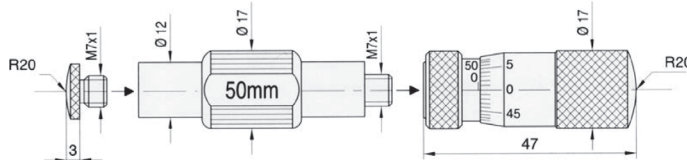
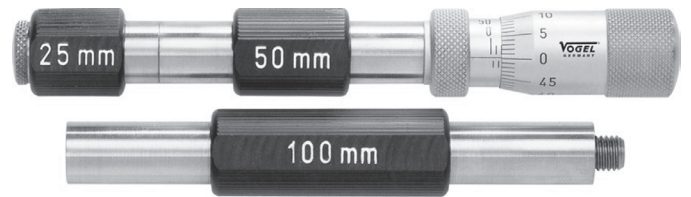
ART N°	mm	mm	mm	quantity of anvils with ...		max. mm	€	EURO CC
				... tube- \varnothing 17 mm	... tube- \varnothing 32 mm			
230440	100 – 200	0.01	0.5	50		0.005	418.87	40.00
230441	100 – 300	0.01	0.5	50 / 100		0.007	616.28	52.00
230442	100 – 500	0.01	0.5	50 / 100 / 200		0.009	825.72	65.00
230443	100 – 900	0.01	0.5	50 / 100 / 200 / 400		0.011	1069.48	90.00
230444	100 – 1300	0.01	0.5	50 / 100 / 200 / 400		0.013	1314.97	140.00
230445	100 – 1700	0.01	0.5	50 / 100 / 200 / 400 / 800		0.015	1351.02	140.00
230446	100 – 2100	0.01	0.5	50 / 100 / 200 / 400 / 800		0.018	1586.20	155.00
230447	100 – 2500	0.01	0.5	50 / 100 / 200 / 400 / 800		0.021	1627.40	170.00
230448	100 – 2000	0.01	0.5	50 / 100 / 200	500 / 1x1000	0.018	2835.93	170.00
230449	100 – 3000	0.01	0.5	50 / 100 / 200	500 / 2x1000	0.030	3699.42	170.00
230470	100 – 4000	0.01	0.5	50 / 100 / 200	500 / 3x1000	0.040	4590.37	170.00
230471	100 – 5000	0.01	0.5	50 / 100 / 200	500 / 4x1000	0.050	5455.57	200.00
230472	100 – 6000	0.01	0.5	50 / 100 / 200	500 / 5x1000	0.060	6319.05	200.00

Internal Micrometer Set

DIN 863

- resiliently mounted end gauges
- with screw-on extensions
- up to 1450 mm measuring range available

- drum and sleeve matt chrome finish
- carbide equipped measuring heads, spherically lapped, R20 mm
- with insulation handle
- individual packed extensions are available on request



ART N°	mm	mm	mm	quantity of anvils with tube- \varnothing 17 mm	max. mm	€	EURO CC
230881	50 – 250	0,01	0,5	25 / 50 / 100	0,008	472,08	52,00
230882	50 – 300	0,01	0,5	25 / 50 / 50 / 100	0,009	551,05	67,00
230883	50 – 450	0,01	0,5	25 / 50 / 100 / 200	0,010	585,38	74,00
230884	50 – 850	0,01	0,5	25 / 50 / 100 / 200 / 400	0,012	735,22	89,00
230885	50 – 1450	0,01	0,5	25 / 50 / 100 / 200 / 400 / 600	0,015	934,06	150,00

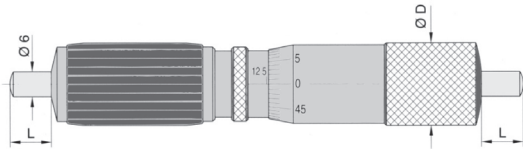
Precision Internal Micrometers

Internal Micrometer

DIN 863

- drum and sleeve matt chrome finish
- carbide equipped measuring heads, spherically lapped, \varnothing 6 mm
- from up 100 mm with clamping ring and with insulation handle
- please order the wooden box with the separate art.-no.

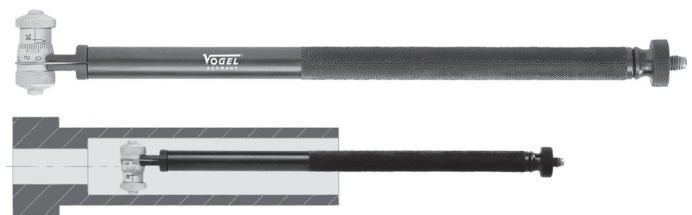
Other sizes available on request!



ART N°	mm	mm	mm	\varnothing D mm	L mm	max. mm	€	EURO CC	ART N° wooden box	€
230740	25 – 30	0.01	0.5	15	1.5	0.003	151.07	24.00	2399740	8.58
230741	30 – 35	0.01	0.5	15	1.5	0.003	151.07	24.00	2399741	8.58
230742	35 – 50	0.01	0.5	15	1.5	0.003	151.07	24.00	2399742	8.58
230743	50 – 75	0.01	0.5	16	1.5	0.003	156.22	24.00	2399743	10.30
230744	75 – 100	0.01	0.5	17	6	0.003	163.08	24.00	2399744	10.30
230745	100 – 125	0.01	0.5	20	6	0.003	181.97	24.00	2399745	10.30
230746	125 – 150	0.01	0.5	20	10	0.003	185.40	24.00	2399746	10.30
230747	150 – 175	0.01	0.5	20	10	0.004	192.27	24.00	2399747	12.02
230748	175 – 200	0.01	0.5	20	10	0.004	199.13	24.00	2399748	12.02
230749	200 – 225	0.01	0.5	20	10	0.004	204.28	31.00	2399749	13.73
230750	225 – 250	0.01	0.5	20	10	0.004	211.15	31.00	2399750	13.73
230751	250 – 275	0.01	0.5	20	10	0.004	216.30	31.00	2399751	15.45
230752	275 – 300	0.01	0.5	20	10	0.004	224.88	31.00	2399752	15.45
230753	300 – 325	0.01	0.5	20	10	0.004	231.75	31.00	2399753	17.17
230754	325 – 350	0.01	0.5	20	10	0.004	236.90	31.00	2399754	17.17
230755	350 – 375	0.01	0.5	20	10	0.004	245.48	31.00	2399755	18.88
230756	375 – 400	0.01	0.5	20	10	0.004	250.63	31.00	2399756	18.88
230757	400 – 425	0.01	0.5	20	10	0.004	259.22	31.00	2399757	20.60
230758	425 – 450	0.01	0.5	20	10	0.004	264.37	31.00	2399758	20.60
230759	450 – 475	0.01	0.5	20	10	0.004	271.23	31.00	2399759	20.60
230760	475 – 500	0.01	0.5	20	10	0.004	279.82	31.00	2399760	20.60
230761	500 – 525	0.01	0.5	20	10	0.005	288.40	57.00	2399761	24.03
230762	525 – 550	0.01	0.5	20	10	0.005	298.70	57.00	2399762	24.03
230763	550 – 575	0.01	0.5	20	10	0.005	307.28	57.00	2399763	24.03
230764	575 – 600	0.01	0.5	20	10	0.005	317.58	57.00	2399764	27.47
230765	600 – 625	0.01	0.5	20	10	0.005	326.17	57.00	2399765	27.47
230766	625 – 650	0.01	0.5	20	10	0.005	336.47	57.00	2399766	29.18
230767	650 – 675	0.01	0.5	20	10	0.005	345.05	57.00	2399767	29.18
230768	675 – 700	0.01	0.5	20	10	0.005	353.63	57.00	2399768	34.33
230769	700 – 725	0.01	0.5	20	10	0.005	363.93	57.00	2399769	37.77
230770	725 – 750	0.01	0.5	20	10	0.005	372.52	57.00	2399770	46.35
230771	750 – 775	0.01	0.5	20	10	0.005	382.82	57.00	2399771	54.93

Holder for Internal Micrometers

- allows insertion in deep, narrow bores
- especially for small measuring ranges



ART N°	mm	€
230739	220	51.50



BOWERS

Special applications...



We are also for special applications your point of contact!

Our partner BOWERS produces considerable explanation of bore gauges and inside micrometers. If your application from the standard range of equipment is not covered, contact us, we also develop probes for specific applications.

**We will advise you, for free
and without obligation.**



Digital 2-/3-Point Bore Gauges

Bowers • Electr. Digital 3-Point Bore Gauges • IP67

- with integrated Bluetooth® technology
- water- and coolant proof acc. to DIN 40050 / IEC 60529
- for through holes and from up 12.5 mm for blind holes also

- Proximity-USB / RS232 output
- large LCD display with clear reading, digit height 9 mm
- bi-directional communication, ratchet stop, to ensure constant measuring force
- from up 12.5 mm with carbide measuring faces, „0“-setting at any position
- On-/Off-button, mm/inch switchable, data hold function
- 4 preset memories, simple 2-button operation
- incl. setting ring, UKAS certificates for instruments and setting rings
- incl. 1x 3 V battery (CR2032, art.-no.: 90112), with operation manual

Options

- other measuring ranges and other measuring heads available on request!
- extensions can be found on page 123



ART NO	mm / inch	mm / inch	mm	meas. depth mm	ø mm	€	CC
230631-BT	6 – 8 / 0.25 – 0.3	0.001 / 0.00005	0.004	58	8.0	969.92	inclusive
230632-BT	8 – 10 / 0.3 – 0.4	0.001 / 0.00005	0.004	58	8.0	969.92	inclusive
230633-BT	10 – 12.5 / 0.4 – 0.5	0.001 / 0.00005	0.004	58	12.5	983.65	inclusive
230634-BT	12.5 – 16 / 0.5 – 0.6	0.001 / 0.00005	0.004	62	12.5	995.67	inclusive
230635-BT	16 – 20 / 0.6 – 0.8	0.001 / 0.00005	0.004	62	20.0	995.67	inclusive
230636-BT	20 – 25 / 0.8 – 1	0.001 / 0.00005	0.004	66	20.0	1186.22	inclusive
230637-BT	25 – 35 / 1 – 1.37	0.001 / 0.00005	0.004	66	35.0	1364.75	inclusive
230638-BT	35 – 50 / 1.37 – 2	0.001 / 0.00005	0.004	80	35.0	1414.53	inclusive
230639-BT	50 – 65 / 2 – 2.55	0.001 / 0.00005	0.005	80	65.0	1575.90	inclusive
230640-BT	65 – 80 / 2.55 – 3.15	0.001 / 0.00005	0.005	80	65.0	1575.90	inclusive
230641-BT	80 – 100 / 3.15 – 4	0.001 / 0.00005	0.005	100	80.0	1663.45	inclusive
230642-BT	100 – 125 / 4 – 5	0.001 / 0.00005	0.006	115	125.0	1732.12	inclusive
230643-BT	125 – 150 / 5 – 6	0.001 / 0.00005	0.006	115	125.0	1788.77	inclusive
230644-BT	150 – 175 / 6 – 7	0.001 / 0.00005	0.007	115	175.0	1953.57	inclusive
230645-BT	175 – 200 / 7 – 8	0.001 / 0.00005	0.007	115	175.0	1954.98	inclusive
230646-BT	200 – 225 / 8 – 9	0.001 / 0.00005	0.008	118	225.0	2518.35	inclusive
230647-BT	225 – 250 / 9 – 10	0.001 / 0.00005	0.008	118	225.0	2774.13	inclusive
230648-BT	250 – 275 / 10 – 11	0.001 / 0.00005	0.009	118	275.0	2875.42	inclusive
230649-BT	275 – 300 / 11 – 12	0.001 / 0.00005	0.009	118	275.0	3201.58	inclusive

Bowers • Electr. Digital 2-/3-Point Bore Gauge Set • IP67

- with integrated Bluetooth® technology
- water- and coolant proof acc. to DIN 40050 / IEC 60529
- for through holes and from up 12.5 mm for blind holes also

- Proximity-USB / RS232 output
- large LCD display with clear reading, digit height 9 mm
- bi-directional communication, ratchet stop, to ensure constant measuring force
- from up 12.5 mm with carbide measuring faces, „0“-setting at any position
- On-/Off-button, mm/inch switchable, data hold function
- 4 preset memories, simple 2-button operation
- incl. setting ring, UKAS certificates for instruments and setting rings
- incl. 1x 3 V battery (CR2032, art.-no.: 90112), with operation manual



ART NO	mm / inch	mm / inch	mm	meas. depth mm	meas. heads amount	quantity	€	CC
2-Point Bore Gauge Set								
230611-BT	2 – 6 / 0.08 – 0.25	0.001 / 0.00005	0.004	9 / 12 / 18	5	3	3244.50	inclusive
3-Point Bore Gauge Sets								
230612-BT	6 – 10 / 0.25 – 0.4	0.001 / 0.00005	0.004	58	2	1	1323.55	inclusive
230613-BT	10 – 20 / 0.4 – 0.8	0.001 / 0.00005	0.004	58 / 62	3	2	1589.63	inclusive
230614-BT	20 – 50 / 0.8 – 2	0.001 / 0.00005	0.004	66 / 80	3	2	2175.02	inclusive
230615-BT	50 – 100 / 2 – 4	0.001 / 0.00005	0.005	80 / 100	3	2	2413.63	inclusive
230616-BT	100 – 150 / 4 – 6	0.001 / 0.00005	0.006	115	2	1	2030.82	inclusive
230617-BT	150 – 200 / 6 – 8	0.001 / 0.00005	0.007	115	2	1	2030.82	inclusive
230618-BT	100 – 200 / 4 – 8	0.001 / 0.00005	0.006 / 0.007	115	4	2	2700.32	inclusive

Bowers • Electr. Digital 3-Point Pistol Grip Bore Gauge • IP67

- with integrated Bluetooth® technology
- water- and coolant proof acc. to DIN 40050 / IEC 60529
- XT3 „Holematic“, with Sylvac-Electronic
- for through holes and from up 12.5 mm for blind holes also
- Proximity-USB / RS232 data output
- large LCD display with clear reading, digit height 9 mm
- bi-directional communication, easy handling, with rugged grip
- from up 12.5 mm with carbide measuring faces, „0“-setting at any position
- On-/Off-button, mm/inch switchable, data hold function
- 4 preset memories, simple 2-button operation
- incl. setting ring, UKAS certificates for instruments and setting rings
- incl. 1x 3 V battery (CR2032, art.-no.: 90112), with operation manual



Options

- other measuring ranges and other measuring heads available on request!
- extensions can be found on page 123

ART NO	mm / inch	mm / inch	mm	meas. depth mm	ø mm	€	CC
230976-BT	6 – 8 / 0.25 – 0.3	0.001 / 0.00005	0.004	58	8.0	1133.00	inclusive
230977-BT	8 – 10 / 0.3 – 0.4	0.001 / 0.00005	0.004	58	8.0	1108.97	inclusive
230978-BT	10 – 12.5 / 0.4 – 0.5	0.001 / 0.00005	0.004	58	12.5	1172.48	inclusive
230979-BT	12.5 – 16 / 0.5 – 0.6	0.001 / 0.00005	0.004	62	12.5	1187.93	inclusive
230980-BT	16 – 20 / 0.6 – 0.8	0.001 / 0.00005	0.004	62	20.0	1261.75	inclusive
230981-BT	20 – 25 / 0.8 – 1	0.001 / 0.00005	0.004	66	20.0	1342.43	inclusive
230982-BT	25 – 35 / 1 – 1.37	0.001 / 0.00005	0.004	66	35.0	1447.15	inclusive
230983-BT	35 – 50 / 1.37 – 2	0.001 / 0.00005	0.004	80	35.0	1331.22	inclusive
230984-BT	50 – 65 / 2 – 2.55	0.001 / 0.00005	0.005	80	65.0	1364.18	inclusive
230985-BT	65 – 80 / 2.55 – 3.15	0.001 / 0.00005	0.005	80	65.0	1659.14	inclusive
230986-BT	80 – 100 / 3.15 – 4	0.001 / 0.00005	0.005	100	80.0	1720.28	inclusive
230987-BT	100 – 125 / 4 – 5	0.001 / 0.00005	0.006	115	125.0	1711.52	inclusive
230988-BT	125 – 150 / 5 – 6	0.001 / 0.00005	0.006	115	125.0	1814.52	inclusive
230989-BT	150 – 175 / 6 – 7	0.001 / 0.00005	0.007	115	175.0	1920.95	inclusive
230990-BT	175 – 200 / 7 – 8	0.001 / 0.00005	0.007	115	175.0	2008.50	inclusive
230991-BT	200 – 225 / 8 – 9	0.001 / 0.00005	0.008	118	225.0	2640.23	inclusive
230992-BT	225 – 250 / 9 – 10	0.001 / 0.00005	0.008	118	225.0	2914.90	inclusive
230993-BT	250 – 275 / 10 – 11	0.001 / 0.00005	0.009	118	275.0	3017.90	inclusive
230994-BT	275 – 300 / 11 – 12	0.001 / 0.00005	0.009	118	275.0	3328.62	inclusive

Bowers • Electr. Digital 2-/3-Point Pistol Grip Bore Gauge Sets • IP67

- with integrated Bluetooth® technology
- water- and coolant proof acc. to DIN 40050 / IEC 60529
- XT3 „Holematic“, with Sylvac-Electronic
- for through holes and from up 12.5 mm for blind holes also

- Proximity-USB / RS232 data output
- large LCD display with clear reading, digit height 9 mm
- bi-directional communication, easy handling, with rugged grip
- from up 12.5 mm with carbide measuring faces, „0“-setting at any position
- On-/Off-button, mm/inch switchable, data hold function
- 4 preset memories, simple 2-button operation
- incl. setting ring, UKAS certificates for instruments and setting rings
- incl. 1x 3 V battery (CR2032, art.-no.: 90112), with operation manual



OPTIONS
see above



ART NO	mm / inch	mm / inch	mm	meas. depth mm	meas. heads amount	quantity	€	CC
2-Point Bore Gauge Set								
230840-BT	2 – 6 / 0.08 – 0.25	0.001 / 0.00005	0.004	9 / 12 / 18	5	3	3565.52	inclusive
3-Point Bore Gauge Sets								
230841-BT	6 – 10 / 0.25 – 0.4	0.001 / 0.00005	0.004	58	2	1	1369.90	inclusive
230842-BT	10 – 20 / 0.4 – 0.8	0.001 / 0.00005	0.004	58 / 62	3	2	1608.52	inclusive
230843-BT	20 – 50 / 0.8 – 2	0.001 / 0.00005	0.004	66 / 80	3	2	2092.62	inclusive
230844-BT	50 – 100 / 2 – 4	0.001 / 0.00005	0.005	80 / 100	3	2	2334.67	inclusive
230845-BT	100 – 150 / 4 – 6	0.001 / 0.00005	0.006	115	2	1	2092.62	inclusive
230846-BT	150 – 200 / 6 – 8	0.001 / 0.00005	0.007	115	2	1	2777.57	inclusive
230847-BT	100 – 200 / 4 – 8	0.001 / 0.00005	0.006 / 0.007	115	4	2	4564.62	inclusive

Special Digital 2-/3-Point Bore Gauges

Bowers • Electr. Digital 3-Point Bore Gauge Sets • IP67

- with integrated Bluetooth® technology
- water- and coolant proof acc. to DIN 40050 / IEC 60529
- Bowers Model „XT500“, with Sylvac-Electronic
- designed specifically for the measurement of internal diameters between 300 – 500 mm
- measuring head with exchangeable anvils

- Proximity-USB / RS232 data output
- large LCD display with clear reading, digit height 9 mm
- hardened, radiussed measuring anvils provide optimum centralisation in the part
- anvil sets are supplied in 25 mm steps, each set has been manufactured to exact tolerance size
- the 300 – 325 mm anvils are the master reference set and are used for setting gauge in the setting ring
- only one 300 mm setting ring is required to set the gauge for all diameters in the full 300 – 500 mm range of the instrument
- bi-directional communication, ratchet stop, to ensure constant measuring force
- On-/Off-button, mm/inch switchable, data hold function, simple 2-button operation
- 4 preset memories, simple 2-button operation
- incl. setting ring with UKAS certificate for setting ring
- incl. 1x 3 V battery (CR2032, art.-no. 90112), with operation manual

Option

- extensions for deeper bores 150 / 500 / 1000 mm available on request



application example



ART NO	mm / inch	mm	max. mm	mm	meas. depth mm	ø mm	€	CC
230437-BT	300 – 400 / 12 – 16	0.01 / 0.0001 0.0005 / 0.00005	0.015	0.003	120	300	3496.85	inclusive
230438-BT	300 – 325 / 400 – 500 12 – 12.8 / 16 – 20	0.01 / 0.0001 0.0005 / 0.00005	0.015	0.003	120	300	4569.77	inclusive
230439-BT	300 – 500 / 12 – 20	0.01 / 0.0001 0.0005 / 0.00005	0.015	0.003	120	300	5450.42	inclusive

Bowers • Electr. Digital 2-Point Bore Gauge Sets • IP65

- water- and coolant proof acc. to DIN 40050 / IEC 60529
- Micro Gauge, with Sylvac-Electronic
- designed specifically for the measurement of small bores between 1.0 – 10.0 mm

- Proximity-USB / RS232 data output
- slimline LCD display with clear reading, digit height 7 mm
- switchable resolution 0.01 / 0.001 / 0.0005 mm
- hard-chromed ball-contacts
- On-/Off-button, mm/inch switchable, data hold function, simple 2-button operation
- Linearity: ø 1.0 – 1.5 max. 2% of measuring travel, min. 0.001 mm, ø 1.5 – 10 mm max. 1% of measuring travel, min. 0.001 mm
- incl. setting ring with UKAS certificate for setting ring
- incl. 2x 1.5 V battery (LR44, art.-no. 90213), with operation manual



Options

- also available as single devices with various measuring ranges on request
- data transfer via WiFi, art.-no. 2023104 + 2023105, see page 334







ART NO	mm / inch	mm	max. mm	meas. depth mm	quantity	€	CC
230190	0.95 – 1.55 / 0.037 – 0.045	0.01 / 0.001 / 0.0005	0.001	0.6 – 11	5	1363.03	inclusive
230191	1.50 – 2.45 / 0.059 – 0.096	0.01 / 0.001 / 0.0005	0.001	0.9 – 17	4	856.62	inclusive
230192	2.25 – 4.25 / 0.089 – 0.167	0.01 / 0.001 / 0.0005	0.001	1.2 – 22	7	1215.40	inclusive
230193	3.65 – 6.35 / 0.144 – 0.250	0.01 / 0.001 / 0.0005	0.001	2.0 – 40	5	966.48	inclusive
230194	6.15 – 8.35 / 0.242 – 0.329 8.15 – 10.35 / 0.321 – 0.408	0.01 / 0.001 / 0.0005	0.001	2.0 – 40 2.0 – 50	8	1397.37	inclusive

Accessoires for 2-/3-Point Bore Gauges

Bowers • Accessories for Analogue- and Electr. Digital 3-Point Bore Gauges

- extensions in different length
- depth stop for measuring range 2 – 6 mm

Extension	ART N°	 mm	for measuring heads	€
	230651	63	6 – 10	66.06
	230652	76	10 – 12.5	66.06
	230653	100	12.5 – 20	66.06
	230654	150	20 – 50	104.72
	230655	150	50 – 300	128.75

Depth Stop for Electr. Digital 3-Point Bore Gauges	ART N°	 mm	€
	230656	2 – 6	63.12

Accessories for Electr. Digital 2-Point Bore Gauge (MicroGauge)


- extensions in different length
- stand for MicroGauge

Depth Stop for MicroGauge	ART N°	 mm	€
	230475	0.95 – 1.55	15.45
	230476	1.50 – 2.45	15.45
	230477	2.25 – 4.25	15.45
	230478	3.65 – 6.35	15.45
	230479	6.15 – 10.35	15.45

Stand for MicroGauge	ART N°	€
	230658	128.75


Bowers • Accessories setting ring for XT500 Electr. Digital 3-Point Bore Gauge


- setting ring, hardened and lapped, incl. UKAS-calibration certificate


ART N°	 ø mm	€	CC
230770-3000	300	686.67	inclusive



Bowers • Accessories Data Transfer via WiFi and Bluetooth®

ART N°	wireless data transmission Transmitter module for measuring instruments with proximity interface	€
2023105		265.55

ART N°	wireless data transmission USB receiver (up to 15 m distance)	€
2023104		337.97

ART N°	wireless data transmission USB transmitter Bluetooth®	€
2023106		23.08



2-/3-Point Bore Gauges

Bowers • 3-Point Bore Gauges




• for through holes and from up 12.5 mm for blind holes also

- vernier scale 6 – 20 mm with 0.002 mm
- chromed finish with clear reading, ergonomically designed
- ratchet stop to ensure constant measuring force
- from up 12.5 mm with carbide measuring faces
- incl. setting ring, UKAS certificates for instruments and setting rings, with operation manual

Option

- extensions find on page 123



ART NO	 mm	 mm	 mm	meas.-depth mm	 ø mm	€	
230500	6 – 8	0.002	0.004	58	8.0	303.85	inclusive
230501	8 – 10	0.002	0.004	58	8.0	279.82	inclusive
230502	10 – 12.5	0.002	0.004	58	12.5	279.82	inclusive
230503	12.5 – 16	0.002	0.004	62	12.5	279.82	inclusive
230504	16 – 20	0.002	0.004	62	20.0	284.97	inclusive
230505	20 – 25	0.005	0.004	66	20.0	315.87	inclusive
230506	25 – 35	0.005	0.004	66	35.0	449.77	inclusive
230507	35 – 50	0.005	0.004	80	35.0	456.63	inclusive
230508	50 – 65	0.005	0.005	80	65.0	547.96	inclusive
230509	65 – 80	0.005	0.005	80	65.0	547.62	inclusive
230510	80 – 100	0.005	0.005	100	80.0	695.25	inclusive
230511	100 – 125	0.005	0.006	115	125.0	696.97	inclusive
230512	125 – 150	0.005	0.006	115	125.0	806.83	inclusive
230513	150 – 175	0.005	0.007	115	175.0	1030.00	inclusive
230514	175 – 200	0.005	0.007	115	175.0	1186.22	inclusive
230515	200 – 225	0.005	0.008	118	225.0	1599.93	inclusive
230516	225 – 250	0.005	0.008	118	225.0	1649.72	inclusive
230517	250 – 275	0.005	0.009	118	275.0	1797.35	inclusive
230518	275 – 300	0.005	0.009	118	275.0	1878.03	inclusive

Bowers • 2-/3-Point Bore Gauge Sets






• for through holes and from up 12.5 mm for blind holes also

- vernier scale 2 – 6 mm with improved resolution in 0.001 mm (micro version)
- vernier scale 6 – 20 mm with improved resolution in 0.002 mm (micro version)
- chromed finish with clear reading, ergonomically designed
- ratchet stop to ensure constant measuring force
- from up 12.5 mm with carbide measuring faces
- incl. setting ring, UKAS certificates for instruments and setting rings, with operation manual

Option

- extensions find on page 123



ART NO	 mm	 mm	 mm	meas.-depth mm	meas.-heads amount	 quantity	€	
2-Point Bore Gauge Sets								
230520	2 – 3	0.001	0.004	9	2	1	1289.22	inclusive
230521	3 – 6	0.001	0.004	12 / 18	3	2	1745.85	inclusive
3-Point Bore Gauge Sets								
230522	6 – 10	0.002	0.004	58	2	1	508.13	inclusive
230523	10 – 20	0.002	0.004	58 / 62	3	2	588.82	inclusive
230524	20 – 50	0.005	0.004	66 / 80	3	2	1203.04	inclusive
230525	50 – 100	0.005	0.005	80 / 100	3	2	1632.55	inclusive
230526	100 – 150	0.005	0.006	115	2	1	1220.55	inclusive
230527	150 – 200	0.005	0.007	115	2	1	1738.98	inclusive

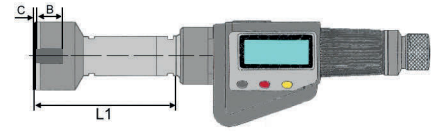
Electr. Digital 3-Point Bore Micrometers • IP54

- spray water proof acc. to DIN 40050 / IEC 60529
- for bore holes and blind holes
- with data output, top model (connectivity also for Digimatic measuring devices, Mitutoyo compatible)

- LCD unit with clear reading, digit height 8 mm
- chromed finish, self-centering and self-aligning
- with friction ratchet for constant measuring pressure
- 6 – 12 mm with hardened measuring faces, from up 12 mm
- with tungsten carbide measuring faces
- zero setting at any position, On-/Off-button
- measuring unit switchable mm/inch, with ABS/INC-system
- data hold function, ± preset function
- incl. setting ring and with extension rod
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual

Options

- data transfer via cable, art.-no.: 2420194, see page 334
- data transfer via WiFi, art.-no.: 2040101, see page 334
- data transfer via Bluetooth®, art.-no.: 209000, see page 334



ART NO	mm / inch	mm / inch	mm	L1 mm	B mm	C mm	extension rod mm	ø mm	€	
236431	6 – 8 / 0.24 – 0.32	0.001 / 0.00005	0.004	30	2.5	1.0	50	8	389.88	16.00
236432	8 – 10 / 0.32 – 0.40	0.001 / 0.00005	0.004	30	2.5	1.0	50	8	389.88	16.00
236433	10 – 12 / 0.40 – 0.50	0.001 / 0.00005	0.004	30	2.5	1.0	50	10	389.88	16.00
236434	12 – 16 / 0.50 – 0.63	0.001 / 0.00005	0.004	48	6.3	0.4	100	16	361.43	16.00
236435	16 – 20 / 0.63 – 0.80	0.001 / 0.00005	0.004	48	6.3	0.4	100	16	396.60	16.00
236436	20 – 25 / 0.80 – 1.00	0.001 / 0.00005	0.004	50	9.2	0.4	150	25	428.90	16.00
236437	25 – 30 / 1.00 – 1.20	0.001 / 0.00005	0.004	50	9.2	0.4	150	25	428.90	16.00
236438	30 – 40 / 1.20 – 1.60	0.001 / 0.00005	0.004	50	9.2	0.4	150	30	457.82	16.00
236439	40 – 50 / 1.60 – 2.00	0.001 / 0.00005	0.005	55	16.5	0.5	150	40	485.29	16.00
236440	50 – 63 / 2.00 – 2.50	0.001 / 0.00005	0.005	55	16.5	0.5	150	50	496.84	22.00
236441	62 – 75 / 2.45 – 3.00	0.001 / 0.00005	0.005	55	16.5	0.5	150	62	617.74	22.00
236442	75 – 88 / 3.00 – 3.46	0.001 / 0.00005	0.005	55	16.5	0.5	150	87	759.53	22.00
236443	87 – 100 / 3.43 – 4.00	0.001 / 0.00005	0.005	55	16.5	0.5	150	87	570.56	22.00

Did you already know?

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Measuring Solutions
 The new slogan stands for even more
 Service, Solutions and Consulting.



3-Point Bore Gauges

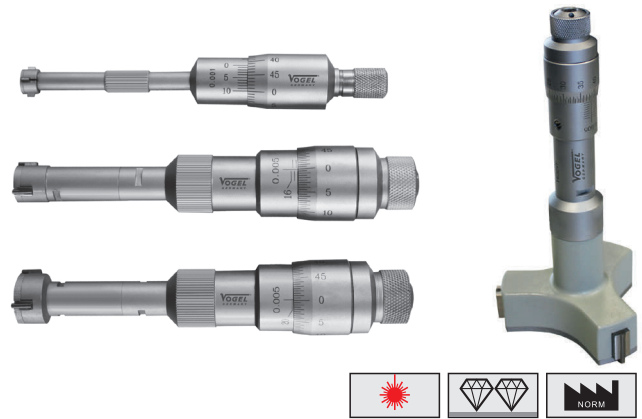
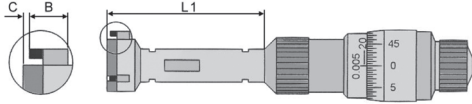
3-Point Bore Micrometers

• for bore holes and blind holes

- chromed finish, self-centering and self-aligning
- with ratchet for constant measuring pressure
- 6 – 12 mm with hardened measuring faces, from up 12 mm with tungsten carbide measuring faces
- incl. setting ring and extension rod
- with operation manual

Option

- extension rods and setting rings can be found on page 128 + 247



ART No	mm	mm	mm	L1 mm	B mm	C mm	extension rod mm	ø mm	€	EURO CC
236531	6 – 8	0.001	0.004	30	2.5	1.0	50	8	280.31	16.00
236532	8 – 10	0.001	0.004	30	2.5	1.0	50	8	280.31	16.00
236533	10 – 12	0.001	0.004	30	2.5	1.0	50	10	280.31	16.00
236534	12 – 16	0.005	0.004	48	6.3	0.4	100	16	207.68	16.00
236535	16 – 20	0.005	0.004	48	6.3	0.4	100	16	207.68	16.00
236536	20 – 25	0.005	0.004	50	9.2	0.4	150	25	293.22	16.00
236537	25 – 30	0.005	0.004	50	9.2	0.4	150	25	293.22	16.00
236538	30 – 40	0.005	0.004	50	9.2	0.4	150	30	322.30	16.00
236539	40 – 50	0.005	0.005	55	16.5	0.5	150	40	373.97	16.00
236540	50 – 63	0.005	0.005	55	16.5	0.5	150	50	392.85	22.00
236541	62 – 75	0.005	0.005	55	16.5	0.5	150	62	423.98	22.00
236542	75 – 88	0.005	0.005	55	16.5	0.5	150	87	443.33	22.00
236543	87 – 100	0.005	0.005	55	16.5	0.5	150	87	464.33	22.00

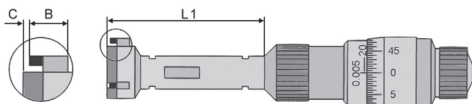
3-Point Bore Micrometer Set

• for bore holes and blind holes

- as set composition, with setting ring and extension rod
- chromed finish, self-centering and self-aligning
- with ratchet for constant measuring pressure
- 6 – 12 mm with hardened measuring faces, from up 12 mm with tungsten carbide measuring faces
- with operation manual

Option

- extension rods and setting rings can be found on page 128 + 247



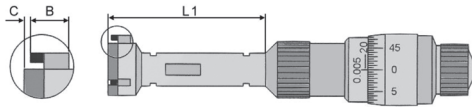
ART No	mm	mm	mm	mm	L1 mm	B mm	C mm	extension rod mm	ø mm	€	EURO CC
236581	6 – 12	6 – 8 8 – 10 10 – 12	0.001	0.004 0.004 0.004	30	2.5	1.0	50	8 10	684.32	110.00
236582	12 – 20	12 – 16 16 – 20	0.005	0.004 0.004	48	6.3	0.4	100	16	338.28	75.00
236583	20 – 50	20 – 25 25 – 30 30 – 40 40 – 50	0.005	0.004 0.004 0.004 0.004	50	9.2	0.4	150	25 40	975.86	155.00
236584	50 – 100	50 – 63 62 – 75 75 – 88 87 – 100	0.005	0.005 0.005 0.005 0.005	55	16.5	0.5	150	62 87	1222.13	155.00

3-Point Bore Micrometers

- for bore holes and blind holes
- for large measuring range
- chromed finish, self-centering and self-aligning
- with ratchet for constant measuring pressure
- with tungsten carbide measuring faces
- incl. operation manual

Option

- extension rods and setting rings can be found on page 128 + 247



ART NO	mm	mm	mm	L1 mm	B mm	C mm	€	EURO CC
236571	100 – 125	0.005	0.008	135	23	1	513.29	32.00
236572	125 – 150	0.005	0.008	135	23	1	615.00	32.00
236573	150 – 175	0.005	0.008	135	23	1	737.14	32.00
236574	175 – 200	0.005	0.008	135	23	1	889.93	32.00
236575	200 – 225	0.005	0.008	135	23	1	1324.34	32.00
236576	225 – 250	0.005	0.008	135	23	1	1276.24	32.00
236577	250 – 275	0.005	0.008	135	23	1	1535.06	72.00
236578	275 – 300	0.005	0.008	135	23	1	2146.11	72.00
236579	300 – 325	0.005	0.010	135	23	1	2377.66	72.00
236580	325 – 350	0.005	0.010	135	23	1	2674.88	72.00

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Any questions?
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Accessories, 3-Point Bore Micrometers, Telescopic Gauges

Extension rods for 3-Point Bore Micrometers

- extension for to reach deep measuring points in tubes



ART N°	L x ø mm	suitable for series	€
236400	150 x 29	236571 – 236580	110.04
236402	50 x 5.7	236431 – 236433 / 236531 – 236533	148.56
236403	100 x 11.7	236434 – 236435 / 236534 – 236535	148.56
236404	150 x 16.7	236436 – 236437 / 236536 – 236537	148.56
236405	100 x 21.8	236438 – 236443 / 236538 – 236543	148.56

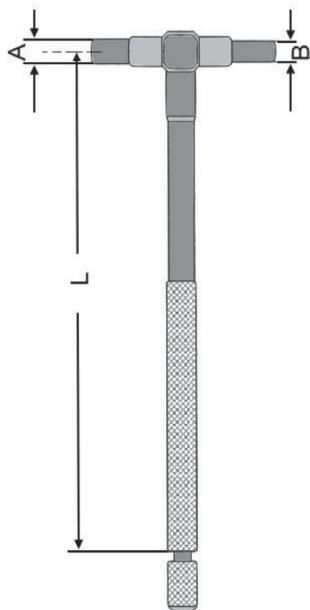
Telescopic Gauges, 6-pcs.

- in places that are hard to reach
- with standard measuring instruments

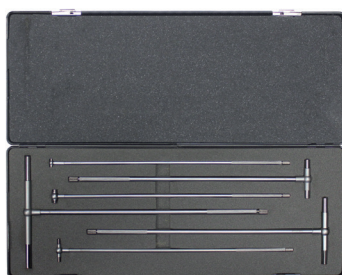
- steel made, satin chromed
- self-centering, spherical measuring faces, hardened
- constant spring pressure on the measuring faces
- with fixing device



ART N° 472030



NEW



ART N° 472031



ART N°	set / mm	mm	measuring depth (L) mm	A mm	B mm	€
472030	8 – 150	8 – 12.7	102	4	3	27.58
		12.7 – 19	102	5	4	
		19 – 32	102	5	4	
		32 – 54	127	7.5	6	
		54 – 90	127	7.5	6	
		90 – 150	127	7.5	6	
		472031	8 – 150	8 – 12.7	300	
12.7 – 19	300			5	4	
19 – 32	300			5	4	
32 – 54	300			7.5	6	
54 – 90	300			7.5	6	
90 – 150	300			7.5	6	

Bore Gauge Set with Dial Indicator

- for quick and easy measuring of bores
- standard precision, especially for workshop use
- matt chrome finish pipe, with insulation handle
- hardened contact points
- with operation manual



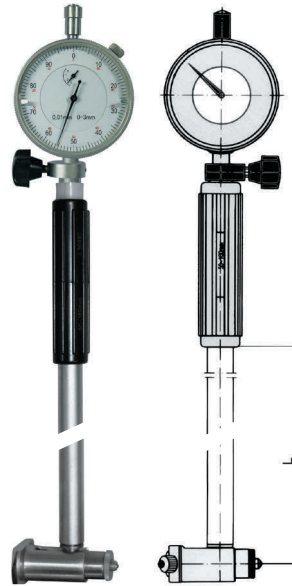
ART No 237011 – 237012






ART No 237013



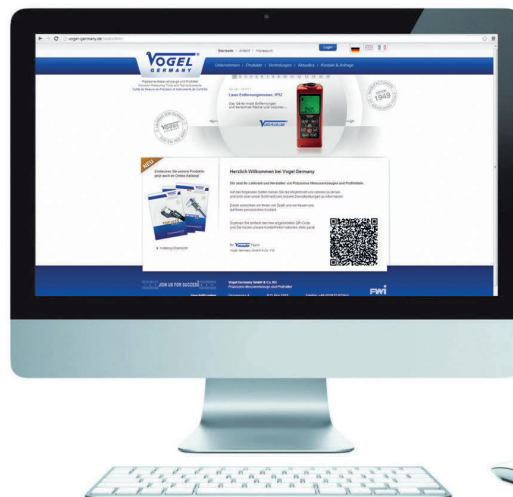
ART No 237014 – 237017



ART No	 mm	 mm	quantity of contact points	quantity of distance plates	L mm	€	
237011	10 – 18	0.01	9	1	50	107.72	26.75
237012	18 – 35	0.01	7	2	142	68.82	26.75
237013	35 – 50	0.01	5	2	155	68.81	26.75
237014	50 – 100	0.01	7	2	200	77.83	26.75
237015	50 – 160	0.01	8	2	200	77.83	26.75
237016	100 – 160	0.01	8	2	205	79.23	26.75
237017	160 – 250	0.01	8	2	205	80.71	26.75

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Any questions?

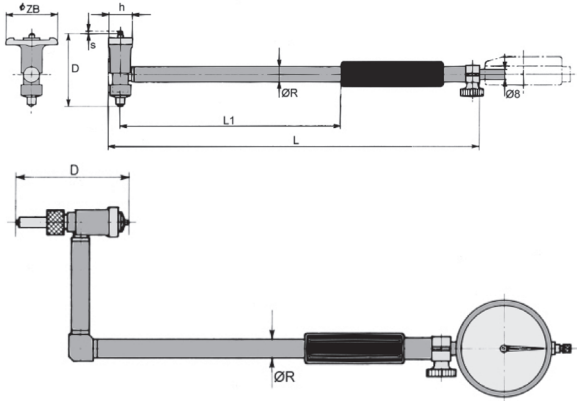
We are pleased to advise.

Bore Gauge Sets, Extension for Bore Gauges

Schwenk • Bore Gauge Set without Dial Indicator

- for quick and easy measuring of bores
- high precision quality, especially for workshop use

- steel tube, stainless, with insulation plate
- measuring bolts hardened or made of carbide available
- repeatability at sizes:
4.5 – 290 mm = fw < 0.5 µm, 280 – 800 mm = fw < 1.5 µm
- deviation range at sizes:
4.5 – 290 mm = fe < 2.0 µm, 280 – 800 mm = fe < 3.0 µm
- with operation manual



ART No	€	ART No	€	D	quantity of contact points	L1	L	R	s	h	ZB	CC
steel contact points		carbide contact points		mm		mm	mm	mm	mm	mm	mm	
—	—	230720	942,45	4.5 – 6	9	80	147	4	0.35	2.00	4.0	26.75
—	—	230721	655,77	6 – 8	7	100	165	5	0.50	2.60	5.2	26.75
—	—	230722	624,87	8 – 12	9	100	165	5	0.70	3.25	6.5	26.75
—	—	230723	425,84	12 – 20	9	110	204	8	0.90	4.50	9.0	26.75
230700	367.37	230724	439,67	18 – 35	9	110	206	8	1.30	5.40	14.8	26.75
230701	377.67	230725	422,30	35 – 60	6	138	243	10	1.30	7.00	28.0	26.75
230702	402.64	230726	480,67	50 – 100	11	177	295	12	1.40	8.50	45.0	26.75
230703	417.96	230727	487,53	50 – 150	11	177	295	12	1.40	8.50	45.0	26.75
230704	563.07	230728	487,53	100 – 160	7	234	365	18	1.60	11.50	75.0	26.75
230705	587.10	230729	648,90	100 – 230	7	234	365	18	1.60	11.50	75.0	26.75
230706	806.83	230730	844,44	160 – 290	7	234	365	18	1.60	11.50	120.0	29.25
230707	830.87	230731	867,96	160 – 360	7	234	365	18	1.60	11.50	120.0	29.25
230708	1.920.95	230732	1.963,87	280 – 410	7	400	550	24	2.60	16.00	165.0	29.25
230709	1.948.42	230733	1.991,33	280 – 510	7	400	550	24	2.60	16.00	165.0	29.25
230710	2.887.43	230734	2.954,38	400 – 800	11	700	855	24	2.60	17.50	300.0	29.25

Schwenk • Extension for Bore Gauges

- for internal micrometer series 230701 – 230734
- suitable from up bore-ø 35 mm

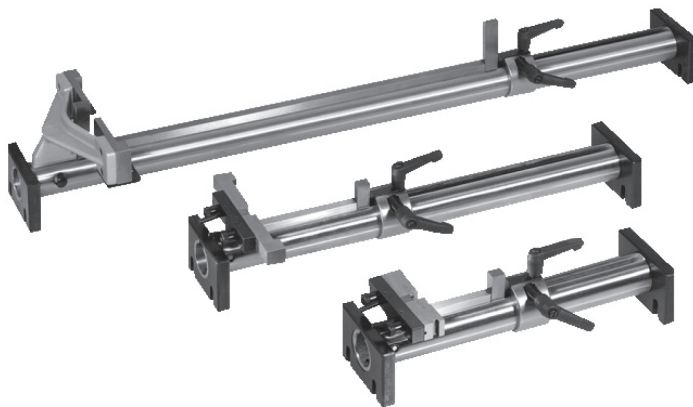
- plug-in connection
- dial indicator shaft-ø 8 mm



ART No	mm	pipe-ø	€	ART No	mm	pipe-ø	€
		mm				mm	
230790	250	12	259.22	230794	1000	18	465.22
230791	500	12	281.53	230795	1500	18	552.77
230792	750	12	339.90	230796	2000	18	671.81
230793	1000	12	382.82	—	—	—	—

Schwenk • Bore Gauge Zero-Setter, without Dial Indicator

- for easy zero adjustment of 2-point dial bore gauges by using blocks for series 230700 – 230734
- frame with gauge block holder
- pair of setting jaws, base and spanner
- carbide measuring jaws
- delivery **without** gauge blocks, **without** dial indicator
- with operation manual

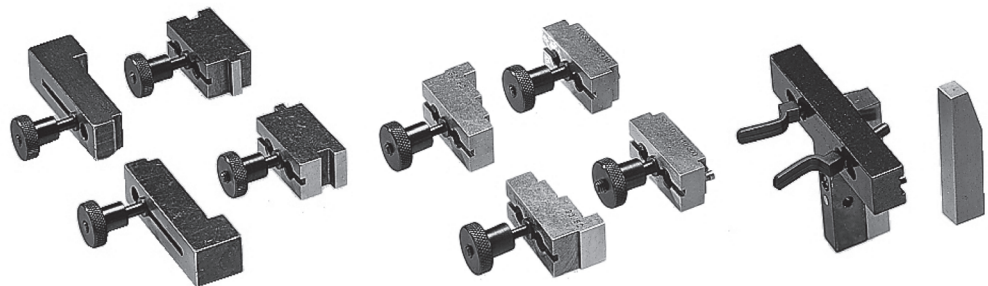


horizontal and vertical applications

ART N°	setting range mm	€
230950	4.5 – 35	882.37
230951	4.5 – 160	971.63
230952	4.5 – 290	995.67
230953	35 – 160	904.68
230954	35 – 290	956.18
230955	160 – 510	1.503.80
230956	160 – 800	1.836.83

Schwenk • Spare parts for Bore Gauge Zero-Setter

- suitable for series 230950 – 230956

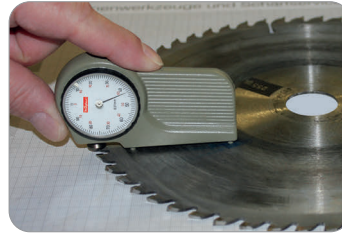


ART N° setting jaw holder	€	ART N° pair of setting jaws	€	ART N° pair of measuring jaws	€	ART N° frame with spanner	€	ART N° base for setting up to 300 mm	€
230957	149.35	230958 4.5 – 35 mm	185.40	230960 4.5 – 300 mm	187.12	230962 bis 160 mm	314.15	230965	72.10
—	—	230959 18 – 290 mm	169.95	230961 160 – 800 mm	248.92	230963 bis 300 mm	367.37	—	—
—	—	—	—	—	—	230964 bis 600 mm	425.73	—	—

Saw Teeth Setting Dial Indicators and Thickness Gauge





Käfer • Saw Teeth Setting Dial Indicator

- designed to check the right setting of the saw teeth
- sturdy housing made of light metal, hammer blow lacquered
- dial on both sides, for right and left hand use
- with tolerance fingers and rotatable scale
- 4 bearing points for exact measurements
- spring loaded measuring plate, measuring plate- \varnothing 10 mm



example of application






ART N ^o	 mm	 mm	graduation mm	 mm	outer ring- \varnothing mm	€	
240370	0 – 2	0.1	0.05	1	40	69.40	15.00

Käfer • Thickness Gauge

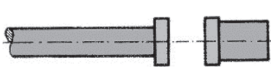
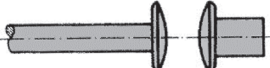
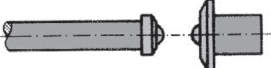
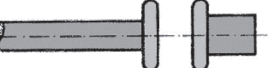
- with adjustable scale
- measuring surfaces hardend, ground and lapped
- spindle and probe made of stainless steel, measuring pressure approx. 1 N
- zero setting of the display by rotating the knurled outer ring
- different but **not** exchangeable probes are available

*The probe type "F" is delivered as standard!
In case of order indicate the probe type, please!*



ART N ^o	 mm	 mm	thread depth mm	 mm	available probes	€
240401	0 – 10	0.1	15	10	F G H K	55.79
240402	0 – 20	0.1	15	10	F G H K	63.52

Stylus shapes

form F	form G	form H	form K
standard version 6.35 mm \varnothing , flat	arched	ball shaped	10 mm \varnothing , flat
			



Send us a
partnership request



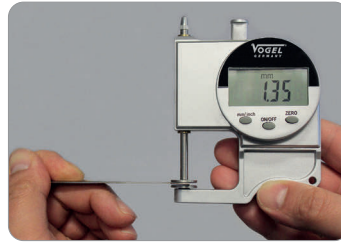
Complete catalogue
assortment searchable
on OXOMI.com

OXOMI.com

Electr. Digital Thickness Gauge

NEW

- pocket size, with spindle lifting knob
- stainless, hardened measuring surface, rugged plastic cover
- large LCD display with clear reading, digit height 10 mm
- measuring plate Ø15 mm
- On/Off button, mm/inch switchable
- zero setting at any position
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual



example of application



ART N°	mm / inch	mm / inch	mm	mm	thread depth mm	€
240409	0 – 25	0.01 / 0.0005	0.01	0.02	30.0	37.30

Käfer • Thickness Gauge

DIN 878

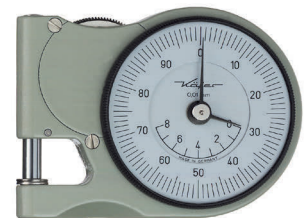
- pocket size, with spindle lifting wheel
- measuring surfaces hardened, ground and lapped
- spindle and probe made of stainless steel, measuring pressure approx. 1 N
- reading by concentrically mm pointer
- zero setting by rotating the knurled outer ring
- different but **not** exchangeable probes are available

*The probe type "F" is delivered as standard!
In case of order indicate the probe type, please!*

ART N° 240404



ART N° 240403



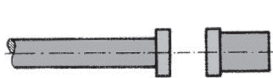
DIN

ART N°	mm	mm	thread depth mm	available probes	mm	€	EURO CC
240403	0 – 8	0.01	12	F H	1	113.30	23.00
240404	0 – 10	0.01	18	F G H K	1	109.87	23.00

Stylus shapes

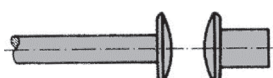
form F

standard version 6.35 mm ø, flat



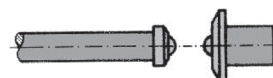
form G

arched



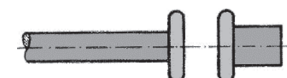
form H

ball shaped



form K

10 mm ø, flat



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Service, Solutions and Consulting.

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Thickness Gauges

Käfer • Thickness Gauges

DIN 878

- for measuring the thickness of leather, paper, felt, rubber etc.
- frame made of light metal, hammer blow lacquered
- measuring faces hardened, ground and lapped
- spindle and probe made of stainless steel
- zero-setting of the display by rotating the knurled outer ring
- different **but not** exchangeable probes are available

*The probe type "C" is delivered as standard!
In case of order indicate the probe type, please!*



type P



type L



type M



type N

Contact Points

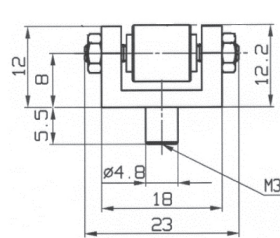


rubber, felt, soft materials	rubber, felt, soft materials	soft leather, cardboard, paper, foils	hard leather, plywood etc.	sheet metals, etc.
form A	form B	form C (standard)	form D	form E

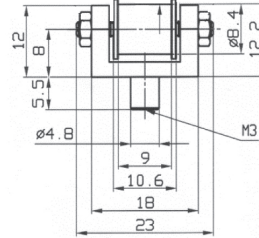
ART ^{NO}	mm	mm	type	throat depth mm	available probes	mm	€	
240410	0 – 10	0.01	P	50	A B C D E	1	130.47	23.00
240411	0 – 10	0.01	L	50	A B C D E	1	130.47	23.00
240412	0 – 10	0.01	L	100	A B C D E	1	163.08	23.00
240413	0 – 10	0.01	M	200	A B C D E	1	197.42	23.00
240414	0 – 10	0.1	P	50	A B C D E	10	113.30	23.00
240415	0 – 10	0.1	L	50	A B C D E	10	113.30	23.00
240416	0 – 20	0.1	P	50	A B C D E	10	113.30	23.00
240417	0 – 30	0.1	N	50	A B C D E	10	130.47	23.00
240420	0 – 30	0.1	M	200	A B C D E	10	171.67	23.00
240421	0 – 30	0.1	M	300	A B C D E	10	197.42	23.00
240422	0 – 30	0.1	M	400	A B C D E	10	226.60	23.00
240423	0 – 30	0.01	M	200	A B C D E	1	262.65	23.00

Käfer • Thickness Gauges with Wheels

- designed for the measuring of threads, wires, strings, foils, etc.
- as special version with side discs on the lower wheel available
- frame made of solid cast iron, hammer blow lacquered
- measuring wheels hardened and ground
- scale rotatable by a knurled outer ring
- dial indicator with spindle lifting lever
- measuring pressure approx. 1.2 N



240425 without discs



240426 with side discs



ART N ^o	mm	mm	size of wheels length x ø mm	throat depth mm	side discs		mm	€	EURO CC
					yes	no			
240425	0 – 5	0.01	8.7 x 8.4	50	—	X	1	246.12	23.00
240426	0 – 5	0.01	8.7 x 8.4	50	✓	—	1	241.28	23.00

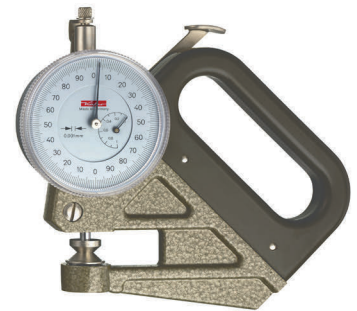
Käfer • Foil Thickness Gauge

- exclusively to use to measure the thickness of thin foils

- frame made of solid cast iron, hammer blow lacquered
- with isolation handle
- measuring surfaces hardened, ground and lapped, probe-ø 6.35 mm
- dial indicator in a dustproof housing, housing-ø 58 mm
- measuring pressure approx. 2 N, shockproof version



example of application

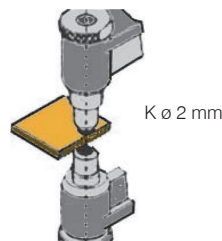


ART N ^o	mm	mm	graduation mm	throat depth mm	mm	€	EURO CC
240400	0 – 1	0.001	0 – 100	30	0.1	240.71	23.00

Quicktest “Pocotest“

- universal and handy pocket measuring instrument

- tungsten carbide measuring contact points
- with moveable contact arm
- incl. operation manual



ART N ^o	mm	mm	L mm	Hb mm	Hf mm	F min. N	F max. N	max. mm	€	EURO CC
241420	0 – 10	0.1	36	5	5	0.3	1.3	0.1	34.21	23.00

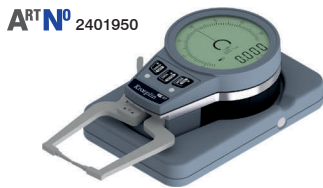
Dial Caliper Gauges

Kroepelin • Electr. Digital Quicktest • IP67

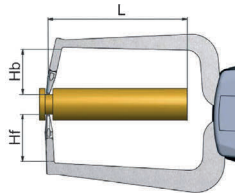
with μm resolution and inductive charging technology

- Quicktest in smallest design, also suitable for tablet PCs and smartphones, no additional software required
- large data logger (100 measuring values)
- available with Bluetooth® interface (up to 8 gauges simultaneously) or USB- and Digimatic interface

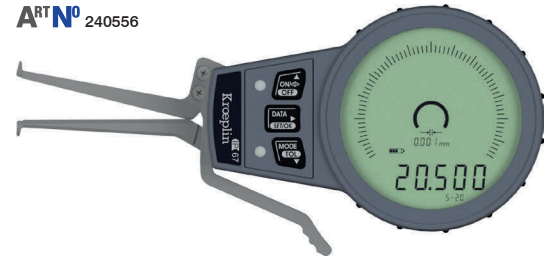
- water and oil-tight version
- optimal readability with 250° analog display area
- with movable probe arm
- Absolute and Relative measurement program, measuring programs MIN / MAX / HOLD
- adjustable tolerance ranges
- LiPo battery with inductive charging technology, no battery change required
- numerical increment 0.001 / 0.002 / 0.005 / 0.01 mm
- switchable mm/inch



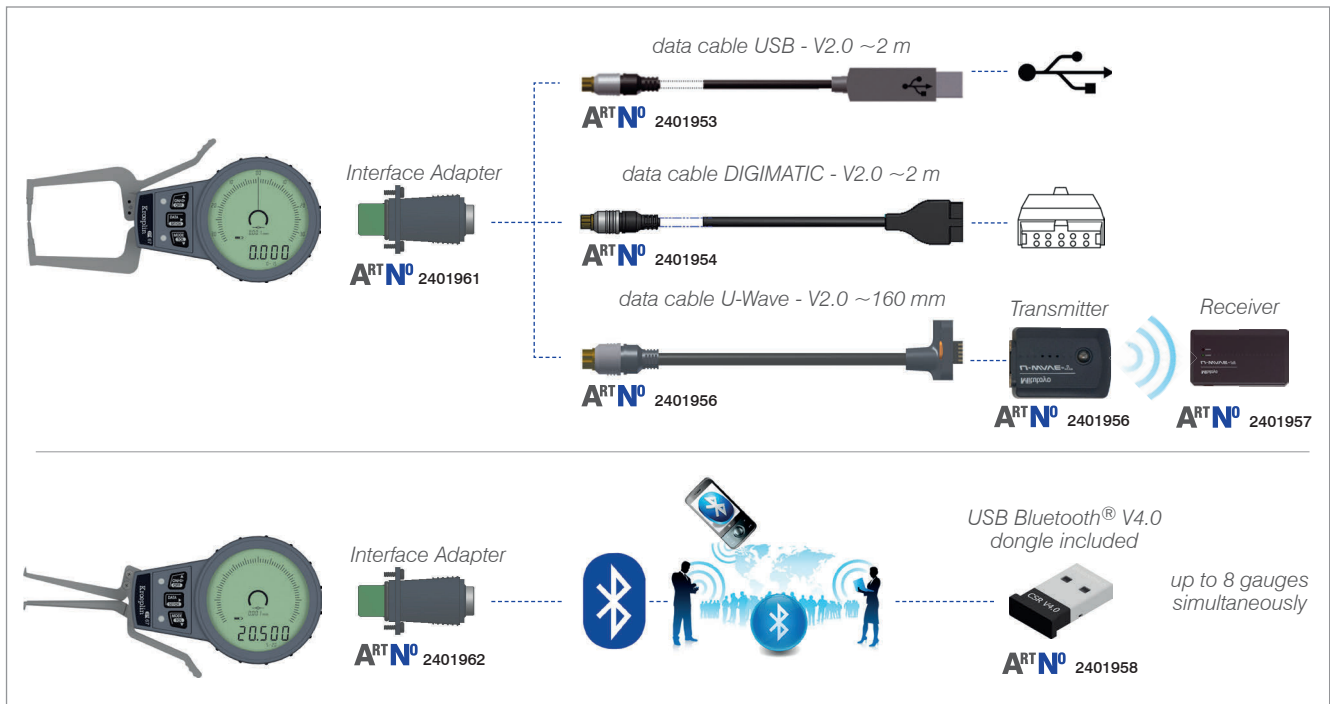
wireless charging pad with power supply



measuring contact points can be changed against additional charge



INTERFACE



ART No	mm	mm	form K (bullet) S (blade)	L mm	Hb mm	Hf mm	F min. N	F max. N	max. mm	€	CC
external quicktest gauge											
240550	0 – 15	0.001	K \varnothing 1.5 mm	45	17	17	1.3	1.5	0.010	532.17	inclusive
240551	0 – 15	0.001	S R 0.4 mm	45	12	12	1.3	1.5	0.015	532.17	inclusive
internal quicktest gauge											
240555	2.5 – 12.5	0.001	S R 0.12 mm	12	0.9	0.9	0.8	1.3	0.010	532.17	inclusive
240556	5 – 20	0.001	K \varnothing 0.6 mm	44	2.2	2.2	0.8	1.3	0.010	532.17	inclusive
240557	10 – 25	0.001	K \varnothing 1.0 mm	46	4.4	4.4	0.8	1.3	0.010	532.17	inclusive

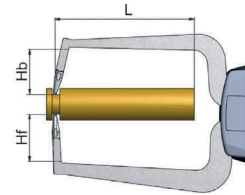
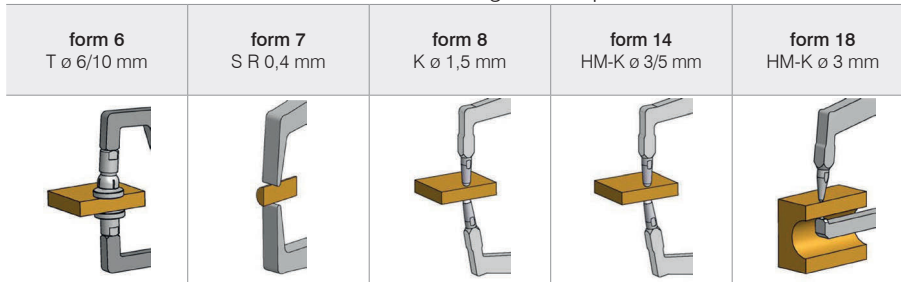
Kroepelin • Quicktest Gauge “Oditest“ • IP65

- for measuring of external grooves, bars and flats etc.
- water proof
- tungsten carbide measuring contact points
- with moveable arm, with tolerance fingers
- zero setting by rotating the knurled outer ring

ART N° 240437



D = form of measuring contact points



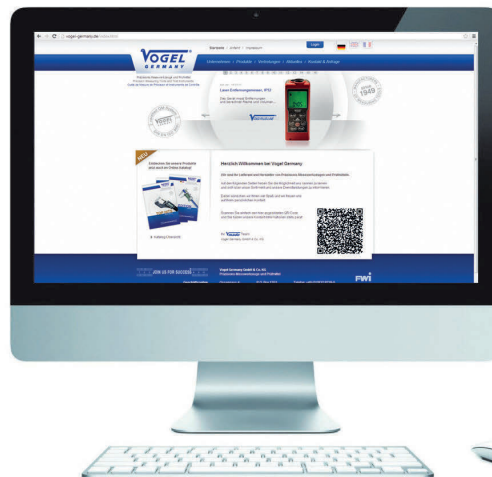
measuring contact points can be changed against additional charge



ART N°	mm	mm	form D	L mm	Hb mm	Hf mm	F min. N	F max. N	max. mm	€	CC
240435	0 – 10	0.005	6 / ø 6	35	21.7	14.8	0.8	1.2	0.02	463.50	inclusive
240435-1	0 – 20	0.01	6 / ø 10	85	28.2	20.7	1.1	1.6	0.04	463.50	inclusive
240436	0 – 20	0.01	7	85	24.6	24.6	1.1	1.6	0.03	463.50	inclusive
240437	0 – 20	0.01	8	85	24.6	24.6	1.1	1.6	0.03	463.50	inclusive
240438	0 – 50	0.05	14 / ø 3	170	32	32	1.2	1.8	0.05	532.17	inclusive
240439	0 – 50	0.05	18	170	32	1	1.2	1.8	0.05	532.17	inclusive
240440	50 – 100	0.05	14 / ø 5	170	32	32	1.2	1.8	0.075	571.65	inclusive
240441	100 – 150	0.05	14 / ø 5	170	32	32	1.2	1.8	0.075	571.65	inclusive

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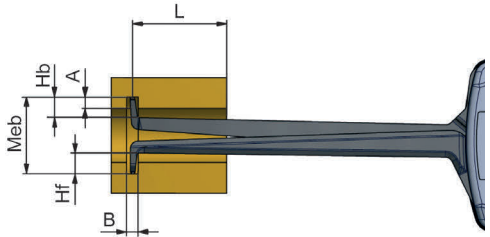
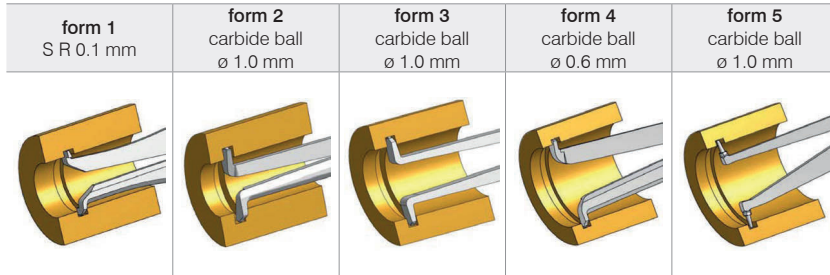
Dial Caliper Gauges

Kroepin • Quicktest Gauge “Interrest” • IP65

- for measuring of internal grooves, bore etc.
- water and colant proof acc. to DIN 40050 / IEC 60529
- tungsten carbide measuring contact points
- with rack gear
- with moveable contact arm
- with tolerance fingers
- incl. operation manual



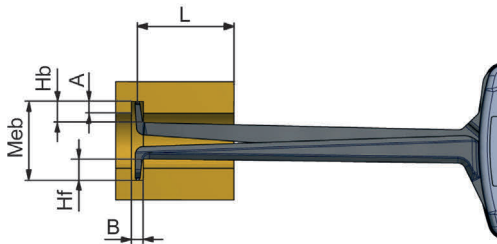
D = form of measuring contact points



ART NO	mm	mm	form	L mm	A mm	B mm	Hb mm	Hf mm	F min. N	F max. N	max. mm	€	CC
240530	2.5 – 12.5	0.005	1	35	0.7	0.4	0.9	0.9	0.8	1.2	0.015	462.99	inclusive
240532	5.0 – 15.0	0.005	4	35	2.3	0.8	2.5	2.5	0.8	1.2	0.015	462.99	inclusive

Kroepin • Quicktest Gauge “Interrest” • IP65

- for measuring of internal grooves, bores, etc.
- water and colant proof acc. to DIN 40050 / IEC 60529
- tungsten carbide measuring contact points
- with steel filament drive
- with moveable contact arm
- with tolerance fingers
- incl. operation manual



ART NO	mm	mm	form	L mm	A mm	B mm	Hb mm	Hf mm	F min. N	F max. N	max. mm	€	CC
240539	10 – 30	0.01	2	85	5.2	1.2	5.4	5.4	1.1	1.6	0.03	462.99	inclusive
240540	20 – 40	0.01	3	85	7.0	1.2	7.3	7.3	1.1	1.6	0.03	462.99	inclusive
240541	30 – 50	0.01	3	85	7.0	1.2	7.3	7.3	1.1	1.6	0.03	462.99	inclusive
240542	40 – 60	0.01	5	85	8.3	1.2	12.2	12.2	1.1	1.6	0.03	462.99	inclusive
240543	50 – 70	0.01	5	85	8.3	1.2	12.2	12.2	1.1	1.6	0.03	462.99	inclusive
240544	60 – 80	0.01	5	85	8.3	1.2	12.2	12.2	1.1	1.6	0.03	462.99	inclusive
240545	70 – 90	0.01	5	85	8.3	1.2	12.2	12.2	1.1	1.6	0.03	462.99	inclusive
240546	80 – 100	0.01	5	85	8.3	1.2	12.2	12.2	1.1	1.6	0.03	462.99	inclusive

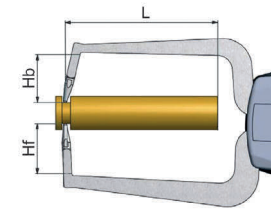
Kroepelin • Electr. Digital External Quicktest Gauge • IP67 Kroepelin • Electr. Digital Internal Quicktest Gauge • IP67

- with analogous and digital display
- with USB interface and with Mitutoyo interface (as accessories available)
- robust, rugged plastic housing, LCD-Display with clear digits
- ABS and REL measuring system, red/green display for tolerance measurement
- with tungsten carbide measuring contact points, one movable contact arm
- reading in mm/inch, numeric interval switch
- incl. 1x 1.5 V battery (type AA, art.-no.: 90003), and operation manual



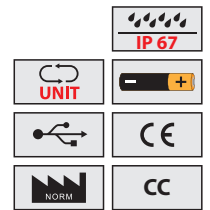
D = form of measuring contact points **external**

form A carbide ball ø 1.5 mm / ø 3.0 mm	form B S / R 0,4 mm	form C disc ø 6 / 10 mm	form D disc ø 50 mm	form E carbide ball ø 1.5 mm / ø 3.0 mm



D = form of measuring contact points **inside**

form F S / R 0.4 mm	form G S / R 0.1 mm	form H carbide ball ø 0.6 mm	form K carbide ball ø 1.0 mm	form L carbide ball ø 1.0 mm



ART No	mm	mm	form D	L mm	Hb mm	Hf mm	F min. N	F max. N	max. mm	€	CC
external quicktest gauge											
240300	0 – 10	0.005	E / ø 1.5	35	19.1	18.6	0.8	1.2	0.005	477.23	inclusive
240301	0 – 10	0.005	C / ø 6.0	35	21.7	14.8	0.8	1.2	0.005	477.23	inclusive
240302	0 – 20	0.01	E / ø 1.5	85	24.6	24.6	1.1	1.6	0.01	477.23	inclusive
240303	0 – 20	0.01	F	85	24.6	2.5	1.1	1.6	0.01	477.23	inclusive
240307	0 – 20	0.01	D	85	28.2	20.7	1.1	1.6	0.01	477.23	inclusive
240304	0 – 30	0.02	E / ø 3.0	115	22	22	1.0	1.5	0.02	477.23	inclusive
240305	0 – 30	0.02	A / ø 3.0	115	22	1	1.0	1.5	0.02	477.23	inclusive
240306	0 – 30	0.02	D	115	22	18	1.0	1.5	0.02	477.23	inclusive
internal quicktest gauge											
240310	2.5 – 12.5	0.005	G	35	0.9	0.9	0.8	1.2	0.005	477.23	inclusive
240311	5 – 15	0.005	H	35	2.5	2.5	0.8	1.2	0.005	477.23	inclusive
240312	10 – 30	0.01	K	85	5.4	5.4	1.1	1.6	0.01	477.23	inclusive
240313	20 – 40	0.01	K	85	7.3	7.3	1.1	1.6	0.01	477.23	inclusive
240314	30 – 50	0.01	K	85	7.3	7.3	1.1	1.6	0.01	477.23	inclusive
240315	40 – 60	0.01	L	85	12.2	12.2	1.1	1.6	0.01	477.23	inclusive
240316	50 – 70	0.01	L	85	12.2	12.2	1.1	1.6	0.01	477.23	inclusive
240317	60 – 80	0.01	L	85	12.2	12.2	1.1	1.6	0.01	477.23	inclusive
240318	70 – 90	0.01	L	85	12.2	12.2	1.1	1.6	0.01	477.23	inclusive
240324	80 – 100	0.01	L	85	12.2	12.2	1.1	1.6	0.01	477.23	inclusive
240319	13 – 43	0.02	L / ø 1.5	114	4.5	2.5	1.2	1.7	0.02	477.23	inclusive
240320	30 – 60	0.02	L / ø 2.0	114	8.0	4.0	1.3	1.87	0.02	477.23	inclusive
240321	50 – 80	0.02	L / ø 2.0	114	8.0	4.0	1.3	1.87	0.02	477.23	inclusive
240322	70 – 100	0.02	L / ø 2.0	114	8.0	4.0	1.3	1.87	0.02	477.23	inclusive
240323	90 – 120	0.02	L / ø 2.0	114	8.0	4.0	1.3	1.87	0.02	477.23	inclusive

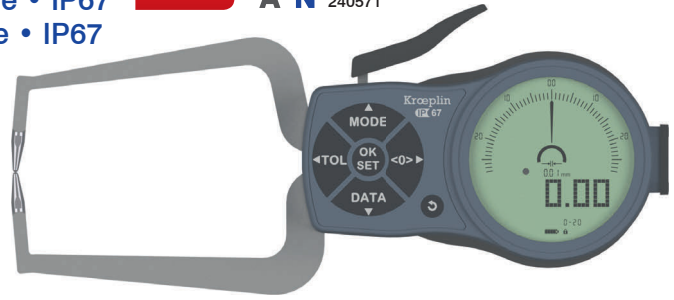
Digital Caliper Gauges

Kroepelin • Electr. Digital External Quicktest Gauge • IP67 Kroepelin • Electr. Digital Internal Quicktest Gauge • IP67

NEW

ART N° 240571

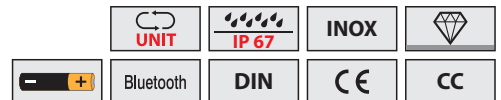
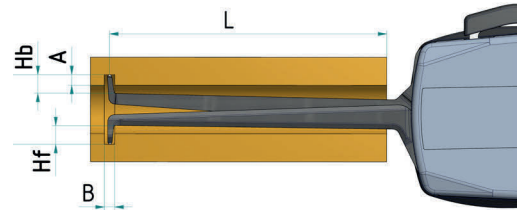
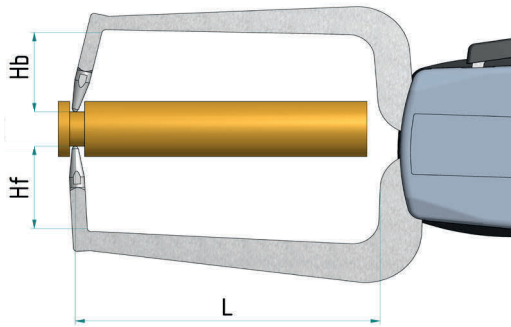
- Quicktest in handy design
- interactive keypad with touch surface and vibration feedback for easier operation
- more adjustable numerical intervals 0.001 / 0.002 / 0.005 / 0.01 / 0.02 / 0.05 mm
- new display with 250° analog display area
- suitable for use with tablet computers and smartphones
- no additional software necessary
- measuring programs for different applications MIN / MAX / HOLD
- Bluetooth® interface (up to 8 gauges simultaneously)
- 20% larger data logger (100 measuring values)
- adjustable tolerance range, mm/inch switchable
- incl. 2x 1.5 V battery (type AAA, art.-no.: 90002), with operation manual



Option

- data transfer via data cable USB – V2.0 (art.-no.: 2401961 + 2401953)
- data transfer via data cable Digimatic – V2.0 (art.-no.: 2401961 + 2401954)
- data transfer via data cable U-Wave – V2.0 (art.-no.: 2401961 + 2401956 + 2401957)
- data transfer via Bluetooth® (art.-no.: 2401962 + 2401958), see page 334

ART N° 240560



ART N°	mm	mm	form	L	A	B	Hb	Hf	F min.	F max.	max.	€	CC
Electr. Digital External Quicktest Gauge • IP67													
240571	0 – 10	0.005	1	35	—	—	19.1	18.6	1.2	1.6	0.005	530.28	inclusive
240572	0 – 10	0.005	2	35	—	—	19.1	0.9	0.8	1.2	0.005	530.28	inclusive
240573	0 – 20	0.01	1	85	—	—	24.7	24.6	1.1	1.6	0.01	530.28	inclusive
240574	0 – 20	0.01	3	80	—	—	24.7	2.5	1.1	1.6	0.01	530.28	inclusive
Electr. Digital Internal Quicktest Gauge • IP67													
240560	2.5 – 12.5	0.005	4	12	0.7	0.4	0.9	0.9	0.8	1.2	0.015	530.28	inclusive
240561	5 – 15	0.005	5	35	2.2	0.8	2.5	2.5	0.8	1.2	0.015	530.28	inclusive
240562	10 – 30	0.01	6	85	5.0	1.7	5.3	5.3	1.1	1.6	0.03	530.28	inclusive
240563	20 – 40	0.01	7	85	6.8	1.7	7.3	7.3	1.1	1.6	0.03	530.28	inclusive
240564	30 – 50	0.01	7	85	6.8	1.7	7.3	7.3	1.1	1.6	0.03	530.28	inclusive
240565	40 – 60	0.01	8	85	8.3	1.7	8.5	8.5	1.1	1.6	0.03	530.28	inclusive
240566	50 – 70	0.01	8	85	8.3	1.7	8.5	8.5	1.1	1.6	0.03	530.28	inclusive
240567	60 – 80	0.01	8	85	8.3	1.7	8.5	8.5	1.1	1.6	0.03	530.28	inclusive
240568	70 – 90	0.01	8	85	8.3	1.7	8.5	8.5	1.1	1.6	0.03	530.28	inclusive
240569	80 – 100	0.01	8	85	8.3	1.7	8.5	8.5	1.1	1.6	0.03	530.28	inclusive

D = form of measuring contact points **external**

form 1 carbide ball \varnothing 1,5 mm	form 2 carbide ball \varnothing 1,5 mm	form 3 carbide ball \varnothing 1,5 mm	form 4 S / R 0,1 mm

D = form of measuring contact points **inside**

form 5 carbide ball \varnothing 0,6 mm	form 6 carbide ball \varnothing 1 mm	form 7 carbide ball \varnothing 1 mm	form 8 carbide ball \varnothing 1 mm

INTERFACE

Interface Adapter ART N° 2401961

- data cable USB - V2.0 ~2 m **ART N° 2401953**
- data cable DIGIMATIC - V2.0 ~2 m **ART N° 2401954**
- data cable U-Wave - V2.0 ~160 mm **ART N° 2401956**

Transmitter ART N° 2401956 and **Receiver ART N° 2401957**

Interface Adapter ART N° 2401962

USB Bluetooth® V4.0 dongle included ART N° 2401958

up to 8 devices can be registered simultaneously



Send us a
partnership request



OXOMI.com



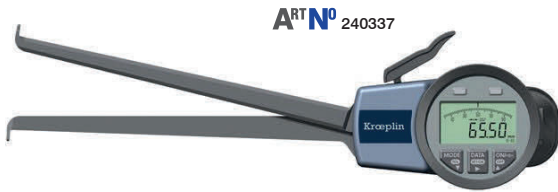
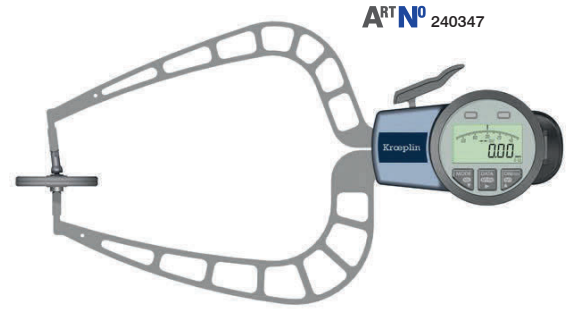
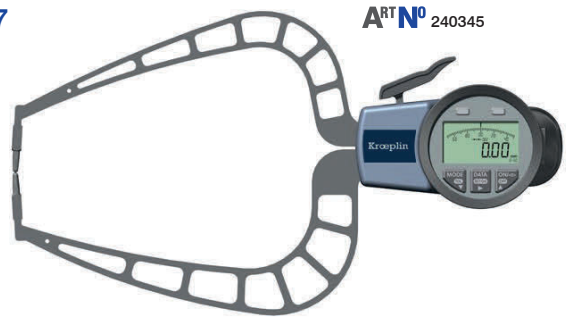
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Kroepelin • Digital Caliper Gauges

Kroepelin • Electr. Digital External Quicktest Gauge • IP67 Kroepelin • Electr. Digital Internal Quicktest Gauge • IP67

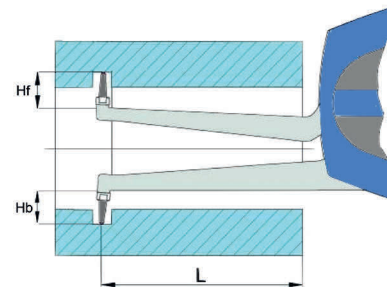
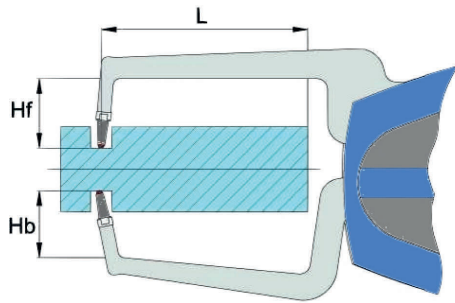
- with extra long contact arms
- with analogous and digital display
- with USB interface and with Mitutoyo interface (as accessories available)

- robust, rugged plastic housing
- LCD-Display with clear digits
- ABS and REL measuring system
- red/green display for tolerance measurement
- with tungsten carbide measuring contact points
- one movable contact arm
- reading in mm/inch
- numeric interval switch, repeatability ± 0.04 mm
- incl. 1x 1.5 V Battery (type AA, art.-no.: 90003), with operation manual



form of measuring contact points **internal / external**

form K carbide ball \varnothing 1.5 mm	form L carbide ball \varnothing 2.0 mm	form E carbide \varnothing 5 mm	form M carbide ball \varnothing 5 mm	form D disc \varnothing 50 mm



ART No	mm	mm	form	L mm	Hb mm	Hf mm	F min. N	F max. N	max. mm	€	CC
external quicktest gauge											
240345	0 – 50	0.02	E	180	25.3	25.3	0.9	1.2	0.06	659.20	inclusive
240347	0 – 50	0.02	D	180	27.2	19.5	0.6	1.0	0.08	659.20	inclusive
internal quicktest gauge											
240336	15 – 65	0.02	K	175	4.5	2.5	1.0	1.2	0.06	659.20	inclusive
240337	40 – 90	0.02	L	195	8.0	4.0	1.0	1.2	0.06	659.20	inclusive



a strong partnership

Vogel Germany and the Saliger-Gruppe have agreed on a far-reaching cooperation in the procurement and calibration of measuring equipment. With the new orientation, Vogel Germany is strengthening its offer of having measuring equipment tested in an independent calibration laboratory.

The Saliger-Gruppe offers a cross-industry and manufacturer-independent DAkkS-accredited calibration service. In addition to factory calibrations, DAkkS calibrations can now also be offered for the almost complete range of Vogel Germany.

In order to be able to offer its customers an accelerated and simplified process flow, Vogel Germany has chosen this further route of combining calibration service with the procurement of new measuring equipment. In cooperation with the Saliger-Gruppe, the procurement of measuring equipment for the customers of the Saliger-Gruppe is taken over by Vogel Germany.

Stephan Rex, Managing Director of Vogel Germany: "We are pleased to have found a new partner in the Saliger-Gruppe. The focus of the cooperation is an improved service for all aspects of measuring equipment. This will be reflected above all by a strong simplification in the complex procurement of measuring equipment and its calibration for the customer, as this service is available from a single source now. The Saliger-Gruppe offers a variety of calibration options that Vogel Germany has not been able to offer to this extent before."

Ulrich Saliger, Managing Director of the Saliger-Gruppe: "Looking for a way to redesign our Saliger measuring equipment sales department, we are happy to have entered into close cooperation with Vogel Germany. In times of increased demands on the calibration business, our main concern is to be able to continue to offer our customers a comprehensive range of services. The cooperation with Vogel Germany enables us to concentrate on our core competencies and at the same time to expand the product portfolio for our customers."

Inquiries can now be submitted to your usual contact person or by email to info@vogel-germany.de or by telephone on +49 2832 9239-0.





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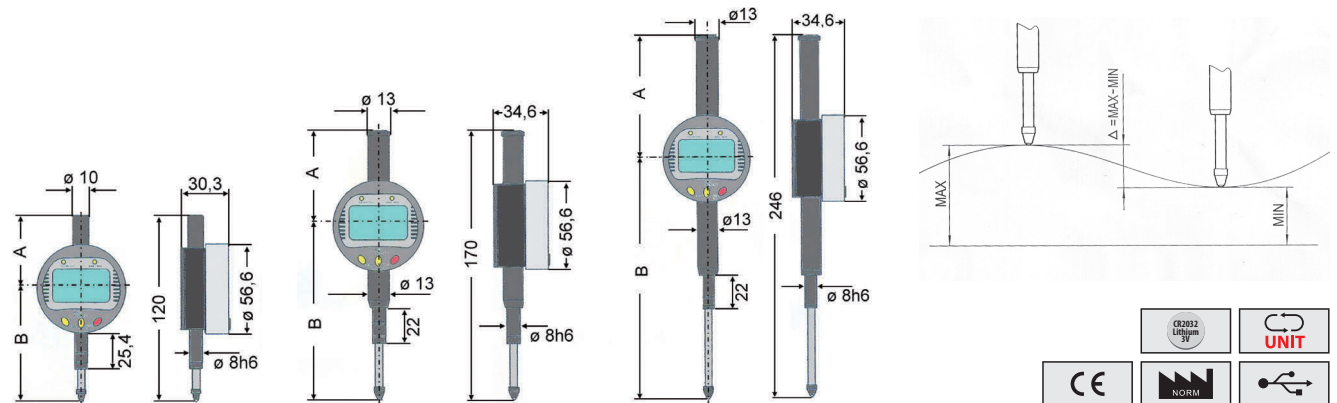


Electr. Digital Dial Indicator

- standard model for industry and craft
- with data output
- aluminium housing with sturdy plastic cover
- large LCD display with clear reading, digit height 10 mm
- stem and spindle stainless, hardened and lapped
- exchangeable probe tips, M 2.5
- On/Off button, ABS and Preset function
- zero setting at any position, mm/inch switchable
- with bar display (art.-no.: 242055, 242056 and 242057)
- min./max., tol. and set function (selection and indication of tolerance limits)
- with flat backcover and backcover with lug
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual

Option

- data transfer via cable, art.-no.: 2420192, see page 334



ART No	mm / inch	mm / inch	mm	max. mm	measuring force N	min/ max tol/set	A mm	B mm	€	
242060	0 – 12.7 / 0 – 0.5	0.01 / 0.0005	0.010	0.010	< 1.50	✓	50	75	77.95	19.50
242055	0 – 12.7 / 0 – 0.5	0.001 / 0.00005	0.003	0.05	< 1.50	✓	50	75	190.01	19.50
242160	0 – 12.7 / 0 – 0.5	0.001 / 0.00005	0.003	0.05	< 1.50	✓	50	75	163.22	19.50
242163	0 – 25.4 / 0 – 1.0	0.01 / 0.0005	0.010	0.015	< 1.50	✓	60	120	83.64	19.50
242056	0 – 25.4 / 0 – 1.0	0.001 / 0.00005	0.003	0.05	< 1.50	✓	60	110	228.98	19.50
242161	0 – 25.4 / 0 – 1.0	0.001 / 0.00005	0.003	0.06	< 1.50	✓	60	110	186.52	19.50
242164	0 – 50.8 / 0 – 2.0	0.01 / 0.0005	0.010	0.030	< 1.50	✓	85	155	199.68	26.00
242057	0 – 50.8 / 0 – 2.0	0.001 / 0.00005	0.003	0.05	< 1.50	✓	90	160	306.91	26.00
242162	0 – 50.8 / 0 – 2.0	0.001 / 0.00005	0.03	0.08	< 1.50	✓	85	155	271.08	26.00

Precision Digital Dial Indicators

„Absolute“ Electr. Digital Dial Indicator • IP65

- top model for industry purposes
- with optical tolerance alarm by LED signal
- with Bluetooth® data output
- spray water proof, acc. to 40050 / IEC 60529
- mechanical parts in stainless steel, hardened, IP51 protected
- housing IP54 protected, front plate made of plastic
- large LCD display with clear reading, 10 mm digit height
- On/Off button, LED signal for data transmitting and tolerance range
- with PRESET/ORIGIN/ABS/INC-system
- mm/inch switchable, from up 25 mm with lifting device
- incl. 3 V battery (type CR2032, art.-no.: 90112), with operation manual

Options

- data transfer via cable, art.-no.: 3420195, see page 334
- data transfer via WiFi, art.-no.: 2040102, see page 334
- data transfer via Bluetooth®, art.-no.: 2023106, see page 334

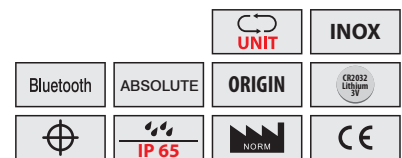
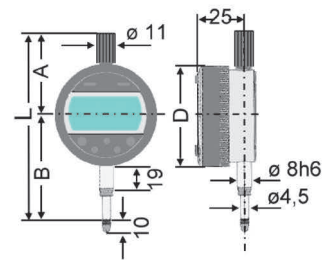
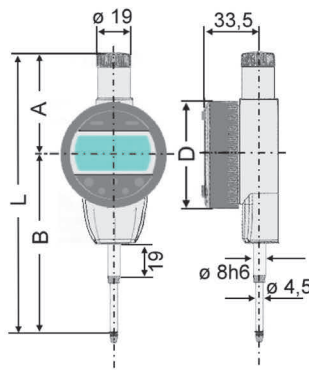
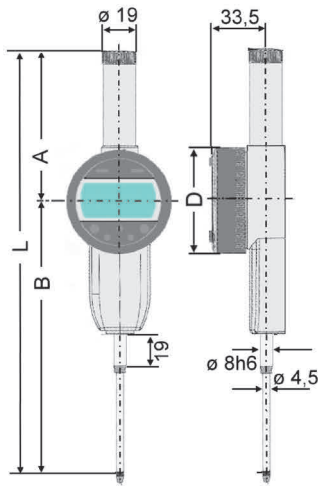
ART N° 240280

ART N° 240281

ART N° 240282



from up 25 mm
incl. lifting device



ART N°	mm / inch	mm / inch	mm	max. mm	L mm	A mm	B mm	D mm	€	EURO CC
240280	12.5 / 0.5	0.01 / 0.0005	0.002	0.01	129.2	60.2	69	60.1	155.85	19.50
240285	12.5 / 0.5	0.001 / 0.00005	0.002	0.004	129.2	60.2	69	60.1	215.24	19.50
240281	25.0 / 1.0	0.01 / 0.0005	0.002	0.01	159.2	57.7	101.5	60.1	239.14	19.50
240286	25.0 / 1.0	0.001 / 0.00005	0.002	0.004	159.2	57.7	101.5	60.1	280.61	19.50
240282	50.0 / 2.0	0.01 / 0.0005	0.002	0.015	236.2	83.7	152.5	60.1	289.89	26.00
240287	50.0 / 2.0	0.001 / 0.00005	0.002	0.005	236.2	83.7	152.5	60.1	386.15	26.00

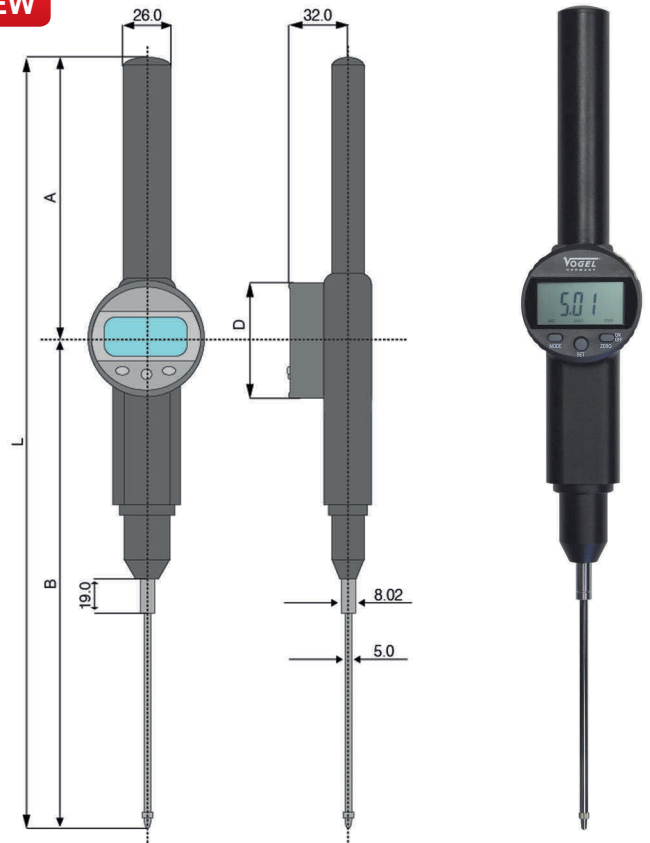
„Absolute“ Electr. Digital Dial Indicator • IP54

NEW

- top model for industry purposes
- with optical tolerance alarm
- with data output
- spray water proof, acc. to 40050 / IEC 60529
- mechanical parts in stainless steel, hardened, IP51 protected
- housing IP54 protected, front plate made of plastic
- large LCD display with clear reading, 10 mm digit height
- On/Off button, with tolerance presetting and display for tolerance range
- ORIGIN/ABS/INC-system
- mm/inch switchable
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual

Option

- data transfer via cable, art.-no.: 2420192, see page 334



ART ^N °	mm / inch	mm / inch	mm	mm	L mm	A mm	B mm	D mm	€	EURO CC
240270	100 / 4.0	0.01 / 0.0005	0.002	0.01	405.0	150.0	255.0	50.0	421.09	37.00

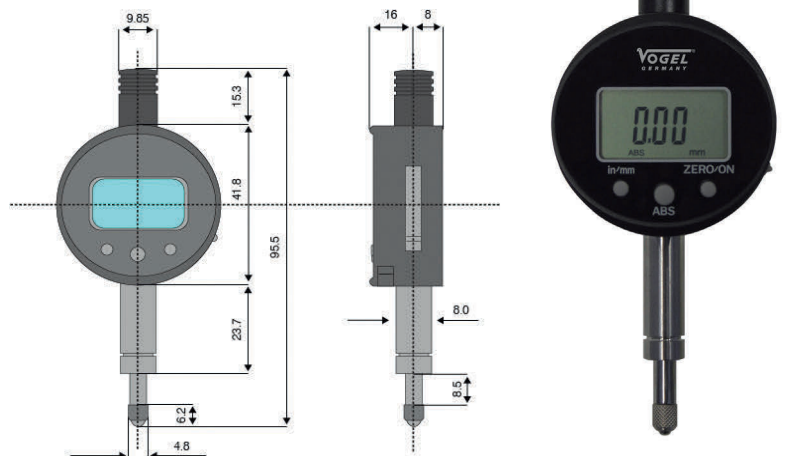
Electr. Digital Small Dial Indicator • IP40

NEW

- with data output
- mechanical parts in stainless steel, hardened
- housing made of aluminium, front plate made of plastic
- LCD display with clear reading, digit height 8 mm
- On/Off button, ABS/INC measurement system
- mm/inch switchable, +/- pre-select value, PRESET
- switchable measuring direction
- incl. 1x 3 V battery (type CR1632, art.-no.: 90101), incl. operation manual

Option

- data transfer via cable, art.-no.: 2420192, see page 334



Display

ART ^N °	mm / inch	mm / inch	mm	mm	€	EURO CC
240235	5.0 / 0.2	0.01 / 0.0005	0.02	0.01	60.81	19.50

Sylvac • Electr. Digital Indicators S_Dial Work, Advanced • IP67

NEW

ART N° 240292

• with proximity data output

- robust structure
- water and coolant resistant, protection class IP67 acc. to IEC 60529
- aluminium case, rotating display over 270°
- LCD display with clear reading, with integrated LEDs tolerances, 10 mm digit height
- automatic wake-up and sleeping mode (Absolute System S.I.S)
- broad choice of functions (MIN / MAX / DELTA, TOL, factor, PRESET, AUTO, OFF etc.)
- data output via cable Proximity to USB or RS232
- mm/inch switchable, measuring direction reversible
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operating manual

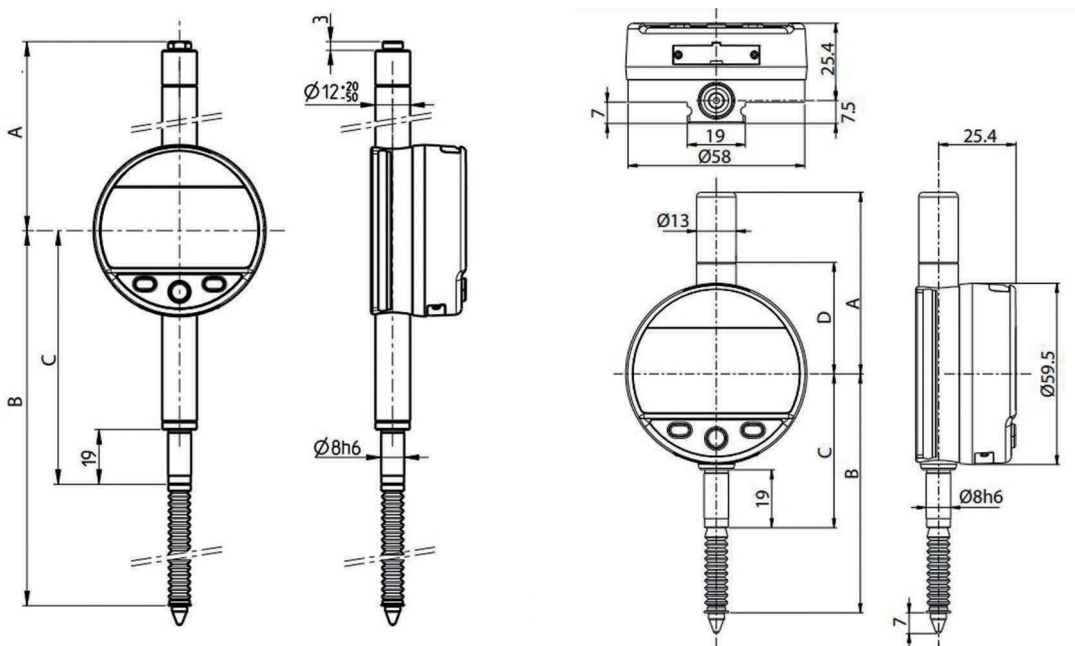
Options

- data output via cable, Proximity – USB, art.-no.: 2023101, see page 334
- data output via cable, Power – USB, external power, art.-no.: 2424101, see page 334

ART N° 240290



Data cables for digital measuring instruments you will find on page 334



ART N°	mm / inch	mm / inch	mm	mm	A mm	B mm	C mm	D mm	€	EURO CC
240290	12.5 / 0.5	0.001 / 0.00005	0.002	0.003	59.6	78.4	50.5	36.3	537.13	19.50
240291	25.0 / 1.0	0.001 / 0.00005	0.002	0.004	85.4	99.7	50.5	49.4	595.07	19.50
240292	50.0 / 2.0	0.001 / 0.00005	0.002	0.005	104.4	175.3	88.0	—	1023.56	26.00

Precision Digital Dial Indicators

Sylvac • Electr. Digital Indicators S_Dial Work, Advanced • IP54

NEW

ART N° 240297

• with integrated Bluetooth® technology

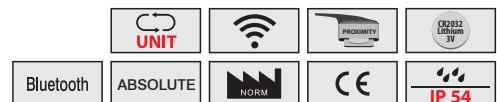
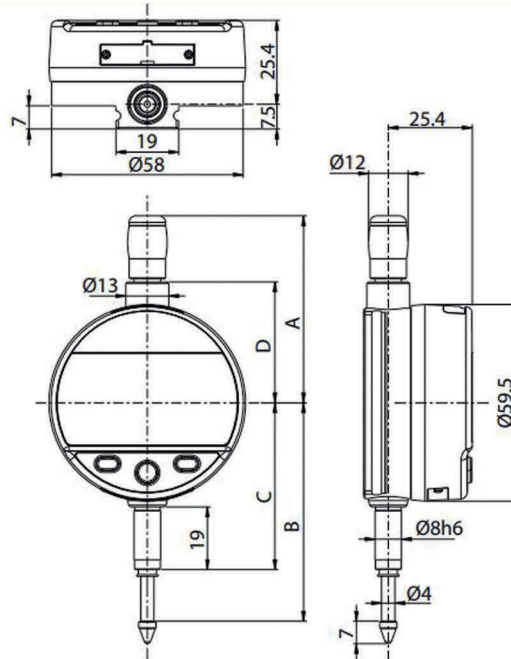
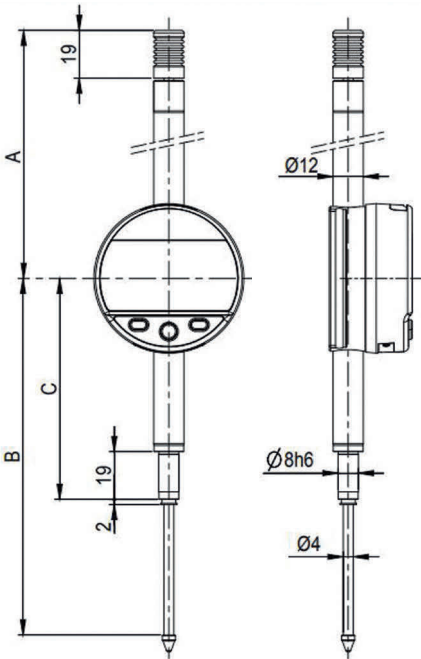
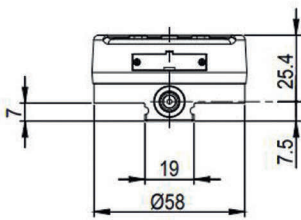
- robust structure
- aluminium case, rotating display over 270°
- LCD display with clear reading, with integrated LEDs tolerance LEDs, 10 mm digit height
- automatic wake-up and sleeping mode (Absolute System S.I.S)
- broad choice of functions (MIN / MAX / DELTA, TOL, factor, PRESET, AUTO, OFF etc.)
- data output via Bluetooth® or cable Proximity to USB or RS232
- mm/inch switchable, measuring direction reversible
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual

ART N° 240295



Options

- data output via cable, Proximity – USB, art.-no. 2023101, see page 334
- data output via cable, Power – USB, external power, art.-no.: 2424101, see page 334
- data output via Bluetooth®, art.-no.: 2023106S, see page 334



ART N°	mm / inch	mm / inch	mm	mm 1 Digit	A mm	B mm	C mm	D mm	€	EURO CC
240295	12.5 / 0.5	0.001 / 0.00005	0.002	0.003	56.7	66.1	50.5	36.3	601.10	19.50
240296	25.0 / 1.0	0.001 / 0.00005	0.002	0.004	69.4	78.5	50.5	49.4	639.73	19.50
240297	50.0 / 2.0	0.001 / 0.00005	0.002	0.005	121.0	142.0	88	—	1083.91	26.00
240298	100.0 / 4.0	0.001 / 0.00005	0.002	0.006	172.0	244.0	139	—	1333.77	37.00

Electr. Digital Small Dial Indicators

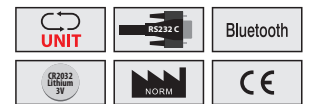
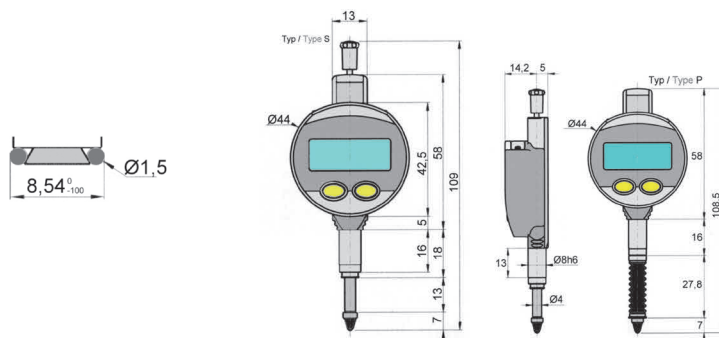
NEW

- dial indicators „type P“ water and coolant proof acc. to DIN 40050 / IEC 60529 (IP67)
- with Sylvac electronic
- with data output RS232 „Power“
- with integrated Bluetooth® technology

- mechanical parts in stainless steel, hardened
- housing and front plate made of polyamide
- LCD display with clear reading, digit height 6 mm
- autom. On/Off switching, zero setting at any position
- hold function, absolute and relative mode, pre-select value
- mm/inch switchable, reversal of the measuring device
- with dovetail guide at the back
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual

Options

- data output via cable, Proximity – USB, art.-no. 2023101, see page 334
- data output via cable, Power – USB, external power, art.-no.: 2424101, see page 334
- data output via Bluetooth®, art.-no.: 2023106S, see page 334



ART N°	mm / inch	mm / inch	mm	mm 1) 1 Digit	type P protected	type S standard	measuring force N	€	EURO CC
240230	0 – 12.7 / 0 – 0.5	0.01 / 0.0005	0.002	1) 0.010	✓	—	0.60 – 1.30	430.03	19.50
240231	0 – 12.7 / 0 – 0.5	0.01 / 0.0005	0.002	1) 0.010	—	✓	0.50 – 0.90	405.56	19.50
240232	0 – 12.7 / 0 – 0.5	0.001 / 0.00005	0.002	0.004	✓	—	0.60 – 1.30	566.50	19.50
240233	0 – 12.7 / 0 – 0.5	0.001 / 0.00005	0.002	0.004	—	✓	0.50 – 0.90	543.33	19.50

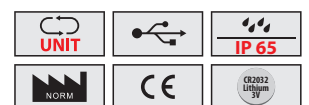
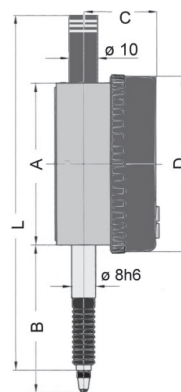
Electr. Digital Dial Indicators • IP65

- water and coolant proof acc. to DIN 40050 / IEC 60529
- with mini USB data output

- mechanical parts in stainless steel, hardened
- housing made of aluminium, front plate made of plastic
- LCD display with clear reading, digit height 11mm
- On/Off button, ABS/INC measurement system
- zero setting at any position, ± pre-select value, PRESET
- mm/inch switchable
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual

Options

- spare rubber sleeve (art.-no.: 249915)
- data transfer via cable for art.-no.: 242140, art.-no.: 2420192, see page 334



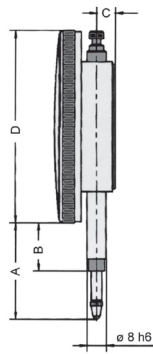
ART N°	mm / inch	mm / inch	mm	mm 1) 1 Digit	A mm	B mm	C mm	D mm	L mm	€	EURO CC
242140	12.5 / 0.5	0.01 / 0.0005	0.02	1) 0.010	59	65	30	59.5	145	69.76	19.50
242150	12.5 / 0.5	0.001 / 0.00005	0.004	0.003	59	65	30	59.5	145	156.95	19.50

Precision Dial Indicators

Small Dial Indicators

workshop grade

- standard quality
- e.g. for workshop use
- metal housing, matt chrome finish
- spindle and stem stainless and hardened
- with turnable scale by outer ring, for easy zero setting



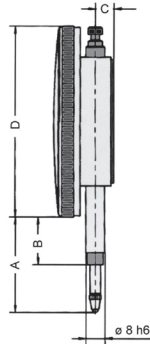
ART NO	mm	mm	yes		mm	A mm	B mm	C mm	D-ø mm	€	EURO CC
			yes	no							
241001	0 – 3	0.01	—	X	0.5	28	14	8.2	45	30.78	19.50
241002	0 – 5	0.01	—	X	0.5	28	14	8.2	45	30.07	19.50

Käfer • Small Dial Indicators

DIN 878 / workshop grade

- sturdy design, for workshop use and calibration purposes

- solid brass housing, matt chrome finish
- spindle and stem stainless, hardened and lapped
- adjustable tolerance fingers
- from up 0.001 mm reading in workshop grade
- with turnable scale by outer ring, for easy zero setting



ART NO	mm	mm	yes		mm	A mm	B mm	C mm	D-ø mm	€	EURO CC
			yes	no							
240001	0 – 3	0.01	—	X	0.5	28.5	14	7.3	40	40.86	19.50
240002	0 – 5	0.01	—	X	0.5	28.5	14	7.3	40	40.86	19.50
240003	0 – 1	0.001	—	X	0.2	28.5	14	7.3	40	112.63	19.50
240121	0 – 3	0.01	✓	—	0.5	28.5	14	7.3	40	50.47	19.50
240122	0 – 5	0.01	✓	—	0.5	28.5	14	7.3	40	50.47	19.50
240123	0 – 1	0.001	✓	—	0.2	28.5	14	7.3	40	120.17	19.50

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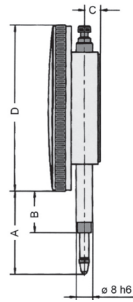
Any questions?

We are pleased to advise.

Dial Indicators

workshop grade

- standard quality
- e.g. for workshop use
- solid brass housing, matt chrome finish, adjustable tolerance fingers
- spindle and stem stainless steel and hardened
- with turnable scale by outer ring, for easy zero setting



ART No 241131



ART No 241101



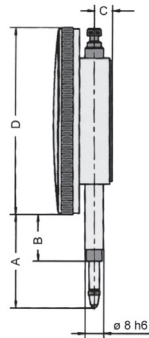
ART No	mm	mm			mm	A mm	B mm	C mm	D-ø mm	€	
			yes	no							
241101	0 – 10	0.01	—	X	1	43.0	22.0	8.2	57	34.18	19.50
241103	0 – 1	0.001	—	X	0.2	33.5	22.0	8.0	57	53.74	19.50
241131	0 – 10	0.01	✓	—	1	43.0	22.0	8.2	57	49.05	19.50

Dial Indicators

DIN 878

- top quality, for the workshop and inspection room

- metal housing, matt chrome finish
- spindle and stem stainless steel and hardened
- adjustable tolerance fingers
- with flat backcover and backcover with lug
- with turnable scale by outer ring, for easy zero setting



ART No 241118



ART No 241119



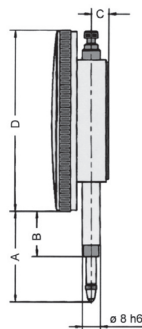
ART No	mm	mm			mm	A mm	B mm	C mm	D-ø mm	€	
			yes	no							
241118	0 – 10	0.01	—	X	1	40	19.5	8	60	40.44	19.50
241119	0 – 10	0.01	✓	—	1	40	19.5	8	60	39.62	19.50

Käfer • Dial Indicators

DIN 878

- sturdy design, for workshop use and calibration purposes

- solid brass housing, matt chrome finish
- stem and spindle stainless steel, hardened and lapped
- adjustable tolerance fingers, from 0.001 mm with factory accuracy
- with turnable scale by outer ring, for easy zero setting



ART No	mm	mm			mm	A mm	B mm	C mm	D-ø mm	€	
			yes	no							
240101	0 – 10	0.01	—	X	1	40	18.5	7.5	58	34.51	19.50
240103	0 – 1	0.001	—	X	0.2	40	18.5	7.5	58	107.82	19.50
240106	0 – 5	0.001	—	X	0.2	40	18.5	7.5	58	114.95	19.50
240131	0 – 10	0.01	✓	—	1	40	18.5	7.5	58	40.50	19.50
240133	0 – 1	0.001	✓	—	0.2	40	18.5	7.5	58	121.69	19.50

Precision Dial Indicators

Accessories for Dial Indicators
can be found on page 168 – 169

Käfer • Dial Indicators

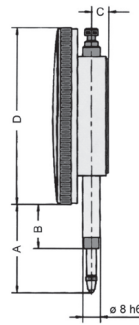
DIN 878

- with comparator measuring
- for very accurate comparative measurements
- contrary to tooth wheel system, the spindle travel is expanded by a lever, due to the lever transmission the hysteresis can kept very small

- solid brass housing, matt chrome finish
- stem and spindle stainless, hardened and lapped
- adjustable tolerance fingers
- with turnable scale by outer ring, for easy zero setting

ART N° 240004

ART N° 240005



DIN

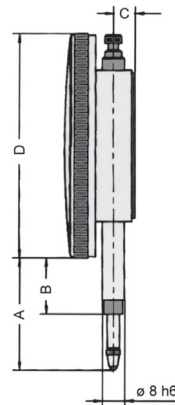
ART N°	mm	mm			mm	A mm	B mm	C mm	D-ø mm	€	
			yes	no							
240004	0 – 1.0	0.001	✓	—	0.1	28	14	7.5	40	185.81	19.50
240005	0 – 1.0	0.001	✓	—	0.1	40	18.5	8.5	58	183.08	19.50
240006	0 – 0.08	0.001	✓	—	—	28	14	7.5	40	136.03	19.50
240007	0 – 0.08	0.001	✓	—	—	40	18.5	8.5	58	153.99	19.50
240008	0 – 1.0	0.002	✓	—	0.1	28	14	7.5	40	153.99	19.50
240009	0 – 1.0	0.002	✓	—	0.1	40	18.5	8.5	58	172.53	19.50

Dial Indicator

high workshop grade

- for large measuring ranges
- concentric millimeter scale

- metal housing, matt chrome finish, adjustable tolerance fingers
- stem and spindle stainless and hardened
- with turnable scale by outer ring, for easy zero setting
- with flat backcover and backcover with lug
- incl. calibration certificate



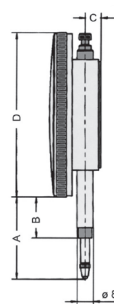
ART N°	mm	mm			mm	A mm	B mm	C mm	D-ø mm	€	
			yes	no							
241121	0 – 30	0.01	—	X	1	60	22.5	8	60	61.09	19.50

Käfer • Dial Indicators

DIN 878 / workshop grade

- with left turning pointer, for depth measurement with measuring bridge

- solid brass housing, matt chrome finish
- stem and spindle stainless, hardened and lapped
- adjustable tolerance fingers
- with turnable scale by outer ring, for easy zero setting
- art.-no. 240108 in workshop grade only



ART N° 240107

ART N° 240108

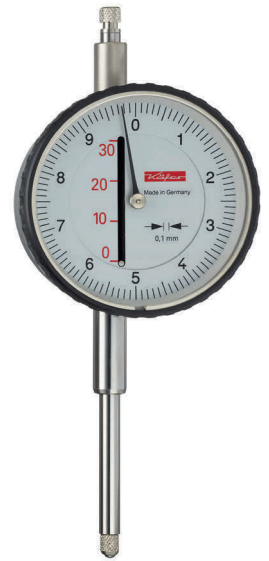
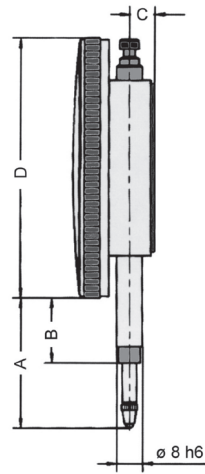


DIN

ART N°	mm	mm			mm	A mm	B mm	C mm	D-ø mm	€	
			yes	no							
240107	0 – 10	0.01	—	X	1	40	18.5	7.5	58	58.61	19.50
240108	0 – 30	0.01	—	X	1	60	18.5	7.5	58	107.38	19.50

Käfer • Dial Indicators

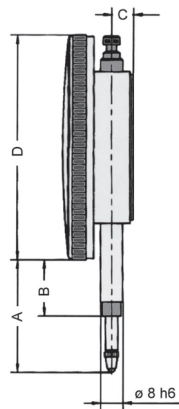
- instead of a revolution counter, this dial indicator has a linear scale
- the stem is fitted 3.5 mm out of the middle
- solid brass housing, matt chrome finish
- stem and spindle stainless, hardened and lapped
- without adjustable tolerance fingers
- with turnable scale by outer ring, for easy zero setting



ART N°	mm	mm			mm	A mm	B mm	C mm	D-ø mm	€	
			yes	no							
240030	0 – 30	0.1	—	X	10	60	18.5	7.5	58	55.36	19.50
240031	0 – 50	0.1	—	X	10	97.5	18.5	7.5	58	142.60	26.00

Käfer • Dial Indicators

- with concentric millimeter scale
- solid brass housing, matt chrome finish
- stem and spindle stainless, hardened and lapped
- adjustable tolerance fingers
- with turnable scale by outer ring, for easy zero setting



ART N° 240102



ART N° 240134



ART N°	mm	mm			mm	A mm	B mm	C mm	D-ø mm	€	
			yes	no							
240102	0 – 30	0.01	—	X	1	60	18.5	7.5	58	90.47	19.50
240104	0 – 50	0.01	—	X	1	97.5	36.5	7.5	58	136.68	26.00
240105	0 – 100	0.01	—	X	1	178	65.5	8.5	80	363.13	37.00
240110	0 – 100	0.01	—	X	1	147.5	56.5	7.5	58	356.69	37.00
240111	0 – 10	0.01	—	X	1	40	18.5	7.5	58	59.17	19.50
240132	0 – 30	0.01	✓	—	1	60	18.5	7.5	58	99.82	19.50
240134	0 – 50	0.01	✓	—	1	97.5	36.5	7.5	58	148.37	26.00
240135	0 – 80	0.01	✓	—	1	147.5	56.5	7.5	58	290.05	37.00

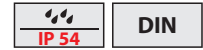
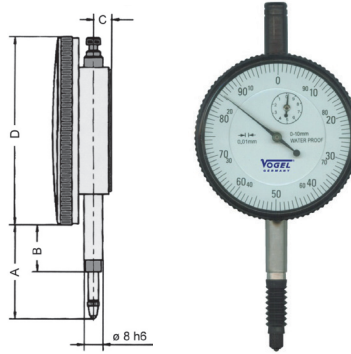
Precision Dial Indicators

Dial Indicator • IP54

DIN 878

- splash water resistant acc. to DIN 40050 / IEC 60529

- metal housing, matt chrome finish
- stem and spindle stainless and hardened, with rubber sleeve
- with turnable scale by outer ring, for easy zero setting



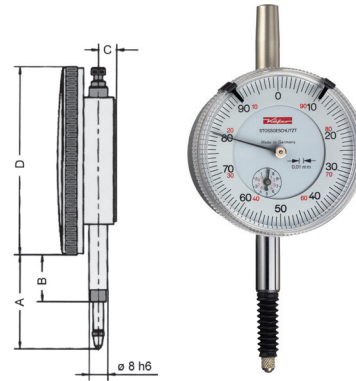
ART No	mm	mm			mm	A mm	B mm	C mm	D-ø mm	€	EURO CC
			yes	no							
241142	0 – 10	0.01	—	X	1	46	20	8	55.5	42.12	19.50

Käfer • Dial Indicators • IP53

DIN 878

- drip water proof acc. to DIN 40050 / IEC 60529

- solid brass housing, matt chrome finish, stem with rubber sleeve
- stem and spindle stainless, hardened and lapped
- adjustable tolerance fingers, shadowfree flat glass, perfect sealed by O-rings
- with turnable scale by outer ring, for easy zero setting
- version 0.001 mm reading is acc. to workshop grade



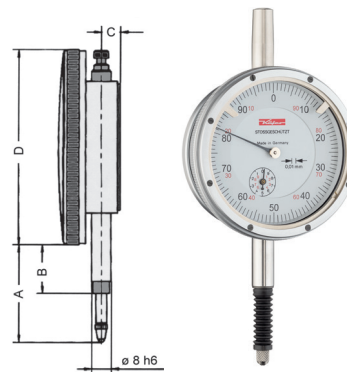
ART No	mm	mm			mm	A mm	B mm	C mm	D-ø mm	€	EURO CC
			yes	no							
240141	0 – 10	0.01	✓	—	1	47	18.5	8	58	90.33	19.50
240142	0 – 3	0.01	✓	—	0.5	33	11.6	8	41	81.83	19.50
240143	0 – 1	0.001	✓	—	0.2	47	18.5	8	58	156.92	19.50
240144	0 – 1	0.001	✓	—	0.2	33	11.6	8	41	146.16	19.50

Käfer • Dial Indicators • IP67

DIN 878

- water-, coolant and oil tight acc. to DIN 40050 / IEC 60529

- solid brass housing, matt chrome finish, stem with rubber sleeve
- stem and spindle stainless, hardened and lapped
- adjustable tolerance fingers, shadowfree flat glass, perfect sealed by O-rings
- with turnable scale by outer ring, for easy zero setting
- version with 0.001 mm and 0.002 mm reading are acc. to workshop grade

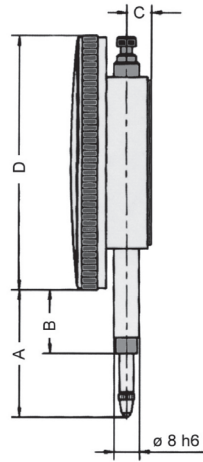


ART No	mm	mm			mm	A mm	B mm	C mm	D-ø mm	€	EURO CC
			yes	no							
240151	0 – 10	0.01	✓	—	1	45.5	16.7	9.3	61.5	107.72	19.50
240152	0 – 3	0.01	✓	—	0.5	33	11.6	9.3	44.5	89.66	19.50
240153	0 – 1	0.001	✓	—	0.2	45.5	16.7	9.3	61.5	168.82	19.50
240154	0 – 1	0.002	✓	—	0.2	33	11.6	9.3	44.5	122.21	19.50

Käfer • Dial Indicators

DIN 878

- with magnetic backside
- solid brass housing, matt chrome finish
- stem and spindle stainless, hardened and lapped
- adjustable tolerance fingers
- with turnable scale by outer ring, for easy zero setting

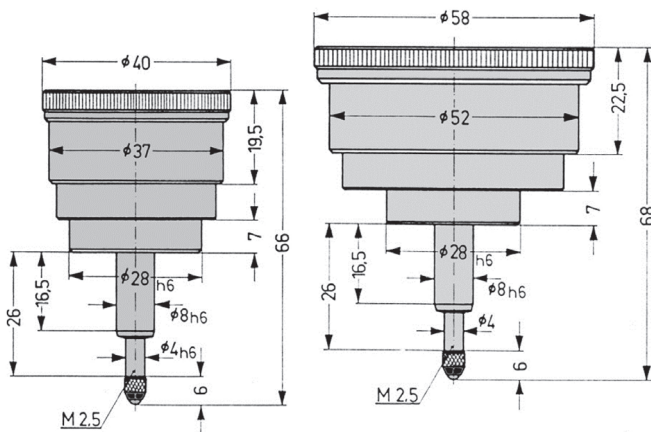


ART No	mm	mm	mm		A mm	B mm	C mm	D-ø mm	€	EURO CC
			yes	no						
240001-1	0 – 3	0.01	—	X	28	14	25	40	108.05	19.50
240101-1	0 – 10	0.01	—	X	40	18.5	25	58	104.03	19.50
240121-1	0 – 3	0.01	✓	—	28	14	25	40	82.92	19.50
240131-1	0 – 10	0.01	✓	—	40	18.5	25	58	92.44	19.50

Käfer • Dial Indicators

- with probe in the center of the back plate
- especially for measuring in appliances and tool engineering

- solid brass housing, matt chrome finish
- stem and spindle stainless, hardened and lapped
- adjustable tolerance fingers
- with turnable scale by outer ring, for easy zero setting



ART No	mm	mm	mm	number of pointers	housing-ø	€	EURO CC
240020	0 – 3	0.01	1.0	2	58	101.51	19.50
240021	0 – 5	0.01	1.0	2	58	106.86	19.50
240023	0 – 3	0.01	0.5	2	40	101.51	19.50
240024	0 – 5	0.01	0.5	2	40	106.86	19.50

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Besides a wide range of products which offer the right solution for every application, Vogel Germany is a service oriented company that is also powerful in consulting, training and logistics.

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Vogel Germany

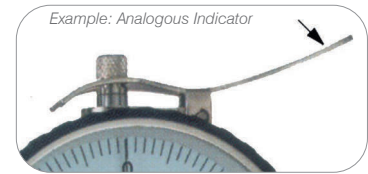
- ✓ offers best customer service
- ✓ belongs to the strong Fervi Group
- ✓ offers quality Made in Germany

VOGEL
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Measuring Solutions

Accessories for Dial Indicators

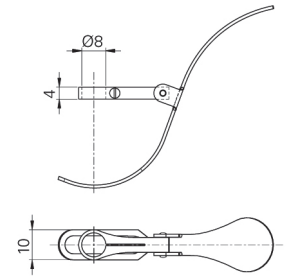
Spindle Lifting Lever

- for our analogous and digital dial indicator
- please choose the suitable lever control according to the art.-no. of our dial indicators



ART N°	€	ART N°	€	ART N°	€	ART N°	€
249997		249997		249998		240998	
Dial Indicator		Dial Indicator		Dial Indicator		Dial Indicator	
240280 – 240287	7.49	240250 + 240255	7.49	241001 + 241002	7.73	240001 – 240003	6.14
—		—		241114 – 241116		240121 – 240123	
—		—		—		240001-1 + 240121-1	

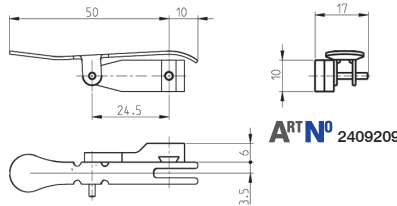
ART N°	€	ART N°	€	ART N°	€	ART N°	€
249992		2409208		2409209		240992	
Dial Indicator		Dial Indicator		Dial Indicator		Dial Indicator	
241101 – 241103	7.50	240230 + 240232	88.52	240231 + 240233	67.59	240101 – 240103	5.25
241118 + 241119		—		—		240106 – 240108	
241121 + 241131		—		—		240111 + 240131-1	
241136 + 241137		—		—		—	



ART N° 2409208

Lifting Device

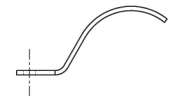
- for our analogous and digital dial indicators
- choose according to our dial indicator art. no. the right lifting device



ART N° 249994



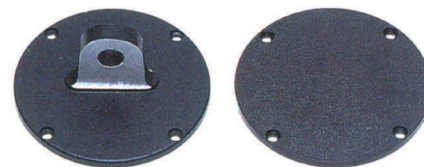
ART N° 2409210



ART N°	€	ART N°	€	ART N°	€	ART N°	€
2409210		249994		249996		2409209	
Dial Indicator		Dial Indicator		Dial Indicator		Dial Indicator	
240230 + 240232	16.09	240251 + 240252	2.28	240800 + 240803	11.79	240231	67.59
—		240256 + 240257		241804		240233	

Backside Cover

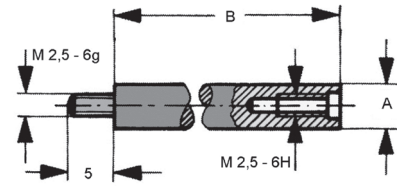
- flat or with lug
- for our analogous and digital dial indicator
- please choose the suitable backside cover according to the art.-no. of our dial indicator



ART N°	€	ART N°	€	suitable for dial indicator	ART N°	€	ART N°	€	suitable for dial indicator
with lug		flat			with lug		flat		
240980	10.35	240981	3.43	240005 • 240007 • 240009 • 240030 • 240031 • 240101 • 240102 • 240103 • 240104 • 240106 • 240107 • 240111 • 240131 • 240132 • 240133 • 240134 • 240135 • 240141 • 240143 • 240151 • 240153 • 240800 • 240803 • 240810 • 240813	249900	7.41	249901	0.92	241101 • 241102 • 241103 • 241131
240982	4.27	240983	3.43	240001 • 240002 • 240003 • 240004 • 240006 • 240008 • 240121 • 240122 • 240123 • 240142 • 240144 • 240152 • 240154	249902	2.48	249903	1.42	241001 • 241002
240984	3.83	240989	2.44	241118 • 241119 • 241121 • 241134 • 241136 • 241137 • 241142	249908	2.24	249909	0.92	241143
240987	1.89	240988	2.84	240230 • 240231 • 240232 • 240233	249990	2.88	249991	1.44	241114 • 241115 • 241116
					249910	1.16	249911	1.33	242055 • 242056 • 242057 • 242060 • 242061 • 242062 • 242063 • 242160 • 242162 • 242163 • 242164 • 242140 • 242150 • 240250 • 240255

Extensions

- for analogous and electr. digital dial indicators



ART N°	length B mm	ø A mm	€
24095010	10	4	5.00
24095020	20	4	5.00
24095030	30	4	5.00
24095040	40	4	5.00
24095050	50	4	5.00
24095060	60	4	6.00
24095070	70	4	6.00
24095080	80	4	6.00
24095090	90	4	6.00
240950100	100	4	6.00

ART N°	length B mm	ø A mm	€
24095110	10	5	5.00
24095120	20	5	5.00
24095130	30	5	5.00
24095140	40	5	5.00
24095150	50	5	5.00
24095160	60	5	6.00
24095170	70	5	6.00
24095180	80	5	6.00
24095190	90	5	6.00
240951100	100	5	6.00

Measuring Bridge for Depth Measurements

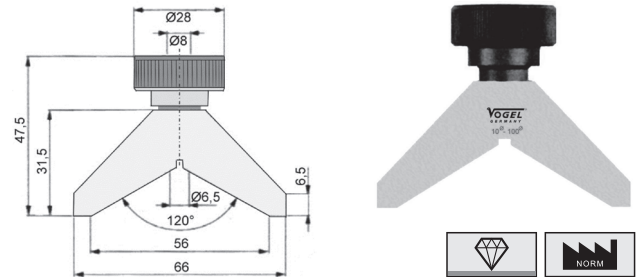
- with extensions rods, as set
- suitable for all analogous or digital dial indicators
- measuring bridge made of steel, hardened, chromed
- stainless steel extensions, with M2.5 inside/outside thread



ART N°	size of measuring bridge mm	sizes of extension rods mm	€
240525	80 (art.-no.: 240511)	10 / 20 / 30 / 40 / 50 / 60 / 70 / 80 / 90	79.30

Measuring Bridge for Depth Measurements

- with prismatic base
- suitable for all analogous or digital dial indicators
- for measuring the depth of keyways in cylindrical shafts, etc.
- made of steel, hardened, matt chrome finish
- measuring surface lapped
- bore-ø 8 H7



ART N°	length of bridge mm	for shafts-ø mm	width mm	€
240520	66 x 16	10 - 100	16	101.65

Measuring Bridge for Depth Measurements

- suitable for all analogous or electr. digital dial indicators
- made of steel, hardened, matt chrome finish or black burnished
- measuring surface lapped, bore-ø 8 H7



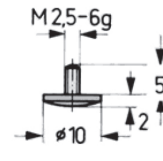
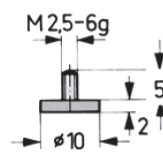
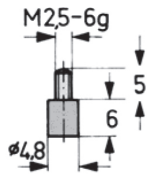
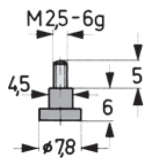
ART N° burnished	€	ART N° chromed	€	length of bridge mm	width mm
240500	35.24	240510	39.99	50	16
240501	42.93	240511	47.74	80	16
240504	48.88	240514	55.33	100	16
240502	56.65	240512	63.70	120	20
240503	68.51	240513	76.14	150	20

Accessories for Dial Indicators

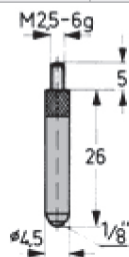
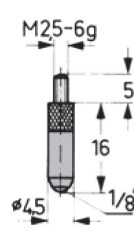
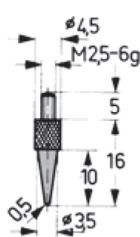
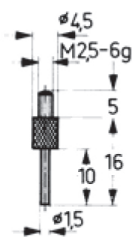
Contact Points

- for analogous and electr. digital dial indicators

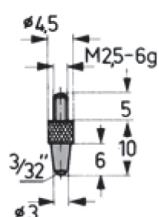
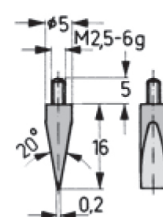
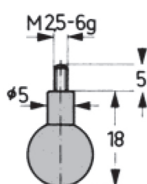
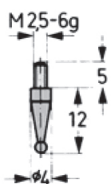
ART NO	€	ART NO	€	ART NO	€	ART NO	€
Steel		Steel		Steel		Steel	
240952	4.12	240953	3.38	240954	3.69	240955	4.83
		Carbide	€	Carbide	€	Carbide	€
		2409531	21.77	2409541	34.82	2409551	74.52



ART NO	€	ART NO	€	ART NO	€	ART NO	€
Steel		Steel		Steel		Steel	
240956	5.62	240957	4.56	240958	2.79	240959	2.79
Carbide	€			Carbide	€	Carbide	€
2409561	18.69			2409581	9.13	2409591	9.49
				Ruby	€	Ruby	€
				2409582	7.62	2409592	7.45

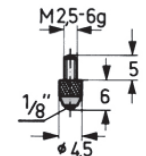
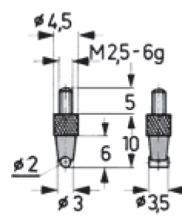
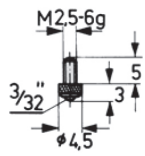
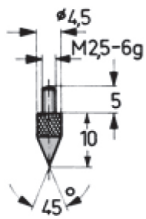


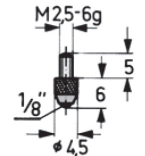
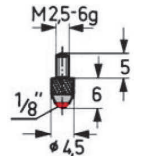
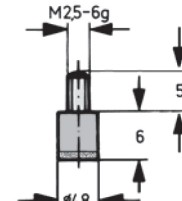
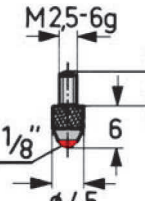
ART NO	€	ART NO	€	ART NO	€	ART NO	€
Steel		Steel		Steel		Steel	
240960	6.08	240961	6.12	240962	7.24	240963	2.71
				Carbide	€	Carbide	€
				2409621	48.15	2409631	9.31



Accessories for Dial Indicators

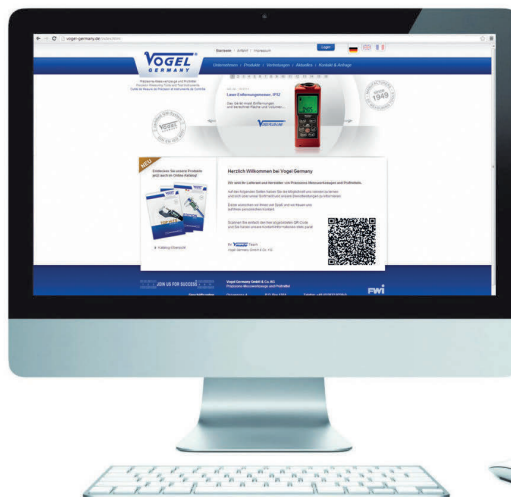
ART NO Steel	€	ART NO Steel	€	ART NO Steel	€	ART NO Steel	€
240964	4.52	240965	1.03	240966	8.15	240967	0.84
ART NO Carbide	€						
2409641	38.79						



ART NO Carbide	€	ART NO Ruby	€	Carbide	Ruby		
2409671	3.95	2409672	5.28				

Explore our **Website.**

www.vogel-germany.de



Any questions?

We are pleased to advise.

Accessories for Dial Indicators

Inside Test Indicators

- without dial indicator
- designed to check small bore holes
- sturdy version, hammer blow lacquered
- suitable for all analogous and digital dial indicators
- bore- \varnothing 8 H7, shaft- \varnothing 8 h6

Angle Test Indicators

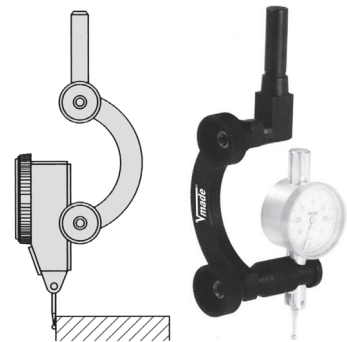
- without dial indicator
- to controll small bores on lathes and various tool machines
- sturdy version, hammer blow lacquered
- suitable for all analogous and digital dial indicators
- bore- \varnothing 8 H7, shaft- \varnothing 8 h6



ART No	measuring depth mm	smallest bore to be measured \varnothing mm	€
240646	60	6	63.57
240647	30	6	65.66

Centering Holders

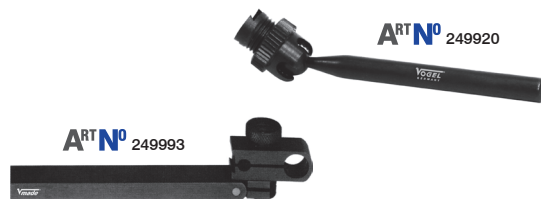
- allows large cylinder diameters or holes to be centered
- suitable for all dial indicators and for dovetail guide
- made of steel, black burnished



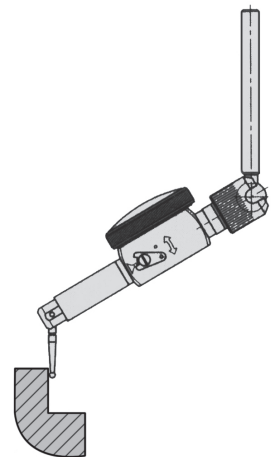
ART No	for bore- \varnothing mm	shaft- \varnothing mm	for dove tail guide	€
240997	4 + 8	8	✓	16.56

Clamp Holders

- suitable for all dial indicators and for dovetail guide
- made of steel, black burnished



ART No	mm	for bore- \varnothing mm	for dovetail guide	€
249993	72 x 12 x 6	4 + 8	✓	11.58
249924	72 x 12 x 6	6 + 8	✓	9.32
249920	\varnothing 6 x 70	—	✓	9.36
249921	\varnothing 8 x 70	—	✓	9.66
249922	76 x 9 x 9	6 + 8	✓	7.86
249923	76 x 9 x 9	4 + 8	✓	7.86



Clamping Shaft

- made of steel, black burnished or stainless steel, polished



ART No	shaft- \varnothing mm	€	ART No	shaft- \varnothing mm	€
240995	4 h6	8.80	240996	8 h6	8.77
240995-1	6 h6	4.66	240996-1	8 h6	5.10
240995-2	4 h6	3.02	—	—	—

Digital Test Indicators, Crankshaft Testing Instruments

Electr. Digital Test Indicator • IP54

NEW

- with data transfer via cable
- mechanical parts in stainless steel, hardened
- aluminium housing, front panel made of polyamide
- LCD display with clear reading, digit height 10 mm, more than 360° moveable
- autom. power off
- mm/inch switchable, selection of measuring direction
- housing with 3 dovetail guides
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112)
- incl. operation manual

Option

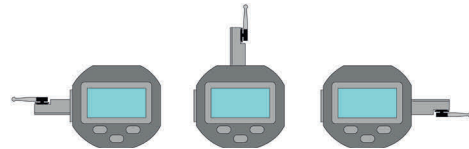
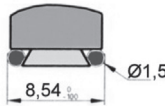
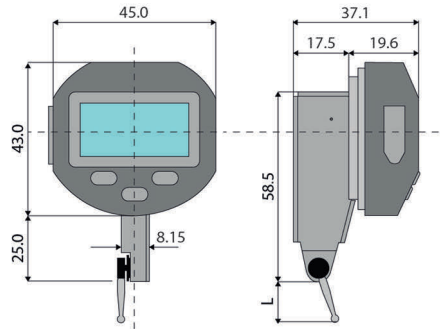
- data transfer via cable, art.-no.: 3420195, see page 334



with digital and graph bar



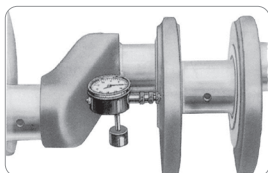
Accessories for our test indicators can be found on page 173



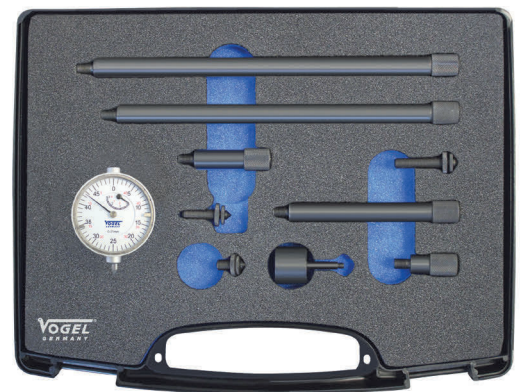
ART No	mm	mm / inch	Measuring range mm / inch	mm	max. mm	Measuring force N	L mm	€	EURO CC
240682	0 – 1.6	0.001 / 0.0001	±0.8 / ±0.03	0.001	0.01	0.07 ± 15%	13.0	135.59	16.50

Crankshaft Testing Instruments

- for testing crankshaft deflections and for the alignment of crankshaft bearings during engine assembly
- used in ship engines, car engines, compressors, etc.



example



ART No	mm	mm	housing-ø of dial indicator mm	€	EURO CC
240162-2	60 – 500	0.01	40	307.68	16.50

Precision Dial Test Indicators

Käfer • Dial Test Indicator

DIN 2270

- for toolmakers, for checking of difference measurement
- to check the parallelism, smoothness and trough running

- solid brass housing, matt chrome finish
- with friction clutch, means shock proof
- housing with dovetail guide
- important bearings machined in ceramic stones
- carbide measuring ball-ø 2 mm, exchangeable
- contact points reverses, always maintaining clockwise
- scale mounted in turnable knurled grip ring

ART N° 240600



form A

ART N° 240601





form B

ART N° 240602



form C

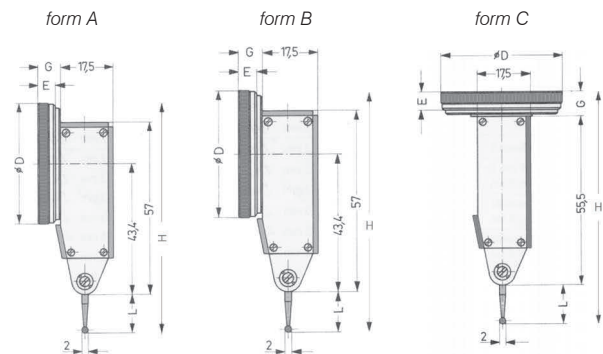
DIN

ART N° form A	€	ART N° form B	€	ART N° form C	€		measuring range mm		L mm	ø D mm	quantity of dovetail guides		EURO CC
											form A+B	form C	
240600	81.03	240601	107.00	240602	107.34	0 – 40 – 0	0.8	0.01	12	32	3	2	16.50
240610	98.67	240611	118.00	240612	120.20	0 – 100 – 0	0.2	0.002	12	32	3	2	16.50
240630	114.58	240631	107.29	240632	102.26	0 – 25 – 0	0.5	0.01	35	32	3	2	16.50
240640	82.93	240641	96.67	240642	96.48	0 – 40 – 0	0.8	0.01	12	40	3	2	16.50
240650	116.97	240651	114.39	240652	110.67	0 – 25 – 0	0.5	0.01	35	40	3	2	16.50
240660	97.26	240661	120.36	240662	122.66	0 – 100 – 0	0.2	0.002	12	40	3	2	16.50

Dimensions of Dial Test Indicators

DIN 2270

article-type	D mm	E mm	G mm	H mm
240600+240610	32	5.6	7.1	69,5
240601+240611	32	5.6	7.7	69,5
240602+240612	32	5.6	7.5	69,5
240630	32	5.6	7.1	69,5
240631	32	5.6	7.7	69,5
240632	32	5.6	7.5	73,5
240640+240660	40	6.0	7.5	73,5
240641+240661	40	6.0	8.1	73,5
240642+240662	40	6.0	7.9	73,5
240650	40	6.0	7.5	73,5
240651	40	6.0	8.1	73,5
240652	40	6.0	7.9	98,4



Dial Test Indicator

- standard quality

- solid brass housing, matt chrome finish
- carbide measuring ball ø 2,5 mm, exchangeable
- contact points reverses, always maintaining clockwise
- scale mounted in turnable knurled grip ring
- incl. clamp holder ø 6 mm + ø 8 mm at art.-no. 246600 until 246660

Accessories for test indicators
can be found on page 173

ART N° 246641





Form A

ART N° 246600



Form A

NORM

ART N°	form		measuring range mm		L mm	ø D mm	quantity of dovetail guides	€	EURO CC
246600	A	0 – 40 – 0	0.8	0.01	13.5	30.0	3	62.86	16.50
246610	A	0 – 100 – 0	0.2	0.002	13.5	30.0	3	98.84	16.50
246640	A	0 – 40 – 0	0.8	0.01	16.5	37.5	3	56.58	16.50
246641	A	0 – 40 – 0	0.8	0.01	43.4	30.0	3	98.84	16.50
246660	A	0 – 100 – 0	0.2	0.002	13.5	37.5	3	98.96	16.50
246661	A	0 – 40 – 0	0.8	0.01	43.4	37.5	3	92.64	16.50

Accessories for Precision Dial Test Indicators

Probes for Dial Test Indicators

- suitable for electr. digital dial test indicators art.-no. 240680 + 240681
- with carbide ball, length 12.5 + 36.5 mm



Probes for Dial Test Indicators

- suitable for dial test indicators art.-no. 240600 – 240662
- with carbide or ruby ball, length 12 + 35 mm



Probes for Dial Test Indicators

- suitable for dial test indicators art.-no. 246600 – 246690
- with carbide ball, length 13.5 mm + 16.5 mm



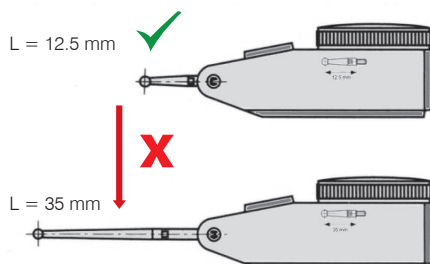
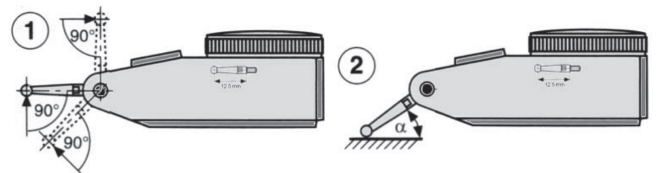
Spanner for Probes



ART N°	€
240999	1.33

Reference to application of Dial Test Indicators

For accurate measurements the axis of the contact point must be perpendicular to the measuring direction (fig.1). If this is not possible, it is necessary to multiply the reading on the dial with a correction factor, which depends on an angle α (fig. 2). The correction factor is negligible for angles below 15°.



Use only the probe whose length is engraved on the housing, please!

angle α	15°	30°	45°	60°
corr.-faktor	0.96	0.87	0.70	0.50
example:				
angle α :	30° (estimated)			
reading on dial:	0.38 mm			
measuring result:	0.38 x 0.87 = 0.33 mm			

Zero Setting Device and Zero Centering Indicators

Electr. Digital Zero Setting Device • IP65

- water- and coolant proof acc. to DIN 40050 / IEC 60529
- with magnet inserts in the bottom
- for setting tools (e.g. end mills) to zero determining the reference point of the machine spindle
- no damage to cutting edge of tool during setting
- sturdy metal housing, black burnished
- LCD display with clear reading, digit height 8 mm
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), and operation manual



example



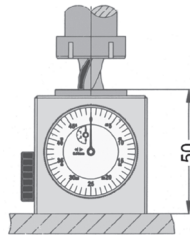
ART N°	mm / inch	spring range of contact plate mm / inch	contact plate-ø mm	mm	€
271010	0.001 / 0.00005	0 – 2.40 / 0 – 0.094	24	ø 50 x 51	83.27

Zero Setter with permanent magnetic base

- to adjust the tools, for example milling tools, to the „0“-position and for to determine the reference point of the machine spindle
- no feeler gauge or starting contact is needed
- no damages at the measuring element and at the work piece

Operational instruction:

- calibrate the zero setter by putting a parallel on the setter and press it against on the spring loaded surface and set the dial gauge at „0“
- put the setter on machine table or workpiece reference surface. Move spindle to bring cutting tool to touch measuring surface and read the dial gauge carefully. When the dial points are at „0“, the distance between tool end and machine table is 50 mm (± 0.01 mm)

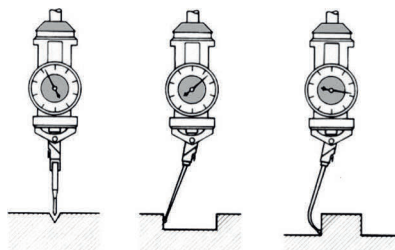


ART N°	mm	spring range of contact plate mm	contact plate-ø mm	total height mm	mm	± mm	€
271052	0.01	0 – 2	32	50	50 x 50 x 50	0.01	175.66

Centering Indicator

- for the central alignment of bores and spindles on tool machines

- with bended and straight probes in different length
- clamping shaft ø 10 mm
- reading 0.01 mm
- accuracy of centering 0.02 mm



ART N° 272011

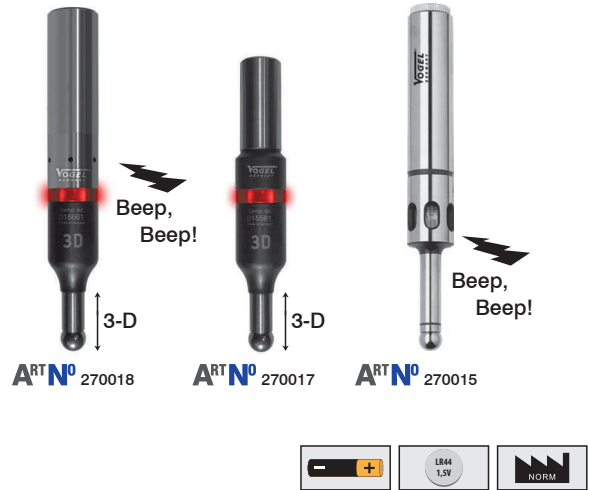
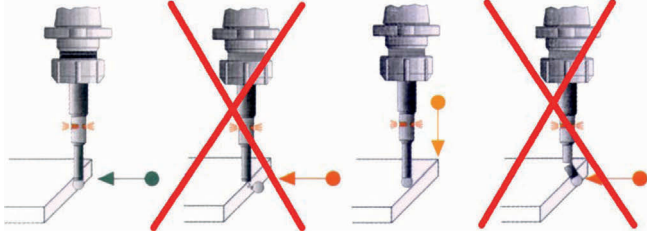


ART N°	mm	mm	Length of straight probes mm	Length of bended probes mm	Length of center probes mm	€
272001	0.01	0 – 3	45, 100, 154	46, 100, 154	52.5	117.92
272011	probes set	—	45, 100, 154	46, 100, 154	52.5	33.01

Edge Finders, 3D-Probes and Spare Part

Edge Finders

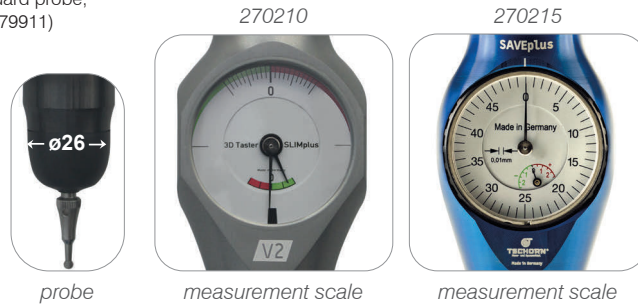
- with LED signal light
- art.-no. 270015 + 270018 with acoustic signal and signal light
- for adjusting basic surfaces or edges
- stainless, hardened, fine ground
- with hardened contact ball



ART No	type	acoustic signal	contact ball-ø mm	clamping shaft-ø mm	mm	€	ART No battery	battery type
270015	2-D	✓	10	20	158	74.52	90008	23 A / 12 V
270017	3-D	—	10	16	111	128.96	90008	23 A / 12 V
270018	3-D	✓	10	20	131	166.67	90008	23 A / 12 V

3D-Probe, with Dial Indicator

- extremely slim and rugged housing
- allows quick and easy determination of workpiece zero points and length
- contact point with predetermined breaking point
- large travel paths, limited by mechanical stops
- solid carbide ball, with standard probe, size $\varnothing 3 \times 27$ mm (art.-no.: 279911)



ART No	type	mm	contact ball-ø mm	clamping shaft-ø mm	mm	€
270210	3-D	-1.5 / 0 / 2	3	12	124	352.09
270215	3-D	-1.5 / 0 / 2	3	12	134	239.13

Probes, as Spare Part

- solid carbide ball



ART No	description	ball-ø mm	mm	€
279911	probe „Standard“	3	27	23.51
279912	probe „Extra“	6	62	38.49

Edge Finders

Edge Finders

- for adjusting basic surfaces or edges

- rotational speed of spindle approx 400 – 600 r.p.m.
- hardened steel, HRC 58

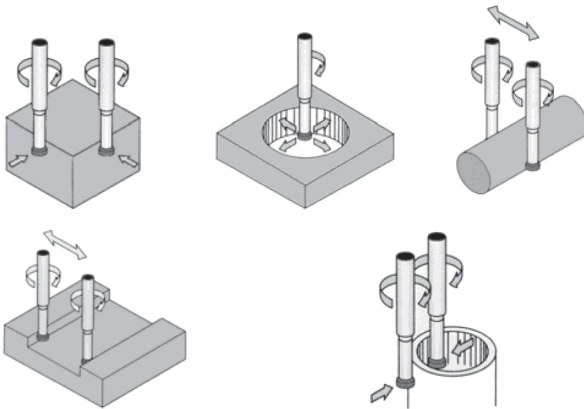
Options


- Spare Part Spring (art.-no.: 270090) for Edge Finder art.-no. 270010 / 270011
- Spare Part Spring (art.-no.: 270091) for Edge Finder art.-no. 270009

ART N° 270011

ART N° 270010

ART N° 270009



ART N° steel, hardened	contact tip-ø mm	clamping shaft-ø mm	 mm	€
270009	6 / 10	10	74	3.72
270010	10	10	84	8.56
270011	4 / 10	10	88	10.05

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Any questions?
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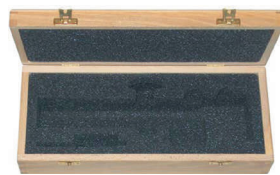
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Universal Magnetic Measuring Stands

- for all kind of measurements in various position
- for professional use
- chromed stem, with fine adjustment
- clamping connection by cross head at art.-no. 250201 + 250203
- with clamping connection by grip clamp at art.-no. 250204
- sturdy magnetic block, On/Off-rotary switch made of aluminium, prismatic base and with a flat ground face backwards
- hammer blow blue lacquered magnetic block
- dial indicator shank \varnothing 8 mm



clamping head at art.-no. 250204



Option 2599201



ART No	total height mm	column \varnothing x length mm	arm length mm	thread mm	magnetic block mm	magnetic power ~ N	€
250201	295	16 x 230	250	M 10	70 x 45 x 65	650	60.61
250203	500	20 x 420	250	M 12	75 x 60 x 80	800	85.53
250204	295	16 x 230	250	M 10	70 x 45 x 65	650	71.23
wooden box with foam insert							
2599201	for art.-no. 250201 + 250204				→ mm ← 345 x 146 x 77		31.62
2599203	for art.-no. 250203				→ mm ← 573 x 146 x 77		46.64

Universal Magnetic Measuring Stands

- for all kind of measurements in various position
- economy model, for simple demands
- chromed stem, with fine adjustment, lacquered magnetic block
- clamping connection by cross head
- sturdy magnetic block, On/Off-switch made of rugged plastic, prismatic base and with a flat ground face backwards
- dial indicator shank \varnothing 4 mm and \varnothing 8 mm



ART No	total height mm	column \varnothing x L mm	arm length mm	thread mm	magnetic block mm	magnetic power ~ N	€
252001	235	12 x 175	140	M 8	65 x 50 x 55	600	20.32
252002	280	16 x 220	200	M 10	65 x 50 x 55	600	26.07

Measuring Stands

Magnetic Measuring Stands

- triple-jointed arm with central mechanical clamping
- particularly for use in hard to reach places
- high-end product with unrestricted mobility
- elocated aluminium column, corrosion-resistant, universal rotating
- with fine adjustment by knurled screw
- sturdy magnetic block
- art.-no. 250301: with On/Off-rotary switch made of aluminium
- hammer blow lacquered magnetic block
- magnetic block with prismatic base and with a flat ground face backwards
- dial indicator shank \varnothing 8 mm and with dovetail for dial test indicators



Option
2599301



ART N°	total height mm	column \varnothing x lenght mm	arm length mm	thread mm	magnetic block mm	magnetic power ~ N	€
250301	430	18 x 370	320	M 10	70 x 45 x 65	650	104.43
wooden box with foam insert							
2599301	for art.-no.: 250301			→ mm ← 307 x 170 x 70			44.12

Magnetic Measuring Stands

- triple-jointed arm with central mechanical clamping
- all joints are clamped with just one twist grip
- ball joints allow a fast and safe positioning
- infinitely adjustable clamping force with high stability
- scratch-resistant, black anodized column
- with fine adjustment by knurled screw
- dial indicator shank \varnothing 6 mm, \varnothing 8 mm and for dove tail clamping
- magnetic base with On/Off-switch
- hammerblow lacquered magnetic base, with prism base



ART N°	total height ~ mm	total length of column ~ mm	arm length ~ mm	thread mm	magnetic block mm	magnetic power ~ N	€
250331	350	295	140	M 8	65 x 50 x 55	800	49.01
250332	440	390	180	M 8	74 x 50 x 55	1000	63.17
250333	695	640	270	M 10	118 x 50 x 55	1300	219.46

Magnetic Measuring Stands

- with central mechanical clamping
 - particularly for use in hard to reach places
 - standard model with unrestricted mobility
- chromed column, corrosion-resistant, universal turnable
 - art.-no. 255001, 250319 and 250320: with sturdy magnetic block, On/Off-switch
 - with prismatic base and with a flat ground face backwards,
 - art.-no. 250300 and 250304 with permanent magnetic base with lacquered magnetic block
 - dial indicator shank \varnothing 8 mm and dovetail for dial test indicators, with fine adjustment
 - art.-no. 250300 and 250320 with shank \varnothing 6 mm and dovetail



ART N°	total height mm	column \varnothing x length mm	arm length mm	thread mm	magnetic block mm	magnetic power ~ N	€
255001	400	10/12 x 345	330	M 8	65 x 50 x 55	600	49.87
250300	105	10/17 x 65	45	M 5	\varnothing 28 x 30	120	18.39
250304	205	8/20 x 175	100	M 5	\varnothing 35 x 30	120	52.22
250319	210	8/20 x 175	100	M 5	36 x 30 x 35	300	52.42
250320	108	10/17 x 65	45	M 5	36 x 30 x 35	300	43,07

Universal Measuring Stands

- with flexible articulated arm
 - particularly for use in hard to reach places
 - with unrestricted mobility
- flexible stem with locking lever, adjustable to any position
 - sturdy magnetic block, On/Off-switch
 - with prismatic base and with a flat and fine ground face backwards
 - with lacquered magnetic block
 - dial indicator shank for \varnothing 10 mm and \varnothing 8 mm adjustable



ART N°	total height mm	column \varnothing x length mm	arm length mm	thread mm	magnetic block mm	magnetic power ~ N	€
251501	395	16 x 340	240	M 8	65 x 50 x 55	600	37.12

Measuring Stands

Universal Magnetic Measuring Stand NEW

- for professional 3-point clamping with just one twist grip
- stable clamping with ergonomically shaped handle
- ball joint in the foot for flexible positioning, with clamping lever
- stable frame with black anodized surface
- with fine adjustment by knurled screw
- dial indicator holder for clamping shanks \varnothing 6 mm, \varnothing 8 mm and dovetail
- tension foot with plastic on / off lever
- tension foot with 4 strong permanent magnetic points, black painted



tension foot with ball joint



tension foot with 4 strong permanent magnetic points

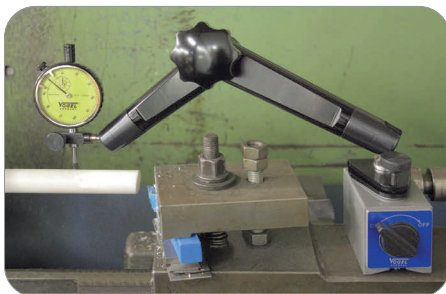


ART N°	total height mm	column- \varnothing x L mm	cross arm- \varnothing x L mm	thread mm	tension foot mm	magnetic force without a protective cap ~ N	€
250120	360	13.5/25 x 135	25/10 x 115	M 8	110 x 70 x 42	320	163.76

Magnetic Measuring Stand NEW

- triple-jointed arm with central mechanical clamping
- ball joints allow a fast and safe positioning
- all joints are clamped with just one twist grip
- with fine adjustment on the magnetic base

- stable frame with black anodized surface
- dial indicator holder for clamping shanks \varnothing 6 mm, \varnothing 8 mm and dovetail
- magnetic base with plastic on / off switch
- hammer blow lacquered magnetic base, with prism base



fine adjustment on the magnetic base



ART N°	total height ~ mm	column- \varnothing x h mm	cross arm- \varnothing x h mm	thread mm	magnetic block mm	magnetic power ~ N	€
250110	350	27/31.5 x 145	24/33 x 150	M 8	65 x 50 x 55	800	107.62
250111	410	28/34 x 180	24/33 x 150	M 8	74 x 50 x 55	1000	121.65

Universal Magnetic Measuring Stand NEW

- for professional 3-point clamping with just one twist grip
- stable clamping with ergonomically shaped handle
- with fine adjustment on the magnetic base
- stable frame with black anodized surface
- dial indicator holder for clamping shanks \varnothing 6 mm, \varnothing 8mm and dovetail
- Magnetic base with plastic on / off switch
- hammer blow lacquered magnetic base, with prism base

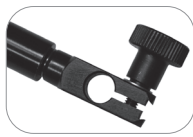
ART N° 250101



ART N° 250102



ART N° 250103



object clamp



stable clamping with rotary handle



fine adjustment at the magnetic base



ART N°	total height mm	column- \varnothing x h mm	cross arm- \varnothing x h mm	thread mm	magnetic block mm	magnetic power ~ N	€
250101	280	10 x 120	8 x 110	M 5	40 x 30 x 35	400	53.79
250102	450	12 x 200	10 x 190	M 8	65 x 50 x 55	800	58.48
250103	550	16 x 260	12 x 225	M 8	75 x 50 x 55	1000	72.51

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Measuring Stands and Magnetic Holder

Measuring Stand, with Vacuum-Base

- triple-jointed arm with central mechanical clamping
- particularly for use in hard to reach places
- high-end product with unrestricted mobility
- elocated aluminium column, corrosion-resistant, universal rotating
- with fine adjustment by knurled screw
- vacuum-base with extrem and permanent vacuum force and with locking lever
- dial indicator shank \varnothing 8 mm and with dovetail for dial test indicators



ART N°	total height mm	column \varnothing x length mm	arm length mm	thread mm	vacuum-base mm	€
250305	395	18 x 370	320	M 8 + M 10	\varnothing 110	102.26

Magnetic Holder

- with flat base
- small and compact instrument suitable for all dial indicator types
- with sturdy, round permanent magnet
- dial indicator shank \varnothing 8 mm



application example



ART N°	total height mm	column- \varnothing mm	arm length mm	\rightarrow mm \leftarrow magnetic base	€
250504	60	16	44	\varnothing 46 x 14	50.21

Mini-Magnetic Measuring Stand NEW

- all joints are clamped with just one twist grip
- swivel joint allow quick and safe positioning
- scratch-resistant, black anodized surface
- dial gauge holder for clamping shanks \varnothing 8 mm
- 360° swivelling
- magnet with fine ground prism (only at art.-no.: 250506)



side view



bottom side with
magnetic prism

ART N° 250506



ART N° 250505



bottom side with
2 magnetic points



ART N°	total height ~ mm	arm length mm	thread mm	magnetic block mm	magnetic power ~ N	€
250505	46	35	M 8	73 x 37 x 12	180	75.50
250506	59	35	M 8	73 x 37 x 26	180	153.81

Magnetic Base

- the thread is eccentrically placed on the surface, so that the magnetic core is protected from smut
- sturdy magnetic block, On/Off-rotary switch from aluminium
- hammer blow blue lacquered
- magnetic block with prismatic base and with a flat ground face backwards



ART N°	thread mm	suitable for art.-no.	→ mm ←	magnetic power ~ N	€
250210	M 10	250201 / 250204 / 250301	70 x 45 x 65	650	31.20
250212	M 12	250203	75 x 60 x 80	800	38.31

Magnetic Base

- sturdy magnetic block, On/Off-switch
- magnetic block with prismatic base and with a flat ground face backwards
- hammer blow lacquered

ART N° 252014



ART N° 252015



ART N° 250310



ART N° 252010



ART N°	thread mm	suitable for art.-no.	→ mm ←	magnetic power ~ N	€
252010	M 8	252001 / 250401 / 251501 / 255001	58 x 50 x 55	800	11.47
252012	M 8	252001 / 250401 / 251501 / 255001 / 250332	74 x 50 x 55	1000	17.60
252014	M 5	250319 / 250320	36 x 30 x 35	300	11.20
252015	M 8	252001 / 250401 / 251501 / 255001	75 x 46 x 54	600	26.32
250310	M 10	250333	118 x 50 x 55	1300	24.46

Vacuum Base

- with powerful suction power
- with locking lever
- solid aluminium dye-cast housing
- with M10 and M8 threads



ART N°	thread mm	suitable for art.-no.	→ mm ←	€
250312	M8 and M10	250305	Ø 90 x 20	19.15

Measuring Stand Columns

Measuring Stand Columns

- with mechanical clamping
- with fine adjustment



ART N°	column ø x length mm	thread mm	suitable for art.-no.	material	shank-ø mm	€
250308	370	M 10	250301 + 250305	aluminium	8 + dovetail	87.79
250314	175	M 5	250304 + 250319	steel, chromed	8 + dovetail	32.91
250316	75	M 5	250300 + 250320	steel, burnished	6 + dovetail	18.82
250341	201	M 8	250331	steel, anodized	6 + 8 + dovetail	30.90
250342	246	M 8	250332	steel, anodized	6 + 8 + dovetail	41.80
250343	568	M 8	250333	steel, anodized	6 + 8 + dovetail	168.43
255008	345	M 8	255001	steel, chromed	8 + dovetail	29.63
259925	150/190	ø 8 x 40	shaft-ø 8 mm	steel, chromed	8 + dovetail	20.83

Measuring Stand Columns

- rigid column
- with fine adjustment



ART N°	column ø x length mm	thread mm	suitable for art.-no.	material	shank-ø mm	€
250205	16 x 230	M 10	250204	steel, chromed	8	32.92
250208	20 x 425	M 12	250203	steel, chromed	8	38.41
250209	16 x 230	M 10	250201	steel, chromed	8	27.44
252008	16 x 220	M 10	252002	steel, chromed	8	12.88
252009	12 x 175	M 8	252001	steel, chromed	8	5.95

Measuring Stand Columns

- flexible tubular steel sections
- with wire-rope tension



ART N°	column ø x length mm	thread mm	suitable for art.-no.	material	shank-ø mm	€
250508	16 x 340	M 8	251501	steel, burnished	6 + 8	23.05

Accessories and Wooden Boxes for Measuring Stands

Accessories for Measuring Stand Columns

ART N°	€	article description
259902	8.69	cross joint for 250201
259903	10.60	cross joint for 250203
259909	4.04	cross joint for 252001
259910	4.39	cross joint for 252002
259906	10.47	grip clamp for 250204 + 251020
259901	7.61	dial indicator shank for 250201 / 250203 + 250204
259911	12.53	dial indicator shank for 250301 / 250302 + 250305 ø 8 + dovetail
259912	8.72	dial indicator shank for 250401 + 255001 ø 8 + dovetail
259904	0.99	spanner M6 for 252001 + 252002
259905	2.36	spanner M8 for 250201 / 250203 + 250204
259908	4.31	spanner M6 for 250304 + 250319



ART N° 259902



ART N° 259906



ART N° 259901



ART N° 259911



ART N° 259912



ART N° 259905



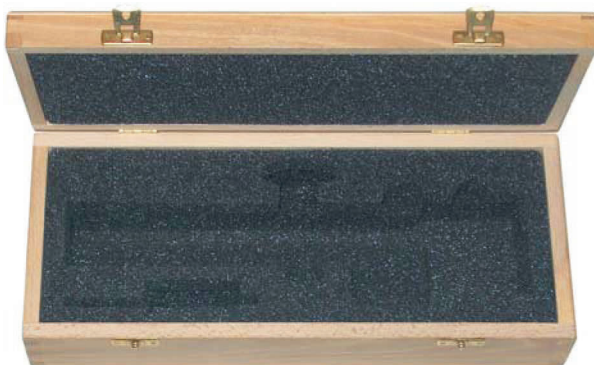
ART N° 259908



ART N° 259904

Wooden Boxes for Measuring Stands

ART N° 2599201



ART N° 2599301



ART N°	→ mm ←	suitable for art.-no.	€
2599201	345 x 146 x 77	250201 + 250204	36.48
2599203	573 x 146 x 77	250203	53.81
2599301	307 x 170 x 70	250301	44.12

Measuring Tables

Measuring Tables

- without dial indicator

- flat measuring table, steel, hardened and ground surface
- chromed column, rigid measuring arm, with fine adjustment
- dial indicator shank \varnothing 8 mm



ART N°	mm	total height mm	description of measuring table		arm length mm	column- \varnothing mm	column- \varnothing mm	€
			flat	serrated				
258011	\varnothing 60	125	✓	—	75	25	0.008	91.70
258013	60 x 60	125	✓	—	75	25	0.008	96.33

Precision Measuring Table

- without dial indicator

- measuring table, steel, hardened and ground surface
- table with dust grooves, dial indicator shank \varnothing 8 mm
- stainless steel column, fine ground
- with adjustable arm



ART N°	mm	total height mm	arm length mm	angle accuracy column/table	column- \varnothing mm	evenness mm	€
258022	60 x 68	100	75	< 0.05°	22	0.002	205.31

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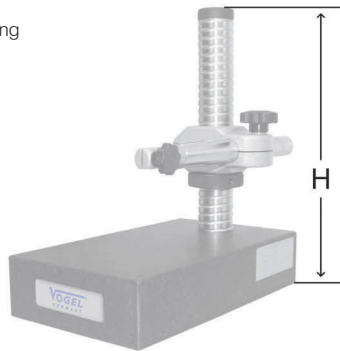
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Precision Measuring Tables

DIN 876/00

- made of black granite
- for the measuring room and calibration laboratory
- measuring surface fine ground and diamond lapped
- hardened column with height adjustment and setting ring
- with adjustable cross arm
- dial indicator shank \varnothing 8 mm



DIN

ART N°	mm table	meas.- height mm	arm length mm	total height (H) mm	column- \varnothing mm	cross arm- \varnothing mm	€
250815	240 x 140 x 50	165	180	270	35	22	441.61
250816	300 x 210 x 60	235	225	360	35	22	557.92
250817	400 x 300 x 70	300	270	450	35	22	693.96

Precision Measuring Tables

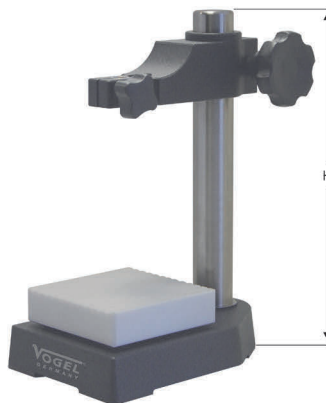
NEW

DIN 876/00

- made of black granite
- for the measuring room and calibration laboratory
- measuring surface fine ground and diamond lapped
- hardened column with height adjustment and setting ring
- with adjustable cross arm
- dial indicator shank \varnothing 8 mm

Option

- cross arm with fine adjustment, art.-no.: 258052



ART N° 258051



DIN

ART N°	mm table	measuring height mm	arm length mm	total height (H) mm	column- \varnothing mm	€
258051	80 x 80 x 20	120	62	205	25	196.01
258052	—	—	62	—	—	69.33



Measuring Solutions

+ Saliger-Gruppe ^{GmbH}

a strong partnership

Vogel Germany and Saliger-Gruppe have agreed on a far reaching cooperation in the procurement and calibration of measuring equipment.

With the new orientation, Vogel Germany is strengthening its offer of having measuring equipment tested in an independent calibration laboratory.

Saliger-Gruppe offers a cross-industry and manufacturer independent DAkkS-accredited calibration service.

In addition to factory calibrations, DAkkS calibrations can now also be offered for the almost complete range of Vogel Germany.

In order to be able to offer its customers an accelerated and simplified process flow, Vogel Germany has chosen this further route of combining calibration service with the procurement of new measuring equipment.

In cooperation with Saliger-Gruppe, the procurement of measuring equipment for the customers of Saliger-Gruppe is taken over by Vogel Germany.

Inquiries can now be submitted to your usual contact person or by email to info@vogel-germany.de or by telephone on +49 2832 9239-0.

Stephan Rex, Managing Director of Vogel Germany:

“We are pleased to have found a new partner in Saliger-Gruppe. The focus of the cooperation is an improved service for all aspects of measuring equipment. This will be reflected above all by a strong simplification in the complex procurement of measuring equipment and its calibration for the customer, as this service is available from a single source now. The Saliger-Gruppe offers a variety of calibration options that Vogel Germany has not been able to offer to this extent before.”

“Looking for a way to redesign our Saliger measuring equipment sales department, we are happy to have entered into close cooperation with Vogel Germany. In times of increased demands on the calibration business, our main concern is to be able to continue to offer our customers a comprehensive range of services. The cooperation with Vogel Germany enables us to concentrate on our core competencies and at the same time to expand the product portfolio for our customers.”

Ulrich Saliger, Managing Director of Saliger-Gruppe:





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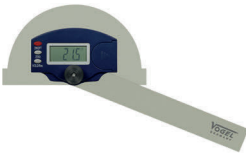



				
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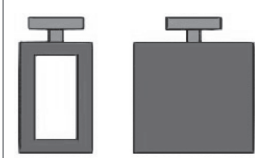

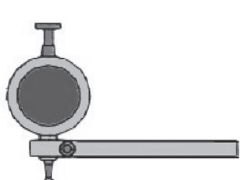














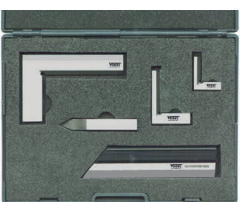
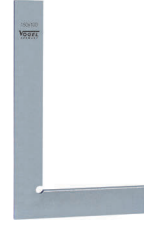

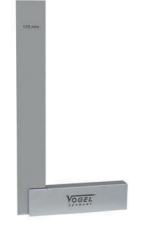



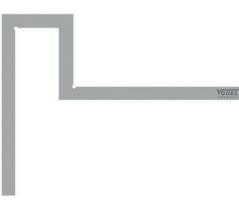

















				
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Dividers, Internal and External Spring Joint Compasses

Spring Divider

DIN 6486

- steel, polished
- square legs, with hardened tips
- with quick nut for quick movement



ART N° 302689
pair of spare needles
€ 0.92

DIN

ART N°	→ ←	€
302420	100	4.59
302421	125	5.75
302422	150	6.98
302423	175	7.05
302424	200	7.86
302425	250	8.62
302426	300	11.09
302427	400	12.24
302428	500	15.31
302429	600	18.37

ART N°	→ ←	€
302680	100	7.56
302681	125	6.00
302682	150	6.63
302683	175	6.45
302684	200	8.00
302685	250	9.94
302686	300	11.74
302687	400	14.28
302688	500	17.36
302689	600	20.53

Internal and External Spring Joint Compass

DIN 6482/6484

- steel, polished
- square legs, with hardened tips
- with quick nut for quick movement
- with fine adjustment



DIN

ART N°	→ ←	€
302440	100	4.60
302441	125	4.96
302442	150	5.67
302443	175	5.42
302444	200	7.45
302445	250	9.30
302446	300	11.09
302447	400	12.24
302448	500	15.31
302449	600	18.37

ART N°	→ ←	€
302460	100	4.32
302461	125	4.95
302462	150	5.94
302463	175	6.66
302464	200	7.45
302465	250	9.30
302466	300	10.77
302467	400	12.25
302468	500	15.31
302469	600	18.37

Dividers, Internal and External Joint Compasses

Divider and Divider with Setting Wing

DIN 6486

- steel, polished
- square legs, with hardened tips
- with rivet



ART N° 302402



ART N° 302412



ART N° 302472

DIN

ART N° Divider		€	ART N° with setting wing		€	ART N° with holder		€
302402	150	6.25	302412	150	6.35	302472	150	10.82
302403	175	7.14	302413	175	8.61	302473	175	13.76
302404	200	7.39	302414	200	8.43	302474	200	8.80
302405	250	9.24	302415	250	9.85	302475	250	16.22
302406	300	12.74	302416	300	12.86	302476	300	15.45
302407	400	13.02	302417	400	14.54	302477	400	16.85
302408	500	16.34	302418	500	18.87	302478	500	21.45

Internal and External Joint Compass

DIN 6482 / 6484

- steel, polished
- with flat legs
- with rivet



ART N° 302432



ART N° 302452

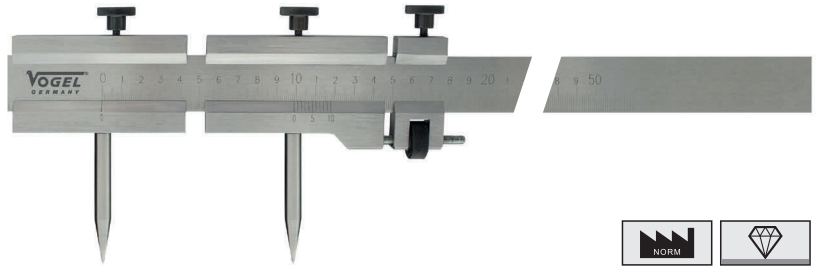
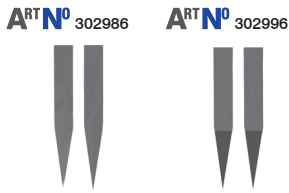
DIN

ART N° Inside Compass		€	ART N° Outside Compass		€
302432	150	2.06	302452	150	2.05
302433	175	2.62	302453	175	2.63
302434	200	3.06	302454	200	5.24
302435	250	3.64	302455	250	3.63
302436	300	7.14	302456	300	4.89
302437	400	10.71	302457	400	10.71
302438	500	13.79	302458	500	13.79

Precision Trammels

Trammel

- steel, with hardened, exchangeable points
- flat beam, with fine adjustment
- with fixing screws



ART No	mm	mm	€
302911	500	0.1	121.82
302912	1000	0.1	162.42
302913	1500	0.1	203.03
302914	2000	0.1	284.24
302915	3000	0.1	415.96

ART No	€	ART No	€
spare points, in pair, hardened	20.30	302996	56.95
302986	20.30	302996	56.95
302986	20.30	302996	56.95
302986	20.30	302996	56.95
302986	20.30	302996	56.95
302986	20.30	302996	56.95

Precision In- and Outside Caliper

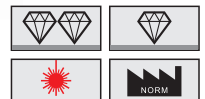
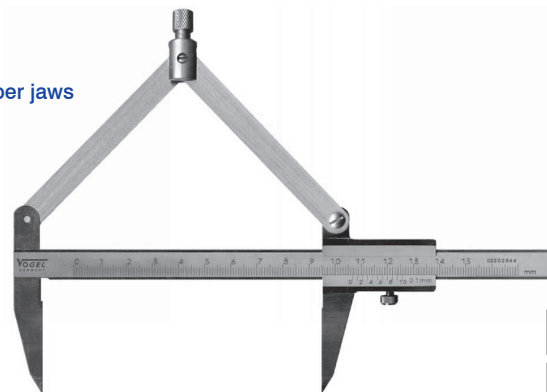
- made of Dur-Aluminium, surface hardened HRC63
- scratch-resistant, black anodized surface
- laser engraved, clear reading scale



ART No	mm	mm	total length mm	€
303306	120	0.1	190	49.52
303307	160	0.1	250	61.90
303308	200	0.1	310	74.28
303309	250	0.1	380	86.66
303310	300	0.1	460	99.04

Compass Vernier Caliper

- for accurate marking owing to parallel position of the scriber jaws
- special steel, reading scale in matt chrome finish
- with fixing screw
- with carbide tips or hardened tips at your choice



ART No	€	ART No	€	mm	for ø mm	mm
hardened tips	56.98	carbide tips	111.54	150	300	0.1
303002	72.06	303102	117.88	200	400	0.1
303003	83.91	303103	121.32	250	500	0.1
303004	94.20	303104	122.56	300	600	0.1
303005		303105				

Electr. Digital Universal Bevel Protractor Set

- with data output
- with 3 blades (150 / 200 / 300 mm), 90° square and angle stop
- stainless steel, hardened and fine ground
- rugged ABS-plastic housing, multifunctional display
- with fine adjustment for easy adjustment and fixing device for the blade
- large LCD display with clear reading
- two display lines, resolution in 1. line with 0.005° and in 2. line with min. 10"
- preset to 360° / 180° / 90°, two measuring directions selectable
- On/Off button, mode-button, set-button, zero setting at any position
- automatic switch off after approx. 5 min
- operation temperature 0°C ~ +40°C, storage temperature -10°C ~ +60°C
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual

Option

- data transfer via cable, art.-no. 2420192, see page 334



90° angled adjustment



angle stop



ART NO	length of blade mm	angle graduation	resolution	max. scale	price	EURO CC
320100	150 / 200 / 300	360° / 2x 180° / 4x 90°	0.005° / 10"	5"	308.08	43.00

Universal Bevel Protractor Set

- set with 3 blades in different length
- stainless, hardened and fine ground
- scales matt chrome finish
- parallaxfree reading by vernier, with large magnifying lens
- with fine adjustment
- incl. 90° angled adjustment (art.-no.: 321275) and angle stop (art.-no.: 321276)

Option

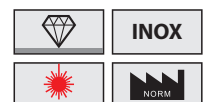
- wooden case (art.-no.: 3299020)



90° angled adjustment



angle stop



ART NO	length of blades mm	angle graduation	resolution	price	EURO CC
321220	150 / 200 / 300 mm	4 x 90°	1/12° = 5"	96.01	43.00

Protractor (Skew Measurer)

- for standard mechanical engineering
- special steel, in chromed finish
- scale in matt chrome finish
- with adjustable blade, with fixing screw

Accessories can be found on page 201

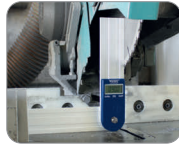
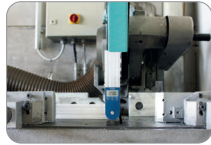


ART NO	length of blades mm	arc-ø mm	angle graduation	price
320571	150	100	10 - 170°	27.73
320572	300	150	10 - 170°	33.67
320573	400	200	10 - 170°	43.58
320574	500	250	10 - 170°	59.42

Protractors, Accessories and Spare Parts for Universal Protractors

Electr. Digital Protractor

- for checking and transferring angles
- large LCD display with clear reading, digit height 10 mm
- blades in anodized aluminium with profile grooves, and embedded magnet strips
- On/Off button and data hold function, with fixing screw
- 180° rotating display, by pressing function button
- zero setting at any position
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), operation manual

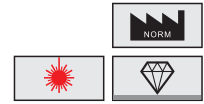


ART N°				length of blades mm		€	EURO CC
320021	0 – 360	0.05	0.3	200 x 200	205 x 45 x 30	60.02	43.00
320022	0 – 360	0.05	0.3	300 x 300	305 x 45 x 30	76.47	43.00

Protractor

- with fixing screw
- with half round plate

- special steel, chromed
- scale matt chrome finish
- double graduation from 0° – 180° in opposite direction



ART N°	length of blades mm	arc-ø mm		€	EURO CC
322541	150	80	0 – 180	14.66	31.00

Spare Parts for Electr. Digital Universal Protractors

- art.-no. 320100

ART N°		€
320101	150	21.82
320102	200	21.82
320103	300	21.82

ART N° 320101

ART N° 320102

ART N° 320103



ART N°	90° angled adjustment		€
321275	60 x 50 / 15 x 4		5.68



ART N° 321275

ART N°	angle stop		€
321276	70/40 x 18 x 4		5.68



ART N° 321276

Protractors and Marking Gauges

Electr. Digital Bevel Protractor

- for high precision accuracy and safety reading

- LCD display with clear reading, digit height 10 mm
- stainless, hardened and fine ground
- On/Off button, with fixing screw
- zero setting at any position, with data hold function
- reading of values in display by 180° switchable
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual



ART No	length of blade mm	arc-ø mm				€	
320201	150	120	0 – 180	0.05	0.3	53.47	31.00
320202	200	150	0 – 180	0.05	0.3	60.60	31.00
320203	300	200	0 – 180	0.05	0.3	65.71	31.00

Protractor (Skew Measure)

- for high precision accuracy and safety reading

- LCD display with clear reading, digit height 10 mm
- stainless, hardened and fine ground
- On/Off button, with fixing screw
- zero setting at any position, with data hold function
- reading of the values in the display from 10° – 170°
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual

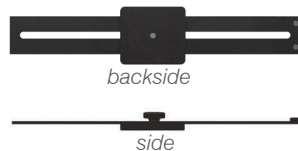


ART No	length of blade mm	arc-ø mm	angle graduation	€	
320581	150	100	10 – 170	101.51	31.00
320582	300	150	10 – 170	128.42	31.00
320583	400	200	10 – 170	155.99	31.00

Marking Gauge

- with flat sliding ruler and marking block
- with fixing screw

- made of Dur-Aluminium, surface hardened HRC63
- scratch-resistant, black anodized surface
- marking block made of steel
- laser engraved, clear reading scale
- vernier reading 0.05 mm



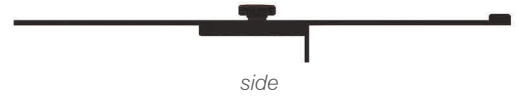
ART No				€
336230	200	0.05	298 x 60 x 16	20.80
336231	250	0.05	348 x 60 x 16	23.06
336233	300	0.05	400 x 60 x 16	23.63




Marking Gauges and Marking Vernier Calipers

Marking Gauge

NEW

- with flat sliding ruler and marking block
- with fitting screw
- made of Dur-Aluminium, surface hardened HRC63
- scratch-resistant, black anodized surface
- with hardened steel marking block, locking screw
- laser engraved, clear reading scale
- marking block 44 mm high

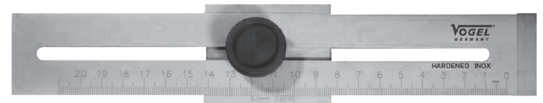





ART N°	 mm	 mm	 mm	€
336260	200	0.05	300 x 60 x 44	26.03
336261	250	0.05	350 x 60 x 44	28.30
336262	300	0.05	400 x 60 x 44	29.00

Marking Gauge

- with flat sliding rule
- with metal fixing screw

- stainless steel blade, with hardened marking block
- laser engraved scale, blade surface matt chrome finish
- with vernier reading 0.1 mm





ART N°	 mm	 mm	 mm	€
336220	200	0.1	260 x 40/50 x 25	19.02
336221	250	0.1	305 x 40/50 x 25	20.59
336223	300	0.1	360 x 40/50 x 25	21.63

Universal Marking Gauge

- with contact-roll
- carbide scriber, exchangeable

- stainless steel, hardened
- laser engraved scale, reading parts in matt chrome finish
- 2nd scriber as spare part included

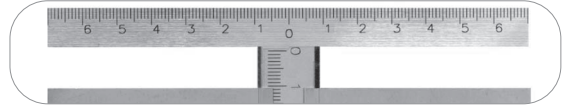
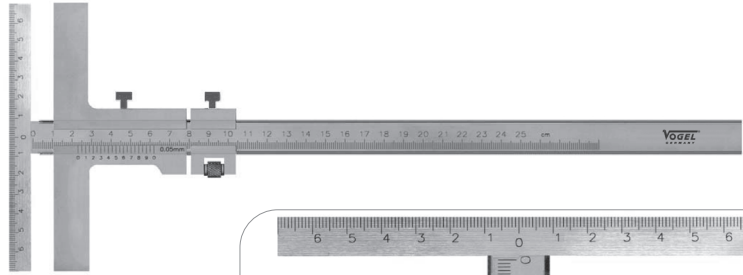
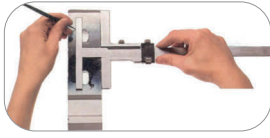


ART N°	 mm / inch	 mm	€	ART N° carbide scriber (spare part)	€
335070	200 / 8	0.1	26.54	335072	3.32
335071	400 / 16	0.1	40.50	335072	3.32

Marking Vernier Calipers, Etching Pen and Steel Scriber

T-Marking Vernier Calipers

- with mm-graduation at the edge of the T-bar
- special steel, hardened, with fine adjustment
- laser engraved scale, reading parts in matt chrome finish



ART N ^o	cm	mm	length of T-bar mm	€
337301	16	0.05	100	70.18
337302	25	0.05	140	99.96
337303	30	0.05	160	107.35
337305	50	0.05	160	135.82

Emil Otto • Metal Etching Pens

- for markings on metal and aluminium
- with exchangeable ink tank
- chemical and thermal resistant
- package contents 1 pen holder and 2 cartridges



ink tank (spare part)

ART N ^o for metal (green liquid)	ART N ^o for aluminium (light blue liquid)	ART N ^o for tool steel (blue liquid)	ART N ^o NEW for titanium and titanium alloys (turquoise dark blue)
334501 € 22.64	334502 € 23.21	334503 € 22.53	334504 € 25.13
ART N ^o spare part ink tank for metal (green liquid)	ART N ^o spare part ink tank for aluminium (light blue liquid)	ART N ^o spare part ink tank for tool steel (blue liquid)	ART N ^o NEW spare part ink tank for titanium and titanium alloys (turquoise dark blue)
334591 € 7.68	334592 € 7.92	334593 € 7.68	334594 € 8.64

Steel Scribers

- with hardened tips
- made from special steel



ART N ^o	mm	scriber-ø mm	version	€
334600	180	5	straight bar, knurled handle	1.33
334602	230	4	straight and cranked bar, with plastic handle	1.94
334603	175	4	straight bar, exchangeable tip, knurled handle	1.15
334604	250	4	straight and cranked bar, exchangeable tips, knurled handle	1.33
334614	143	7	telescopic rod, with marking tip and magnetic lifter	4.78
334691	90	4	spare tip, straight (for art.-no.: 334604)	0.59
334692	100	4	spare tip, cranked (for art.-no.: 334604)	0.74

Steel Scribes

- with tungsten carbide tips



ART No 334606



ART No 334612

ART No 334608



ART No 334610




ART No 334611



ART No 334615



ART No	 mm	shaft- \varnothing mm	version	€
334606	175	14	straight bar, with red plastic handle	3.94
334608	150	6	hexagonal bar, galvanized, with clip	1.74
334609	180	8	hexagonal bar, galvanized, without clip	3.34
334610	150	8	hexagonal, aluminium shaft, lacquered, with drop mechanic	9.93
334695	35	—	spare tip, carbide, for 334610	3.52
334611	150	10	„RICO“-Marker, aluminium shaft, knurled handle, pen type	33.65
334694	70	—	spare tip, carbide, for 334611	11.96
334612	230	4	straight and cranked bar, exchangeable tips, knurled handle	5.99
334615	150	9	carbide marker, push technic, with clip	5.31
334690	30	—	spare tip, carbide, straight version, for 334615	2.65
334696	90	—	spare tip, carbide, straight version, for 334612	2.63
334697	100	—	spare tip, carbide, cranked version, for 334612	2.91

Steel Scribes


- with tungsten carbide needle
- with clip and magnet

- made of steel, black burnished
- with exchangeable needle
- with anti-slip knurled handle



with magnet



ART No	 mm	shaft- \varnothing mm	version	€
334620	155	7.5	with tungsten carbide tip, anti-slip knurled handle	3.31
334629	—	3	spare part, tungsten carbide needle	0.44



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Marking Gauges, Parallel V-Block- and Prism Pairs

Marking Gauge

- with round bar
- chromed bar and scale, with 0.1 mm vernier reading
- with round contact plate, with fixing screw
- with or without fine adjustment, at your choice
- with exchangeable, hardened marking needle



ART N°	€	ART N°	€	cm	Eye Icon	ART N° spare needle	€
335030	40.54	335031	44.51	30	0.1	335066	3.06
—	—	335051	64.80	50	0.1	335066	3.06

Parallel V-Block Pairs

- made of dense special cast iron with high resistance to wear
- supplied in matched pair
- 4 different large grooves, 90°
- available in milled or ground version



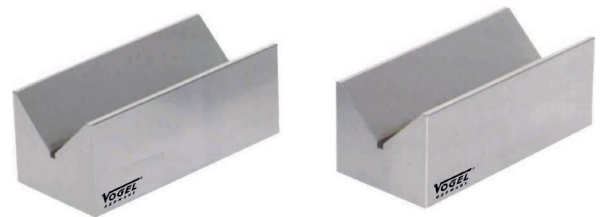
grade 0 = ground parallelism tolerance = ±0.008 mm
grade 1 = ground parallelism tolerance = ±0.016 mm
grade 3 = milled parallelism tolerance = ±0.064 mm



ART N° grade 0	€	ART N° grade 1	€	ART N° grade 3	€	mm	for shaft-ø mm
333511	242.98	333501	202.49	333531	149.20	60 x 120 x 100	8 – 90
333512	337.47	333502	272.21	333532	208.86	75 x 150 x 130	10 – 120
333513	518.71	333503	415.61	333533	323.26	90 x 200 x 170	12 – 180

Prism Pair

- made of dense special cast iron with high resistance to wear
- supplied in matched pair
- with 1 large cut, 90°
- available in milled or ground version



grade 0 = ground parallelism tolerance = ±0.008 mm
grade 1 = ground parallelism tolerance = ±0.016 mm
grade 3 = milled parallelism tolerance = ±0.064 mm

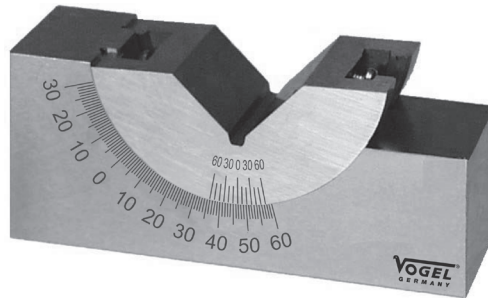


ART N° grade 0	€	ART N° grade 1	€	ART N° grade 3	€	mm	for shaft-ø mm
333101	86.99	333201	60.74	333301	43.48	100 x 40 x 30	6 – 40
333102	137.69	333202	86.30	333302	63.68	150 x 50 x 40	8 – 50
333103	202.45	333203	139.73	333303	106.83	200 x 70 x 50	8 – 70
333104	278.37	333204	254.81	333304	180.85	250 x 85 x 60	12 – 85
333105	408.08	333205	334.84	333305	236.88	300 x 100 x 70	12 – 100

Prisms and Magnetic V-Blocks

Adjustable Angle Prism

- special steel, hardened, fine ground
- prism cut 90°, angle scaling 0° – 60° / 0° – 30°

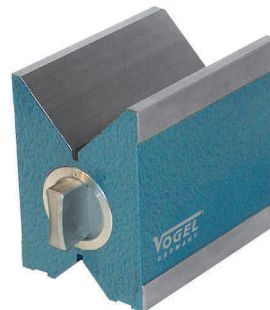


ART N°	mm	parallelism tolerance ± mm	for shaft-ø mm	€
334001	75 x 25 x 32/23	0.05	28	70.65
334002	102 x 30 x 48/29	0.05	40	74.40
334003	102 x 46 x 48/29	0.05	40	76.25

Magnetic Measuring and Clamping V-Block

- especially engineered for toolmakers etc.

- made of special steel
- with V-cut 90°, finely ground
- strong magnetic block
- with On/Off-rotary switch made of aluminium
- magnetic base with finely ground prism
- plane, parallel and squared machined



ART N°	mm	for shaft-ø mm	parallelism tolerance ± mm	prism N	surface N	€
330100	80 x 67 x 96	ø 6 – 66	0.004	400	900	350.53
330101	100 x 70 x 96	ø 6 – 72	0.004	650	1800	494.83

Magnetic Measuring and Clamping V-Block

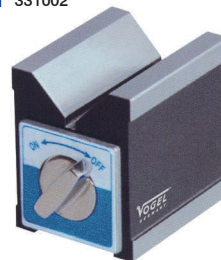
- special steel made
- with On/Off switch
- art.-no. 331000 – 331002: with flat magnetic base
- art.-no. 331010 – 331012: with magnetic prism base
- with V-cut 90°, fine ground
- plane, parallel and squared machined



ART N° 331010 + 331011



ART N° 331002



ART N° 331012

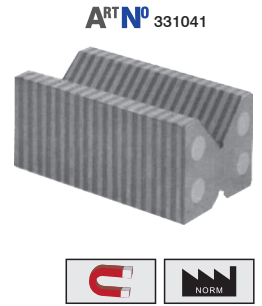
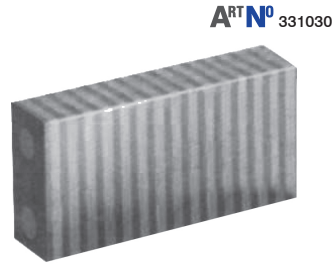
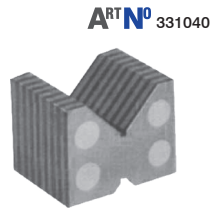


ART N° steel	mm	for shaft-ø mm	parallelism tolerance ± mm	N	flat base	prism base	€
331000	101 x 76 x 78	ø 6 – 40	0.05	700	✓	—	96.24
331001	127 x 60 x 73	ø 6 – 35	0.05	600	✓	—	88.19
331002	70 x 60 x 73	ø 6 – 30	0.05	700	✓	—	39.78
331010	80 x 70 x 95	ø 6 – 30	0.05	800	—	✓	124.53
331011	101 x 67 x 95	ø 6 – 70	0.05	1000	—	✓	141.54
331012	115 x 75 x 100	ø 6 – 70	0.05	800	—	✓	173.32

Lamellar Blocks and V-Blocks with Clamp

Lamellar Block / Prism Lamellar Block

- for setting on magnetic holding plates
- special steel, fine ground
- with 90° cut or in flat version
- with pole distance 4 mm

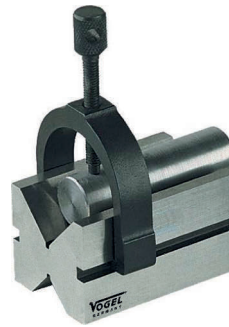



ART No flat	→ mm ←	€
331030	100 x 50 x 25	34.25
—	—	—

ART No with V-cut	→ mm ←	€
331040	50 x 60 x 48	38.33
331041	100 x 60 x 48	48.53

V-Block with Clamp

- for clamping cylindrical pieces
- special steel, hardened, fine ground
- 2 different deep 90° V-cuts
- 2 supporting surfaces
- single or in pair adjusted available



ART No single	ART No pair	→ mm ←	clamping range for ø mm	± mm / 100 mm 	€ single	€ pair
333001	333011	45 x 40 x 35	5 – 20	0.01	19.81	25.81
333002	333012	70 x 45 x 40	5 – 25	0.01	29.71	43.55


V-Block Pair with Clamps

- for clamping cylindrical pieces and marking purposes, etc.
- special steel, hardened or stainless steel hardened
- 2 different deep 90° V-cuts, surfaces finely ground
- front faces angular ground in regard to base area, adjusted in pairs

Option

- wooden boxes available, by extra charge, see page 210



ART No special steel pair	→ mm ←	clamping range for ø mm	± mm / 100 mm 	€ pair
333041	50 x 40 x 50	5 – 30	0.01	42.55
333042	75 x 55 x 55	5 – 50	0.01	68.32
333043	100 x 75 x 75	7 – 70	0.01	174.99

Prisms and Accessories for Prisms

Replacement Clamp for Prisms

- single packed

ART N°	suitable for	€
3330901	333001+333011	7.23
3330902	333002+333012	10.40
3330941	333041	9.95
3330942	333042	11.22
3330943	333043	12.88



Wooden Boxes for Prisms

- single packed

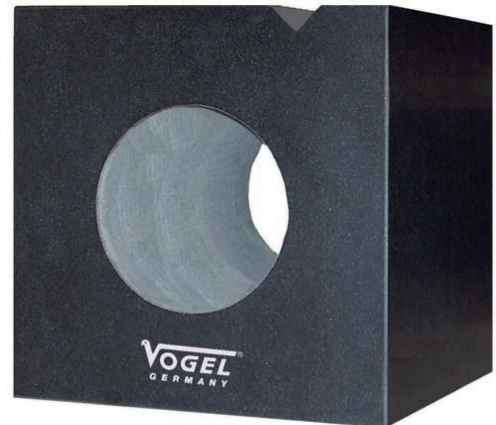
ART N°	suitable for	€
3399041	333041	20.47
3399042	333042	33.67
3399043	333043	23.11



Granite Square Block

- accuracy grade 00
- with V-cut 90° (without measuring stand, without dial indicator)
- to use as measuring table for measurements and marking purposes

- particularly well selected material of highest quality
- with V-cut 90°, finely ground
- side- and front faces angular ground in regard to base area
- with thread insert M10



Measuring stands see pages 184
Dial indicators see on pages 151 – 162



example



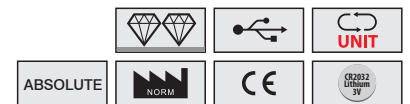
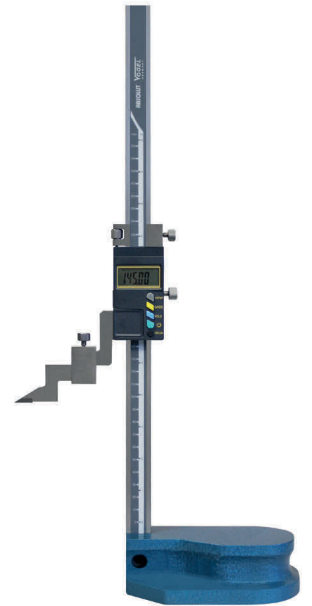
ART N°	mm	rectangularity ± mm	evenness ± mm	parallelism ± mm	€	EURO CC
330611	150 x 150 x 150	0.004	0.0017	0.004	429.49	165.00

Electr. Digital Height and Marking Gauge

- with „ABSOLUT“ system
- with data output, top model (connectivity also for Digimatic measuring devices)
- stainless steel guideway, with fine adjustment
- LCD with clear figures
- On/Off switch, zero-setting at any position
- reading switchable mm / inch
- data-hold, Preset function ±
- max. sliding speed 1,5 m/sec.
- carbide tipped drawing point, interchangeable
- at „0“-position the drawing point coincides exactly with the base
- base made of stable cast iron, blue lacquered
- with battery 3 V (type CR 2032, art.-no.: 90112), with operation manual

Options

- data transfer via cable, art.-no.: 3420195, see page 334



ART N°	mm / inch	mm / inch	mm	mm	guide bar	size of base	€	EURO CC
340403	300 / 12	0.01 / 0.0005"	0.02	0.03	20 x 6	140 x 90 x 45	178.90	30.00

„Absolute“ Electr. Digital Height and Marking Gauge

- for standard workshop purposes
- with integrated Bluetooth® technology
- guide bar made of stainless steel
- with handwheel for quick adjustment and fine adjustment
- LCD display with clear reading, digit height 14 mm
- reading mm/inch, switchable, zero-setting at any position
- On/Off switch, hold function, with „ORIGIN“ system
- carbide tipped steel scriber, exchangeable, with racks feed
- at zero-position the drawing point coincides exactly with the base
- with built-in connector for external power supply
- with holder for clamping a dial gauge, massive Special cast iron base, lacquered
- with external digital input function for example digital gauges art. series 240250 – 240257
- incl. 1 x 3 V battery (type CR2032, art.-no. 90112), with operation manual

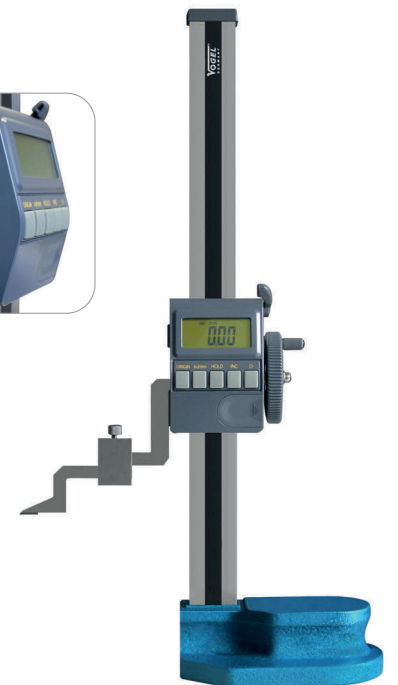
Option

- data transfer via Bluetooth®, art.-no.: 2023106 see page 334

Connections:
Mini-USB
Power Supply



application example



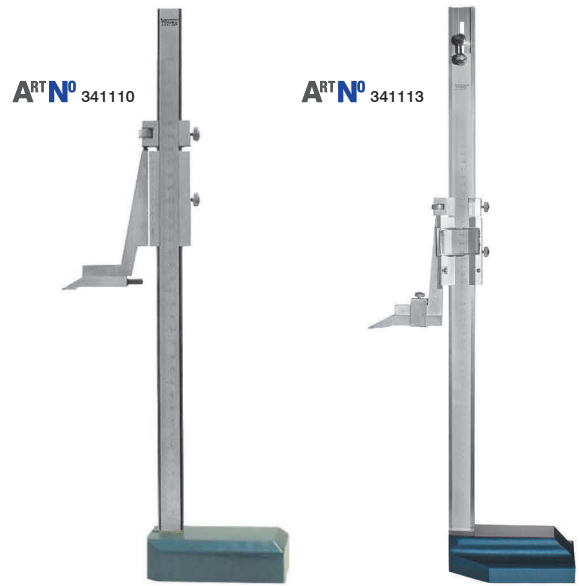
ART N°	mm / inch	mm / inch	mm	mm	guide bar	size of base	€	EURO CC
341215	300 / 12	0.01 / 0.0005	0.03	0.02	35 x 15	150 x 100 x 50	337.72	30.00
341216	600 / 24	0.01 / 0.0005	0.05	0.02	35 x 15	150 x 100 x 50	477.04	34.00

Height and Marking Gauges

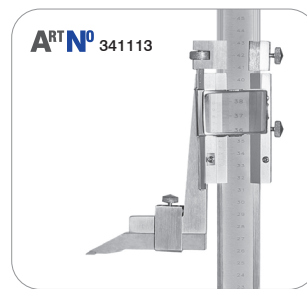
Universal Height and Marking Gauge

- for standard workshop purposes

- guide bar made of special steel
- reading parts matt chrome finish, with fine adjustment
- at zero-position the scribe coincides exactly with the base
- carbide tipped steel scriber, exchangeable
- sturdy base, cast iron made, lacquered
- art.-no. 341113 – 341119 with magnifying glass



without magnifying glass



with magnifying glass

ART N° 341110-1
€ 26.06



spare part - drawing point

ART N° 341113-1
€ 12.54



spare part - drawing point

ART N° 341181
€ 5.32



spare part - magnifying glass incl. frame



ART N°	mm	mm	mm		mm guide bar	mm size of base	€	EURO CC
341110	300	0.02	0.04	X	20 x 6	110 x 65 x 32	58.89	30.00
341111	500	0.02	0.05	X	28 x 8	150 x 110 x 50	81.57	34.00
341113	300	0.02	0.04	✓	20 x 6	110 x 65 x 32	84.21	30.00
341116	500	0.02	0.05	✓	35 x 12	170 x 110 x 50	154.40	34.00

Electr. Digital Height and Marking Gauge

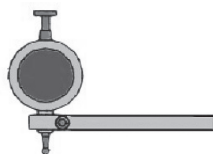
NEW

- with „ABSOLUTE“ system
- with data output, top-model

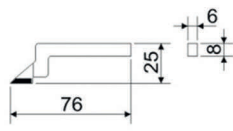
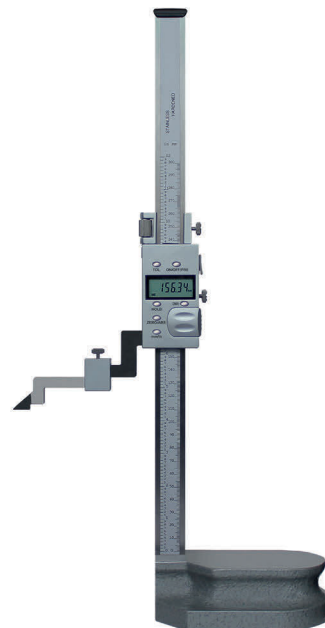
- stainless steel guideway, with fine adjustment
- LCD display with clear reading
- On/Off switch, zero-setting at any position
- reading switchable mm/inch
- tolerance setting, hold function
- presenting of measured values (\pm pre-set), measuring direction switchable
- carbide tipped drawing point, interchangeable
- base made of stable cast iron, grey lacquered
- incl. 1 x 3 V battery (type CR 2032, art.-no.: 90112), with operating manual
- (other sizes available on request, 500, 800, 1500 and 2000 mm)

Options

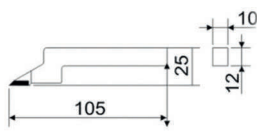
- data transfer via cable, art.-no. 209001, see page 334
- HM-scriber
 0 – 300 mm (art.-no.:341301-1) — (€ 22.12)
 0 – 500, 0 – 600 mm (art.-no.: 341302-1) — (€ 26.74)
 0 – 800, 0 – 1000, 0 – 1500, 0 – 2000 mm (art.-no.: 341304-1) — (€ 42.92)
- holder for dial indicator
 0 – 300 mm (art.-no.: 341301-3) — (€ 26.74)
 0 – 500, 0 – 600 mm (art.-no.: 341302-3) — (€ 41.27)
 0 – 800, 0 – 1000, 0 – 1500, 0 – 2000 mm (art.-no.: 341304-3) — (€ 49,52)



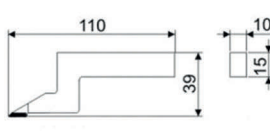
holder for dial indicator



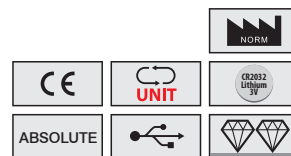
HM-scriber
(art.-no. 341301-1)



HM-scriber
(art.-no. 341302-1)



HM-scriber
(art.-no. 341304-1)



ART N°	mm / inch	mm	max. mm	mm	mm	mm	€	EURO CC
341301	300 / 12	0.02	0.04	0.02	23 x 6	132 x 91 x 44	242.88	30.00
341303	600 / 24	0.02	0.05	0.02	31 x 10.5	180 x 120 x 54	389.26	34.00
341305	1000 / 40	0.02	0.07	0.02	50 x 16	250 x 150 x 73	971.81	30.00

Parallel Surface Gauge

- for simple workshop purposes

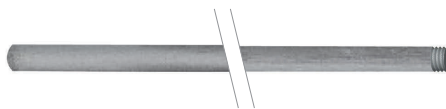
- round, chromed column, without graduation
- hardened steel scriber, straight and cranked bar
- scriber is rotatable and turnable
- round and lacquered iron base



ART N°	mm	€
342102	300	15.77
342104	500	23.33

Accessories for Marking Gauges

Spare Parts for Height Gauges and Height Marking Gauges



suitable for ART N°	ART N°	€	thread ø mm	base ø mm	ART N°	€	column ø x L mm	ART N° marking-needle with clamping	€	marking-needle with clamping ø x L mm
342102	3421021	9.03	8	80	3421022	9.03	10 x 300	3421023	6.06	5 x 150
342104	3421041	14.06	6	80	3421042	3.80	10 x 500	3421043	8.60	5 x 150

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Precision Inspection Square

DIN 875/0

- for inspection rooms and test laboratories
- stainless, hardened steel or made from special hardened steel
- extra fine ground
- flat or with back

Precision Inspection Square

DIN 875/1

- for precision machinery
- stainless, steel or made from special steel
- fine ground
- flat or with back



ART NO flat	mm	€	ART NO with back	mm	€	EURO CC	wooden case			
							ART NO flat	€	ART NO with back	€
DIN 875/0 stainless steel							flat		with back	
310000	50 x 40	20.80	310100	50 x 40	22.12	13.00	3199050	22.09	3199051	22.09
310001	75 x 50	21.94	310101	75 x 50	24.43	13.00	3199075	24.76	3199076	24.76
310002	100 x 70	22.28	310102	100 x 70	35.65	13.00	3199100	29.65	3199101	29.65
310003	150 x 100	32.55	310103	150 x 100	47.54	15.00	3199150	33.01	3199151	33.01
310004	200 x 130	48.40	310104	200 x 130	59.75	15.00	3199200	37.30	3199201	37.30
310005	250 x 165	57.33	310105	250 x 165	71.97	15.00	3199250	40.94	3199251	40.94
310006	300 x 200	79.68	310106	300 x 200	99.37	15.00	3199300	45.25	3199301	45.25
DIN 875/0 carbon steel							flat		with back	
310011	75 x 50	14.26	310111	75 x 50	25.42	13.00	3199075	24.76	3199076	24.76
310012	100 x 70	16.51	310112	100 x 70	29.71	13.00	3199100	29.65	3199101	29.65
310013	150 x 100	24.10	310113	150 x 100	40.61	15.00	3199150	33.01	3199151	33.01
310014	200 x 130	28.52	310114	200 x 130	66.03	15.00	3199200	37.30	3199201	37.30
310015	250 x 165	39.48	310115	250 x 165	74.28	15.00	3199250	40.94	3199251	40.94
310016	300 x 200	50.52	310116	300 x 200	101.02	15.00	3199300	45.25	3199301	45.25
DIN 875/1 stainless steel							flat		with back	
310021	75 x 50	18.32	310121	75 x 50	25.25	13.00	3199075	24.76	3199076	24.76
310022	100 x 70	29.98	310122	100 x 70	30.04	13.00	3199100	29.65	3199101	29.65
310023	150 x 100	36.51	310123	150 x 100	41.60	15.00	3199150	33.01	3199151	33.01
310024	200 x 130	39.12	310124	200 x 130	44.90	15.00	3199200	37.30	3199201	37.30
310025	250 x 165	62.91	310125	250 x 165	72.96	15.00	3199250	40.94	3199251	40.94
310026	300 x 200	67.10	310126	300 x 200	104.32	15.00	3199300	45.25	3199301	45.25
310026-1	400 x 265	176.95	310126-1	400 x 265	200.06	19.00	3199400	49.52	3199401	49.52
310027	500 x 330	231.52	310127	500 x 330	231.42	19.00	3199500	52.99	3199501	52.99
310027-1	600 x 400	358.49	310127-1	600 x 400	419.26	19.00	3199600	74.38	3199761	74.38
310028	750 x 500	535.77	310128	750 x 500	614.04	39.00	3199750	101.32	3199751	101.32
310029	1000 x 660	880.82	310129	1000 x 660	1204.97	39.00	3199990	135.58	3199991	135.58
DIN 875 GG 1 carbon steel							flat		with back	
310041	75 x 50	9.05	310141	75 x 50	15.85	13.00	3199075	24.76	3199076	24.76
310042	100 x 70	10.89	310142	100 x 70	17.50	13.00	3199100	29.65	3199101	29.65
310043	150 x 100	13.31	310143	150 x 100	21.13	15.00	3199150	33.01	3199151	33.01
310044	200 x 130	16.09	310144	200 x 130	26.74	15.00	3199200	37.30	3199201	37.30
310045	250 x 165	23.18	310145	250 x 165	37.63	15.00	3199250	40.94	3199251	40.94
310046	300 x 200	35.47	310146	300 x 200	54.80	15.00	3199300	45.25	3199301	45.25
310046-1	400 x 265	83.32	310146-1	400 x 265	107.62	19.00	3199400	49.52	3199401	49.52
310047	500 x 330	118.55	310147	500 x 330	147.57	19.00	3199500	52.99	3199501	52.99
310047-1	600 x 400	137.89	310147-1	600 x 400	193.13	19.00	3199600	74.38	3199761	74.38
310048	750 x 500	236.37	310148	750 x 500	369.74	39.00	3199750	101.32	3199751	101.32
310049	1000 x 660	334.85	310149	1000 x 660	627.24	39.00	3199990	135.58	3199991	135.58
310049-1	1500 x 1000	798.51	310149-1	1500 x 1000	1277.60	39.00	—	—	—	—

Precision Squares

Precision Workshop Squares

DIN 875/2

- for standard machinery
- stainless or carbon steel, at your choice
- fine ground
- flat or with back



DIN

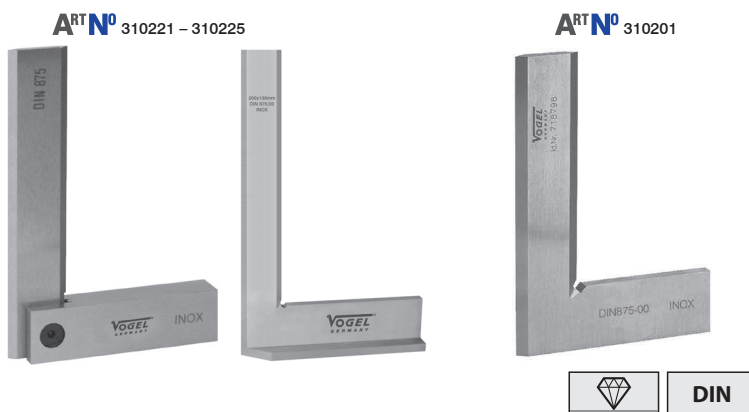
ART NO flat	mm	€	ART NO with back	mm	€	EURO CC
DIN 875/2 stainless steel						
310071	75 x 50	7.25	310171	75 x 50	14.86	13.00
310072	100 x 70	9.22	310172	100 x 70	16.18	13.00
310073	150 x 100	13.68	310173	150 x 100	21.13	15.00
310074	200 x 130	20.89	310174	200 x 130	29.71	15.00
310075	250 x 165	32.42	310175	250 x 165	47.21	15.00
310076	300 x 175	44.09	310176	300 x 175	52.49	15.00
310076-1	400 x 200	64.41	310176-1	400 x 200	125.45	19.00
310077	500 x 250	120.47	310177	500 x 250	178.27	19.00
310077-1	600 x 300	212.11	310177-1	600 x 300	293.81	19.00
310078	750 x 375	275.76	310178	750 x 375	435.77	39.00
310079	1000 x 500	421.54	310179	1000 x 500	620.64	39.00
310079-1	1500 x 750	1485.58	310179-1	1500 x 750	1749.68	39.00
310079-2	2000 x 1000	1898.24	310179-2	2000 x 1000	2393.43	39.00
DIN 875/2 carbon steel						
310061	75 x 50	9.75	310161	75 x 50	15.19	13.00
310062	100 x 70	10.89	310162	100 x 70	17.50	13.00
310063	150 x 100	13.31	310163	150 x 100	21.13	15.00
310064	200 x 130	16.34	310164	200 x 130	26.74	15.00
310065	250 x 165	22.96	310165	250 x 165	37.96	15.00
310066	300 x 175	27.50	310166	300 x 175	47.21	15.00
310066-1	400 x 200	41.66	310166-1	400 x 200	66.03	19.00
310067	500 x 250	61.07	310167	500 x 250	90.79	19.00
310067-1	600 x 300	75.69	310167-1	600 x 300	110.59	19.00
310068	750 x 375	114.22	310168	750 x 375	158.46	39.00
310069	1000 x 500	151.53	310169	1000 x 500	204.68	39.00
310069-1	1500 x 750	594.23	310169-1	1500 x 750	947.47	39.00
310069-2	2000 x 1000	729.91	310169-2	2000 x 1000	1135.64	39.00

Bevel Edge Squares and Knife Straight Edges

Precision Bevel Edge Square

DIN 875/00

- for testing according to the light-gap method
- stainless steel or carbon steel, at your choice
- hardened and fine ground
- with two bevelled edges, finely ground and lapped
- flat or with back

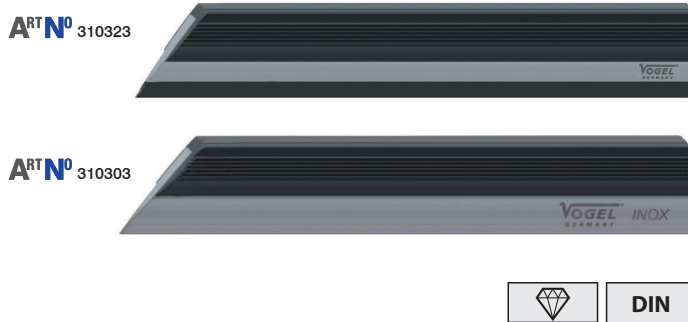


ART No flat	mm	€	ART No with back	mm	€	EURO CC
stainless steel						
310201	50 x 40	16.39	310221	50 x 40	46.39	13.00
310202	75 x 50	20.28	310222	75 x 50	54.04	13.00
310203	100 x 70	22.22	310223	100 x 70	57.19	13.00
310204	150 x 100	42.92	310224	150 x 100	70.58	15.00
310205	200 x 130	48.82	310225	200 x 130	88.74	15.00
carbon steel						
310211	50 x 40	14.86	—	—	—	13.00
310212	75 x 50	18.59	—	—	—	13.00
310213	100 x 70	21.33	—	—	—	13.00
310214	150 x 100	34.54	—	—	—	15.00
310215	200 x 130	41.89	—	—	—	15.00

Precision Knife Straight Edge

DIN 874/00

- for testing according to the light-gap method
- stainless steel, anti-glare matt chromed, hardened and fine ground
- carbon steel, with burnished edges, hardened and fine ground
- bevelled edges finely ground and lapped
- with insulation handle



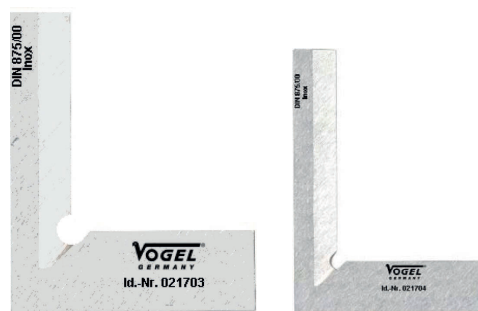
ART No stainless	mm	€	ART No carbon steel	mm	€	EURO CC
310302	75	12.60	310322	75	9.27	10.50
310303	100	14.63	310323	100	12.32	10.50
310304	125	16.45	310324	125	14.93	10.50
310305	150	21.61	310325	150	16.40	10.50
310306	200	24.56	310326	200	21.30	10.50
310307	250	34.33	310327	250	31.02	10.50
310308	300	48.81	310328	300	42.72	10.50
310310	400	66.62	310329	400	63.42	24.00
310311	500	97.74	310330	500	81.19	24.00
310312	600	118.03	310331	600	146.38	24.00
310313	750	649.69	310332	750	345.15	24.00
310314	1000	1107.25	310333	1000	545.04	30.50
310315	1250	2023.52	310334	1250	914.13	30.50
310316	1500	2761.69	310335	1500	1371.19	30.50

Squares

Square with Inside Bevelled Edge

DIN 875/00

- stainless steel
- hardened and fine ground
- bevelled edge finely ground and lapped



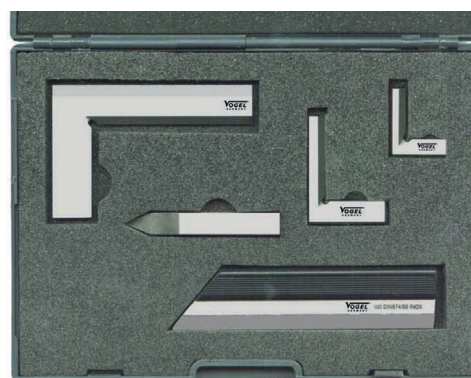
ART ^{NO}	square mm	mm		€	EURO CC	ART ^{NO} wooden box	€
		long blade	short blade				
310231	25 x 20	6.0 x 3.5	5.0 x 3.5	20.02	10.50	3199050	10.50
310232	40 x 28	8.0 x 3.5	5.0 x 3.5	20.92	10.50	3199050	10.50

Toolmaker Square Set

DIN 875/00

contents:

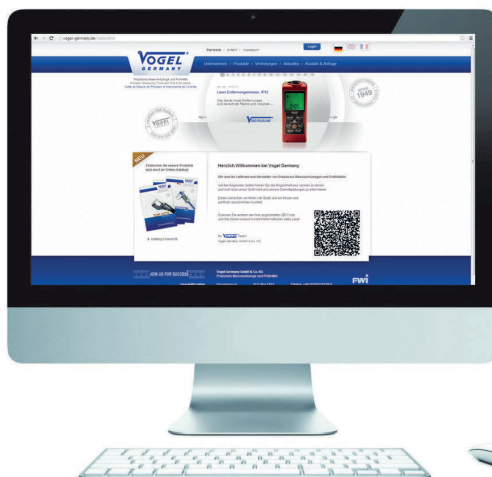
- knife straight edge, stainless steel, hardened, DIN 874/00, length 100 mm
- square with inside bevelled edge, stainless, hardened, DIN 875/00, size 25 x 20 mm
- square with inside bevelled edge, stainless, hardened, DIN 875/00, size 40 x 28 mm
- square with bevelled edges, stainless, hardened, DIN 875/00, size 75 x 50 mm
- steel scriber point, size 60 x 9 x 9 mm



ART ^{NO}	€
310229	83.79

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Website.

www.vogel-germany.de



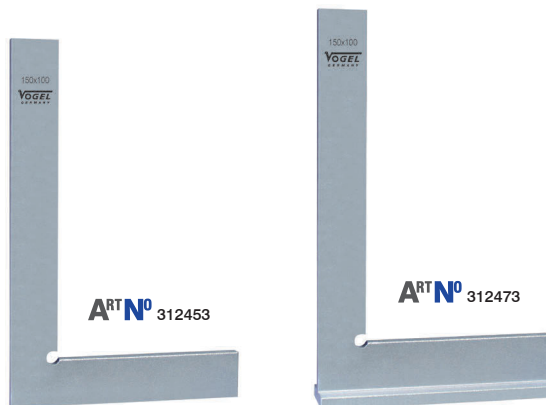
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Any questions?

We are pleased to advise.

Workshop Square

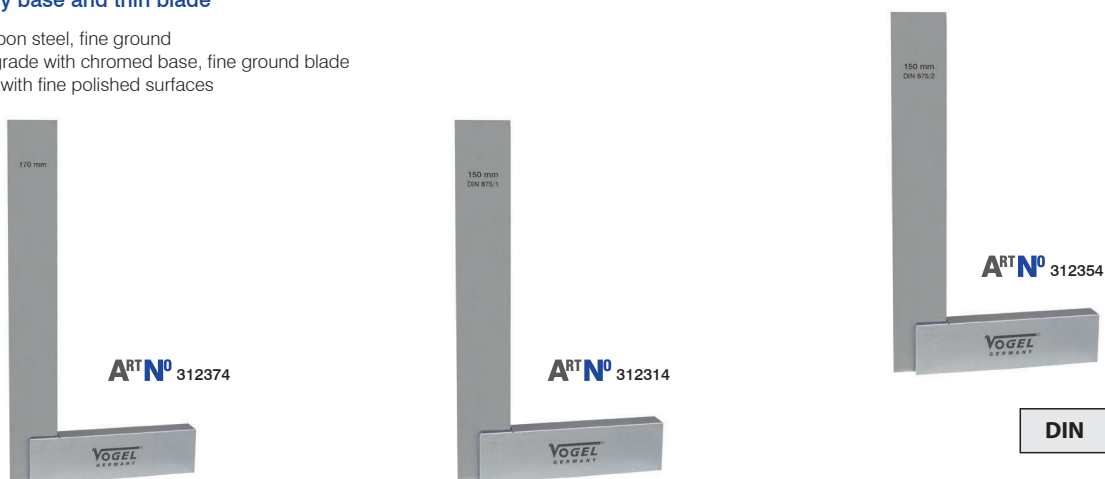
- for locksmith, workshop use, mechanics, training, etc.
- special steel, galvanized finish
- flat or with back



ART No flat	→ mm ←	€	ART No with back	→ mm ←	€
312453	100 x 70	3.99	312473	100 x 70	6.86
312454	150 x 100	4.78	312474	150 x 100	7.96
312455	200 x 130	5.61	312475	200 x 130	10.91
312456	250 x 160	6.46	312476	250 x 160	12.62
312457	300 x 180	7.68	312477	300 x 180	16.27
312458	400 x 230	9.75	312478	400 x 230	17.89
312459	500 x 280	11.64	312479	500 x 280	25.92
312460	600 x 330	14.07	312480	600 x 330	34.65
312461	750 x 375	17.30	312481	750 x 375	32.67
312462	1000 x 500	25.64	312482	1000 x 500	56.22
312464	1500 x 750	84.11	312484	1500 x 750	166.99
312465	2000 x 1000	114.43	312485	2000 x 1000	227.94

Mechanic Square

- with heavy base and thin blade
- special carbon steel, fine ground
- workshop grade with chromed base, fine ground blade
- DIN quality with fine polished surfaces



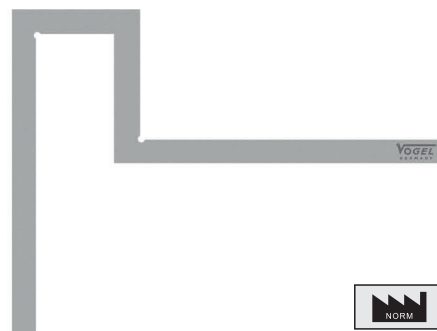
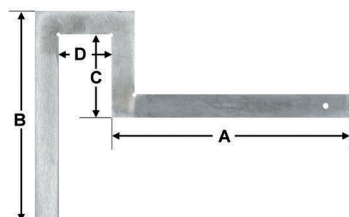
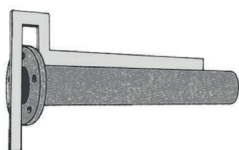
ART No workshop grade	→ mm ←	€	ART No DIN 875 GG I	→ mm ←	€	ART No DIN 875 GG II	→ mm ←	€
312370	67 x 58	6.65	312310	75 x 50	7.29	312350	75 x 50	6.54
312373	118 x 73	9.15	312313	100 x 70	8.28	312353	100 x 70	7.57
312374	170 x 100	11.88	312314	150 x 100	12.38	312354	150 x 100	11.31
312375	220 x 115	13.67	312315	200 x 130	14.30	312355	200 x 130	13.03
312376	270 x 135	19.92	312316	250 x 160	21.43	312356	250 x 160	19.35
312377	320 x 150	21.40	312317	300 x 175	26.46	312357	300 x 175	24.36
						312358	400 x 250	47.90
						312359	500 x 250	115.60

Squares

Flange Square

- for fitters and pipeline constructions
- to adjust the flange

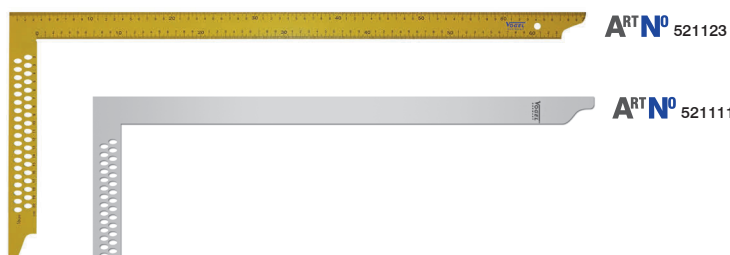
- steel, galvanized finish



ART N°	mm A x B x C x D	steel blade mm	€
312511	300 x 300 x 105 x 65	30 x 6	19.84
312512	400 x 400 x 115 x 65	30 x 6	24.27
312513	500 x 500 x 125 x 70	30 x 6	27.71
312514	600 x 500 x 125 x 70	30 x 6	36.31
312515	800 x 500 x 125 x 95	30 x 6	42.92
312516	1000 x 500 x 125 x 95	30 x 6	56.08

Carpenter's Square

- stainless, spring steel
- with or without marking holes, at your choice
- art.-no. 521123 – 521126 yellow, powder coated surface, with cm-graduation and marking holes



ART N° with marking holes	€	ART N° yellow, with marking holes	€	mm	steel blade mm
521111	16.11	—	—	500 x 260	35 x 1.5
521112	17.01	—	—	600 x 280	35 x 1.5
521113	17.50	521123	14.09	700 x 300	35 x 1.5
521114	18.92	521124	17.11	800 x 320	35 x 1.5
521116	20.90	521126	17.48	1000 x 380	35 x 1.5



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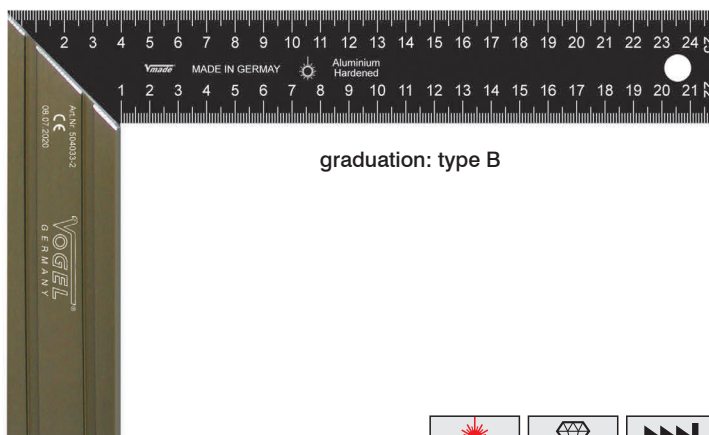
OXOMI.com

Universal Square

- with hardened aluminium blade (HRB 70) and elocated aluminium handle
- for general carpentry and metal work, etc.
- with black anodized aluminium blade, non glare reading
- anodised aluminium handle with profile grooves
- with 45° mitre
- graduation on front- and rear side
- laser engraved scale for clear reading

graduation at type B = mm – mm / mm – mm

graduation at type C = mm – mm / inch – inch



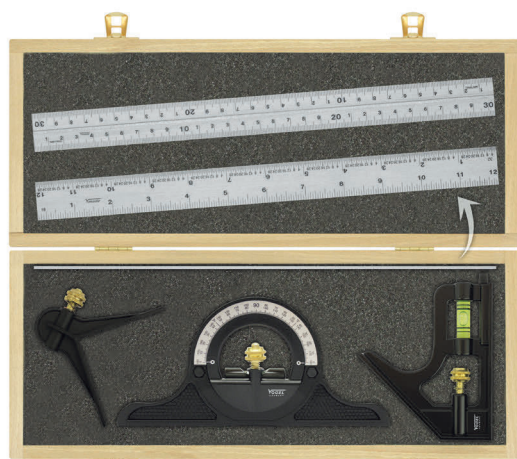
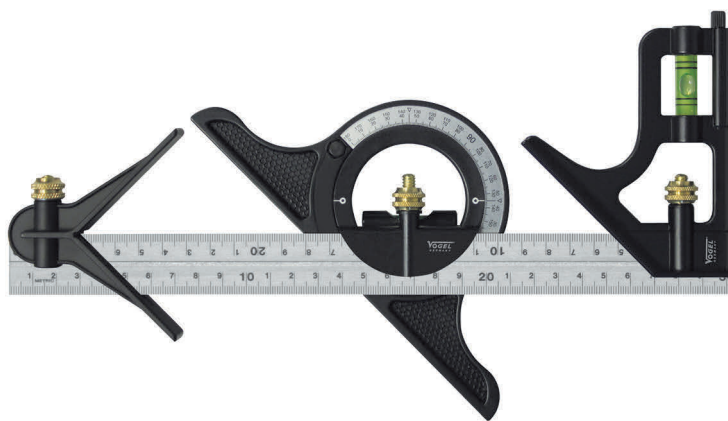
graduation: type B



ART N° type B	€	mm	ART N° type C	€	mm / inch	length of handle mm	aluminium handle	aluminium blade
504031-2	9.17	150	504051-2	9.17	150 / 6	130	40 x 12	40 x 2.0
504032-2	10.53	200	504052-2	10.53	200 / 8	130	40 x 12	40 x 2.0
504033-2	11.19	250	504053-2	11.19	250 / 10	145	40 x 12	40 x 2.0
504034-2	11.98	300	504054-2	11.98	300 / 12	145	40 x 12	40 x 2.0
504036-2	13.61	400	504056-2	13.61	400 / 16	170	40 x 12	40 x 2.0
504037-2	14.79	500	504057-2	14.79	500 / 20	170	40 x 12	40 x 2.0

Combination Square-Set

- with protractor and center head
- for carpenters, wood workers and mechanics, etc.
- stainless steel blade, etched graduation in mm/inch, double-sided
- square head, protractor and center head made from alloy casting, powder coated
- smoothly processed surfaces
- with steel scriber and vial

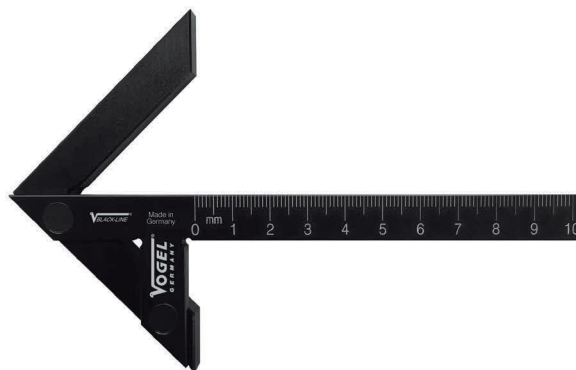
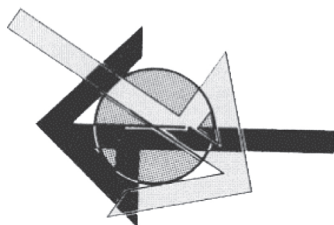


ART N°	mm / inch	graduation	square	blade	€
508090	300 / 12	mm - mm / inch + inch	110 x 90 x 17.5	25.4 x 1.8	57.72

Squares

Center Square

- for marking centers on round discs and shafts
- made of Dur-Aluminium, surface hardened HRC63
- scratch-resistant, black anodized surface
- laser engraved, clear reading scale, with mm graduation

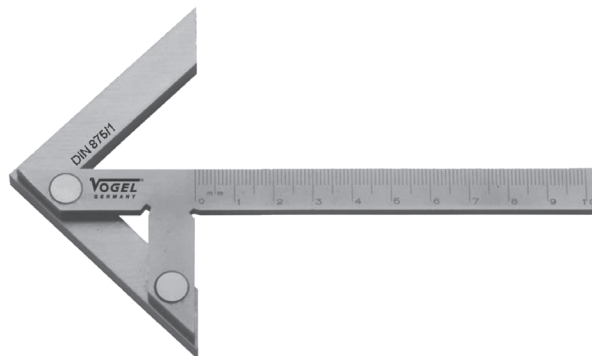
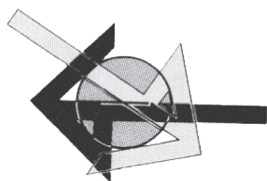


ART N ^o	mm	for shaft- \varnothing mm	€
312541	100 x 70	90	23.16
312542	150 x 130	190	32.09
312543	200 x 150	220	40.46
312544	250 x 160	230	61.70
312545	300 x 180	280	70.39
312546	400 x 250	380	148.56
312547	500 x 330	530	173.32

Center Square

DIN 875/1

- for marking centers on round discs and shafts
- special steel, chromed finish
- scale in matt chrome finish, with mm graduation



ART N ^o	mm	for shaft- \varnothing mm	€
312531	100 x 70	90	34.89
312532	150 x 130	190	34.05
312533	200 x 150	220	48.00
312534	250 x 160	230	73.19
312535	300 x 180	280	96.21
312536	400 x 250	380	222.84
312537	500 x 330	530	289.69

Bevel Square

- for general carpentry and metal work, etc.
- steel blade and carbon or stainless steel, cross section 29 x 1.6 mm
- anodised aluminium handle with profile grooves, cross section 30 x 11.5 mm
- with or without angle graduation on the handle, at your choice
- with galvanized fixing screw for locking the steel blade



ART N°	€	ART N°	€	ART N°	€	ART N°	€	mm
w/o angle graduation, carbon steel blade		with angle graduation, carbon steel blade		w/o angle graduation, stainless steel blade		with angle graduation, stainless steel blade		
504802	12.00	504852	12.56	504812	12.00	504862	12.56	200
504803	12.42	504853	12.99	504813	12.42	504863	12.99	250
504804	12.96	504854	13.53	504814	12.96	504864	13.56	300

Mitre Square

- with hardened aluminium blade (HRB 70) and anodised aluminium handle
- for standard joiners' and carpenters' purpose
- blade made of black anodized aluminium
- anodised aluminium handle with profile grooves
- with 45° and 135° angular



ART N°	mm	aluminium handle mm	aluminium blade mm	€
504903-2	250	40 x 12	40 x 2	11.03
504904-2	300	40 x 12	40 x 2	12.15



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- ✓ more appropriate
- ✓ more meaningful
- ✓ more contemporary

This stands for the further development of the brand Vogel Germany to even more customer-oriented solutions in the measurement technology, development of the range, consulting, training, etc.

Squares



Acute Angle Square 120° and 135°



DIN 875/2

- stainless steel, flat or with back
- for standard machinery purpose
- edges and sides fine ground



INOX DIN

ART N° flat 120°	 mm	€	
314050	50 x 50	16.08	23.00
314051	75 x 75	18.22	23.00
314052	100 x 100	24.10	23.00
314053	125 x 125	25.16	23.00

ART N° with back 135°	 mm	€	
314080	100 x 70	20.27	23.00
314081	120 x 80	22.15	23.00
314082	150 x 100	25.25	23.00
314083	200 x 130	33.54	23.00



Acute Angle Square 120° and 135°



DIN 875/2

- carbon steel, flat or with back
- for standard machinery purpose
- edges and sides fine ground



DIN

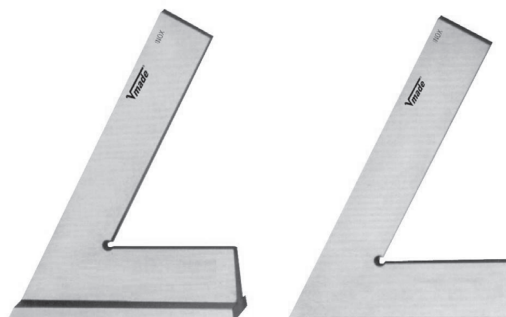
ART N° flat 120°	€	ART N° flat 135°	€	 mm	
313050	13.50	313060	12.97	50 x 50	23.00
313051	14.73	313061	15.42	75 x 75	23.00
313052	16.21	313062	16.31	100 x 100	23.00
313053	22.91	313063	22.74	125 x 125	23.00
313054	24.78	313064	24.76	150 x 150	23.00
313055	25.68	313065	25.67	200 x 200	23.00

ART N° with back 135°	 mm	€	
313080	100 x 70	14.33	23.00
313081	120 x 80	16.30	23.00
313082	150 x 100	18.48	23.00
313083	200 x 130	24.67	23.00
—	—	—	—
—	—	—	—



Acute Angle Square 45° and 60°

DIN 875/2

- stainless steel, flat or with back
- for standard machinery purpose
- edges and sides fine ground



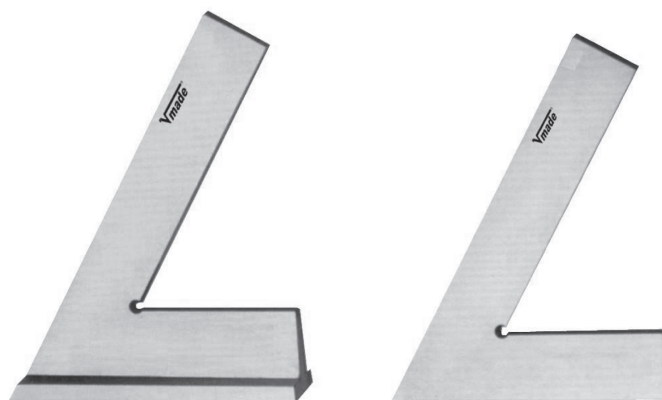
INOX DIN

ART N° flat 45°	€	ART N° with back 45°	€	ART N° flat 60°	€	ART N° with back 60°	€	 mm	
314001	17.30	314021	20.54	314011	17.30	314031	21.78	100 x 70	23.00
314002	19.49	314022	22.70	314012	20.63	314032	25.61	120 x 80	23.00
314003	22.90	314023	27.03	314013	22.55	314033	27.03	150 x 100	23.00
314004	27.41	314024	41.65	314014	30.73	314034	41.99	200 x 130	23.00

Acute Angle Square 45° and 60°

DIN 875/2

- carbon steel, flat or with back
- for standard machinery purpose
- edges and sides fine ground

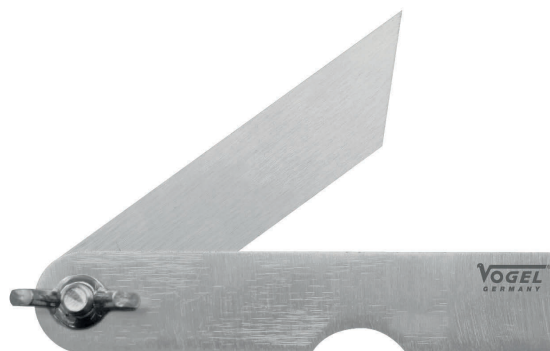


DIN

ART N° flat 45°	€	ART N° with back 45°	€	ART N° flat 60°	€	ART N° with back 60°	€	→ ← mm	EURO CC
313001	14.79	313021	18.25	313011	14.51	313031	18.36	100 x 70	23.00
313002	14.33	313022	19.45	313012	17.03	313032	19.44	120 x 80	23.00
313003	17.85	313023	23.23	313013	18.87	313033	23.23	150 x 100	23.00
313004	22.17	313024	32.54	313014	22.15	313034	32.42	200 x 130	23.00

Bevel Square

- rugged construction
- for metalworker, fitters, locksmith, etc.
- special steel, galvanized finish
- with galvanized fixing screw for locking the steel blade



ART N°	→ ← mm	blade mm	→ mm ← handle mm	€
312571	100	20 x 2.5	20 x 8.0	6.42
312572	150	20 x 2.5	20 x 8.0	6.64
312573	200	20 x 2.5	20 x 8.0	8.49
312574	250	20 x 2.0	20 x 8.0	13.04
312575	300	20 x 2.0	20 x 8.0	12.68
312576	400	20 x 2.0	20 x 8.0	16.64
312577	500	20 x 2.0	20 x 8.0	17.69



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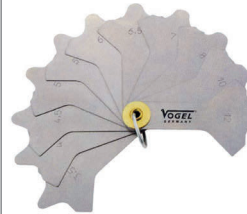
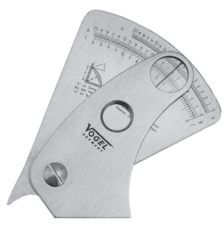


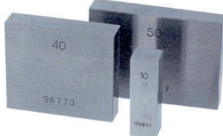












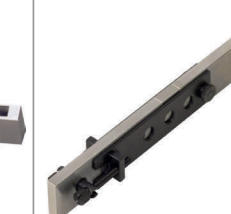
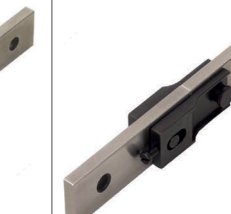



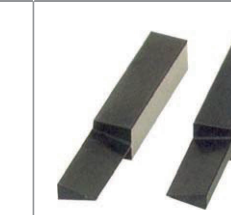
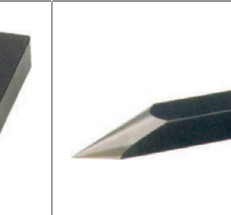
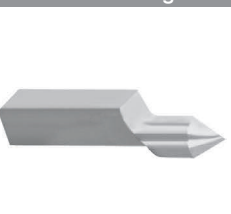











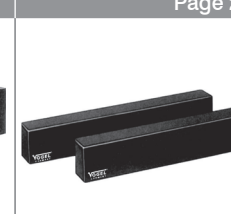



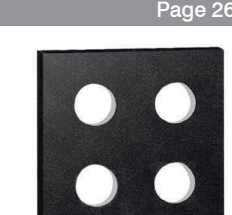


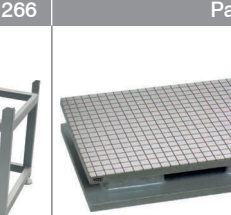


				
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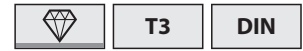
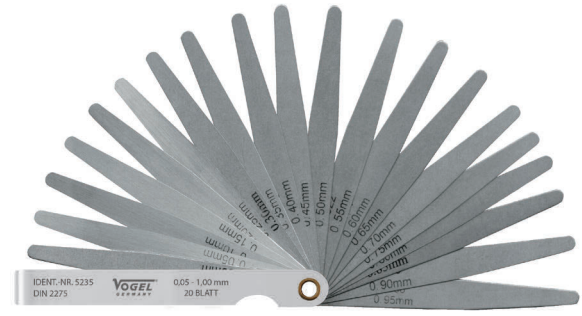


Precision Feeler Gauge Sets

Precision Feeler Gauge Sets

tolerance acc. to T3 (DIN 2275)

- high tolerance accuracy for precise measurements
- hardened spring steel, conical shaped blades, 100 mm length
- nickel plated case, riveted
- sizes in mm on each blade
- thickness tolerance in relation to the metric sizes

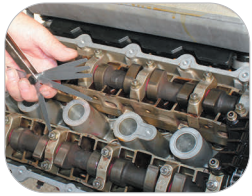


ART NO	quantity of blades	mm	composition	€	
400101-2	8	0.05 – 0.50	0.05-0.10-0.15-0.20-0.25-0.30-0.40-0.50 mm	22.78	13.60
400105-2	13	0.05 – 1.00	0.05-0.10-0.15-0.20-0.25-0.30-0.40-0.50-0.60-0.70-0.80-0.90-1.00 mm	39.62	22.10
400107-2	20	0.05 – 1.00	0.05-0.10-0.15-0.20-0.25-0.30-0.35-0.40-0.45-0.50-0.55-0.60-0.65-0.70-0.75-0.80-0.85-0.90-0.95-1.00 mm	59.42	34.00

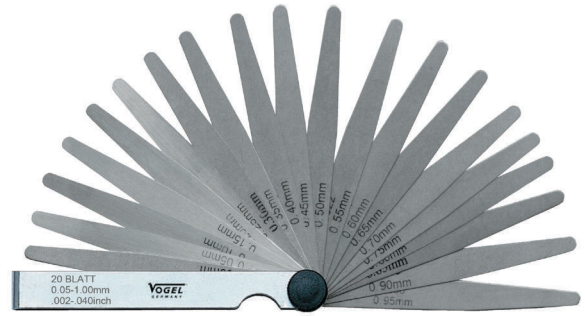
Feeler Gauge Sets

tolerance acc. to T2

- for standard purposes, like thickness measuring between narrow slots and for automotive- and engine industry
- hardened spring steel, conical shaped blades, 100 mm length
- nickel plated case with lock nut, sizes in mm and inch on each blade
- thickness tolerance in relation to the metric sizes



Other sets are available on request!



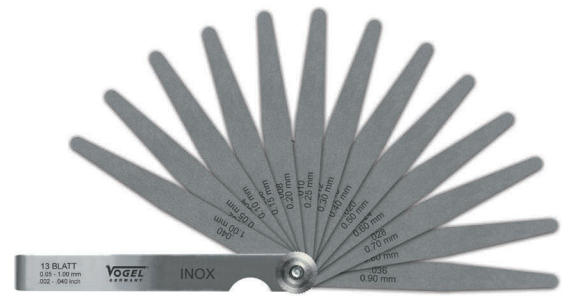
ART NO	quantity of blades	mm / inch	composition	€	
411000	8	0.03 – 0.10 .0012 – .004	0.03-0.04-0.05-0.06-0.07-0.08-0.09-0.10 mm .0012-.0016-.002-.0024-.0028-.003-.0035-.004 inch	1.77	13.60
411001	8	0.05 – 0.50 .002 – .020	0.05-0.10-0.15-0.20-0.25-0.30-0.40-0.50 mm .002-.004-.006-.008-.010-.012-.016-.020 inch	1.73	13.60
411003	10	0.05 – 0.80 .0038 – .063	0.05-0.10-0.15-0.20-0.30-0.40-0.50-0.60-0.70-0.80 mm .002-.004-.006-.008-.010-.012-.016-.020-.028-.032 inch	1.94	17.00
411004	10	0.03 – 0.50 .0012 – .020	0.03-0.04-0.05-0.10-0.15-0.20-0.25-0.30-0.40-0.50 mm .0012-.0016-.002-.004-.006-.008-.010-.012-.016-.020 inch	1.91	17.00
412002	10	0.038 – 0.63 .0015 – .025	0.038-0.05-0.08-0.10-0.15-0.20-0.25-0.30-0.38-0.63 mm .0015-.002-.003-.004-.006-.008-.010-.012-.015-.025 inch	2.00	17.00
411005	13	0.05 – 1.00 .002 – .040	0.05-0.10-0.15-0.20-0.25-0.30-0.40-0.50-0.60-0.70-0.80-0.90-1.00 mm .002-.004-.006-.008-.010-.012-.016-.020-.024-.028-.032-.036-.040 inch	2.30	22.10
412005	13	0.05 – 0.88 .002 – .035	0.05-0.08-0.10-0.12-0.15-0.20-0.25-0.30-0.38-0.50-0.63-0.75-0.88 mm .002-.003-.004-.005-.006-.008-.010-.012-.015-.020-.025-.030-.035 inch	2.37	22.10
411007	20	0.05 – 1.00 .002 – .040	0.05-0.10-0.15-0.20-0.25-0.30-0.35-0.40-0.45-0.50-0.55-0.60-0.65-0.70-0.75-0.80-0.85-0.90-0.95-1.00 mm .002-.004-.006-.008-.010-.012-.014-.016-.018-.020-.022-.024-.026-.028-.030-.032-.034-.036-.038-.040 inch	3.50	34.00
411008	21	0.10 – 0.50	0.10-0.12-0.14-0.16-0.18-0.20-0.22-0.24-0.26-0.28-0.30-0.32-0.34-0.36-0.38-0.40-0.42-0.44-0.46-0.48-0.50 mm	4.16	34.00
411009	21	0.05 – 2.00	0.05-0.10-0.20-0.30-0.40-0.50-0.60-0.70-0.80-0.90-1.00-1.10-1.20-1.30-1.40-1.50-1.60-1.70-1.80-1.90-2.00 mm	5.80	34.00
411010	26	0.03 – 1.00	0.03-0.04-0.05-0.06-0.07-0.08-0.09-0.10-0.15-0.20-0.25-0.30-0.35-0.40-0.45-0.50-0.55-0.60-0.65-0.70-0.75-0.80-0.85-0.90-0.95-1.00 mm	5.84	44.20
411011	32	0.03 – 1.00 .0012 – .040	0.03-0.04-0.05-0.06-0.07-0.075-0.08-0.09-0.10-0.12-0.15-0.18-0.20-0.22-0.25-0.28-0.30-0.32-0.35-0.40-0.45-0.50-0.55-0.60-0.65-0.70-0.75-0.80-0.85-0.90-0.95-1.00 mm	6.11	54.40
411012	14	0.03 – 1.00	0.03-0.05-0.10-0.15-0.20-0.25-0.30-0.40-0.50-0.60-0.70-0.80-0.90-1.00 mm	2.51	22.10


Feeler Gauge Set, stainless steel

tolerance acc. to T2

- stainless steel made

- blades made from stainless steel, hard rolled out
- conical shaped blades, 100 mm length
- nickel plated case with lock nut
- sizes in mm and inch on each blade
- thickness tolerance in relation to the metric sizes

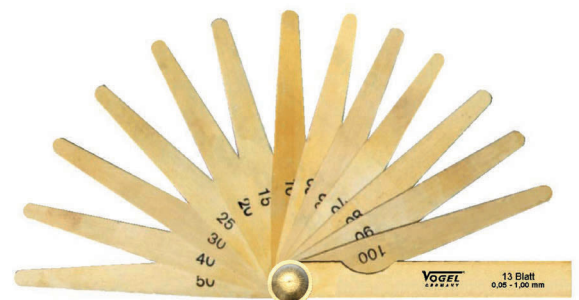



ART N°	quantity of blades	 mm / inch	composition	€	EURO CC
413101	8	0.05 – 0.50 .002 – .020	0.05-0.10-0.15-0.20-0.25-0.30-0.40-0.50 mm .002-.004-.006-.008-.010-.012-.016-.020 inch	4.36	13.60
413105	13	0.05 – 1.00 .002 – .040	0.05-0.10-0.15-0.20-0.25-0.30-0.40-0.50-0.60-0.70-0.80-0.90-1.00 mm .002-.004-.006-.008-.010-.012-.016-.020-.024-.028-.032-.036-.040 inch	5.08	22.10
413107	20	0.05 – 1.00 .002 – .040	0.05-0.10-0.15-0.20-0.25-0.30-0.35-0.40-0.45-0.50-0.55-0.60-0.65-0.70-0.75-0.80-0.85-0.90-0.95-1.00 mm .002-.004-.006-.008-.010-.012-.014-.016-.018-.020-.022-.024-.026-.028-.030-.032-.034-.036-.038-.040 inch	7.51	34.00

Feeler Gauge Set, made from brass

- anti-magnetic gauge, for electrical services

- blades made from brass
- conical shaped blades, 100 mm length
- brass case with lock nut
- sizes in mm on each blade



ART N°	quantity of blades	cover blade	 mm	composition	€	EURO CC
414105	13	brass	0.05 – 1.00	0.05-0.10-0.15-0.20-0.25-0.30-0.40-0.50-0.60-0.70-0.80-0.90-1.00 mm	11.13	13.60
414107	20	brass	0.05 – 1.00	0.05-0.10-0.15-0.20-0.25-0.30-0.35-0.40-0.45-0.50-0.55-0.60-0.65-0.70-0.75-0.80-0.85-0.90-0.95-1.00 mm	15.80	34.00

PERMISSIBLE TOLERANCES FOR SPRING BAND STEEL, HARDENED

nominal thickness mm	T2 (A2) +/- mm	T3 (A3) +/- mm	nominal thickness mm	T2 (A2) +/- mm	T3 (A3) +/- mm	nominal thickness mm	T2 (A2) +/- mm	T3 (A3) +/- mm
0.03 / 0.04 / 0.05 / 0.06	0.004	0.003	0.30	0.009	0.007	1.10	0.024	0.017
0.07 / 0.08 / 0.09 / 0.10	0.005	0.004	0.35	0.011	0.007	1.20	0.024	0.018
0.11 / 0.12 / 0.13	0.005	—	0.40 / 0.45	0.012	0.008	1.30	0.028	0.019
0.14 / 0.15	0.006	0.005	0.50 / 0.55	0.014	0.009	1.40	0.028	0.021
0.16 / 0.18	0.007	—	0.60 / 0.65	0.014	0.009	1.50	0.028	0.022
0.20	0.008	0.006	0.70 / 0.75	0.017	0.012	1.60	0.033	0.023
0.22 / 0.24	0.008	—	0.80 / 0.85	0.019	0.013	1.70	0.033	0.024
0.25	0.009	0.006	0.90 / 0.95	0.022	0.014	1.80	0.033	0.026
0.28	0.009	—	1.00	0.024	0.016	1.90	0.035	0.027
						2.00	0.035	0.028

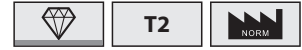
Feeler Gauge Sets and Piston Gauge Sets

Valve Regulation Gauge Set

tolerance acc.to T2

- for adjusting of valves

- blades made from hardened spring steel
- cylindrical shaped blades, 75 mm length, 9 mm width
- fixed by a brass rivet
- sizes in mm and inch on each blade
- delivery bulk packed or in foil
- thickness tolerance in relation to the metric sizes



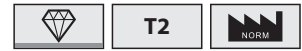
ART N° singly packed	€	ART N° bulk packed	€	quantity of blades	mm / inch	composition
415106	1.28	4151061	0.94	6	0.10 – 0.40 .004 – .016	0.10-0.15-0.20-0.25-0.30-0.40 mm .004-.006-.008-.010-.012-.016 inch
415107	1.37	4151071	0.84	7	0.10 – 0.50 .004 – .020	0.10-0.15-0.20-0.25-0.30-0.40-0.50 mm .004-.006-.008-.010-.012-.016-.020 inch

Piston Feeler Gauge Set

tolerance acc.to T2

- on a metal ring
- for adjusting of valves at narrow spaces and difficult to reach positions, etc.

- blades made from hardened spring steel
- cylindrical shaped blades, 13 mm width
- thickness tolerance in relation to the metric sizes



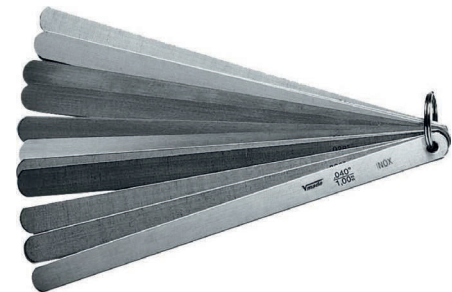
ART N° 8 blades 0.05 – 0.50 mm .002 – .020 inch	€	ART N° 13 blades 0.05 – 1.00 mm .002 – .040 inch	€	ART N° 20 blades 0.05 – 1.00 mm .002 – .040 inch	€	ART N° 20 blades 0.10 – 2.00 mm .004 – .080 inch	€	length of blades mm
436151	2.83	436155	4.49	436157	7.22	436158	10.97	150
436201	3.82	436205	6.05	436207	8.49	436208	13.91	200
436301	4.58	436305	7.58	436307	11.50	436308	19.81	300
436501	8.42	436505	12.63	436507	22.46	436508	53.32	500
436991	15.46	436995	22.23	436997	45.20	436998	0.00	1000

Piston Feeler Gauge Set, stainless steel

tolerance acc.to T2

- on a metal ring
- for adjusting of valves at narrow spaces and to reach difficult positions, etc.

- blades made from stainless steel, hard rolled out
- cylindrical shaped blades, 13 mm width
- thickness tolerance in relation to the metric sizes



ART N° 8 blades 0.05 – 0.50 mm .002 – .020 inch	€	ART N° 13 blades 0.05 – 1.00 mm .002 – .040 inch	€	ART N° 20 blades 0.05 – 1.00 mm .002 – .040 inch	€	length of blades mm
437151	9.55	437155	9.90	437157	15.02	150
437201	10.20	437205	19.05	437207	24.02	200
437301	16.29	437305	31.32	437307	38.46	300

Feeler Gauge Blades and Thickness Gauge Foils

Feeler Gauge Spare Blades

- When ordering, please specify blade thickness!



Price on request



ART N° spring steel	steel thickness up to max. mm / inch	ART N° brass	brass thickness up to max. mm / inch	conical shape	cylindrical shape	length of blade mm
421110	2.00 / .080	424110	1.00 / .040	✓	-	100
431150	2.00 / .080	—	—	—	✓	150
431200	2.00 / .080	—	—	—	✓	200
431300	2.00 / .080	—	—	—	✓	300
431500	2.00 / .080	—	—	—	✓	500

Thickness Gauge Foil

- 5 meter, rolled
- for automotive and engine industry and as levelling foil

- hardened spring steel or stainless steel, hard rolled out
- sizes in mm and inch on each blade
- rolled in a rugged plastic box
- From thickness 1.10 mm – 2.00 mm → only available in string of 1 m length
- from 0.65 mm rolled, without box



Other sizes available on request



ART N° spring steel	€	ART N° stainless steel	€	mm / inch	length m	ART N° spring steel	€	ART N° stainless steel	€	mm / inch	length m
455001	27.00	456001	35.00	0.01 / .0004	5	455055	13.00	—	—	0.55 / .022	5
455002	11.00	456002	20.00	0.02 / .0008	5	455060	13.00	—	—	0.60 / .024	5
455003	9.00	456003	15.00	0.03 / .0012	5	455065	13.00	—	—	0.65 / .026	5
455004	9.00	—	—	0.04 / .0016	5	455070	13.00	—	—	0.70 / .028	5
455005	9.00	456005	15.00	0.05 / .002	5	455075	13.00	—	—	0.75 / .030	5
455006	9.00	—	—	0.06 / .0024	5	455080	13.00	—	—	0.80 / .032	5
455007	9.00	—	—	0.07 / .0028	5	455085	13.00	—	—	0.85 / .034	5
455008	9.00	—	—	0.08 / .003	5	455090	16.00	—	—	0.90 / .036	5
455009	9.00	—	—	0.09 / .0035	5	455095	18.00	—	—	0.95 / .038	5
455010	9.00	456010	17.00	0.10 / .004	5	455100	19.00	456100	30.00	1.00 / .040	5
455012	9.00	—	—	0.12 / .005	5	457110	8.00	—	—	1.10	1
455015	9.00	456015	17.00	0.15 / .006	5	457120	8.00	—	—	1.20	1
455018	9.00	—	—	0.18 / .007	5	457130	8.50	—	—	1.30	1
455020	9.00	456020	19.00	0.20 / .008	5	457140	8.50	—	—	1.40	1
455025	9.00	456025	19.00	0.25 / .010	5	457150	9.00	—	—	1.50	1
455030	9.00	456030	21.00	0.30 / .012	5	457160	9.00	—	—	1.60	1
455035	9.00	—	—	0.35 / .014	5	457170	12.00	—	—	1.70	1
455040	9.00	456040	21.00	0.40 / .016	5	457180	12.00	—	—	1.80	1
455045	9.00	—	—	0.45 / .018	5	457190	14.00	—	—	1.90	1
455050	9.00	456050	25.00	0.50 / .020	5	457200	14.00	—	—	2.00	1

Holder for Feeler Gauge Blades



ART N°	size	€
458010	125 x 17 mm	3.22

Precision Thickness Gauge Foils

RECORD • Thickness Gauge Foil

DIN EN 10140:2006

- for adjusting, levelling etc.

- rolled in a rugged plastic box
- different material in different widths and different lengths available

brass: CuZn37 (MS63)
stainless steel: 1.4301
strength: 1300 – 1500 N/mm²



DIN

ART N ^o steel length x width 2500 x 150 mm	€	ART N ^o brass length x width 2500 x 150 mm	€	ART N ^o stainless steel length x width 2500 x 25 mm	€	ART N ^o stainless steel length x width 2500 x 50 mm	€	ART N ^o stainless steel length x width 2500 x 150 mm	€	mm
—	—	462010	50.84	463010	48.00	464010	42.41	465010	113.25	0.010
—	—	462020	35.27	463020	28.04	464020	26.27	465020	74.88	0.020
452025	27.67	462025	23.96	463025	22.99	464025	21.74	465025	36.60	0.025
—	—	462030	22.85	463030	13.44	464030	16.66	465030	35.50	0.030
—	—	462040	20.95	463040	13.16	464040	16.47	465040	33.28	0.040
452050	16.01	462050	22.85	463050	12.63	464050	16.16	465050	32.60	0.050
—	—	462060	25.43	463060	9.90	464060	12.63	465060	32.00	0.060
—	—	462070	25.43	463070	9.90	464070	12.63	465070	32.12	0.070
452075	16.10	462075	25.43	463075	9.91	464075	12.63	465075	32.12	0.075
—	—	462080	28.62	463080	9.97	464080	12.72	465080	32.07	0.080
—	—	462090	26.25	463090	9.80	464090	12.91	465090	33.75	0.090
452100	15.66	462100	28.62	463100	10.09	464100	12.91	465100	57.52	0.100
—	—	—	—	463120	10.41	464120	11.78	465120	36.37	0.120
452150	16.07	462150	34.80	463150	10.39	464150	13.64	465150	38.33	0.150
—	—	—	—	463180	10.41	464180	13.73	465180	43.35	0.180
452200	16.67	462200	41.04	463200	10.39	464200	15.45	465200	45.63	0.200
—	—	—	—	463220	7.23	464220	14.74	465220	47.32	0.220
452250	18.65	462250	46.30	463250	10.41	464250	15.95	465250	48.92	0.250
452300	21.23	462300	52.22	463300	10.62	464300	16.16	465300	52.19	0.300
—	—	—	—	463350	10.62	464350	15.70	465350	52.20	0.350
452400	24.13	462400	56.06	463400	11.12	464400	16.64	465400	55.07	0.400
—	—	—	—	463450	11.12	464450	16.16	465450	55.07	0.450
452500	26.55	462500	64.86	463500	11.63	464500	17.18	465500	59.81	0.500
—	—	—	—	—	—	—	—	465600	81.82	0.600 (rolled)
—	—	—	—	—	—	—	—	465700	90.96	0.700 (rolled)
—	—	—	—	—	—	—	—	465800	99.01	0.800 (rolled)
—	—	—	—	—	—	—	—	465999	119.14	1.000 (rolled)

RECORD • Thickness Gauge Foil

DIN EN 10140:2006

- for adjusting, levelling etc.

- stripes in a case with 10 or 5 blades
- different material in different widths and different lengths available



DIN

ART N ^o stainless steel length x width 300 x 50 mm/ 10 blades	€	ART N ^o stainless steel length x width 500 x 150 mm/ 5 blades	€	mm	ART N ^o stainless steel length x width 300 x 50 mm/ 10 blades	€	ART N ^o stainless steel length x width 500 x 150 mm/ 5 blades	€	mm
466010	59.63	467010	120.67	0.010	466100	19.39	467100	41.42	0.100
466015	59.63	—	—	0.015	466120	19.89	467120	43.83	0.120
466020	35.36	467020	85.90	0.020	466150	20.23	467150	44.36	0.150
466025	26.46	467025	47.49	0.025	466180	21.42	467180	50.04	0.180
466030	25.24	467030	44.95	0.030	466200	21.73	467200	54.77	0.200
466040	24.25	467040	42.16	0.040	466220	21.58	467220	55.41	0.220
466050	23.24	467050	41.42	0.050	466250	22.61	467250	58.60	0.250
466060	18.98	467060	37.77	0.060	466300	23.24	467300	61.65	0.300
466070	18.98	467070	38.34	0.070	466350	23.24	467350	61.65	0.350
466075	18.43	467075	38.91	0.075	466400	23.94	467400	64.64	0.400
466080	19.20	467080	38.25	0.080	466450	23.94	467450	62.76	0.450
466090	19.39	467090	40.22	0.090	466500	24.24	467500	67.04	0.500

Screw Pitch Gauges and Radius Gauges

Screw Pitch Gauges

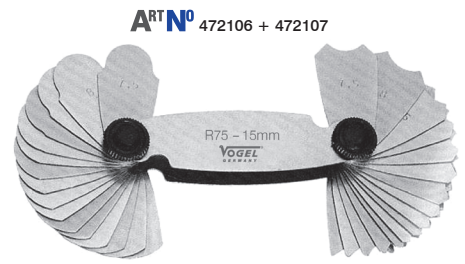
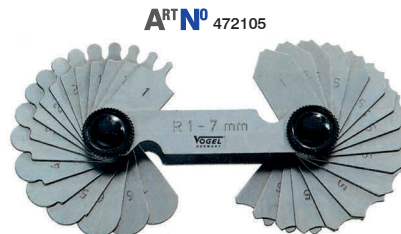
- for internal and external measurements of threads
- fine cutted threads



ART N°	quantity of blades	mm / inch	thread type	graduation	€	
471009	24	0.25 – 6.00 mm	metr. 60°	6.0/5.5/5.0/4.5/4.0/3.5/3.0/2.5/2.0/1.75/1.5/1.25	3.78	
471010	20	0.40 – 7.00 mm	metr. 60° SI	7.0/6.5/6.0/5.5/5.0/4.5/4.0/3.5/3.0/2.5	3.78	
471011	20	4 – 30 Gang / t.p.i.	whitw. 55°	4.0/4.5/5.0/6.0/7.0/8.0/9.0/10.0/11.0/12	4.03	
471012	28	4 – 62 Gang / t.p.i.	whitw. 55°	4.0/4.5/5.0/6.0/7.0/8.0/9.0/10.0/11.0/12/13/14/16/18	4.00	
471013	48	4 – 62 / 0.40 – 7.0	whitw. / metr. SI	combined	art.-no.: 47 1012 + 47 1010	5.85
471014	52	4 – 62 / 0.25 – 6.0	whitw. / metr.	combined	art.-no.: 47 1012 + 47 1009	5.28
471015	6	8 – 28 Gang / t.p.i.	whitw. 55°	tube	8/10/11/14/19/28	2.53
471016	58	4 – 62 / 0.25 – 6.0 / 8 – 28	whitw. / metr.	combined	art.-no.: 47 1014 + 47 1015	8.71
471017	14	10 – 40 Gang / t.p.i.	US 60° SAE	10/11/12/13/14/16/18	20/24/27/28/32/36/40	3.76
471018	30	6 – 60 Gang / t.p.i.	US 60° SAE	6/7/8/9/10/11/11.5/13/14/15/16/18/20/22/24	26/28/30/32/34/36/38/40/42/44/46/48/50/56/60	5.78
471019	30	4 – 42 Gang / t.p.i.	US 60° SAE	4.0/4.5/5.0/5.5/6.0/7.0/8.0/9.0/10/11/11.5/12/13/14/15	16/18/20/22/24/26/27/28/30/32/34/36/38/40/42	5.35
471020	52	4 – 84 Gang / t.p.i.	US 60° SAE	4/4.5/5.0/5.5/6.0/7.0/8.0/9.0/10/11/11.5/12/13/14/15/16/18/20/22/24/25/26/27/28/30/32	34/36/38/40/42/44/46/48/50/52/54/56/58/60/62/64/66/68/70/72/74/76/78/80/82/84	6.27
471021	22	4 – 64 Gang / t.p.i.	US 60° UNC	4/4.5/5/6/7/8/9/10/11/12/13	14/16/18/20/22/24/32/40/48/56/64	5.48
471022	16	12 – 80 Gang / t.p.i.	US 60° UNF	12/14/16/18/20/24/28/32	36/40/44/48/56/64/72/80	5.42

Radius Gauges

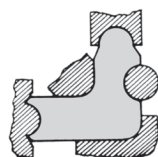
- for testing of raised and recessed curves
- concave and convex shaped blades
- fine cutted forms



ART N° carbon steel	€	ART N° stainless steel	€	quantity of blades	mm	composition mm
472105	7.12	472115	10.98	34	1.0 – 7.0	1 / 1.25 / 1.5 / 1.75 / 2 / 2.25 / 2.5 / 2.75 / 3 / 3.5 / 4 / 4.5 / 5 / 5.5 / 6 / 6.5 / 7
472106	8.64	472116	14.22	32	7.5 – 15.0	7.5 / 8 / 8.5 / 9 / 9.5 / 10 / 10.5 / 11 / 11.5 / 12 / 12.5 / 13 / 13.5 / 14 / 14.5 / 15
472107	8.42	472117	12.89	30	15.5 – 25.0	15.5 / 16 / 16.5 / 17 / 17.5 / 18 / 18.5 / 19 / 19.5 / 20 / 21 / 22 / 23 / 24 / 25

Radius Gauge Set

- matt chrome finish
- for testing of raised and recessed curves
- concave and convex shaped blades
- each blade with 5 measuring points

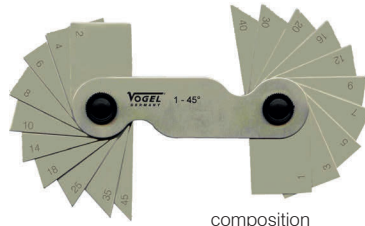


ART N°	quantity of blades	mm	composition mm	€
472109	26	0.5 – 13	0.5 / 1 / 1.5 / 2 / 2.5 / 3 / 3.5 / 4 / 4.5 / 5 / 5.5 / 6 / 6.5 / 7 / 7.5 / 8 / 8.5 / 9 / 9.5 / 10 / 10.5 / 11 / 11.5 / 12 / 12.5 / 13	47.45

Cutting Gauges

Angle Gauge

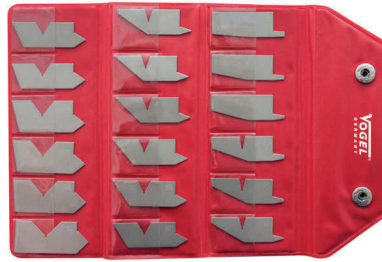
- angles 1° – 45°
- fine machined edges



ART N°	quantity of blades		composition	€
472000	20	1° – 45°	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 / 12 / 14 / 16 / 18 / 20 / 25 / 30 / 35 / 40 / 45°	13.87

Angle Gauge Set

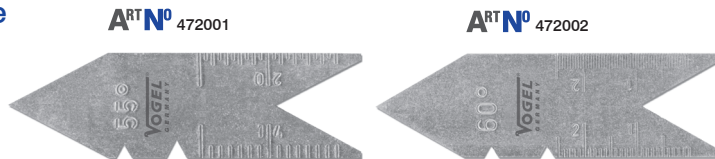
- stainless steel
- angles 5° – 90°
- each blade with several angles



ART N°	quantity of blades		composition	€
472020	18	5° – 90°	5 / 10 / 15 / 20 / 25 / 30 / 35 / 40 / 45 / 50 / 55 / 60 / 65 / 70 / 75 / 80 / 85 / 90°	27.83

Angle Thread Cutting Gauge

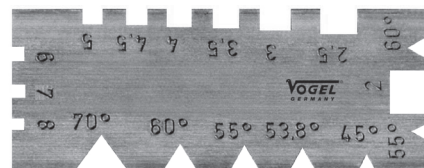
- suitable for craftsmen and industry
- angles 55° whitworth or 60° metric



ART N°	€		inch	ART N°	€		mm
472001	2.43	55°		472002	2.65	60°	

Combined Angle Thread Cutting Gauge

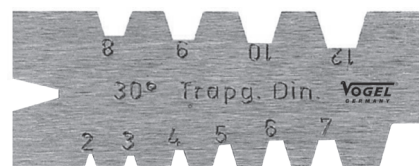
- suitable for craftsmen and industry
- fine machined edges



ART N°	angles threads	flat threads threads/inch (t.p.i.)	€
472003	45 - 53.8 - 55 - 60 - 70°	2 / 2.5 / 3 / 3.5 / 4 / 4.5 / 5 / 6 / 7 / 8	4.46

Trapez Thread Cutting Gauge

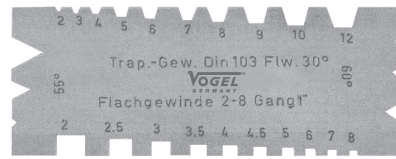
- suitable for craftsmen and industry
- fine machined edges



ART N°	trapez thread	trapez pitch mm	€
472004	30°	2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 / 12	4.09

Combined Turning and Thread Cutting Gauge

- suitable for craftsmen and industry
- with trapez- and flat threads



ART N°	trapez threads mm	flat threads threads/inch (t.p.i.)	angles	€
472005	2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 / 12	2 / 2.5 / 3 / 3.5 / 4 / 4.5 / 5 / 6 / 7 / 8	55° + 60°	10.19

Combined Turning and Thread Cutting Gauge

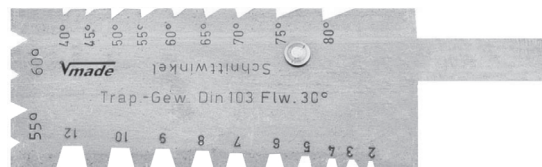
- suitable for craftsmen and industry
- with trapez- and saw cutting angles



ART N°	trapez threads mm	saw cutting angles	angles	€
472006	2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 / 12	40 / 45 / 50 / 55 / 60 / 65 / 70 / 75 / 80°	55° + 60°	10.19

Combined Turning and Thread Cutting Gauge

- suitable for craftsmen and industry
- with trapez- and saw cutting angles, with adjusting angle pointer



ART N°	trapez threads mm	saw cutting angles	adjusting angle	angles	€
472007	2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 / 12	40 / 45 / 50 / 55 / 60 / 65 / 70 / 75 / 80°	0° - 30°	55° + 60°	14.43

ACME Thread Cutting Gauge

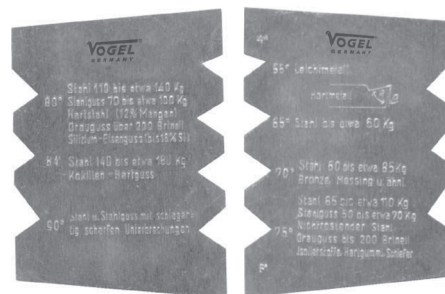
- suitable for craftsmen and industry
- SAE 60° / Ww-BSF 55° / 14.5° ACME / 47.5° BA



ART N°	SAE	Whitworth BSF	ACME	B.A.	€
472008	60°	55°	14.5°	47.5°	3.37

Lathe Tool Gauge

- suitable for craftsmen and industry
- for carbide turning tool and high speed turning tools
- fine machined edges



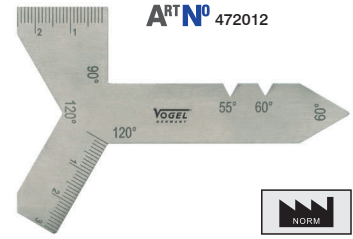
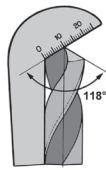
ART N°	€	for carbide turning tools	ART N°	€	for high speed turning tools
472009	9.90	✓	472010	11.14	✓

Cutting Gauges and Twist Drill Gauges

Twist Drill Grinding Gauges

- suitable for craftsmen and industry

- with 118° angle cut (art.-no.: 472011)
- with 55° / 60° / 90° / 120° angle cut (art.-no.: 472012)



ART No	angle cut °	up to drill-ø mm	€
472011	118°	50	1.74
472012	55° / 60° / 90° / 120°	60	3.69

Universal Twist Drill Grinding Gauge

- with fixing screw
- e.g. for general engineering

- made of Dur-Aluminium, surface hardened HRC63
- scratch-resistant, black anodized surface
- with adjustable angle indicator
- laser engraved, clear reading scale
- with thread table on the back



backside

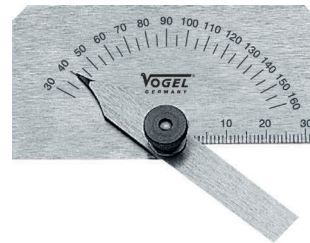


ART No	angle cut °	up to drill-ø mm	€
472021	30° – 160°	60	10.71

Universal Twist Drill Grinding Gauge

- suitable for craftsmen and industry

- with adjustable angle pointer

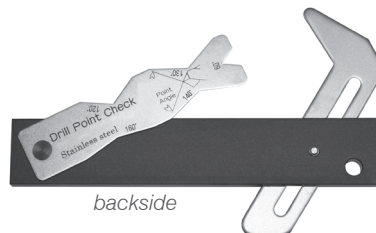


ART No	angle cut °	up to drill-ø mm	€
472013	30° – 160°	60	11.38

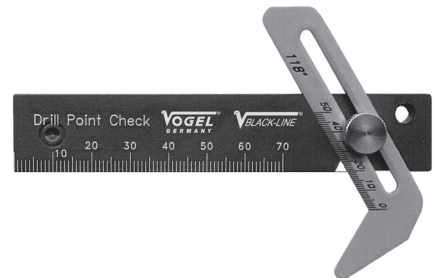
Universal Twist Drill Grinding Gauge

- suitable for craftsmen and industry

- special steel, hardened, ground and burnished
- with angle finder at the rear side



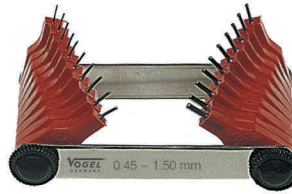
backside



ART No	mm	angle settings °	up to drill-ø mm	€
472018	0 – 70	60° / 118° / 120° / 130° / 140° / 160°	100	44.27

Jet Gauges

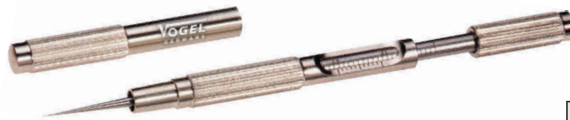
- suitable for craftsmen and industry
- with hardened steel pins, in plastic holders mounted



ART NO	quantity of pins	mm	composition mm	€
472201	20	0.45 – 1.50	0.45 / 0.50 / 0.55 / 0.60 / 0.65 / 0.70 / 0.75 / 0.80 / 0.85 / 0.90 / 0.95 / 1.00 / 1.05 / 1.10 / 1.15 / 1.20 / 1.25 / 1.30 / 1.40 / 1.50	7.36
472202	16	1.50 – 3.00	1.50 / 1.60 / 1.70 / 1.80 / 1.90 / 2.00 / 2.10 / 2.20 / 2.30 / 2.40 / 2.50 / 2.60 / 2.70 / 2.80 / 2.90 / 3.00	7.38

Precision Jet Gauges

- Product for highest demands
- measuring pin hardened, fine ground
- nickel plated housing



ART NO	mm	mm	taper mm	mm	€
472219	0 – 3	0.1	1 : 10	Ø 6.5 x 118	58.94
472220	0 – 5	0.1	1 : 10	Ø 9.0 x 176	67.10

Taper Gauges

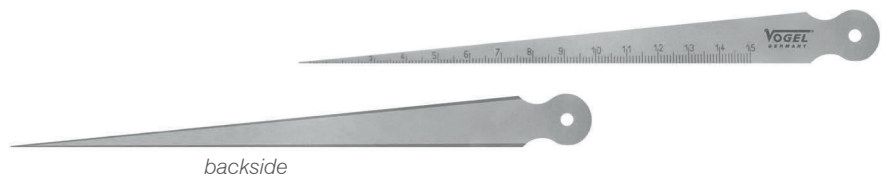
- flat version
- art.-no. 472370 – 472372: made of special steel, hardened
- art.-no. 472373 – 472375: made of technical ABS plastic
- art.-no. 472375: with slider made of aluminium, especially useful to measure hard to reach, not visible places, because the slider holds the position of measurement
- useful gauge, especially for the inspection of gap size, generators, motors, turbines, engines, etc.
- laser engraved graduation
- with knurled handle



ART NO	mm	mm	mm	version	€
472370	0.5 – 7.0 mm	0.1	124 x 8 x 8	steel	47.24
472372	0.5 – 11.0 mm	0.1	153 x 8 x 12	steel	48.60
472373	0.5 – 11.0 mm	0.1	155 x 8 x 12	ABS plastic	49.29
472375	0.5 – 11.0 mm	0.1	124 x 8 x 8	Taper Gauge with slider (Taper Gauge is made of ABS plastic, slider is made of aluminium)	206.99

Hole Gauge

- flat version
- rear side with rounded edges
- special steel, hardened and fine ground
- laser engraved graduation

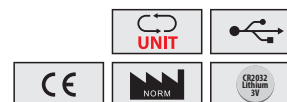
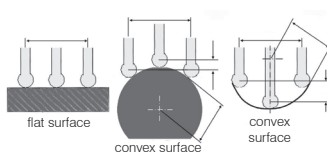


ART NO	mm	mm	mm	€
472320	1.0 – 15.0	0.1	178 x 12 x 2	36.52

Taper Gauges, Keyways Caliper and Spring Gauges

Electr. Digital Arc Test Set

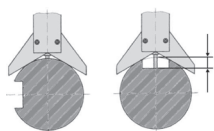
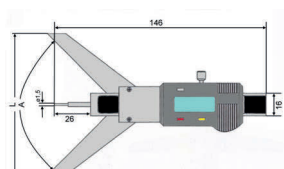
- ideal device for tooling
- USB data output
- aluminium housing with sturdy plastic cover
- large LCD display with clear reading, digit height 10 mm
- stem and spindle stainless, hardened and lapped
- exchangeable probe tips, M 2.5
- different sized probes for arc measurements
- measured value display in percent and radius display
- autom. power off, zero setting at any position
- Hold function, reading mm/inch, switchable
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual



ART N°	linearly mm / inch	radius mm	mm / inch	mm	max. linear mm	max. radius mm	€
472120	12.7 / 0.5	5 – 700	0.01 / 0.0005	0.01	<0.02	<0.02	271.35

Electr. Digital Keyways Caliper

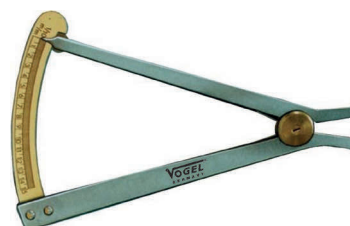
- for measurements of groove depth, etc.
- mechanical parts in stainless steel, hardened
- LCD display with clear reading, digit height 8 mm
- zero setting at any position
- reading switchable in mm/inch
- incl. 1x 1.5 V battery (type LR44, art.-no.: 2020192/B),
- with operation manual



ART N°	mm / inch	mm / inch	mm	A	L mm	for shaft- ϕ mm	€
473315	50 / 2	0.01 / 0.0005	0.03	90	100	5 – 140	163.88
473316	50 / 2	0.01 / 0.0005	0.03	120	100	5 – 200	163.88

Spring Gauge

- scale made of brass
- for thickness measurements of sheet-metal etc.
- special steel, polished



ART N°	mm	mm	total length mm	€
474802	0 – 15	0.1	150	12.41

Welding Gauge

- fan shape
- for measuring right angled welds
- stainless steel

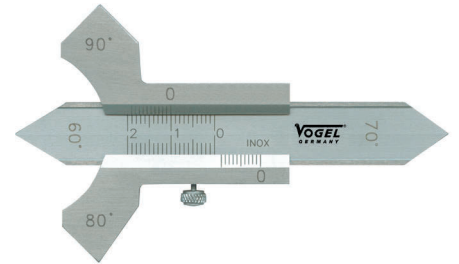
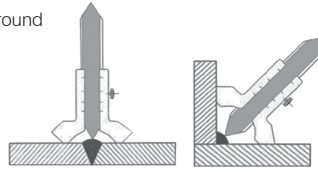


ART N°	quantity of blades	mm	composition mm	€
474401	12	3 - 12	3 / 3.5 / 4 / 4.5 / 5 / 5.5 / 6 / 6.5 / 7 / 8 / 10 / 12	14.46

Precision Welding Gauge

- with vernier reading
- for measurements of flat welding seams and in corners etc.

- stainless steel hardened and fine ground
- scale matt chromed
- with fixing screw

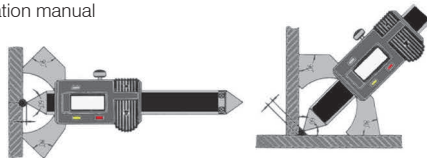


ART N°	mm	mm	angle	mm	€	EURO CC
474403	0 - 20	0.1	60 / 70 / 80 / 90	98 x 59 x 5.2	14.03	14.00

Electr. Digital Welding Gauge

- with data output RS 232 C

- stainless steel, hardened and ground
- LCD display with clear reading, zero-setting at any position
- On/Off button, reading switchable mm/inch
- incl. 1x 1.5 V battery (type LR44, art.-no.: 90213), with operation manual

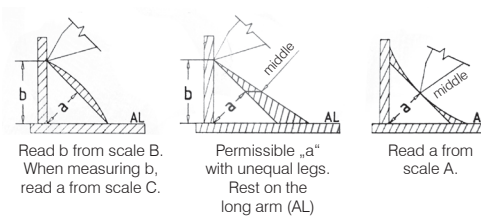


ART N°	mm / inch	mm / inch	max.	angle	mm	€	EURO CC
474410	0 - 20 / 0 - 0.8	0.01 / 0.0005	0.03	60 / 70 / 80 / 90	100 x 62 x 14	62.59	14.00

Precision Welding Gauge

- with reading window

- stainless steel, hardened and fine ground
- reading through a window by a reference line



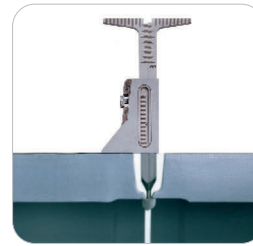
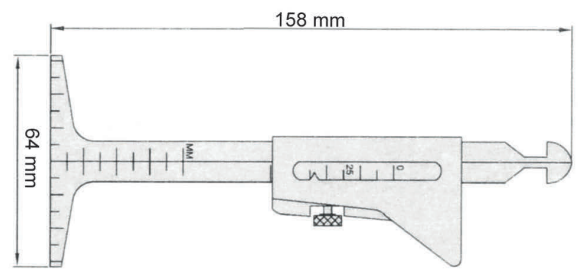
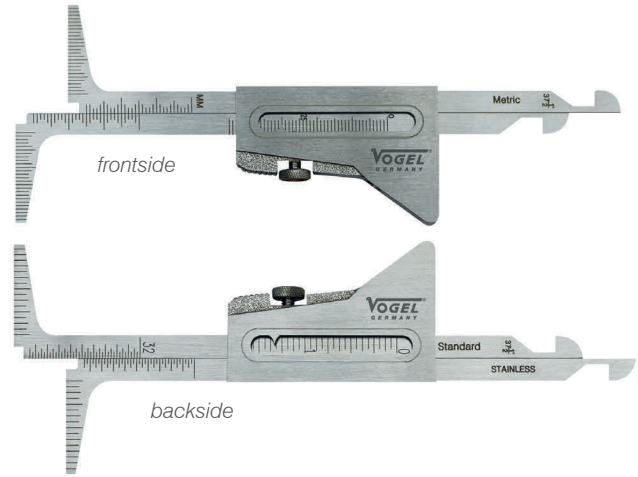
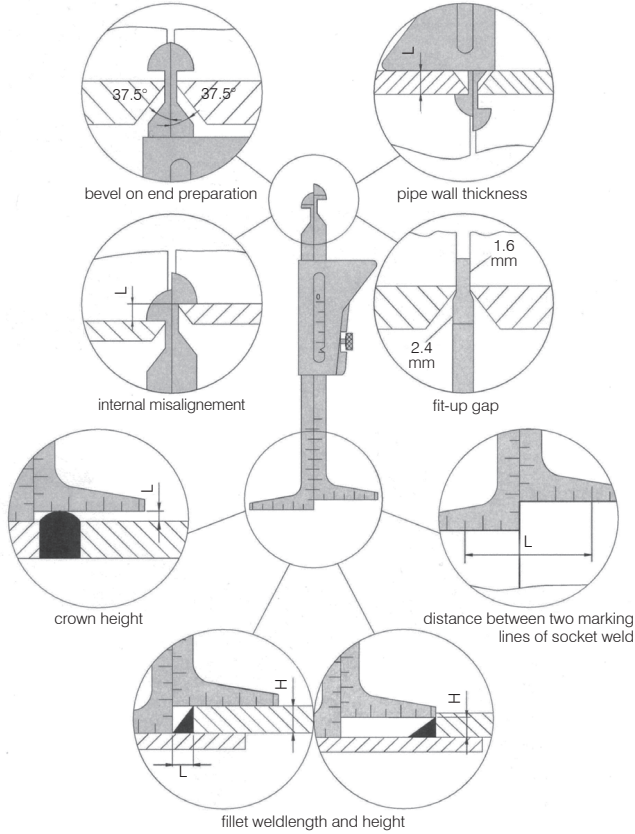
ART N°	mm	mm	€	EURO CC
474404	0.1	108 x 81.5 x 3.2	57.44	14.00

Pipe Welding Gauge and Measuring Tool Set

Pipe Welding Gauge / Edge Offset Gauge

- with opposite movable measuring jaws
- for pipe welds up to 35 mm wall thickness

- stainless steel, hardened, polished surfaces
- reading scale in mm and inch, laser engraved graduation
- with reading window, with fixing screw



ART N°				
474409	35	1.0	158 x 64 x 7	36.48

Measuring Tool Set

- selection of need-based compilations

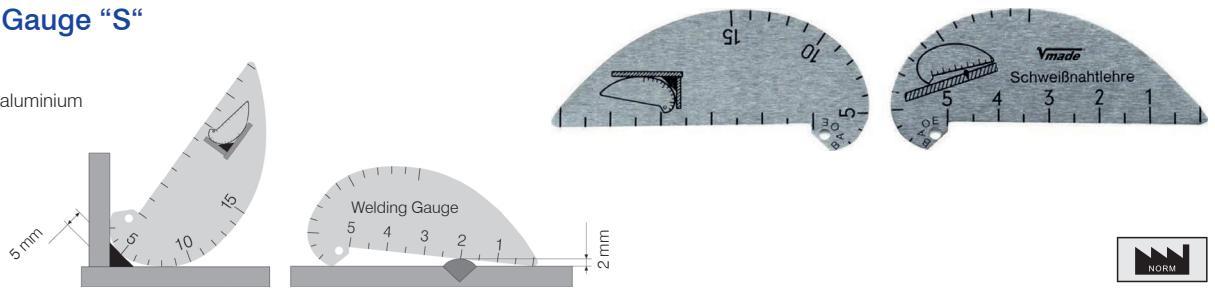
ART N° SET	pieces	consisting of	article	€
479901	4	Welding Gauge stainless steel, fan shape, quantity of blades 12, 3 – 12 mm	474401	141.48
		Precision Welding Gauge stainless steel, hardened and fine ground, with vernier reading, scale matt chromed, with fixing screw	474403	
		Precision Welding Gauge stainless steel, hardened and fine ground, reading through a indow by a reference line	474404	
		Pipe Welding Gauge / Edge Offset Gauge with opposite movable measuring jaws, for pipe welds up to 35 mm wall thickness, stainless, hardened, reading 1.0 mm	474409	

ART N° 479901



Welding Gauge "S"

- for craft
- made from aluminium



ART N°

474405

→ **mm** ←

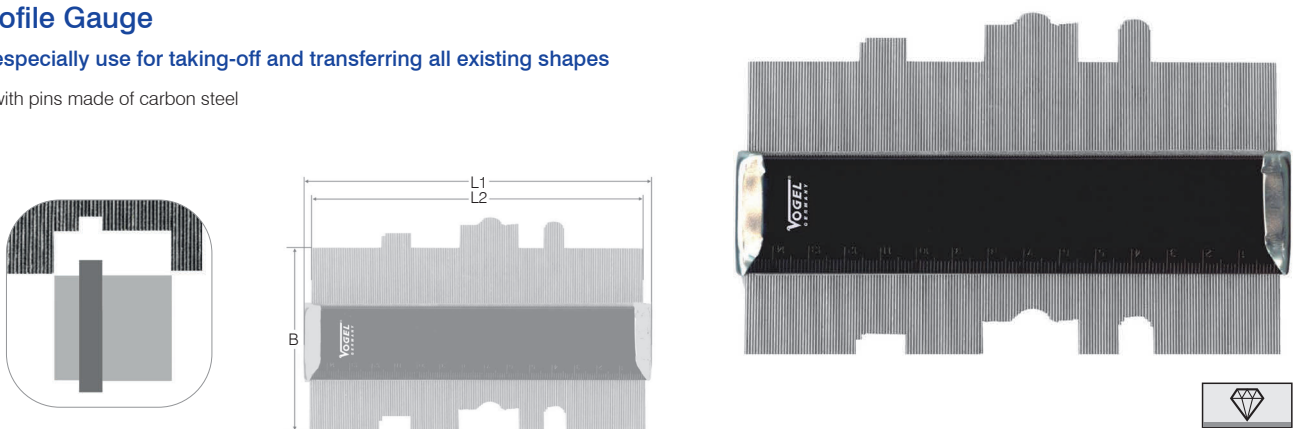
62.70 x 29.80 x 1.00

€

3.22

Profile Gauge

- especially use for taking-off and transferring all existing shapes
- with pins made of carbon steel



ART N°

474501

→ **mm** ←

150 x 40

B
mm

80

L2
mm

148

L1
mm

154

thickness
mm

20

€

15,14

474502

300 x 75

150

293

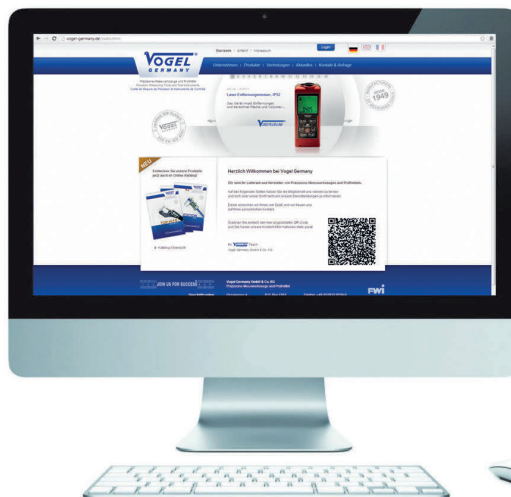
305

33

50,51

Explore our **Website.**

www.vogel-germany.de



Any questions?

We are pleased to advise.

Limit Plug Gauges

Limit Plug Gauges

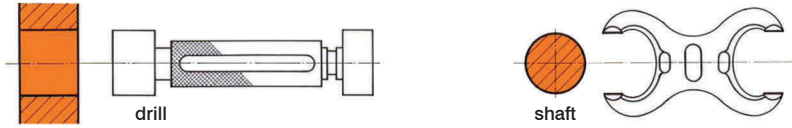
DIN EN ISO 1938-1

• designed acc. to DIN 2245 / 2246 / 2247

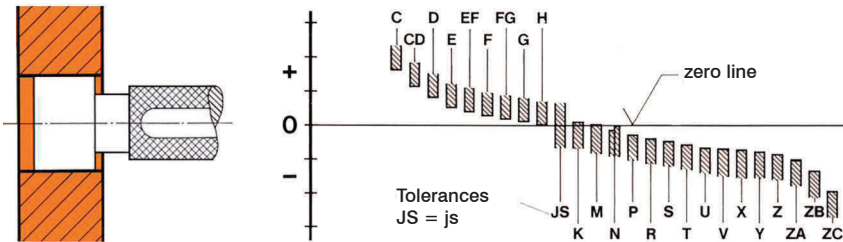
- special steel, finely ground and lapped
- with „Go“ and „No-Go“ side



Dimensions for bores and shafts



Dimensions for bores and shafts



Other tolerances on request
available: 37090-xxx



ART NO tolerance H7	€	size- \varnothing mm	EURO CC
37080-0010	28.30	1.0	10.80
37080-0012	28.30	1.2	10.80
37080-0015	28.30	1.5	10.80
37080-0018	28.30	1.8	10.80
37080-0020	28.30	2.0	10.80
37080-0022	28.30	2.2	10.80
37080-0025	28.30	2.5	10.80
37080-0028	25.47	2.8	10.80
37080-0030	25.47	3.0	10.80
37080-0035	25.47	3.5	10.50
37080-0040	25.47	4.0	10.50
37080-0045	25.47	4.5	10.50
37080-0050	25.47	5.0	10.50
37080-0060	25.47	6.0	10.50
37080-0070	25.47	7.0	10.50
37080-0080	25.47	8.0	10.50
37080-0090	25.47	9.0	10.50
37080-0100	25.47	10	10.50
37080-0110	28.30	11	12.50
37080-0120	28.30	12	12.50
37080-0130	28.30	13	12.50
37080-0140	28.30	14	12.50
37080-0150	28.30	15	12.50
37080-0160	28.30	16	12.50
37080-0170	28.30	17	12.50
37080-0180	33.96	18	12.50
37080-0190	33.96	19	12.50
37080-0200	33.96	20	12.50
37080-0210	33.96	21	12.50
37080-0220	36.79	22	12.50
37080-0230	36.79	23	12.50
37080-0240	36.79	24	12.50
37080-0250	36.79	25	12.50
37080-0260	36.79	26	12.50
37080-0270	67.91	27	12.50
37080-0280	67.91	28	12.50

ART NO tolerance H7	€	size- \varnothing mm	EURO CC
37080-0300	39.62	30	12.50
37080-0320	45.27	32	12.50
37080-0330	45.27	33	12.50
37080-0340	45.27	34	12.50
37080-0350	45.27	35	12.50
37080-0360	45.27	36	12.50
37080-0370	45.27	37	12.50
37080-0380	50.93	38	12.50
37080-0400	50.93	40	12.50
37080-0420	50.93	42	12.50
37080-0440	56.59	44	12.50
37080-0450	56.59	45	12.50
37080-0460	56.59	46	12.50
37080-0470	56.59	47	12.50
37080-0480	56.59	48	12.50
37080-0500	70.74	50	12.50
37080-0520	70.74	52	12.50
37080-0550	70.74	55	12.50
37080-0580	87.72	58	12.50
37080-0600	87.72	60	12.50
37080-0620	87.72	62	14.00
37080-0650	96.21	65	14.00
37080-0680	96.21	68	14.00
37080-0700	110.36	70	14.00
37080-0720	110.36	72	14.00
37080-0750	110.36	75	14.00
37080-0780	124.51	78	14.00
37080-0800	124.51	80	14.00
37080-0820	124.51	82	14.00
37080-0850	132.99	85	14.00
37080-0880	132.99	88	14.00
37080-0900	132.99	90	14.00
37080-0920	152.80	92	14.00
37080-0950	152.80	95	14.00
37080-0980	152.80	98	14.00
37080-1000	152.80	100	14.00

Setting Ring Gauges, acc. to DIN 2250 C, DIN ISO 286/1

- special steel, hardened, finely ground and lapped

Other tolerances available on request!



ART NO setting ring	€	ø mm	EURO CC
370770-0010	101.87	1.0	20.00
370770-0012	101.87	1.2	20.00
370770-0015	101.87	1.5	20.00
370770-0018	101.87	1.8	20.00
370770-0020	101.87	2.0	20.00
370770-0022	101.87	2.2	20.00
370770-0025	101.87	2.5	20.00
370770-0028	101.87	2.8	20.00
370770-0030	87.72	3.0	20.00
370770-0035	87.72	3.5	13.00
370770-0040	87.72	4.0	13.00
370770-0045	87.72	4.5	13.00
370770-0050	87.72	5.0	13.00
370770-0060	70.74	6.0	13.00
370770-0070	70.74	7.0	13.00
370770-0080	70.74	8.0	13.00
370770-0090	70.74	9.0	13.00
370770-0100	70.74	10.0	13.00
370770-0110	70.74	11.0	16.50
370770-0120	70.74	12.0	16.50
370770-0130	70.74	13.0	16.50
370770-0140	79.23	14.0	16.50
370770-0150	79.23	15.0	16.50
370770-0160	79.23	16.0	16.50
370770-0170	79.23	17.0	16.50
370770-0180	82.06	18.0	16.50
370770-0190	82.06	19.0	16.50
370770-0200	82.06	20.0	16.50
370770-0210	82.06	21.0	16.50
370770-0220	87.72	22.0	16.50
370770-0230	87.72	23.0	16.50
370770-0240	87.72	24.0	16.50
370770-0250	87.72	25.0	16.50
370770-0260	87.72	26.0	16.50
370770-0270	93.38	27.0	16.50
370770-0280	93.38	28.0	16.50
370770-0300	93.38	30.0	16.50
370770-0320	99.04	32.0	16.50
370770-0330	99.04	33.0	16.50
370770-0340	99.04	34.0	16.50
370770-0350	99.04	35.0	16.50
370770-0360	99.04	36.0	16.50
370770-0370	99.04	37.0	16.50
370770-0380	135.82	38.0	16.50
370770-0400	135.82	40.0	16.50
370770-0420	135.82	42.0	16.50
370770-0440	144.31	44.0	16.50
370770-0450	144.31	45.0	16.50

ART NO setting ring	€	ø mm	EURO CC
370770-0460	144.31	46.0	16.50
370770-0470	144.31	47.0	16.50
370770-0480	144.31	48.0	16.50
370770-0500	152.80	50.0	16.50
370770-0520	152.80	52.0	16.50
370770-0550	152.80	55.0	16.50
370770-0580	161.29	58.0	16.50
370770-0600	161.29	60.0	16.50
370770-0620	161.29	62.0	16.50
370770-0650	169.78	65.0	16.50
370770-0680	169.78	68.0	16.50
370770-0700	183.93	70.0	16.50
370770-0720	183.93	72.0	16.50
370770-0750	183.93	75.0	16.50
370770-0780	200.91	78.0	16.50
370770-0800	200.91	80.0	16.50
370770-0820	200.91	82.0	16.50
370770-0850	220.71	85.0	16.50
370770-0880	220.71	88.0	16.50
370770-0900	220.71	90.0	16.50
370770-0920	237.69	92.0	16.50
370770-0950	237.69	95.0	16.50
370770-0980	237.69	98.0	16.50
370770-1000	285.80	100.0	16.50
370770-1050	285.80	105.0	16.50
370770-1100	285.80	110.0	16.50
370770-1150	325.41	115.0	16.50
370770-1200	325.41	120.0	16.50
370770-1250	325.41	125.0	16.50
370770-1300	373.52	130.0	16.50
370770-1350	373.52	135.0	16.50
370770-1400	373.52	140.0	16.50
370770-1450	407.47	145.0	16.50
370770-1500	407.47	150.0	16.50
370770-1550	407.47	155.0	16.50
370770-1600	469.73	160.0	16.50
370770-1650	469.73	165.0	16.50
370770-1700	469.73	170.0	16.50
370770-1750	554.62	175.0	16.50
370770-1800	271.65	180.0	16.50
370770-1850	554.62	185.0	18.00
370770-1900	608.38	190.0	18.00
370770-1950	608.38	195.0	18.00
370770-2000	608.38	200.0	18.00
370770-2100	650.82	210.0	18.00
370770-2200	707.42	220.0	18.00
370770-2400	764.01	240.0	18.00
370770-2500	834.75	250.0	18.00
370770-2600	919.64	260.0	18.00
370770-2800	990.38	280.0	18.00
370770-3000	1.075.27	300.0	18.00
370770-3200	1.160.16	320.0	18.00
370770-3400	1.216.76	340.0	18.00
370770-3600	1.259.20	360.0	18.00
370770-3800	1.372.39	380.0	18.00
370770-4000	1.485.58	400.0	18.00

Limit Thread Plug Gauges

Limit Thread Plug Gauge

DIN 13

- metric ISO-threads

- special steel, hardened and finely ground
- „Go“ and „No-Go“ thread plug gauge



Other sizes or types
are available on request!



ART NO	tolerance class	thread-ø mm	€	EURO CC
390101	5H	1.0 x 0.25	166.95	14.00
390102	5H	1.1 x 0.25	166.95	14.00
390103	5H	1.2 x 0.25	158.46	14.00
390104	5H	1.4 x 0.3	158.46	14.00
390105	6H	1.6 x 0.35	132.99	14.00
390106	6H	1.8 x 0.35	116.02	14.00
390107	6H	2.0 x 0.4	70.74	14.00
390108	6H	2.2 x 0.45	70.74	14.00
390109	6H	2.5 x 0.45	62.25	14.00
390110	6H	3.0 x 0.5	50.93	14.00
390111	6H	3.5 x 0.6	48.10	13.50
390112	6H	4.0 x 0.7	48.10	13.50
390113	6H	4.5 x 0.75	48.10	13.50
390114	6H	5.0 x 0.8	45.27	13.50
390115	6H	6.0 x 1.0	42.45	13.50
390116	6H	7.0 x 1.0	42.45	13.50
390117	6H	8.0 x 1.25	45.27	13.50
390118	6H	9.0 x 1.25	48.10	13.50
390119	6H	10 x 1.5	48.10	13.50
390120	6H	12 x 1.75	50.93	13.50
390121	6H	14 x 2.0	56.59	13.50
390122	6H	16 x 2.0	59.42	13.50
390123	6H	18 x 2.5	73.57	13.50
390124	6H	20 x 2.5	82.06	13.50
390125	6H	22 x 2.5	84.89	13.50
390126	6H	24 x 3.0	96.21	13.50
390127	6H	27 x 3.0	104.70	13.50
390128	6H	30 x 3.5	116.02	13.50
390129	6H	33 x 3.5	127.34	13.50
390130	6H	36 x 4.0	138.65	13.50
390131	6H	39 x 4.0	149.97	13.50

Limit Thread Ring Gauges and Sets

Limit Thread Ring Gauge

DIN 13

- metric ISO-threads
- special steel, hardened and finely ground



type B „Go“ thread ring gauge
type C „No-Go“ thread ring gauge



ART NO type B	ART NO type C	tolerance class	thread-ø mm	€	EURO CC
390201	390301	6h	1.0 x 0.25	141.48	10.50
390202	390302	6h	1.1 x 0.25	135.82	10.50
390203	390303	6h	1.2 x 0.25	135.82	10.50
390204	390304	6h	1.4 x 0.3	130.16	10.50
390205	390305	6g	1.6 x 0.35	121.68	10.50
390206	390306	6g	1.8 x 0.35	82.06	10.50
390207	390307	6g	2.0 x 0.4	79.23	10.50
390208	390308	6g	2.2 x 0.45	96.21	10.50
390209	390309	6g	2.5 x 0.45	62.25	10.50
390210	390310	6g	3.0 x 0.5	50.93	10.50
390211	390311	6g	3.5 x 0.6	48.10	12.50
390212	390312	6g	4.0 x 0.7	48.10	12.50
390213	390313	6g	4.5 x 0.75	48.10	12.50
390214	390314	6g	5.0 x 0.8	48.10	12.50
390215	390315	6g	6.0 x 1.0	48.10	12.50
390216	390316	6g	7.0 x 1.0	62.25	12.50
390217	390317	6g	8.0 x 1.25	48.10	12.50
390218	390318	6g	9.0 x 1.25	67.91	12.50
390219	390319	6g	10 x 1.5	53.76	12.50
390220	390320	6g	12 x 1.75	65.08	12.50
390221	390321	6g	14 x 2.0	70.74	12.50
390222	390322	6g	16 x 2.0	76.40	12.50
390223	390323	6g	18 x 2.5	101.87	12.50
390224	390324	6g	20 x 2.5	116.02	12.50
390225	390325	6g	22 x 2.5	124.51	12.50

ART NO type B	ART NO type C	tolerance class	thread-ø mm	€	EURO CC
390226	390326	6g	24 x 3.0	132.99	12.50
390227	390327	6g	27 x 3.0	147.14	12.50
390228	390328	6g	30 x 3.5	164.12	12.50
390229	390329	6g	33 x 3.5	178.27	12.50
390230	390330	6g	36 x 4.0	192.42	12.50
390231	390331	6g	39 x 4.0	209.40	12.50
390232	390332	6g	42 x 4.5	226.37	12.50
390233	390333	6g	45 x 4.5	240.52	12.50
390234	390334	6g	48 x 5.0	254.67	12.50
390235	390335	6g	52 x 5.0	274.48	12.50
390236	390336	6g	56 x 5.5	299.95	12.50
390237	390337	6g	60 x 5.5	314.09	12.50
390238	390338	6g	64 x 6.0	333.90	12.50
390239	390339	6g	68 x 6.0	350.88	12.50
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Limit Thread Plug Gauge Set Limit Thread Ring Gauge Set Limit Plug Gauge Set

- acc. to DIN tolerances
- special steel, hardened, fine ground



ART NO	plug gauge set	ring gauge set	„Go“	„No-Go“	contents mm	€	EURO CC
390801	✓	—	✓	✓	M 3 / M 4 / M 5 / M 6 / M 8 / M 10 / M 12	113.54	105.00
390805	—	✓	✓	—	M 3 / M 4 / M 5 / M 6 / M 8 / M 10 / M 12	250.42	115.00
390806	—	✓	—	✓	M 3 / M 4 / M 5 / M 6 / M 8 / M 10 / M 12	236.83	80.00
370801	✓	—	✓	✓	3H7 / 4H7 / 5H7 / 6H7 / 8H7 / 10H7 / 12H7	116.54	105.00

Precision Measuring Steel Pins

Cylindrical Measuring Pins in a Set

DIN 2269

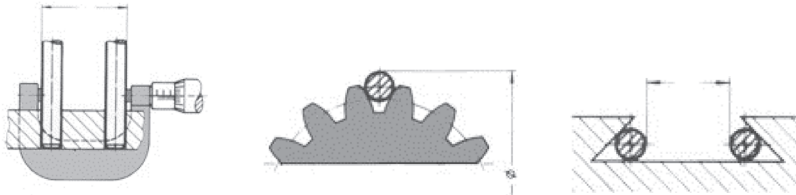
• Product for highest demands



- special chrome-steel with high wearing quality and enough resistance to corrosion
- hardened, finely ground and **lapped**
- from up 3.0 mm marked with the size on the top surface



Other sizes available on request!

Pin holder find on page 251



ARTNO	contents pcs.	size- ϕ mm	steps mm	 \pm mm	length mm	€	
380210	21	0.10 – 0.30	0.01	0.0005	30	650.99	60.00
380211	21	0.30 – 0.50	0.01	0.0005	30	459.15	60.00
380212	51	0.50 – 1.00	0.01	0.0005	30	856.03	143.00
380213	19	0.10 – 1.00	0.05	0.0005	30	307.71	54.00
380301	21	0.10 – 0.30	0.01	0.0010	40	476.38	60.00
380302	21	0.30 – 0.50	0.01	0.0010	40	341.19	60.00
380303	51	0.50 – 1.00	0.01	0.0010	40	630.88	143.00
380304	19	0.10 – 1.00	0.05	0.0010	40	365.01	54.00
380307	21	1.00 – 2.00	0.05	0.0010	70	293.00	60.00
380308	21	2.00 – 3.00	0.05	0.0010	70	276.36	60.00
380309	21	3.00 – 4.00	0.05	0.0010	70	281.48	60.00
380310	21	4.00 – 5.00	0.05	0.0010	70	265.55	60.00
380311	21	5.00 – 6.00	0.05	0.0010	70	265.55	60.00
380312	21	6.00 – 7.00	0.05	0.0010	70	311.41	60.00
380313	21	7.00 – 8.00	0.05	0.0010	70	325.90	60.00
380314	21	8.00 – 9.00	0.05	0.0010	70	325.90	60.00
380315	21	9.00 – 10.00	0.05	0.0010	70	325.90	60.00
380316	100	10.01 – 11.00	0.01	0.0020	50	1170.82	280.00
380317	100	11.01 – 12.00	0.01	0.0020	50	1170.82	280.00
380318	100	12.01 – 13.00	0.01	0.0020	50	1279.45	280.00
380319	100	13.01 – 14.00	0.01	0.0020	50	1279.45	280.00
380320	100	14.01 – 15.00	0.01	0.0020	50	1442.40	280.00
380321	100	15.01 – 16.00	0.01	0.0020	50	1442.40	280.00
380323	100	16.01 – 17.00	0.01	0.0020	50	1689.84	280.00
380324	100	17.01 – 18.00	0.01	0.0020	50	1689.84	280.00
380325	100	18.01 – 19.00	0.01	0.0020	50	2021.78	280.00
380326	100	19.01 – 20.00	0.01	0.0020	50	2021.78	280.00
380350	101	1.00 – 2.00	0.01	0.0010	70	1080.29	282.80
380351	101	2.00 – 3.00	0.01	0.0010	70	1032.01	282.80
380352	101	3.00 – 4.00	0.01	0.0010	70	1057.36	282.80
380353	101	4.00 – 5.00	0.01	0.0010	70	1057.36	282.80
380354	101	5.00 – 6.00	0.01	0.0010	70	995.80	282.80
380355	101	6.00 – 7.00	0.01	0.0010	70	1225.14	282.80
380356	101	7.00 – 8.00	0.01	0.0010	70	1225.14	282.80
380357	101	8.00 – 9.00	0.01	0.0010	70	1225.14	282.80
380358	101	9.00 – 10.00	0.01	0.0010	70	1237.21	282.80
380341	41	1.00 – 5.00	0.10	0.0010	70	464.71	115.00
380342	91	1.00 – 10.00	0.10	0.0010	70	1074.26	255.00
380343	91	0.50 – 5.00	0.05	0.0010	40/70	1025.98	255.00
380344	100	5.05 – 10.00	0.05	0.0010	70	1279.45	280.00
380345	100	10.05 – 15.00	0.05	0.0020	50	1484.65	280.00
380346	100	15.05 – 20.00	0.05	0.0020	50	2269.22	280.00

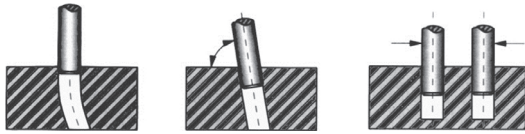
Singly Cylindrical Measuring Pins

DIN 2269

- for inspection and measuring of bores, bore distances, or as setting-gauge for measuring instruments
- for inspection of internal- and external-tooth system and many other application
- special chrome steel with high wearing quality and enough resistance to corrosion, hardened, finely ground and lapped

Option

- alloy steel handle, available at extra charge (when order the handle, specify the diameter also, please!)



Other sizes available on request!
Price depending on size value.



ART N°	size- ϕ mm	$\begin{matrix} \text{max.} \\ \text{mm} \\ \pm \end{matrix}$	length mm	
3805010...	0.10 – 1.00	0.0005	30	5.20
3805011...	0.10 – 0.99	0.0010	40	5.20
3805012...	1.00 – 3.00	0.0010	40	5.20
3805013...	1.00 – 3.00	0.0010	70	5.20
3805014...	3.01 – 6.00	0.0010	70	5.20
3805015...	6.01 – 10.20	0.0010	70	5.20

ART N°	size- ϕ mm	$\begin{matrix} \text{max.} \\ \text{mm} \\ \pm \end{matrix}$	length mm	
3805030...	10.00 – 12.00	0.0020	50	5.20
3805031...	12.01 – 14.00	0.0020	50	5.20
3805032...	14.01 – 16.00	0.0020	50	5.20
3805033...	16.01 – 18.00	0.0020	50	5.20
3805034...	18.01 – 20.05	0.0020	50	5.20
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Pin Holder

- with marking “G” (Go) + “A” (No-Go)



ART N°	for pin- ϕ mm	€	ART N°	for pin- ϕ mm	€	ART N°	for pin- ϕ mm	€
381001	1 – 2	22.01	381003	4 – 6	47.24	381005	8 – 10	70.86
381002	2 – 4	25.65	381004	6 – 8	62.99	—	—	—

Precision Measuring Pins in a Set

- 75-pieces
- special chrome steel with high wearing quality and enough resistance to corrosion, hardened, finely ground and lapped
- nominal-size- ϕ 5 mm
- steps in ϕ m, tolerance ϕ 0.3 μ m
- with plastic-handles



ART N°	tolerance gradations μ m	€	
380201	± 0 + 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 / 11 / 12 / 13 / 14 / 15 / 16 / 18 / 20 / 22 / 24 / 26 28 / 30 / 35 / 40 / 45 / 50 / 55 / 60 / 65 / 70 / 75 / 80 / 85 / 90 / 95 / 100 - 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 / 11 / 12 / 13 / 14 / 15 / 16 / 18 / 20 / 22 / 24 / 26 28 / 30 / 35 / 40 / 45 / 50 / 55 / 60 / 65 / 70 / 75 / 80 / 85 / 90 / 95 / 100	1296.35	210.00

Parallel Gauge Blocks

Parallel Gauge Blocks, individual

DIN EN ISO 3650

• product for highest demands

- from specially alloyed, particularly cured and relaxed special steel or of zirconia ceramic (best ceramic grade)
- ceramic gauge blocks are particularly suitable for the measurement chamber and test room
- each gauge block is marked with an identification number



Options

- art.-no. 3594001: complete calibration according to VDI/VDE/DGQ 2618 sheet 3.1 (€ 155.63)
- gauge blocks made of tungsten carbide available on request

DIN EN ISO

size = nominal size mm	ART NO steel		ART NO ceramic		ART NO steel		ART NO ceramic	
	tolerance class 0	€	tolerance class 0	€	tolerance class 1	€	tolerance class 1	€
0.50	350200-00050	52.00	350201-00050	79.23	350210-00050	34.66	350211-00050	52.00
1.000	350200-001000	34.66	350201-001000	56.95	350210-001000	34.66	350211-001000	39.62
1.0005	350200-0010005	34.66	350201-0010005	56.95	350210-0010005	34.66	350211-0010005	39.62
1.001	350200-001001	34.66	350201-001001	56.95	350210-001001	34.66	350211-001001	39.62
1.002	350200-001002	34.66	350201-001002	56.95	350210-001002	34.66	350211-001002	39.62
1.003	350200-001003	34.66	350201-001003	56.95	350210-001003	34.66	350211-001003	39.62
1.004	350200-001004	34.66	350201-001004	56.95	350210-001004	34.66	350211-001004	39.62
1.005	350200-001005	37.14	350201-001005	56.95	350210-001005	34.66	350211-001005	39.62
1.006	350200-001006	37.14	350201-001006	56.95	350210-001006	34.66	350211-001006	39.62
1.007	350200-001007	37.14	350201-001007	56.95	350210-001007	34.66	350211-001007	39.62
1.008	350200-001008	37.14	350201-001008	56.95	350210-001008	34.66	350211-001008	39.62
1.009	350200-001009	37.14	350201-001009	56.95	350210-001009	34.66	350211-001009	39.62
1.01	350200-00101	29.71	350201-00101	56.95	350210-00101	34.66	350211-00101	39.62
1.02	350200-00102	29.71	350201-00102	56.95	350210-00102	34.66	350211-00102	39.62
1.03	350200-00103	29.71	350201-00103	56.95	350210-00103	34.66	350211-00103	39.62
1.04	350200-00104	29.71	350201-00104	56.95	350210-00104	34.66	350211-00104	39.62
1.05	350200-00105	29.71	350201-00105	56.95	350210-00105	34.66	350211-00105	39.62
1.06	350200-00106	29.71	350201-00106	56.95	350210-00106	34.66	350211-00106	39.62
1.07	350200-00107	29.71	350201-00107	56.95	350210-00107	34.66	350211-00107	39.62
1.08	350200-00108	29.71	350201-00108	56.95	350210-00108	34.66	350211-00108	39.62
1.09	350200-00109	29.71	350201-00109	56.95	350210-00109	34.66	350211-00109	39.62
1.10	350200-00110	29.71	350201-00110	56.95	350210-00110	34.66	350211-00110	39.62
1.11	350200-00111	29.71	350201-00111	56.95	350210-00111	34.66	350211-00111	39.62
1.12	350200-00112	29.71	350201-00112	56.95	350210-00112	34.66	350211-00112	39.62
1.13	350200-00113	29.71	350201-00113	56.95	350210-00113	34.66	350211-00113	39.62
1.14	350200-00114	29.71	350201-00114	56.95	350210-00114	34.66	350211-00114	39.62
1.15	350200-00115	29.71	350201-00115	56.95	350210-00115	34.66	350211-00115	39.62
1.16	350200-00116	29.71	350201-00116	56.95	350210-00116	34.66	350211-00116	39.62
1.17	350200-00117	29.71	350201-00117	56.95	350210-00117	34.66	350211-00117	39.62
1.18	350200-00118	29.71	350201-00118	56.95	350210-00118	34.66	350211-00118	39.62
1.19	350200-00119	29.71	350201-00119	56.95	350210-00119	34.66	350211-00119	39.62
1.20	350200-00120	29.71	350201-00120	56.95	350210-00120	34.66	350211-00120	39.62
1.21	350200-00121	29.71	350201-00121	56.95	350210-00121	34.66	350211-00121	39.62
1.22	350200-00122	29.71	350201-00122	56.95	350210-00122	34.66	350211-00122	39.62
1.23	350200-00123	29.71	350201-00123	56.95	350210-00123	34.66	350211-00123	39.62
1.24	350200-00124	29.71	350201-00124	56.95	350210-00124	34.66	350211-00124	39.62
1.25	350200-00125	29.71	350201-00125	56.95	350210-00125	34.66	350211-00125	39.62
1.26	350200-00126	29.71	350201-00126	56.95	350210-00126	34.66	350211-00126	39.62
1.27	350200-00127	29.71	350201-00127	56.95	350210-00127	34.66	350211-00127	39.62
1.28	350200-00128	29.71	350201-00128	56.95	350210-00128	34.66	350211-00128	39.62
1.29	350200-00129	29.71	350201-00129	56.95	350210-00129	34.66	350211-00129	39.62
1.30	350200-00130	29.71	350201-00130	56.95	350210-00130	34.66	350211-00130	39.62
1.31	350200-00131	29.71	350201-00131	56.95	350210-00131	34.66	350211-00131	39.62
1.32	350200-00132	29.71	350201-00132	56.95	350210-00132	34.66	350211-00132	39.62
1.33	350200-00133	29.71	350201-00133	56.95	350210-00133	34.66	350211-00133	39.62
1.34	350200-00134	29.71	350201-00134	56.95	350210-00134	34.66	350211-00134	39.62
1.35	350200-00135	29.71	350201-00135	56.95	350210-00135	34.66	350211-00135	39.62
1.36	350200-00136	29.71	350201-00136	56.95	350210-00136	34.66	350211-00136	39.62
1.37	350200-00137	29.71	350201-00137	56.95	350210-00137	34.66	350211-00137	39.62
1.38	350200-00138	29.71	350201-00138	56.95	350210-00138	34.66	350211-00138	39.62
1.39	350200-00139	29.71	350201-00139	56.95	350210-00139	34.66	350211-00139	39.62
1.40	350200-00140	29.71	350201-00140	56.95	350210-00140	34.66	350211-00140	39.62
1.41	350200-00141	29.71	350201-00141	56.95	350210-00141	34.66	350211-00141	39.62
1.42	350200-00142	29.71	350201-00142	56.95	350210-00142	34.66	350211-00142	39.62
1.43	350200-00143	29.71	350201-00143	56.95	350210-00143	34.66	350211-00143	39.62
1.44	350200-00144	29.71	350201-00144	56.95	350210-00144	34.66	350211-00144	39.62
1.45	350200-00145	29.71	350201-00145	56.95	350210-00145	34.66	350211-00145	39.62
1.46	350200-00146	29.71	350201-00146	56.95	350210-00146	34.66	350211-00146	39.62
1.47	350200-00147	29.71	350201-00147	56.95	350210-00147	34.66	350211-00147	39.62


Parallel Gauge Blocks

size = nominal size mm	ARTN ^o steel		ARTN ^o ceramic		ARTN ^o steel		ARTN ^o ceramic	
	tolerance class 0	€	tolerance class 0	€	tolerance class 1	€	tolerance class 1	€
1.48	350200-00148	42.09	350201-00149	66.85	350210-00148	39.62	350211-00148	25.63
1.49	350200-00149	42.09	350201-00150	66.85	350210-00149	34.66	350211-00149	25.63
1.50	350200-00150	42.09	350201-00150	66.85	350210-00150	34.66	350211-00150	30.08
1.60	350200-00160	42.09	350201-00160	66.85	350210-00160	34.66	350211-00160	30.08
1.70	350200-00170	42.09	350201-00170	66.85	350210-00170	34.66	350211-00170	30.08
1.80	350200-00180	42.09	350201-00180	66.85	350210-00180	34.66	350211-00180	37.14
1.90	350200-00190	42.09	350201-00190	66.85	350210-00190	34.66	350211-00190	42.09
2.00	350200-00200	42.09	350201-00200	66.85	350210-00200	34.66	350211-00200	47.04
2.50	350200-00250	42.09	350201-00250	66.85	350210-00250	34.66	350211-00250	47.04
3.00	350200-00300	42.09	350201-00300	66.85	350210-00300	34.66	350211-00300	47.04
3.50	350200-00350	42.09	350201-00350	66.85	350210-00350	34.66	350211-00350	47.04
4.00	350200-00400	42.09	350201-00400	66.85	350210-00400	34.66	350211-00400	47.04
4.50	350200-00450	42.09	350201-00450	66.85	350210-00450	34.66	350211-00450	47.04
5.00	350200-00500	42.09	350201-00500	66.85	350210-00500	34.66	350211-00500	47.04
5.50	350200-00550	42.09	350201-00550	66.85	350210-00550	34.66	350211-00550	47.04
6.00	350200-00600	42.09	350201-00600	74.28	350210-00600	34.66	350211-00600	52.00
6.50	350200-00650	42.09	350201-00650	74.28	350210-00650	34.66	350211-00650	52.00
7.00	350200-00700	44.57	350201-00700	74.28	350210-00700	34.66	350211-00700	52.00
7.50	350200-00750	44.57	350201-00750	74.28	350210-00750	34.66	350211-00750	52.00
8.00	350200-00800	44.57	350201-00800	74.28	350210-00800	34.66	350211-00800	52.00
8.50	350200-00850	44.57	350201-00850	74.28	350210-00850	34.66	350211-00850	52.00
9.00	350200-00900	44.57	350201-00900	74.28	350210-00900	34.66	350211-00900	52.00
9.50	350200-00950	44.57	350201-00950	74.28	350210-00950	34.66	350211-00950	52.00
10.00	350200-01000	44.57	350201-01000	74.28	350210-01000	34.66	350211-01000	52.00
10.50	350200-01050	44.57	350201-01050	84.18	350210-01050	34.66	350211-01050	56.95
11.00	350200-01100	44.57	350201-01100	84.18	350210-01100	39.62	350211-01100	56.95
11.50	350200-01150	44.57	350201-01150	84.18	350210-01150	39.62	350211-01150	56.95
12.00	350200-01200	47.04	350201-01200	84.18	350210-01200	39.62	350211-01200	56.95
12.50	350200-01250	47.04	350201-01250	84.18	350210-01250	39.62	350211-01250	56.95
13.00	350200-01300	47.04	350201-01300	84.18	350210-01300	39.62	350211-01300	56.95
13.50	350200-01350	47.04	350201-01350	84.18	350210-01350	39.62	350211-01350	56.95
14.00	350200-01400	47.04	350201-01400	84.18	350210-01400	39.62	350211-01400	56.95
14.50	350200-01450	47.04	350201-01450	84.18	350210-01450	39.62	350211-01450	56.95
15.00	350200-01500	47.04	350201-01500	84.18	350210-01500	39.62	350211-01500	61.90
15.50	350200-01550	47.04	350201-01550	84.18	350210-01550	39.62	350211-01550	61.90
16.00	350200-01600	47.04	350201-01600	84.18	350210-01600	39.62	350211-01600	61.90
16.50	350200-01650	47.04	350201-01650	84.18	350210-01650	39.62	350211-01650	61.90
17.00	350200-01700	47.04	350201-01700	84.18	350210-01700	39.62	350211-01700	61.90
17.50	350200-01750	47.04	350201-01750	94.09	350210-01750	39.62	350211-01750	61.90
18.00	350200-01800	49.52	350201-01800	94.09	350210-01800	39.62	350211-01800	61.90
18.50	350200-01850	49.52	350201-01850	94.09	350210-01850	39.62	350211-01850	61.90
19.00	350200-01900	49.52	350201-01900	94.09	350210-01900	39.62	350211-01900	61.90
19.50	350200-01950	49.52	350201-01950	94.09	350210-01950	39.62	350211-01950	61.90
20.00	350200-02000	49.52	350201-02000	94.09	350210-02000	39.62	350211-02000	76.75
21.00	350200-02100	49.52	350201-02100	94.09	350210-02100	39.62	350211-02100	76.75
22.00	350200-02200	49.52	350201-02200	103.99	350210-02200	39.62	350211-02200	76.75
23.00	350200-02300	49.52	350201-02300	103.99	350210-02300	39.62	350211-02300	76.75
24.00	350200-02400	49.52	350201-02400	103.99	350210-02400	42.09	350211-02400	76.75
25.00	350200-02500	49.52	350201-02500	103.99	350210-02500	42.09	350211-02500	76.75
30.00	350200-03000	49.52	350201-03000	103.99	350210-03000	42.09	350211-03000	86.66
40.00	350200-04000	59.42	350201-04000	138.65	350210-04000	42.09	350211-04000	99.04
41.30	350200-04130	59.42	350201-04130	155.99	350210-04130	42.09	350211-04130	106.47
50.00	350200-05000	59.42	350201-05000	165.89	350210-05000	42.09	350211-05000	116.37
60.00	350200-06000	59.42	350201-06000	183.22	350210-06000	42.09	350211-06000	121.32
70.00	350200-07000	64.38	350201-07000	200.55	350210-07000	42.09	350211-07000	138.65
80.00	350200-08000	64.38	350201-08000	247.60	350210-08000	42.09	350211-08000	165.89
90.00	350200-09000	64.38	350201-09000	264.93	350210-09000	42.09	350211-09000	180.75
100.00	350200-10000	74.28	350201-10000	272.36	350210-10000	61.90	350211-10000	185.70





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Steel Parallel Gauge Block Sets

Parallel Gauge Block Set

DIN EN ISO 3650

- for standard use in workshop area and at the machine
- made of specially alloyed, particularly cured and relaxed special steel
- each gauge block is marked with an identification number
- calibration certificate available by extra charge



ART N°	tolerance class	quantity per set	pcs.	nominal size mm	steps mm	€	EURO CC
351001	0	32	1	1.005	—	381.42	135.00
351011	1		9	1.01 – 1.09	0.01	239.80	135.00
351021	2		9	1.1 – 1.9	0.1	148.06	135.00
			9	1.0 – 9.0	1.0		
			4	10 / 20 / 30 / 50	—		
351002	0	47	1	1.005	—	637.31	179.00
351012	1		19	1.01 – 1.19	0.01	347.63	179.00
351022	2		8	1.2 – 1.9	0.1	246.23	179.00
			9	1.0 – 9.0	1.0		
			10	10 – 100	10.0		
351003	0	87	9	1.001 – 1.009	0.001	931.83	330.00
351013	1		49	1.01 – 1.49	0.01	547.19	330.00
351023	2		19	0.5 – 9.5	0.5	368.55	330.00
			10	10 – 100	10.0		
351004	0	103	1	1.005	—	1181.28	420.00
351014	1		49	1.01 – 1.49	0.01	646.97	420.00
351024	2		49	0.5 – 24.5	0.5	458.67	420.00
			4	25 – 100	25.0		

Rectangular Gauge Block Set

DIN EN ISO 3650

- suitable for use in measurement and test room
- made of specially alloyed, particularly cured and relaxed special steel
- each gauge block is marked with an identification number
- calibration certificate available by extra charge



ART N°	tolerance class	quantity per set	nominal size mm	€	EURO CC
350180	0	8	125 / 150 / 175 / 200 / 250 / 300 / 400 / 500	1900.67	220.00
350181	1	8	125 / 150 / 175 / 200 / 250 / 300 / 400 / 500	1099.20	220.00
350183	0	5	600 / 700 / 800 / 900 / 1000	4866.75	360.00
350184	1	5	600 / 700 / 800 / 900 / 1000	2824.45	360.00

Steel Parallel Gauge Block Sets

Parallel Gauge Block Set

DIN EN ISO 3650

- suitable for use in measurement and test room
- made of specially alloyed, particularly cured and relaxed special steel
- each gauge block is marked with an identification number
- calibration certificate available by extra charge

Tungsten carbide sets
available on request!



ART NO	tolerance class	quantity per set	pcs.	nominal size mm	steps mm	€	EURO CC
350001	0	32	1	1.005	—	666.28	135.00
350011	1		9	1.01 – 1.09	0.01	524.66	135.00
350021	2		9	1.1 – 1.9	0.1	434.53	135.00
			9	1.0 – 9.0	1.0		
			4	10 / 20 / 30 / 50	—		
350002	0	47	1	1.005	—	973.67	179.00
350012	1		19	1.01 – 1.19	0.01	682.38	179.00
350022	2		8	1.2 – 1.9	0.1	582.59	179.00
			9	1.0 – 9.0	1.0		
			10	10 – 100	10.0		
350003	0	87	9	1.001 – 1.009	0.001	1236.00	331.00
350013	1		49	1.01 – 1.49	0.01	894.81	331.00
350023	2		19	0.5 – 9.5	0.5	714.56	331.00
			10	10 – 100	10.0		
350004	0	103	1	1.005	—	1527.30	420.00
350014	1		49	1.01 – 1.49	0.01	991.38	420.00
350024	2		49	0.5 – 24.5	0.5	803.08	420.00
			4	25 – 100	25.0		
350005	0	112	1	1.0005	—	1614.20	456.00
350015	1		9	1.001 – 1.009	0.001	1047.70	456.00
350025	2		49	1.01 – 1.49	0.01	959.19	456.00
			49	0.5 – 24.5	0.5		
			4	10 – 100	25.0		

Rectangular Gauge Block Set

DIN EN ISO 3650

- suitable for use in measurement and test room
- made of specially alloyed, particularly cured and relaxed special steel
- each gauge block is marked with an identification number
- calibration certificate available by extra charge



ART NO	tolerance class	quantity per set	nominal size mm	€	EURO CC
350185	0	8	125 / 150 / 175 / 200 / 250 / 300 / 400 / 500	4118.39	220.00
350186	1	8	125 / 150 / 175 / 200 / 250 / 300 / 400 / 500	3046.55	220.00
350187	0	5	600 / 700 / 800 / 900 / 1000	9039.86	360.00
350188	1	5	600 / 700 / 800 / 900 / 1000	7132.75	360.00

Ceramic Parallel Gauge Block Sets

Ceramic Parallel Gauge Block Set

DIN EN ISO 3650

- suitable for use in measurement and test room
- made of zirconia ceramic, best ceramic quality
- up to 50-fold higher wear resistance than steel
- high thermal stability
- high resistance to knocks and drops
- does not burr easily and high corrosion resistant
- each gauge block is marked with an identification number
- calibration certificate available by extra charge

Other set combinations available on request!

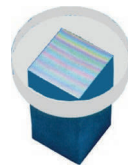


DIN EN ISO

ART NO	tolerance class	quantity per set	pcs.	nominal size mm	steps mm	€	EURO CC
350031	0	32	1	1.005	—	1546.61	135.00
350041	1		9	1.01 – 1.09	0.01	1411.42	135.00
			9	1.1 – 1.9	0.1		
			9	1.0 – 9.0	1.0		
			4	10 / 20 / 30 / 50	—		
350032	0	47	1	1.005	—	2237.03	179.00
350042	1		19	1.01 – 1.19	0.01	1944.13	179.00
			8	1.2 – 1.9	0.1		
			9	1.0 – 9.0	1.0		
			10	10 – 100	10.0		
350033	0	87	9	1.001 – 1.009	0.001	3696.73	331.00
350043	1		49	1.01 – 1.49	0.01	3215.53	331.00
			19	0.5 – 9.5	0.5		
			10	10 – 100	10.0		

Optical Parallels

- designed to inspect parallelism and flatness of measuring faces of micrometers
- each glass is marked with an identification-number (glued)
- ground and polished on both sides
- polished and faceted border



example



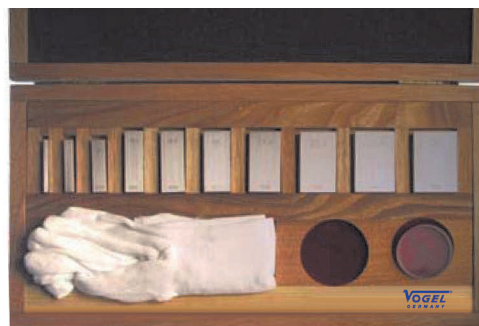
ART NO	nominal size mm	glass-ø mm	accuracy of flatness μm	parallelism μm	€	EURO CC
350305-1	15	55	≤ 0.10	—	321.88	DAkKS 110
350309	12.00 / 12.12 / 12.25 / 12.37	30	≤ 0.15	≤ 0.30	466.72	440
350309-1	25.00 / 25.12 / 25.25 / 25.37	30	≤ 0.15	≤ 0.40	466.72	440

Inspection Gauge Block Sets

Inspection Gauge Block Set, for Micrometers

DIN EN ISO 3650

- for review and adjustment of micrometer acc. to VDI/VDE/DGQ 2618, page 5
- with optical plane face glass and gloves
- each gauge block is marked with an identification number
- calibration certificate **without** optical plane glass calibration by extra charge



DIN EN ISO

ART N° ceramic	€	ART N° steel	€	ART N° carbide	€	tolerance class	quantity per set	nominal size mm	EURO CC
350110	659.84	350130	230.14	350119	994.59	1	10	2.50 / 5.10 / 7.70 / 10.30 / 12.90 / 15.00 / 17.60 / 20.20 / 22.80 / 25.00	38.00

Inspection Gauge Block Set, for Micrometers

DIN EN ISO 3650

- for review and adjustment of micrometer acc. to VDI/VDE/DGQ 2618, page 5 / 10.1
- each gauge block is marked with an identification number
- calibration certificate by extra charge



DIN EN ISO

ART N° steel	for micrometer sizes	tolerance class	quantity per set	nominal size mm	€	EURO CC
350176	0 – 25	1	5	5.10 / 10.30 / 15.00 / 20.20 / 25	152.89	20.00
350177	0 – 100	1	8	5.10 / 10.30 / 15.00 / 20.20 / 25 / 50 / 75 / 100	305.78	32.00

Inspection Gauge Block Set, for Calipers

DIN EN ISO 3650

- for review and adjustment of pocket calipers acc. to VDI/VDE/DGQ 2618, page 5
- with hardened steel setting ring and protective gloves
- each gauge block is marked with an identification number
- calibration certificate without setting ring certificate by extra charge

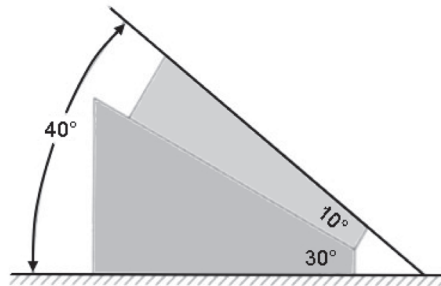
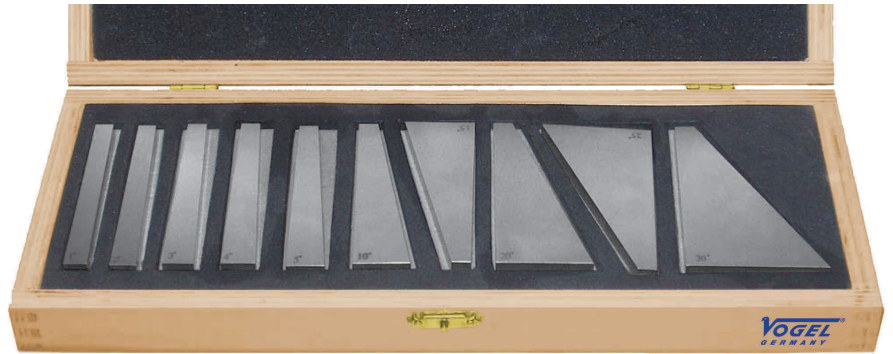


DIN EN ISO

ART N° ceramic	€	ART N° steel	€	tolerance class	∅ mm	nominal size mm	EURO CC
350111	606.73	350139	270.38	1	20	30 / 41.3 / 131.4	31.00
350118	606.73	350148	323.32	1	4 and 25	30 / 41.3 / 131.4	37.00
—	—	350149	808.47	1	4 and 25	30 / 41.3 / 131.4 / 243.5	37.00

Angle Gauge Block Set

- workshop quality, for standard purposes
- for fast, easy and accurate determination of angular dimensions
- hardened and relieved special steel, high grade of abrasion resistance
- measuring faces fine ground
- angle accuracy of measuring faces +/- 60"



ART N°	tolerance class	quantity per set	angle sizes in °	L x H	€	EURO CC
352012	1	12	0.25 / 0.5 / 1 / 2 / 3 / 4 / 5 / 10 / 15 / 20 / 25 / 30°	75 x 6.5	60.13	180.00

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Accessories for Parallel Gauge Blocks

Accessory Set for Gauge Blocks

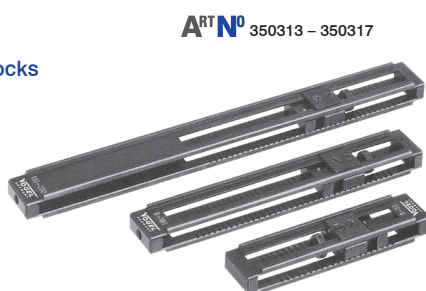
- 8-piece set, contents:
- 1 pair of 2 mm half round jaws
- 1 pair of 5 mm half round jaws
- 1 scriber point, 1 centering tip
- 1 holder 0 – 50 / 0 – 100 / 100 – 200 mm
- 1 base for holder



ART N°	content / pieces	€
353000	8	571,39

Gauge Block Holder

- for clamping individual gauge blocks
- special steel made



ART N°	clamping range mm	suitable base	€
350310	0 – 50	353020	28.56
350311	0 – 100	353020	37.14
350312	100 – 200	353020	47.60
350313	0 – 300	—	450.92
350314	100 – 300	353021	470.43
350315	200 – 400	353021	495.19
350316	300 – 500	353021	519.95
350317	400 – 600	353021	544.71

Gauge Connector

- art.-no. 350360: for coupling gauge blocks > 100 mm
- art.-no. 350361: for coupling gauge blocks > 100 mm with gauges < 100 mm



Other sizes available on request!

ART N°	for sizes mm	€
350360	> 100 + > 100	225.31
350361	0 – 180	269.98

Accessories for Parallel Gauge Blocks

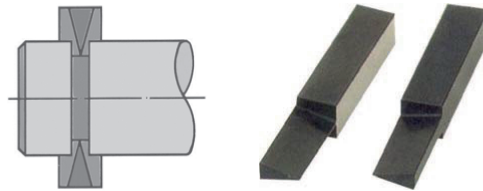
Half rounded Measuring Jaws, in pair

- half round jaws for internal and external measurements
- hardened and relieved steel



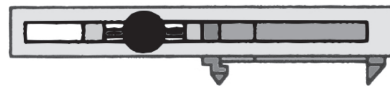
ART N°	nominal size ø mm	max. measuring depth mm	total length mm	€
350327	2	10	40	76.19
350328	5	15	45	71.41
350329	10	40	70	70.91

Knife Edge Jaws, in pair



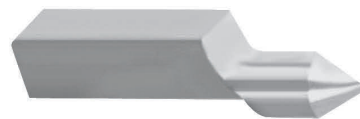
ART N°	nominal size ø mm	total length mm	€
353026	60	65	40.47

Steel Scriber Point



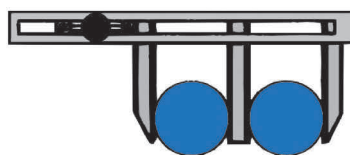
ART N°	€
350350	38.10

Centering Point



ART N°	€
350351	76.19

Measuring Jaws, in Pair



ART N°	total length mm	€
353025	100	66.68

Accessories for Parallel Gauge Blocks

Maintenance Kit for Gauge Block

• for cleaning and maintenance of gauge blocks

- linen cloth, chamois leather, anti corrosion oil, deburring stone, soft brush, grease brush, operation manual

Option

- anti corrosion oil, single (art.-no.: 350306), for maintenance and cleaning of gauge blocks and other gauges, brings a protective film on the surface

ART N° 350306



ART N°	€	ART N° anti corrosion oil	contents ml	€
350301	462.41	350306	50	33.01

Maintenance Spray

• cleans, maintains and lubricates measuring tools, loosens caked-on section and conserves degreased mechanical connections

- acid and resin-free, compatible to environment, FCKW-free
- displaces humidity in electrical and electronical areas



ART N°	contents ml	→ mm ←	€
350320	500	260 x ø 64	21.91

Universal Comparative Measuring Instrument, without Dial Indicator

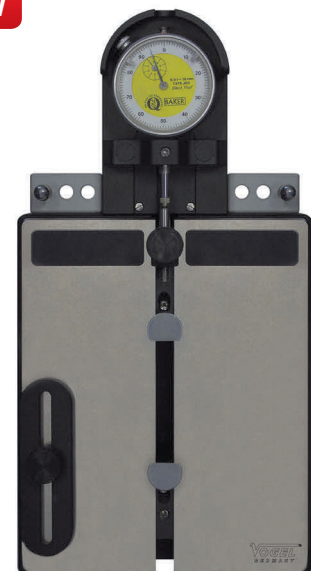
NEW

• for measuring inside- and outside diameters of grooves, reverse turns, thread turns etc. • with one fixed and one movable probe

- rugged construction, measuring table stainless, hardened
- measurement can be done by analogy dial indicator or by digital dial indicator
- different probes are available, interchangeable
- large application range, for comparison measurements
- dial indicator shank ø 8H7
- further accessories, e.g. calibrated gauge blocks or setting rings on request
- with instruction manual

Measuring Probes included

- stainless, hardened
- 1 pair of measuring probes art.-no.: 391010-01, ø 10 x 40 mm, spherical shaft, shaft ø 8 mm
- 1 pair of measuring probes art.-no.: 391010-02, ø 20 x 34 mm, probe reduced., shaft ø 8 mm

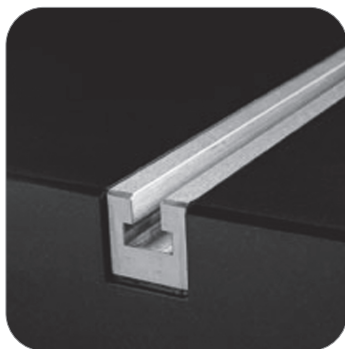


ART N°	mm	→ mm ← table mm	max. mm	€
391010	100	202 x 167 x 110	2.0	1063.35

Granite Measuring and Control Plate

DIN 876

- particularly well selected material of highest quality, entirely faultless
- diamond lapped measuring surfaces, acc. to DIN 876
- extreme hard and wear resistant and acid resistant
- T-Slots acc. to DIN 650, made of steel, **on request**
- calibration certificate available on request



Option: T-slot, with extra charge



Other sizes or special designed plates are available on request!

grade of accuracy:

should be selected according to the intended purpose

grade 00	extra fine diamond lapped for the inspection room
grade 0	fine diamond lapped for control purposes
grade I	diamond lapped for workshop use

DIN

ART N°	€	accuracy ± μm	ART N°	€	accuracy ± μm	ART N°	€	accuracy ± μm	→ mm ←
grade 00			grade 0			grade 1			
260199	189.18	2.0	260229	141.63	4.0	260259	109.25	12.0	250 x 250 x 50
260200	212.31	3.0	260230	172.89	6.0	260260	137.95	13.0	300 x 300 x 50
260201	250.14	3.0	260231	187.61	6.0	260261	152.29	14.0	400 x 250 x 60
260202	338.43	3.0	260232	240.95	6.0	260262	196.44	14.0	400 x 400 x 60
260203	519.20	3.0	260233	369.70	6.0	260263	320.04	15.0	500 x 500 x 80
260204	519.20	3.0	260234	369.70	7.0	260264	349.46	16.0	630 x 400 x 80
260205	645.59	3.0	260235	524.20	7.0	260265	423.04	16.0	630 x 630 x 80
260206	695.25	4.0	260236	606.96	7.0	260266	459.82	18.0	800 x 500 x 100
260207	910.45	4.0	260237	781.70	8.0	260267	598.17	20.0	1000 x 630 x 100
260208	1009.77	4.0	260238	866.30	8.0	260268	607.04	20.0	1000 x 630 x 150
260209	1412.57	4.0	260239	1224.96	8.0	260269	706.29	20.0	1000 x 1000 x 100
260210	1561.55	4.0	260240	1351.88	8.0	260270	844.29	20.0	1000 x 1000 x 150
260211	1618.57	4.4	260241	1407.05	8.8	260271	1067.15	22.0	1200 x 800 x 150
260212	1655.36	4.4	260242	1521.09	8.8	260272	1312.35	22.0	1200 x 800 x 200
260213	2278.88	5.0	260243	2157.48	10.0	260273	1991.80	25.0	1500 x 1000 x 150
260214	2547.41	5.0	260244	2422.34	10.0	260274	2217.96	25.0	1500 x 1000 x 200
260215	3834.91	6.0	260245	3525.91	12.0	260275	2848.98	30.0	2000 x 1000 x 200
260216	4441.88	6.0	260246	4083.21	12.0	260276	3152.26	30.0	2000 x 1000 x 250

Stands for Granite and Ceramic Plates









Safety-Stands

SUVA-design

- solid angular steel construction, powder coated, grey (RAL 7001)
- for a working height of approx. 900 – 1000 mm adjustable
- with protective device against misalign
- 3-point support M 24 x 80 mm
- 2 extra support for tipping protection, with adjusting screws
- single packed on an Euro-pallet

Cabinets etc.
on request!



ART NO	suitable for plate size mm	stand mm	€
 260901	630 x 400	—	625.73
 260902	630 x 630	—	683.11
 260903	800 x 500	800 x 500	633.45
 260904	1000 x 630	1000 x 630	794.57
 260905	1000 x 1000	1000 x 1000	936.93
 260906	1200 x 800	1200 x 800	855.27
 260907	1500 x 1000	1500 x 1000	893.89
 260908	2000 x 1000	2000 x 1000	1078.19

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Join us for success is now

Measuring Solutions

The new slogan stands for even more
Service, Solutions and Consulting.




Accessories for Measuring a. Control Instruments made of Granite

Levelling Jack

- for granite plates up to 1000 x 630 mm
- large adjusting range
- support in the ball joint

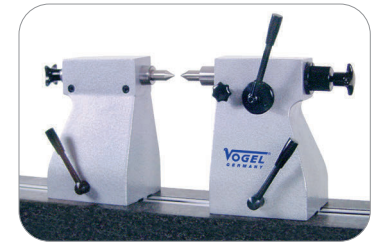


ART N°	quantity / singly	description	 mm	€
269074	1	table adjustment	60 – 130 mm	55,40

Tailstock Pairs





Garde/0

- made of dense, aged and stress relieved special cast iron with high wear resistance
- one tailstock with stationary and one with axially adjustable tail spindle
- spindles and dead centres are hardened and precision ground
- sliding blocks with a nominal size of 14 mm
- tailstocks can be fixed to the T-slot with the help of an excentric adjusting device
- hand wheel, adjustable by means of an adjustable tail pressure
- tail stocks can be delivered with or without hardened and precision ground 90° prisms (as option, with extra charge!)
- the prisms are needed for excentrically shanks or for measuring of extra large shanks, which exceed over the length of the tail stock pair



Option (special construction)
tailstocks with hand wheel, adjustment suitable for heavy work pieces.
Height adjustment possible through ground screw-thread with hand wheel (fine adjustment).

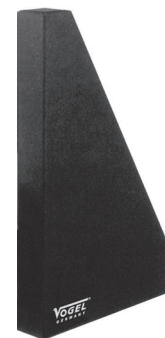
Grade/00 and Grade/I available on request!

ART N°	center height mm	inside tape MT	total length mm	grade/0	€ pair
269060-0	100	2	290	±0.008 mm	3178.29
 269061-0	150	2	360	±0.008 mm	3560.86
 269062-0	200	2	390	±0.008 mm	3915.84
 269063-0	250	3	490	±0.008 mm	4931.13
 269064-0	300	3	570	±0.008 mm	5413.02






Granite Master Squares 90°, triangular

DIN 876/00 with regard to the flatness of the measuring surface
DIN 875-2/00 with regard to angularity

- particularly well selected material of highest quality, entirely faultless
- 2 diamond lapped measuring surfaces acc. to grade 00
- 90° angle machined
- extreme hard and wear-resistant, acid-resistant
- calibration certificate available on request
- incl. test certificate



DIN

ART N°	 ± μm		angle length mm	width mm	€
	grade 00 flatness	angularity			
260500	2.4 / 2.3	2.0	200 x 150	50	367.86
260501	2.6 / 2.4	2.5	300 x 200	50	503.96
260502	2.8 / 2.5	3.0	400 x 250	60	744.91
 260503	3.0 / 2.6	3.5	500 x 300	80	893.89
 260504	3.3 / 2.8	4.0	630 x 400	80	1281.98
 260505	3.6 / 3.0	5.0	800 x 500	100	2220.02
 260506	4.0 / 3.2	6.0	1000 x 600	100	5698.11

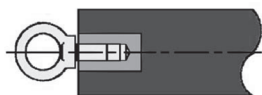
Measuring and Control Instruments made of Granite

Precision Gauge Blocks

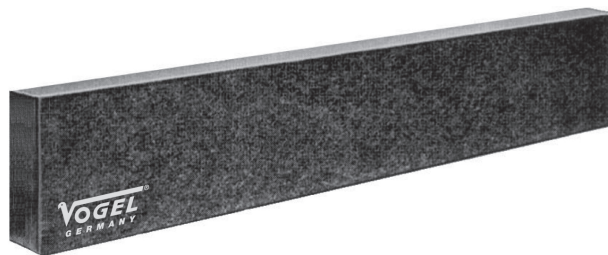
DIN 876/00

- particularly well selected material of highest quality
- 2 diamond lapped measuring surfaces acc. to grade 00

- entirely faultless, from up 800 mm length with transport lugs
- calibration certificate available on request
- from 800 mm length with threaded core, without eyelet hook
- incl. test certificate



example



DIN

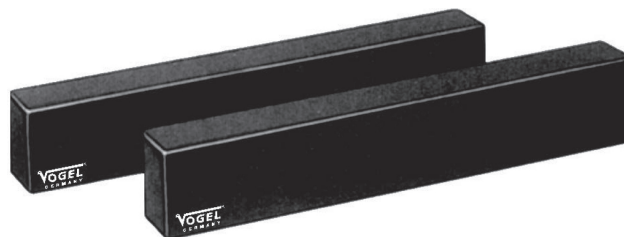
ART NO grade 00	parallelism	→ mm ←	€
260530	3.0	630 x 50 x 100	711.80
260531	4.0	800 x 50 x 120	1180.82
260532	4.0	1000 x 60 x 150	1598.34
260533	5.0	1200 x 60 x 180	1854.00
260534	6.0	1500 x 70 x 200	2744.21
260535	6.0	2000 x 80 x 250	3106.55

Precision Pair of Parallels

DIN 876/00

- particularly well selected material of highest quality
- 2 measuring surfaces parallel machined as a pair acc. to grade 00

- entirely faultless
- calibration certificate available on request
- incl. test certificate



DIN

ART NO grade 00	parallelism	→ mm ←	€
260550	2.0	100 x 15 x 25	415.68
260551	2.0	150 x 20 x 30	509.48
260552	2.0	200 x 25 x 40	678.70
260553	2.0	250 x 30 x 50	831.36
260554	3.0	300 x 40 x 70	1026.32
260555	3.0	400 x 50 x 100	1276.46

Maintenance Set for Granite Plates

- consisting of cleaner and care oil

- environmentally friendly
- cleaner protects, maintains and extends the life of granite surfaces
- care oil ensures easy sliding of workpieces and works for wear reducing

Other volumes
are available, on request!



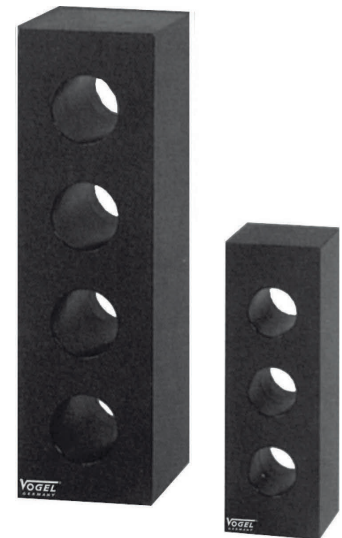
ART NO	cleaner content ltr.	care oil content ltr.	cleaner concentrate content ltr.	€
260299	0.5	0.5	—	11.88

Measuring and Control Instruments made of Granite

Granite Master Squares 90°, chimney shape

DIN 876/00 with regard to the flatness of the measuring surface
DIN 875-2/00 with regard to angularity

- particularly well selected material of highest quality acc. to grade 00
- entirely faultless, extreme hard and wear-resistant, acid-resistant
- base and 2 small measuring surfaces
- calibration certificate available on request
- incl. test certificate



DIN

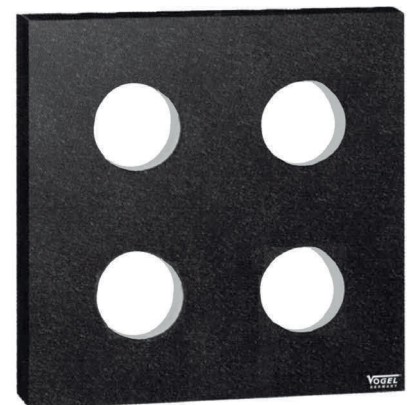
ART N°				€
	grade 00	parallelism		
260520	2.6	2.5	300 x 100 x 80	722.84
260521	3.0	3.5	500 x 150 x 120	921.48
260522	3.6	5.0	800 x 220 x 150	1791.46
260523	4.0	6.0	1000 x 250 x 200	2343.25

Granite Master Squares 90°, square shape

DIN 876/00 with regard to the flatness of the measuring surface
DIN 875-2/00 with regard to angularity

- particularly well selected material of highest quality
- measuring surfaces acc. to grade 00
- entirely faultless, extreme hard and wear-resistant, acid-resistant
- measuring surfaces absolut plane and rectangular finely ground quality
- calibration certificate available on request
- incl. test certificate

Other sizes are available on request!



DIN

ART N°				€
	grade 00	squareness		
260580	2,4	2,0	200 x 200 x 25	1131,16
260582	2,6	2,5	300 x 300 x 30	1158,75
260584	3,5	3,5	500 x 500 x 50	1226,80

Straightening Plates

Straightening Plates

- solid or ribbed construction
- special wear resistant steel casting
- surfaces and four sides fine planed
- against extra charge the plates can be also supplied with bores, holes or T-slots



ART N° solid	→ mm ←	€
261400	200 x 200 x 40	135.70
261401	300 x 300 x 50	225.46
261402	400 x 400 x 50	441.56
261403	500 x 500 x 60	780.17
261404	600 x 600 x 70	1292.45
261405	700 x 700 x 80	1757.93
261406	800 x 800 x 100	2619.57
261407	1000 x 800 x 100	3545.58
261408	1000 x 1000 x 110	4085.34
261409	1200 x 800 x 80	4828.13
261410	1200 x 1000 x 110	5629.35
261411	1500 x 1000 x 120	7371.80
261412	2000 x 1000 x 120	9903.85

ART N° ribbed	→ mm ←	rib height mm	€
261500	200 x 200 x 20	40	138.21
261501	300 x 300 x 20	40	206.59
261502	400 x 400 x 20	40	363.50
261503	500 x 500 x 40	40	586.68
261504	600 x 600 x 40	40	891.35
261505	700 x 700 x 40	40	1351.90
261506	800 x 800 x 40	40	1609.38
261507	1000 x 800 x 40	60	2015.11
261508	1000 x 1000 x 40	60	2531.05
261509	1200 x 800 x 60	60	2678.30
261510	1200 x 1000 x 60	60	2822.60
261511	1500 x 1000 x 60	60	4489.39
261512	2000 x 1000 x 60	60	5917.85

Stands

- suitable for straightening plates
- solid steel construction
- for a working height of approx 800 mm
- quantity of legs 4 pcs.



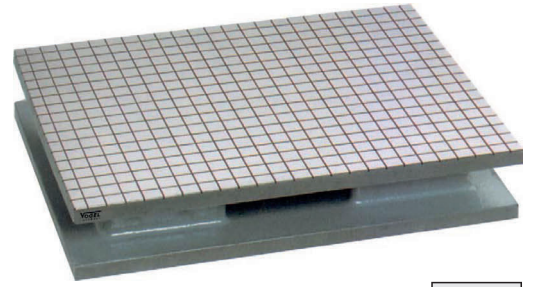
ART N°	for straightening plate size mm	€
269102	400 x 400	334.55
269103	500 x 500	384.64
269104	600 x 600	470.46
269105	700 x 700	482.81
269106	800 x 800	502.13
269107	1000 x 800	548.60
269108	1000 x 1000	658.11
269109	1200 x 800	658.61
269110	1200 x 1000	663.33
269111	1500 x 1000	816.00
269112	2000 x 1000	866.59

Lapping-, Control-, Surface- and Testing Plates and Accessories

Lapping and Control Plate

DIN 876/1

- for lapping, flatness measuring and as base line
- special high-density cast iron
- top and bottom surfaces finest ground
- upper surface is additionally squared, with dust grooves



DIN

ART NO	mm	evenness mm	€	ART NO wooden box	€
262101	360 x 260 x 65	0.014	346.16	2699036	82.33

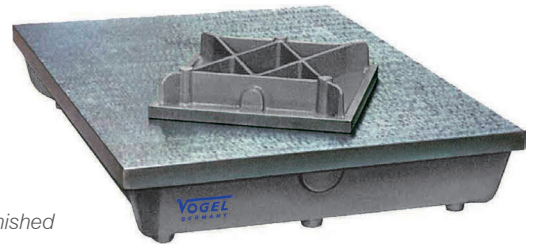
Control-, Surface- and Testing Plates

DIN 876

- special wear-resistant casting with additionally steel
- strong ribbed construction, side surfaces reinforced
- measuring surface according to DIN 876
- side surfaces carefully planed or milled
- with supporting points, corresponding to the size of plate
- against extra charge we supply the plates with handle and with protective wooden cover

Other sizes are available on request!

grade 0 = fine scraped and finished
grade 1 = fine finished
grade 3 = fine planed



DIN

ART NO grade 0	€	ART NO grade 1	€	ART NO grade 3	€	ART NO pair of handle	€	ART NO wooden cover	€	mm
261002	163.64	261102	134.44	261302	134.44	269070	39.32	2699020	27.19	200 x 200
261005	287.71	261105	234.97	261305	234.97	269070	39.32	2699030	32.78	300 x 300
261007	467.56	261107	379.64	261307	379.64	269070	39.32	2699040	35.36	400 x 400
261008	510.42	261108	423.59	261308	423.59	269071	72.05	2699054	39.24	500 x 400
261009	685.74	261109	546.59	261309	546.59	269071	72.05	2699050	43.03	500 x 500
261011	872.75	261111	692.16	261311	692.16	269071	72.05	2699065	46.10	600 x 500
261014	1246.82	261114	999.25	261314	999.25	—	—	2699085	48.11	800 x 500
261018	1811.66	261118	1479.46	261318	1479.46	—	—	2699160	80.72	1000 x 600
261020	2605.31	261120	1885.12	261320	1885.12	—	—	2699180	86.09	1000 x 800
261021	2879.54	261121	2043.46	261321	2043.46	—	—	2699100	88.61	1000 x 1000
261022	3159.15	261122	2059.75	261322	2059.75	—	—	2699128	95.15	1200 x 800
261024	3959.06	261124	3896.32	261324	3896.32	—	—	2699157	106.47	1500 x 1000
261026	6700.92	261126	5511.00	261326	5511.00	—	—	2699210	113.23	2000 x 1000

Supporting Feets

- especially for straightening plates
- made of special casting
- with adjusting screw



ART NO	stand height mm	adjusting height mm	€
269076	250 – 300	50	175.47
269077	350 – 400	50	192.31
269078	450 – 500	50	207.36
269079	550 – 600	50	225.98
269081	650 – 700	50	310.36

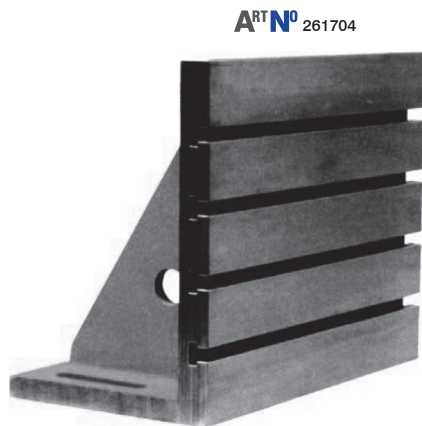
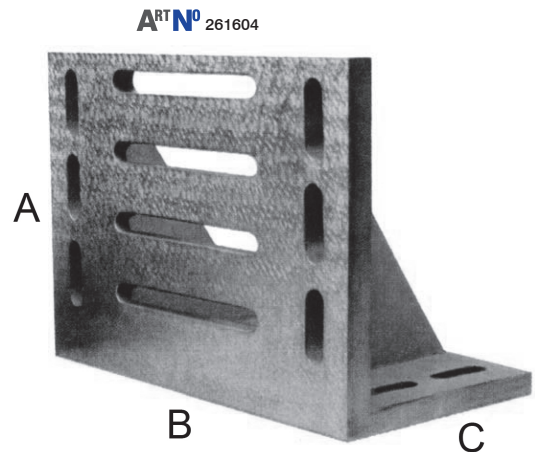
Angle Plates

Angle Plates

DIN 875 and DIN 876

- construction with clamping slots or with clamping T-slots

- made of special cast iron with high resistance to wear
- accuracy of measuring surfaces according to DIN 876
- accuracy of angle according to DIN 875
- side areas carefully milled
- T - Slots acc. to DIN 650 machined in H12



Other sizes are available on request!

DIN

ART N° slots grade 1	€	ART N° slots grade 3	€	mm B x A x C	slot width mm
261600	153.93	261640	111.74	150 x 100 x 75	14
261601	256.83	261641	154.62	200 x 150 x 100	15
261602	393.13	261642	276.66	275 x 200 x 150	17
261603	466.86	261643	306.94	300 x 250 x 150	17
🚚 261604	806.97	🚚 261644	476.30	400 x 300 x 225	20
🚚 261605	1257.37	🚚 261645	698.67	500 x 400 x 300	26
🚚 261606	2359.39	🚚 261646	1559.95	600 x 500 x 350	24
🚚 261607	2771.47	🚚 261647	1765.98	700 x 520 x 390	24
🚚 261608	on request	🚚 261648	on request	800 x 600 x 450	24
🚚 261609	on request	🚚 261649	on request	1000 x 800 x 600	30
🚚 261610	on request	🚚 261650	on request	1200 x 1000 x 700	30
🚚 261611	on request	🚚 261651	on request	1500 x 1250 x 900	30

ART N° T-slots grade 1	€	ART N° T-slots grade 3	€	mm B x A x C	T-slot width mm
261700	201.02	261740	163.78	150 x 100 x 75	10
261701	312.49	261741	214.20	200 x 150 x 100	12
🚚 261702	733.88	🚚 261742	452.56	300 x 250 x 150	12
🚚 261703	995.68	🚚 261743	677.82	400 x 300 x 225	18
🚚 261704	1655.77	🚚 261744	1081.25	500 x 400 x 300	18
🚚 261705	3367.70	🚚 261745	2295.79	600 x 500 x 350	18
🚚 261706	4177.59	🚚 261746	2805.64	700 x 520 x 390	22
🚚 261707	on request	🚚 261747	on request	800 x 600 x 450	22
🚚 261708	on request	🚚 261748	on request	1000 x 800 x 600	22
🚚 261709	on request	🚚 261749	on request	1200 x 1000 x 700	22
🚚 261710	on request	🚚 261750	on request	1500 x 1250 x 900	22

Precision Inspection Spirit Levels

Precision Inspection Spirit Levels

DIN 877

- for accurate levelling and adjusting of surfaces and cylinders
- housing made of special cast iron
- with prism and flat surface, finely ground
- adjustable main vial and one cross vial
- with insulation handles



ART N° 360281



ART N° 360202

DIN

ART N° sensitivity 0.01 mm/m	€	ART N° sensitivity 0.02 mm/m	€	ART N° sensitivity 0.05 mm/m	€	length mm	EURO CC
—	—	360281	216.41	360282	199.60	150	53.00
360202	421.53	360283	257.35	360284	219.33	200	53.00
360203	430.26	360285	364.18	—	—	250	53.00
360204	484.01	360287	386.25	360288	261.01	300	53.00

ART N° sensitivity 0.1 mm/m	€	ART N° sensitivity 0.3 mm/m	€	ART N° sensitivity 0.5 mm/m	€	length mm	EURO CC
—	—	—	—	360261	181.32	150	53.00
360251	168.28	360231	152.80	—	—	160	53.00
360252	201.38	360232	176.39	360262	197.78	200	53.00
360253	211.97	360233	198.97	—	—	250	53.00
360254	240.89	360234	229.91	360264	229.58	300	53.00

Precision Inspection Frame Spirit Levels

DIN 877

- for levelling and adjusting of horizontal and vertical surfaces and cylinders
- housing made of special cast iron
- with prism and flat surface, fine ground
- adjustable main vial and one cross vial
- with insulation handles



DIN

ART N° sensitivity 0.02 mm/m	€	ART N° sensitivity 0.05 mm/m	€	ART N° sensitivity 0.1 mm/m	€	→ mm ←	EURO CC
360311	404.75	360312	354.08	360351	305.83	150 x 150 x 40	53.00
360313	447.44	360314	405.99	360352	339.09	200 x 200 x 40	53.00
360315	495.54	360316	480.20	—	—	250 x 250 x 40	53.00
360317	903.66	—	—	360353	738.12	300 x 300 x 40	53.00

Precision Inspection Spirit Levels

Precision Crank Pin Levels

DIN 877

- to adjust crankshafts and crank pins of motors and machines

- with vertical and horizontal prism, fine ground
- with main vial and cross vial
- width 40 mm

Option

- with magnets in the prism bottom on request, please



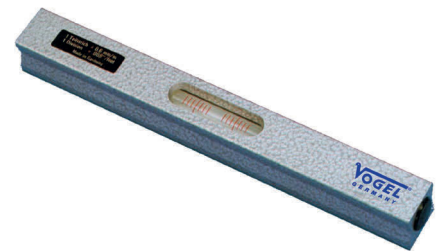
DIN

ART NO sensitivity 0.04 mm/m	€	ART NO sensitivity 0.1 mm/m	€	ART NO sensitivity 0.2 mm/m	€	length mm	EURO CC
—	—	—	—	360295	184.37	60	53.00
360296	246.94	—	—	—	—	90	53.00
360297	266.11	—	—	—	—	120	53.00
—	—	360293	203.04	—	—	90	53.00
—	—	360294	220.43	—	—	120	53.00

Precision Alloy Spirit Level

- for simple levelling and adjusting of surfaces and cylinders

- housing made of alloy cast
- with ground prism base
- with ground and graduated main vial



ART NO sensitivity 0.6 mm/m	length mm	width mm	€	ART NO sensitivity 0.6 mm/m	length mm	width mm	€	EURO CC
360410	100	22	46.78	360420	200	22	56.40	53.00
360415	150	22	50.42	360430	300	22	82.64	53.00

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The new slogan stands for even more
Service, Solutions and Consulting.

VOGEL[®]
G E R M A N Y
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Precision Parallel Support Sets

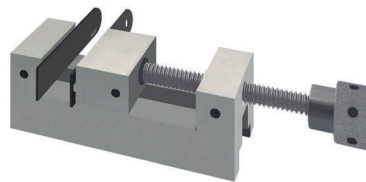
- 14 pairs of parallels
- special steel, carefully hardened and strain-removed, HRC 58 – 60
- longitudinal surfaces are plane parallel machined and extra fine adjusted in pairs



ART N°	sizes mm		accuracy for height ± mm	€
260600	14 / 16 / 18 / 20 / 22 / 24 / 26 / 28 / 30 / 32 / 35 / 40 / 45 / 50	150 x 10 ± 0,05	0,01	264,46

Precision Parallel Support Sets, magnetic NEW

- hardened (~60 HRC), black anodized
- with magnetic inserts, reduce the clamping time by up to ~ 10
- fine ground in pair, as set of each 5 pairs
- scratch-resistant, black anodized surface



Application example



ART N°	sizes mm	height tolerance ± mm	width tolerance ± mm		€
260620	15 / 22 / 25 / 30 / 32	0.005	0.01	90 x 2.5	82.47
260621	15 / 30 / 35 / 37 / 39	0.005	0.01	125 x 2.5	85.17
260622	25 / 35 / 40 / 45 / 47	0.005	0.01	150 x 2.5	86.06



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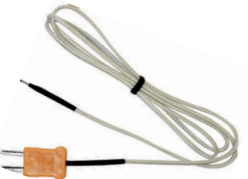
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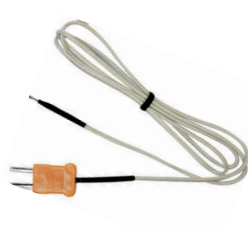
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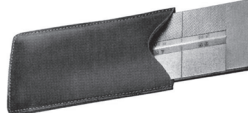
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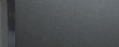
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Hardness Testers

BARCOL Impressor, Hardness Tester

- portable device, one hand use, for fast and location independent hardness testing
- with Bluetooth® data output and with software
- Applications:
It is mainly used in aluminium processing industry, testing pure aluminium, soft aluminium, thick aluminium alloy, aluminium strip, aluminium rod, aluminium castings, aluminium forgings and aluminium alloy products. Also, it can be used for glass steel industry.
The device is suitable for testing large and extra thick workpieces.

- rugged ABS plastic housing, with key pad, with backlight
- LCD display with clear reading, digit height 9 mm
- LED signals for the hardness scales HW, HB HV, HRB, HRE, HRF, HRH
- with function of calculation the average value, can calculate the average value of 29 sets of data at most
- with the max. hold function, recording the max. hardness value during measurements
- with good, convenient calibration and high accuracy detection
- wide test range, can test from very soft pure aluminium to a particularly hard aluminium alloy, effective test range equivalent to the Brinell Hardness 25 ~ 150 HB
- ON/OFF-button, autom. power off, average, max value, menu function
- operation temperature -0 °C ~ +50 °C, rel. humidity 20 – 80 %RH
- incl. 2x 1.5 V battery (type AAA, art.-no.: 90002)
- incl. 2 test blocks, 2 pins, pin length calibration block, screw driver, spanner, installation software for data transmitting and operation manual

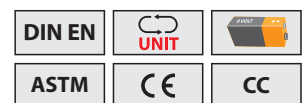


ART NO	HBa	HBa	Hba	Hba	Hba	Hba	mm	€
650270	0 – 100	0.1	81 – 88 ± 1	42 – 48 ± 2	81 – 88 ± 1.5	42 – 48 ± 2.5	170 x 60 x 70	796.96

Universal Digital Rebound Hardness Tester

- with integrated impact device type „D“, portable device without cable connection
- measurement is based on the principle of Leeb

- hand-held device, rugged, polyamide housing material, with self-calibration function
- LCD display with clear reading and backlight, digit height 9 mm
- autom. power off, memory with 99 data
- suitable for testing hardness of almost all Ferrous (Fe) and Non-Ferrous (NFe) materials
- direct display of hardness scales: HL, HRC, HRB, HB, HV and HS
- statistics function: average / min. / max. / value
- provides testing at any angle, even upside down
- min. workpiece weight 2 ~ 5 kg on a solid ground, at 0.05 ~ 2 kg with couplant paste
- for indentation depth see techn. data of the impact devices on page 309
- min. radius workpiece (concave/convex) Rmin. = 50 mm, with support ring Rmin. = 10 mm
- min. surface roughness of workpiece 1.6 µm (Ra)
- storage temperature -20 °C ~ 70 °C, operation temperature -10 °C ~ 45 °C
- incl. cleaning brush, test block with HLD value and with calibration certificate
- incl. 1x 9 V battery (type 6LR61, art.-no.: 90006) and operation manual



ART NO	HL	HRC	mm	€	CC
651609	200 – 960 HL / 19 – 68 HRC	13 – 101.7 HRB / 20 – 655 HB	100 x 60 x 33	648.47	inclusive

Universal Digital Rebound Hardness Tester

- portable device for quick and location-independent hardness tests, based on the Leeb principle
- with external impact device type „D“ (standard)
- with USB data output and Dataview software

- rugged, anodized aluminium housing, with key pad
- multifunction display with clear reading, with switchable backlight
- display functions: hardness scales, hardness value, date, testing time, battery indicator, impact direction, average value, recognition of impact device, memory capacity for 600 groups
- suitable for most metallic materials, measuring in any position, vertical, horizontal and upside down
- ON/OFF switch or autom. power off
- incl. Adjusting limit function, autom. alarm function when exceeding the limit value
- min. workpiece weight 2 kg on solid support
- direct display of hardness scale in HL, with autom. conversion in HRB, HRC, HV, HB, HS and tensile strength (U.T.S.)
- min. workpiece radius (concave/convex) $R_{min} = 30 \text{ mm}$ ($< 30 \text{ mm}$ with support ring, incl. in the set)
- operation temperature $-20 \text{ }^\circ\text{C} \sim +60 \text{ }^\circ\text{C}$, rel. humidity 20 – 90 %RH
- incl. 2x 1.5 V Battery (type AA, art.-no.: 90003)
- incl. test block type „D“ (2 parts) and impact device type „D“, more impact devices are available as accessories
- with brush, USB data cable, screw driver, data view software, workshop calibration certificate and operation manual

art.-no. 651608 with additional functions:

- anti-slip soft shell housing
- integrated thermal printer for direct printing of all values and histogram
- with rechargeable Li-ion battery and charger 100 – 240 V/AC



ART No 651617

ART No 651608

				DIN ISO	ASTM	BS	CE	CC	
				~230V	DIN ISO	ASTM	BS	CE	CC

ART No	at least workpiece thickness mm	max. hardness of workpiece HLD	HLD		€	CC
651617	impact device type D/DC/DLD/D+15 = 5 mm impact device type C = 1 mm impact device type G = 10 mm	960	±6	130 x 70 x 30	840.82	incl.
651608	impact device type D/DC/DLD/D+15 = 5 mm impact device type C = 1 mm impact device type G = 10 mm	960	±6	230 x 86 x 46	1035.86	incl.

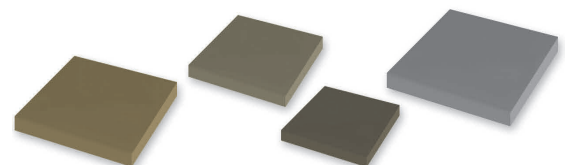
Hardness Reference Blocks for all Testing Scales

- with DAkKS calibration certificate (MPA Hannover)

- manufactured acc. to the patented HIP-procedure (hot isostatic pressing)
- polished surface, means even for micro testing method

Option

- more blocks for other testing methods available, all blocks in other dimensions available



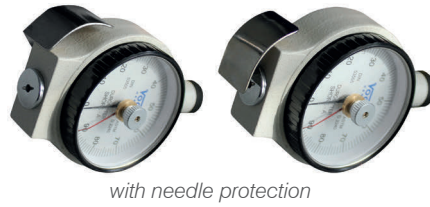
DIN EN ISO	ASTM	CC
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ART No	testing method	range of hardness	useable test field mm ²		€	CC
650950	HRA	40 – 83.4 HRA	3600	60 x 60 x 16	356.54	inclusive
650951	HRB	60 – 100 HRB	3600	60 x 60 x 16	449.63	inclusive
650952	HRC	20 – 65 HRC	3600	60 x 60 x 16	401.11	inclusive
650953	HV 0.01 – HV 30	140 – 840 HV	3600	60 x 60 x 16	653.65	inclusive

Hardness Testers

Shore Hardness Tester „Durometer“ • analog model

- portable device for measuring the hardness for elastomers and plastics
- Shore „A“: rubber, elastomers, neoprene rubber, silicon, vinyl, soft plastics, leather, felt and similar materials
- Shore „D“: plastic, formica, plexiglass, epoxies and similar materials
- rugged metal housing, compact design
- with drag pointer, with needle protection
- 2 different models, for Shore „A“ and Shore „D“ measurements
- measuring needle made of special steel, needle guidance is linear mounted
- incl. test block, with operation manual



with needle protection



DIN ASTM

ART N°	shore type	max. spring load N	mm	eye	needle ° / mm	meas.-face mm	indenter type	mm	€
650720	A	8.064	0 – 100 HA	1.0	35° / ø 0.9	ø 18	blunt taper	100 x 64 x 35	254.67
650721	D	44.54	0 – 100 HD	1.0	30° / R 0.1	ø 18	sharp point	100 x 64 x 35	254.67

Test Stand for Shore Hardness Testers

- Suitable for series art.-no. 650720 – 650721

- rugged construction
- chromed and polished column
- with hand lever
- incl. additional weight (1 kg)

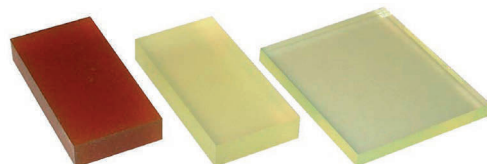


example with hardness tester



ART N°	ground plate mm	column mm	working height mm	€
659210	180 x 180 x 15	ø 25 x 285	100	1324.64

Test Blocks for Shore Hardness Testers



ART N°	article	shore type	shore value	mm	€
650919	set of test blocks, 3-pcs.	A + D	50 / 80 / 40	—	280.14
650920	test block	A	50	80 x 40 x 12	90.97
650921	test block	A	80	80 x 40 x 12	91.03
650922	test block	D	40	80 x 70 x 7	65.99

Impact Devices for Special Applications

- suitable for our hardness testers



reference
 impact body „G“ suitable for impact device „G“
 impact body „D“ for all other impact devices

ART No	suitable for version	article description	application	€
659892	type "D"	impact device "D"	standard impact device. for the majority of hardness testing assignments	182.75
659893	type "C"	impact device "C"	device with reduced energy (~¼ of that for type D), thin walled or impact sensitive components	288.86
659894	type "DC"	impact device "DC"	extremely short impact device	231.09
659895	type "D+15"	impact device "D+15"	impact device with particularly slim front section and with measuring coil moved back	287.21
659896	type "DL"	impact device "DL"	tube front section diameter ø 4.2 mm, length 50 mm	769.20
659897	type "G"	impact device "G"	enlarged test tip, increased impact energy (~9 x that of type D), with only minor damage to the surface	769.20
659890	type "D"	impact body "D"	for measurements in the extremely high hardness range up to 500 HRC/650 HV. Tool steel with high carbide content inclusions for measurements up to 1200 HV	75.93
659891	type "G"	impact body "G"	for measurements in the extremely high hardness range up to 500 HRC/650 HV. Tool steel with high carbide content inclusions for measurements up to 1200 HV	234.39
659893-2	type "C"	impact body "D"	for surface hardened elements, coatings, thinly coated or impact sensitive parts	85.83
659894-2	type "DC"	impact body "D"	for standard measurements in holes, cylinders, inside measurements, etc.	85.83
659895-2	type "D+15"	impact body "D"	for general measurements in narrow grooves and on narrow surfaces (e.g. gears)	85.83
659896-2	type "DL"	impact body "D"	for measurements in inaccessible places and recesses	360.43
651690	all models	support rings with holder, set of 11-pcs.	on curved surfaces with a radius under 30 mm, effective positioning, rings can be screwed on front of the impact device	291.07
651698-2	65 1698-1	printer cable	—	72.63
651698-3	65 1606	data cable USB to PC and RS232 C	—	85.83
651692-1	all models with data output	software for data process	data view/statistics	72.63
651699	all models	cable with Lemo connector	replacement cable for impact device	76.64
659899	all "D" versions	test block "D", with application of HLD value	for performance tests of hardness testers	76.62
659899-2	all "D" versions	test block "D", with application of HRC value	for performance tests of hardness testers	76.62
659913	651607 + 651608	paper roll	—	2.87

Accessories for Hardness Testers, Technical Data

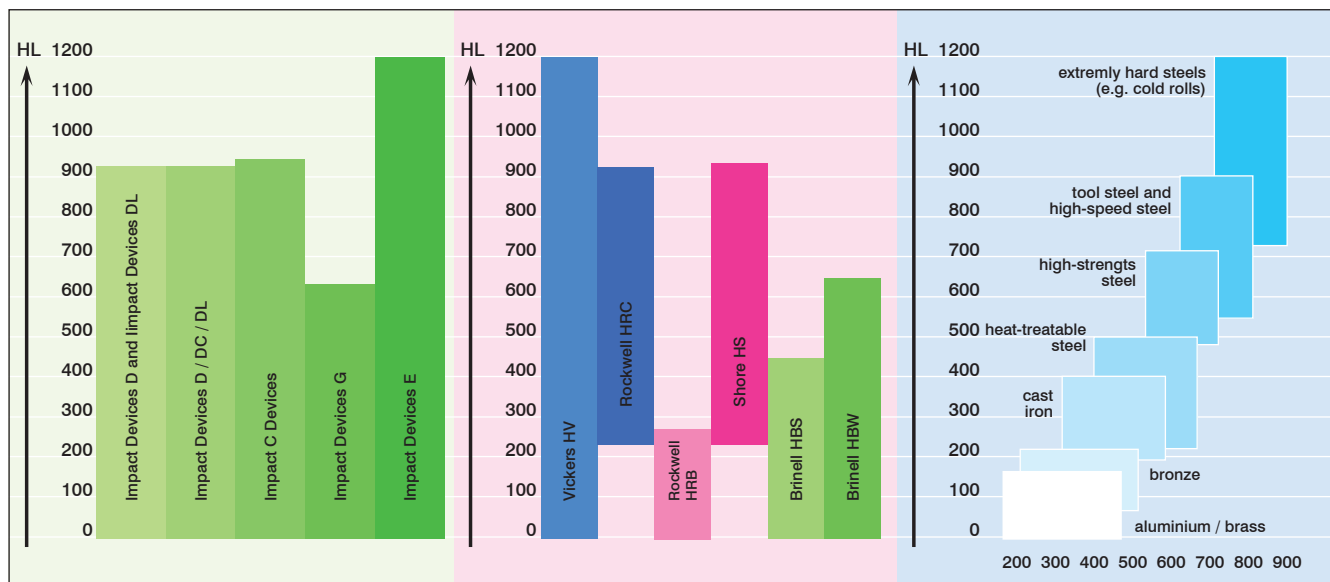
Impact Devices for Special Applications • Technical Data

Hardness Parameters and Materials versus range for impact devices type „D“ (HLD 200–900)

Material	HLD	HRB	HRA	HRC	HB	HV	HS
steel and cast steel	300 – 900	39 – 100	59 – 86	20 – 68	81 – 654	81 – 955	32 – 100
cold work tool steel	300 – 840	—	—	20 – 67	—	80 – 898	—
stainless steel	300 – 800	46 – 101	—	20 – 62	85 – 655	85 – 802	—
grey cast iron	360 – 650	—	—	—	93 – 334	—	—
nodular cast iron	400 – 660	—	—	—	131 – 387	—	—
aluminium alloys	200 – 570	24 – 34	—	—	27 – 164	—	—
brass	200 – 550	13 – 95	—	—	40 – 173	—	—
bronze	300 – 700	—	—	—	60 – 290	—	—
copper	200 – 690	—	—	—	45 – 315	—	—

the ranges are stipulated by the application limits of the relevant static procedure

type of impact device	D / DC / DL	D+15	C	G
impact energy: weight:	11 Nmm 5.5 g / DL = 7.3 g	11 Nmm 7.8 g	3 Nmm 3.0 g	90 Nmm 20 g
test tip hardness: diameter: material:	1600 HV 3 mm	1600 HV 3 mm	1600 HV 3 mm Hartmetall	1600 HV 5 mm
impact body diameter: length: weight:	20 mm 147 / 86 mm 75 / 50 g	20 mm 162 mm 80 g	20 mm 141 mm 75 g	30 mm 254 mm 250 g
max. hardness of sample:	940 HV	940 HV	1000 HV	650 HV
preparation of surface roughness class ISO: max. roughness Rt: average roughness Ra	N7 10 µm 2 µm	N7 10 µm 2 µm	N5 2.5 µm 0.4 µm	N9 30 µm 7 µm
min. weight of sample solid and compact shape: on solid support/ground: with couplant paste:	5.0 kg 2.0 kg 0.1 kg	5.0 kg 2.0 kg 0.1 kg	1.5 kg 0.5 kg 0.02 kg	15 kg 5 kg 0.5 kg
min. thickness of sample coupled with copulant paste: min. thickness of hardened layers:	3.0 mm 0.8 mm	3.0 mm 0.8 mm	1.0 mm 0.2 mm	10.0 mm
indentation of test tip				
at 300 HV diameter: depth:	0.54 mm 24 µm	0.54 mm 24 µm	0.38 mm 12 µm	1.03 mm 53 µm
at 600 HV diameter: depth:	0.45 mm 17 µm	0.45 mm 17 µm	0.32 mm 8 µm	0.90 mm 41 µm
at 800 HV diameter: depth:	0.35 mm 10 µm	0.35 mm 10 µm	0.30 mm 7 µm	— —



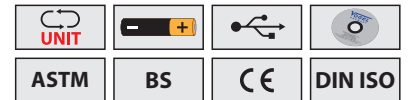
Universal Coating Thickness Gauges

Universal Coating Thickness Gauge

- professional, handheld measuring device for quick and flexible coating thickness measurements
- combined system with 2 probes, for iron/steel (Fe) and non-ferrous metal (Nf)
- large display, with backlight (switchable), with memory function
- rugged extruded aluminium case, USB data output and with dataview software
- operates in any position (horizontal, vertical and upside down)
- for measurements of non-magnetic layers on metal surfaces (Fe) and measurements of insulating layers on non-ferrous metals (Nf)
- application fields include surface engineering, automotive industry, electroplating, pipeline construction, aluminium industry, spray coating, plastic coating, mechanical engineering, bridge construction, etc.
- rugged extruded aluminium body frame, with soft key pad
- multi-function display with clear reading, with backlight switchable
- with „low-battery“ indicator, autom. recognition of probe type, alarm function switchable
- magnetic induction measuring principle (Fe) and eddy current measuring principle (Nf)
- units in μm or mils, autom. substrate recognition, manual or autom. shut down function
- two measuring methods: continuous measurement and a single measurement
- 3 calibration methods: one point calibration, two point calibration and calibration with a roughened surface
- 5 calibration foil-set, 1 x aluminium substrate block and 1 x iron substrate block
- 5 statistical values: mean value, max. value, standard deviation and numbers of measurements, storage of 500 measuring data in total
- min. radius of workpiece: convex 5 mm, concave 50 mm
- min. substrate thickness Fe (F1)-probe 0.75 mm, for Nf (N1)-probe 50 μm
- direct printing of the measured values by USB cable to PC or printer
- operating temperature -0 °C ~ 40 °C, rel. humidity 20 – 90 %RH
- inclusive 2x 1.5 V battery (type AA, art.-no.: 90003), with screw driver, data cable, dataview software, operation manual



Accessories on page 289



ART NO	μm	μm F1 + N1	μm probe F1	μm probe N1	mm	€
480227	0.1 / 0.1	0 – 1250	1 + 3 %	1.5 + 3 %	115 x 70 x 30	567,11

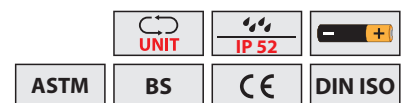
Universal Paint Thickness Gauge • IP52

- professional, handheld device for quick and accurate paint thickness measurements
- device with built-in probe for quick, non-destructive and accurate measurements
- integrated probe for measurements on smooth, painted areas
- combined system for measurements on iron/steel (Fe) and non-ferrous metal (Nf)
- both of these offer the highest degree of precision even with thinnest paint coatings
- large display, 4 digits, alphanumeric, height 8 mm
- in a rugged ABS plastic housing, with rubber protective cover
- easy single key operation, just switch on and measure, autom. base material recognition
- for measurements on level or slightly curved surfaces
- no calibration necessary, calibrated before delivery
- area of application: painting companies, spray- and powder coating, automotive companies, experts and automotive garages, oldtimer scene, machinery, aluminium industry, etc.



application example

- rugged ABS plastic housing, with rubber protective cover, with key pad
- innovative and user friendly handling: switch on and measure
- multi-function LCD display with clear reading, autom. recognition of base material
- large contact area for reliable positioning
- magnetic induction measuring principle (Fe) and eddy current measuring principle (Nf) reading in μm and mil
- calibration-free measuring, acoustic signal when recording measured values
- control foil and zero-standards (1 x aluminium- and 1 x steel plate)
- min. radius workpiece for convex surfaces 25 mm, for concave surfaces 50 mm
- min. thickness of workpiece — F 0.75 mm, min. thickness of workpiece — N 0.25 mm, min. measuring surface 40 x 40 mm
- operating temperature 0 °C ~ 60 °C, rel. humidity 20 – 90%RH, surface temperature -15 °C ~ 60 °C
- incl. 2x 1.5 V battery (type AAA, art.-no.: 90002)
- with operation manual



ART NO	μm	μm Fe	μm Nf	$\pm \mu\text{m}$	mm probe	mm	€
480238	1.0 / 2.0 / 5.0	0 – 3000	0 – 3000	3 + 5 %	integrated	110 x 50 x 25	508.10

Coating Thickness Gauges and Ultrasonic Thickness Gauges

Universal Coating Thickness Gauge • IP52

- professional, handheld device for quick and flexible coating thickness measurements
- device available with built-in probe or with external probe for flexible measurements
- combined system for measurements of non-magnetic layers on metal surfaces (Fe) and for measurements of insulating layers on non-ferrous metals (NFe)
- large display, 4 digits, alphanumeric, height 10 mm
- no calibration necessary, calibrated before delivery
- highly wear-resistant measuring pole made of tungsten carbide
- in a rugged ABS plastic housing, with rubber protective cover
- operates in any position (horizontal, vertical and upside down)
- application fields: painting companies, spray- and powder coating, automotive experts and automotive garages, steel- and automotive companies and shipbuilding, machinery, electro plating, aluminium industry, in laboratories, quality control, etc.

- rugged ABS plastic housing, with rubber protective cover, with key pad
- innovative and user friendly handling: switch on and measure
- multi-function LCD display with clear reading, autom. recognition of base material
- plastic base of the probes are shaped with a V-groove, thus ensuring vertical positioning on flat, cylindrical or curved surfaces
- magnetic induction measuring principle (Fe) and eddy current measuring principle (NFe) reading in μm and mils
- calibration-free measurements, online statistics (mean values, standard deviations, min, max)
- acoustic signal when recording measured values
- control foil and zero-standards (1x aluminium- and 1x steel plate)
- min. radius workpiece for convex surfaces 5 mm, for concave surfaces 50 mm
- min. thickness of workpiece for Fe probe 0.5 mm, for NFe probe 50 μm , min. measuring surface 10 x 10 mm
- operating temperature 0 °C ~ 60 °C, rel. humidity 20 – 90 %RH, surface temperature -15 °C ~ 60 °C
- incl. 2x 1.5 V battery (type AAA, art.-no.: 90002)
- with operation manual and wrist strap



application example



application example



ART No	μm	μm Fe	μm NFe	$\pm \mu\text{m}$	mm probe	mm	€
480236	1.0 / 2.0 / 5.0	0 – 3500	0 – 3000	2 oder 2 %	built-in	110 x 50 x 25	620.76
480237	1.0 / 2.0 / 5.0	0 – 3500	0 – 3000	2 oder 2 %	\varnothing 24 x 45	110 x 50 x 25	890.67

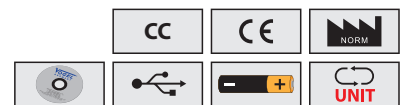
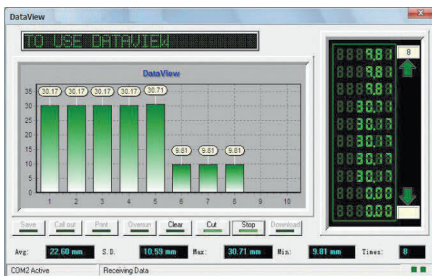
Ultrasonic Thickness Gauge

- Top-model, for various materials, such as steel, stainless steel, glass, gold, silver, non-ferrous metals, nylon, polyethylene, polystyrene, teflon, rubber, plexiglass, titanium, platinum, neoprene, a.m.o.
- pocket size instrument, for quick and flexible wall thickness measurements
- operates in any position (horizontal, vertical and upside down)
- easy to operate device, with automatic probe zero calibration

- rugged polyamid plastic housing, automatic probe identify system
- with touchscreen soft key pad, with low-high limit setting and alarm signal
- resolution in 0,01 mm/0.001" or 0,1 mm/0.01", measurements 4/s and 10/s in „fast mode“
- fast calibration on integrated 4 mm test plate (\varnothing 15 mm)
- 4-digit LCD-display with clear reading and backlight display for dark environment
- incl. interchangeable 5 MHz standard transducer (< 60 °C) with \varnothing 10 mm, for general purpose
- operating temperature -20 °C ~ +50 °C, measuring temperatur -20 °C ~ 350 °C (acc. to the probes)
- with average calculation of max. 9 readings, memory of 5.000 reading with location number
- with „low battery“ indicator, autom. power off selectable, measuring unit in mm/inch swichtable
- with selectable sound velocity range from up 1.000 m/s ~ 9.999 m/s
- with installation software on CD-Rom
- with USB data output to PC
- with 2x 1.5 V battery (type AAA, art.-no.: 609283), couplant, hand strap, operation manual
- incl. workshop calibration certificate, in sturdy plastic case



Accessories on page 289



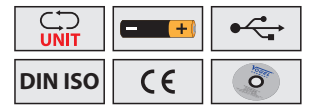
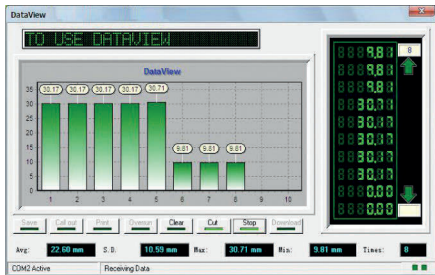
ART No	mm / inch	μm	$\pm \mu\text{m}$	mm	€	CC
480101	0.65 – 400 mm / 0.026 – 15.7"	0.1/0.01 mm / 0.01/0.001"	0.5 % +0.1	116 x 64 x 24	840.82	inclusive

Ultrasonic Thickness Gauge

- compact handheld measuring device for quick and location independent measuring
- with 2 external probes
- dedicated for many materials, such as steel, cast iron, nodular cast iron, aluminium, bronze, copper, zinc, etc., ceramic, glass, composites, epoxies, homogenously plastics, other ultrasonic wave well conductive materials
- large LCD display, 4-digit, in a rugged ABS plastic housing
- operates in any position (horizontal, vertical and upside down)
- with integrated steel test plate for fast calibration
- areas of application e. g.: surface technology, automotive-, metal-, machinery- and aluminium-industry, storage tanks, pressure boiler, shipbuilding, bridge construction corrosion tests, etc.
- rugged ABS plastic housing, with soft keypad
- multi-function display with clear reading, mm/inch switchable
- ON/OFF button, coupling state indication, memory function for 2000 groups
- Pre-Set function for upper and lower limit setting
- incl. software for data transmission
- with 2 external probes:
 - 1x N05/90° angle probe (ø 10 mm/5 MHz), for steel 1 – 250 mm
 - 1x N07 (ø 6mm/7MHz), for thin-walled pipes or small radii 0,75 – 50 mm
- operating temperature -10 °C ~ 60 °C, rel. humidity 20 % ~ 90 % RH
- incl. 2x 1.5 V battery (type AA, art.-no.: 90003), couplant, operation manual



Accessories on page 289



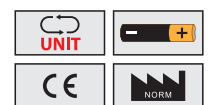
ART NO	mm	mm N05	mm N07	sound velocity m/s	max.	mm	€
480261	0.01	1 – 250	0.75 – 50	1000 – 9999	± 0.5 % + 0.01 mm	163 x 78 x 33	549.16

Ultrasonic Thickness Gauge

- designed to measure the thickness of ferrous (Fe) or non-ferrous materials (NFe)
- dedicated for many materials, such as steel, cast iron, grey cast iron, nodular cast iron, aluminium, copper, bronze, zinc, glass (quarz), ceramics, composites, epoxies, homogenously plastics and other ultrasonic wave well conductive materials
- rugged handheld measurement device, for quick and flexible wall thickness measurements
- suitable for most metallic and non-metallic ultrasonic wave can go through, application areas are e.g. surface technology, automotive industry, storage tank, pressure boiler, shipbuilding, chemical- and petrol plants, power stations, aluminium industry, machine engineering, bridge construction, etc.
- for wall thickness checking of pressure tanks, vessels, oil tanks, chemical instruments and many others
- operates in any position: horizontal, vertical or upside down
- robust housing made of polyamide, with soft keypad
- 4-digit LCD display, with backlight, digit height 9 mm
- with integrated test block for fast calibration
- autom. calibration function, reading in mm/inch
- On/Off key and autom. power off function, with „low-battery“ indicator
- selectable sound velocity 1000 – 9999 m/s
- internal data memory for 40 measurements
- incl. exchangeable 5 MHz transducer, ø 10 mm, for standard purposes
- operation temperature 0 °C ~ +40 °C, humidity 20 % – 90 % RH
- incl. 2x battery 1.5 V (type AA, art.-no.: 90003), with operation manual, wrist strap and couplant



Accessories on page 289



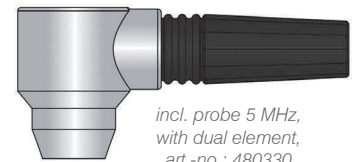
ART NO	mm	mm / inch	max.	mm	€
480120	0.01	0.7 – 300.00 / 0.36 – 11.80	0.5 % + 0.1	124 x 67 x 30	481.72

Ultrasonic Thickness Gauges

Ultrasonic Thickness Gauge with Echo-Echo System (A+B-Scan)

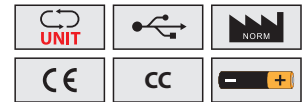
- top class device, with USB data output, with A- + B-Scan-Mode
- suitable for measuring material thickness, also through coated surfaces
- location-independent material measurement with simple operation
- dedicated for ferrous (Fe) and non-ferrous materials (NFe)
- large TFT color display (320 x 240 mm), with clear reading
- multilingual menu navigation, data transfer by USB output to PC in any windows system
- 2 – 9 average measurements, operates in any position: horizontal, vertical or upside down
- Min/Max limit setting, with alarm function, low battery indicator
- automatic probe recognition and automatic zero calibration
- integrated test plate for fast calibration
- automatic measurement and manual-measurement selectable
- automatically locates the detection point
- measurement screen is automatic frozen, which makes it easy to analyze the data for the user
- with our optional available probes our device is dedicated for materials e.g. such as: steel, cast iron, grey cast iron, nodular cast iron, aluminium, copper, brass, zinc, glass (quartz), composites, ceramic, epoxies, PVC, homogenously plastics and other ultrasonic wave well conductive materials

- rugged housing, with soft key pad
- TFT color display, with multi-function indicator, clear reading
- integrated steel test plate for fast calibration
- autom. calibration function, values in mm/inch
- On/Off key, autom. power off, with „low-battery“ indicator
- selectable sound velocity range 1.000 m/s – 9.999 m/s
- with data memory 100 measurement in 100 different files
- incl. exchangeable 5 MHz probe, ø 13,2 mm, < 60 °C, for standard purpose
- operation temperature -20 °C ~ +50 °C, rel. humidity 20 – 90 %RH
- incl. 2x 1,5 V battery (type AA, art.-no.: 90003),
- with couplant, workshop calibration certificate and operation manual



incl. probe 5 MHz, with dual element, art.-no.: 480330

Accessories on page 289



ART NO	mm	mm / inch	sound velocity m/s	max.	mm	€	
480130	T-E 0.65 ~ 400.0 E-E: 3 ~ 25	0.01 / 0.001	1000 ~ 9999	±0.4 mm up to < 9.99 mm ±0.1 % + 0.04 mm up to 10 – 99.9 mm ±0.3 % up to > 100 mm	133 x 75 x 29	1655.36	inclusive
480131	T-E 20 ~ 590	0.01 / 0.001	1000 ~ 9999	±0.1 % + 0.04 mm up to 10 – 99.9 mm ±0.3 % up to > 100 mm	133 x 75 x 29	2391.07	inclusive
480132	T-E 1.50 ~ 20 E-E: 0.20 ~ 10	0.001 / 0.0001	1000 ~ 9999	±0.4 mm up to < 9.99 mm ±0.1 % + 0.04 mm up to 10 – 99.9 mm	133 x 75 x 29	2391.07	inclusive




Our new slogan: Measuring Solutions

- ✓ more appropriate
- ✓ more meaningful
- ✓ more contemporary

This stands for the further development of the brand Vogel Germany to even more customer-oriented solutions in the measurement technology, development of the range, consulting, training, etc.


Accessories for Coating Gauges and Thickness Gauges

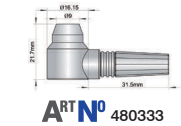
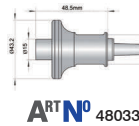
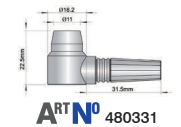
Accessories for Universal Coating Thickness Gauges

ART N°	suitable for model	application	article description	 μm	€
480310	all models	for calibration purpose	calibration foil set Fe + Ne	—	157.04
480315	480227	magnetic induction	probe F1 (Fe)	0 – 1250	206.33
480316		eddy current method	probe N1 (Ne)	0 – 1250	206.33
480322	480237	combined Fe + FNe	combined probe F (Fe) + N (NFe)	0 – 3500 0 – 3000	1212.83
480323		magnetic induction	probe F10 (Fe)	0 – 10000	1212.83



Accessories for Ultrasonic Thickness Gauges

ART N°	suitable for model	application	article description	 mm	€
480280	all models	for coupling	couplant, 60 ml	—	11.49
480288			couplant, 100 ml		12.28
480275	480120	for standard purposes	probe, \varnothing 10 mm 5 MHz	1.0 – 250	145.90
480274		for thin pipes	probe, \varnothing 7 mm 5 MHz	0.8 – 30	181.74
480277		for extrem high temperatures	probe, \varnothing 12 mm 5 MHz	3.0 – 100	394.52
480278		for cast iron	probe, \varnothing 12 mm 2.5 MHz	3.0 – 250	231.29
480330	480130	for standard purposes and for Echo-Echo up to \varnothing 25 x 3 mm	probe \varnothing 13.2 mm 5 MHz (< 60 °C)	T-E: 1.44-00 E-E: 3-25	707.42
480331	480101 and 480130	for thin pipes up to \varnothing 25 x 1,2 mm	probe \varnothing 11 mm 5 MHz (60 °C)	0.8 – 300	183.93
480332		for extrem high temperatures up to \varnothing 25 x 2 mm	probe \varnothing 15 mm 5 MHz, up to 350 °C	2 – 200	339.56
480333		for thin pipes up to \varnothing 15 x 1,2 mm	probe \varnothing 9 mm 7.5 MHz (60 °C)	0.65 – 50	183.93
480334		for extrem thin pipes up to \varnothing 15 x 1 mm	probe \varnothing 6 mm 10 MHz (60 °C)	0.65 – 20	339.56
480335		for pipes up to \varnothing 40 x 3 mm	probe \varnothing 17 mm 2 MHz (60 °C)	2 – 400	339.56
480336	480130	for fiberglass and composites	probe \varnothing 26 mm 1 MHz (60 °C)	3.0 – 200	707.42
480337	480131	for fiberglass and composites	probe \varnothing 28 mm 1 MHz (60 °C)	20 – 590	990.38
480338	480132	for thin, curved surfaces	probe \varnothing 7,5 mm 5 MHz (60 °C)	E-E: 0.200-10 T-E 1.500-20	1273.35
480341	480261	for standard purpose	probe \varnothing 10 mm 5 MHz (60 °C)	1 – 250	63.16
480342		for thin, curved surfaces	probe \varnothing 6 mm 7 MHz (60 °C)	0.75 – 50	75.81
480343		for cast iron and rough surfaces	probe \varnothing 22 mm 2 MHz (60 °C)	2.5 – 350	219.81
480344		for extrem high temperatures	probe \varnothing 14 mm 5 MHz, until 500 °C	2 – 100	219.81
489871	all models	6-step test block 1 / 3 / 5 / 10 / 15 / 20 mm		1 – 20	143.83
489872		4-step test block 1.5 / 4 / 10 / 18 mm		1 – 10	65.68

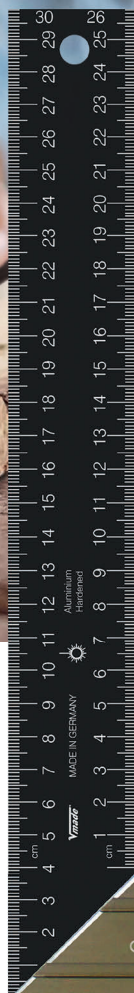




If precision

is most important

Our Universal Square is one of more than 4,500 quality products.



ART N° 504034-2



VOGEL[®]
GERMANY
Measuring Solutions

Electr. Digital Vibration Meter

- with integrated or with external probe, incl. workshop test certificate
- compact analyser for predictive maintenance of production machinery and for a quick checking of unbalance, misalignment, bearings and gears etc.

- rugged, polyamid plastic housing, with keypad
- large LCD display with clear reading, with backlight
- On-switch, automatic power-Off after approx. 1 min., with battery indicator
- low frequency mode "Lo-RMS" to test low vibrations
- high frequency mode "Hi-AVE" to test average acceleration
- displacement peak to peak mode "Hi-Peak"
- large frequency range: 10 Hz up to 1 kHz (Lo), 1 kHz up to 15 kHz (Hi)
- incl. 2 exchangeable probe tips, for different measuring functions:
 - short probe tip for standard vibration measurements
 - long, small probe tip for vibration measurements on small or narrow objects, etc.
 - without probe tip for vibration measurements on smooth object surfaces, etc.
- operation temperature 0 °C ~ +40 °C, humidity 30 – 90 %RH
incl. 1x 9 V battery (type 6LR61, art.-no.: 90006), with operation manual

art.-no. 480600

- LCD display with digit height 18 mm
- accuracy ±5 % of display value (±2 digits)
- with integrated accelerometer and with hand strap

art.-no. 480605

- two-row LCD display, for velocity and temperature, digit height 15 mm/10 mm
- accuracy ±5 % of display value (±2 digits)
- with external accelerometer and adapter cable
- HOLD function for holding the determined measured value
- with magnet
- with temperature measurement (C°/F°) within range -10 °C ~ +80 °C, accuracy ±2 °C



ART NO	velocity Lo-RMS	velocity Hi-AVE	displacement, peak to peak Hi-PEAK	mm	€
480600	0.1 – 199.9 mm/s	0.1 – 199.9 m/s ²	0.001 – 1.999 mm	185 x 68 x 30	437.93
480605	0.1 – 199.9 mm/s	0.1 – 199.9 m/s ²	0.001 – 1.999 mm	135 x 75 x 38	656.89

Tachometers

Electr. Digital Hand Tachometer


• with LCD display for optical or mechanical speed detection

- measurement accuracy is $\pm 0.02\%$ from the end value ± 1 digit
- 5 digit LCD display, sturdy ABS plastic housing
- direct and non-contact recording of rotation
- automatic Off-function, after 30 sec.
- automatic Min/Max/Average memory-function, recall by memory button
- mode function for different measurement units
- power supply via 2x 1.5 V battery (type AA, art.-no.: 90003), or rechargeable batteries (optional)
- extensive accessories is included: Hand Tachometer, 10 reflective tags, adaptor for direct measuring 1:1, rubber tip, track wheel 0.1 m and 6"
- incl. 2x 1.5 V battery (type AA, art.-no.: 90003)
- operation manual and test certificate

Option

- art.-no. 270160-8 set of reflective tags (10 pcs.)



ART NO	 1 / min.	measuring distance max. mm	storage temperature °C	operation temperature °C	€	EURO CC
270160	1 – 99999	600 (optically)	-20° ~ +70°	0° ~ +50°	193.62	70.00

Electr. Digital Hand Tachometer


- especially for maintenance and service tasks for lifts
- special set for lift and wire/cable measurement
- with LCD display for optical or mechanical speed detection

- measurement accuracy is $\pm 0.02\%$ from the end value ± 1 digit
- 5 digit LCD display, sturdy ABS plastic housing
- direct and non-contact recording of rotation
- automatic Off-function, after 30 sec.
- automatic Min/Max/Average memory-function, recall by memory button
- mode function for different measurement units
- extensive accessories is included: Hand Tachometer, 10 reflective tags, adaptor for direct measuring 1:1, rubber tip, track wheel 0.1 m and 6", adapter for lift-, textile yarn- and wire measuring
- incl. 2x 1.5 V battery (type AA, art.-no.: 90003), with operation manual

Option

- art.-no. 270160-8 set of reflective tags (10 pcs.)



ART NO	 1 / min.	measuring distance max. mm	storage temperature °C	operation temperature °C	€	EURO CC
270161	1 – 99999	600 (optically)	-20° ~ +70°	0° ~ +50°	570.79	70.00

Accessories for Tachometers and Stroboscope

Accessories for Electr. Digital Hand Tachometers



ART No 270160-1



ART No 270160-2



ART No 270160-3



ART No 270160-4



ART No 270160-5



ART No 270160-6



ART No 270160-7



ART No 270160-8



ART No 90003

In each set contain:

set content										
	270160-1	270160-2	270160-3	270160-4	270160-5	0.1 m 270160-6	6" 270160-7	270160-8	90003	
270160	—	✓	✓	✓	✓	✓	✓	✓	✓	✓
270161	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

ART No	product description	€
270160-1	adapter	300.42
270160-2	extension shaft	4.21
270160-3	change attachment	37.49
270160-4	drive cone	10.57

ART No	product description	€
270160-5	drive tip	9.85
270160-6	measuring wheel 0.1 m	11.96
270160-7	measuring wheel 6"	15.69
270160-8	set of reflective tags, 10 pcs.	6.70

Electr. Digital-Stroboscope • IP65 NEW

- water-, coolant proof and shock resistant hand-held device
- e.g. for use in the automotive industry and mechanical engineering
- for error analysis of high-speed industrial plants
- for optical representation of the revolutions
- in a rugged aluminium-/ABS-plastic-housing
- with modern LED technology, precise working electronic
- with auto-synchronization frequency laser function
- for non-contact measurement

- large LCD display, multiple lines, coloured lighting
- light intensity 6.500 Lux @ 300 mm, light colour approx. 6.500 K
- no wear of the high-power LEDs
- Accuracy: flash frequency (internal) and frequency measurement (external)
- resolution ± 0.1 (30 ... 999.9 FPM) ± 1 (1.000 ... 999.999 FPM)
- operation temperature 0 °C ~ 45 °C
- incl. 3x 1.5 V battery (type AA, art.-no.: 90003)
- in sturdy carrying case, with operation manual



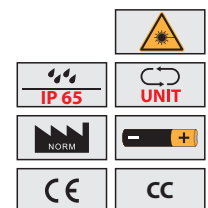
Stroboscope on:
rotations visible



Stroboscope off:
rotations not visible



LED front



ART No			flash colour			€	CC
610102	30 ~ 999.999	0.02 % (± 1 Digit)	white 6500 K	1 mW	191 x 82 x 60	719.80	inclusive

Force Gauges, Dial Tension Gauges and Scales

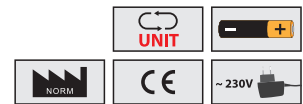
Electr. Digital Force Gauges

• robust push/pull force gauge, for simple measurements

- measurement accuracy is from max. 0.5% of capacity, data sampling rate 1000 Hz
- large LCD display with backlight
- overload protection 2% of full scale
- reversible display with automatic direction detection
- with peak hold function, real time or peak hold mode to observe
- automatic power-Off
- incl. standard attachments and extension rod (90 mm long)
- incl. 1x 1.5 V battery (type AAA, art.-no.: 90002), charger and operation manual



standard attachments and extension rod 90 mm



ART NO	N max.	N	measuring units		€	EURO CC
270353	100	0.050	N / kgf / lbf / oz	195 x 84 x 35	214.58	270.00
270354	250	0.100	N / kgf / lbf / oz	195 x 84 x 35	214.58	270.00
270355	500	0.200	N / kgf / lbf / oz	195 x 84 x 35	214.58	270.00
270356	1000	0.500	N / kgf / lbf / oz	195 x 84 x 35	214.58	270.00

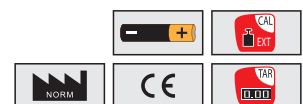
Kern • Electr. Digital Compact Scales

• entry-level model in the low cost range, with weigh-in function

- rugged plastic housing, with large LCD unit, digit height 15 mm
- easy operation by two buttons
- connector for charger
- weigh-in function, by pressing the TARE-button switches over to "0", simplifies mixing
- automatic auto-off after 3 min. without change of load to preserve the battery
- incl. 2x 1.5 V battery (type AA, art.-no.: 90003), with operation manual

Option

- charger 230 V/AC (art.-no.: 273998)



ART NO	max. kg	g	weighing plate-ø mm		€
273003	0.5	0.1	150	170 x 240 x 39	56.65
273004	0.2	0.01	105	170 x 240 x 39	128.75
273006	2.2	1	150	170 x 240 x 39	58.71
273008	6	0.1	150	170 x 240 x 39	164.80

Kern • Electr. Digital Precision Scales • IP65 / IP67

- IP65: Dust and jet water proof acc. to DIN 40050 / IEC 60529
- IP67: Water and oil tight (at times) acc. to DIN 40050 / IEC 60529

- rugged metal housing, weighing plate made from stainless steel
- large LCD display, digit height 20 mm
- easy 3-/4-button operation, self-explaining
- operation by battery or main supply, switchable
- automatic power-Off after 3 min. without change of load to preserve the battery
- freely programmable weighing units
- adjusting program (CAL)
- incl. charger 230 V/AC and dust cover
- incl. operation manual

ART N° 273322 - 273324



IP67

ART N° 273320 + 273321



IP65



ART N°	max. kg	g	reproducibility g	linearity ± g	weighing plate mm	mm	€	EURO CC
273320	0.5	0.1	0.1	0.2	120 x 150	170 x 150 x 40	108.15	58.00
273321	5	1	1	2	120 x 150	170 x 150 x 40	108.15	67.00
273322	5 7.5	0.5 1	0.5 1	1.5 3	252 x 200	285 x 255 x 90	236.90	67.00
273323	8 15	1 2	1 2	3 6	252 x 200	285 x 255 x 90	236.90	67.00
273324	16 30	2 5	2 5	6 15	252 x 200	285 x 255 x 90	236.90	67.00

Kern • Electr. Digital Compact Scales NEW

- industry quality design, with robust tuning fork weighing system
- with data output RS 232

- rugged metal housing, weighing plate made from stainless steel
- large LCD display, digit height 16,5 mm
- automatic power-Off after 3 min., without change of load to preserve the battery
- PRE-TARE button for manual subtraction of a known container weight
- power supply with 9 V block battery (not included)
- with animal weighing program, strong vibrations are filtered out
- incl. dust cover and operation manual
- Internal automatic adjustment, Automatic adjustment CAL for setting the accuracy using a test weight
- Autom. reference optimization
- Capacity display

Options

- RS-232 / Bluetooth® adapter for connecting Bluetooth® capable devices, art.-no.: 273063-1
- RS-232 / WLAN adapter for wireless connection to network and WLAN-compatible devices, art.-no.: 273063-2



ART N°	max. kg	g	verification value [e] g	minimum weight [min] g	linearity ± g	weighing plate mm	LCD unit	€	EURO CC
273063	0.62	0.001	—	—	0.004	∅ 140	202 x 293 x 266	587.10	58.00
273064	3.2	0.01	—	—	0.02	190 x 190	195 x 290 x 90	597.40	67.00
273065	12	0.1	—	—	0.2	190 x 190	195 x 290 x 90	618.00	67.00
273067	0.62	0.001	0.01	0.02	0.004	∅ 140	202 x 293 x 266	762.20	67.00
273068	3.2	0.01	0.1	0.5	0.02	190 x 190	195 x 290 x 90	726.15	67.00
273069	12	0.1	1	5	0.2	190 x 190	195 x 290 x 90	726.15	67.00

Kern • Electr. Digital Compact Scales

- industry quality design, with two LCD-displays
- with data output RS 232 C
- industry scale with rugged metal housing, stainless steel weighing plate
- with large LCD display, with backlight, digit height 25 mm
- automatic power-Off after 3 min., without change of load to preserve the battery
- PRE-TARE button for manual subtraction of a known container weight
- power supply with 9 V block battery (not included)
- with animal weighing program, strong vibrations are filtered out
- incl. dust cover and operation manual



Backside



ART No	max. kg	g	reproducibility g	linearity ± g	weighing plate mm	mm	€	EURO CC
273076	12	1	1	3	252 x 228	270 x 345 x 106	190.55	67.00
273078	24	2	2	6	252 x 228	270 x 345 x 106	190.55	67.00

Kern • Electr. Digital Parcel Platform Scale

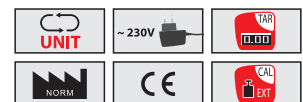
- cheap parcel and allround scales, for despatch weighing

- rugged metal housing, weighing plate made from stainless steel
- with wall mounting for electr. unit
- large LCD display, digit height 25 mm
- weighing units in kg or lb
- display unit placed anywhere by flexible spiral cable (approx. 2 m)
- easy 4-button operation, self-explaining
- automatic power-Off after 3 min., without change of load to preserve the battery, permissible temperature +10 °C ~ +35 °C
- with animal weighing program
- weigh-in function, by pressing TARE-button switches over to "0"
- adjusting programme (CAL) means for adjusting the precision test weights, (is not included)
- mains or battery operation possible (6x 1.5 V battery, type AA, art.-no.: 90003, batteries are not included)
- incl. charger 230 V/AC, with operation manual



Option

- stand, art.-no.: 273558 (€ 82.40) (stand only)



ART No	max. kg	g	reproducibility g	linearity ± g	weighing plate mm	mm	LCD unit	€	EURO CC
273302	35	10	10	20	310 x 305 x 55	210 x 110 x 45	156.56	67.00	
273303	60	20	20	40	310 x 305 x 55	210 x 110 x 45	156.56	105.00	
273305	150	50	50	100	310 x 305 x 55	210 x 110 x 45	156.56	350.00	
273308	300	100	100	200	310 x 305 x 55	210 x 110 x 45	156.56	350.00	

Kern • Electr. Digital Parcel Platform Scale • IP65

- multimodel platform scale
- for industrial purpose, with piece-counting, reference quantities selectable
- dual range scale, automatically switches to the next higher weighing range
- dust- and splash water proof acc. to DIN 40050 / IEC 60529

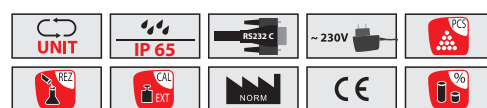
- industry scale with rugged plastic housing, stainless steel weighing plate
- with large LCD display, with backlight, digit height 25 mm
- freely programmable weighing units, e.g. in yarn length g/m, in paper weight g/m², etc.
- display unit (IP 65) placed anywhere by flexible spiral cable (approx. 1.4 m)
- easy 5-button operation, self-explaining, with animal weighing program
- with data output RS 232 C, for data-printer or computer connection
- mains or battery operation possible (1x 9 V battery, type 6LR61, art.-no.: 90006, batteries are not included)
- adjusting program (CAL), piece-counting (PCS), net-total weighing (REZ)
- automatic power-Off after 3 min., permissible temperature +5 °C ~ +35 °C
- incl. charger 230 V/AC, dust cover, with operation manual

Option

- stand, art.-no.: 273550 (€ 103.00) (stand only)



art.-no.: 273550, stand only



ART NO	max. kg	g	reproducibility g	linearity ± g	weighing plate mm	LCD unit	€	EURO CC
273054	15 / 35	5 / 10	5 / 10	15 / 30	318 x 308 x 75	225 x 110 x 45	190.55	67.00
273057	30 / 60	10 / 20	10 / 20	30 / 60	318 x 308 x 75	225 x 110 x 45	190.55	105.00
273059	60 / 150	20 / 50	20 / 50	60 / 150	318 x 308 x 75	225 x 110 x 45	200.85	350.00
273061	150 / 300	50 / 100	50 / 100	150 / 300	522 x 403 x 90	225 x 110 x 45	324.45	350.00

Kern • Electr. Digital Industrial Counting Scales

- verifiable
- entry level model into the professional-counting

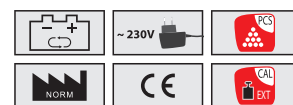
- industry scale with rugged metal housing, stainless steel weighing plate
- with 3 large LCD displays, with backlight, digit height 18 mm
- verifiable weight display, reference weight, total number of pieces
- programmable via keypad: known reference weight / reference quantity
- accurate counting: the autom. reference optimization gradually improves the average value of the piece weighing
- cumulative counter memory: summing up of the same counting parts and total pieces and total weight, counting resolution: 30000 points
- acoustic beep „Fill-to-target“: target quantity and target weight programmable
- weigh-in function, by pressing the TARE-button switches over to "0", simplifies mixing
- permissible temperature -10 °C ~ +40 °C
- standard with charger, internal (please mention the country location of use) and operation manual

Option

- **verification** or DAKKS calibration certificate by extra charge (with **verification**: location of use with post code required - subsequently not possible)



- high mobility, thanks to battery operation
- with recessed grips



ART NO	max. kg	g	verification value [e] g	minimum weight [min] g	minimum weight g/pc.	weighing plate mm	LCD unit	€	EURO CC
273022	3	1	1	20	0.1	300 x 225	300 x 330 x 110	252.35	67.00
273024	15	5	5	100	0.5	300 x 225	300 x 330 x 110	252.35	67.00
273025	30	10	10	200	1	300 x 225	300 x 330 x 110	252.35	67.00

Electr. Digital Hanging Scale

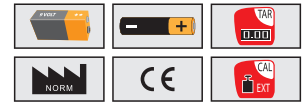
- for mobile use
- for weighing by hand or for hanging up on an angle bracket
- sturdy ABS-plastic housing with a stainless steel hook
- large LCD display with digit height:
 - art.-no. 273087 about 13 mm / art.-no. 273080 – 273082 about 11 mm
- with data hold button, display can be "frozen" for approx. 5 sec., makes reading easier
- On/Off-button, TARE-button: attach an empty vessel/container and place the display to zero
- weighing units: kg, lb and N (Newton)
- automatic power-Off
- permissible temperature +5 °C ~ +35 °C
- art.-no. 273087 only suitable as luggage scale, **not calibratable**
- art.-no. 273080 – 273082 with built-in measuring tape (100 cm)
- art.-no. 273087 incl. 2x 1.5 V battery (type AAA, art.-no.: 90002)
- art.-no. 273080 – 273082 incl. 1x 9 V battery (type 6LR61, art.-no.: 90006),
- art.-no. 273087 not calibratable (simple household scale)
- incl. operation manual



ART N° 273080 – 273082



ART N° 273087



Option

- DAkkS calibration certificate for art.-no. 273080 – 273082 by extra charge (afterwards not possible)

ART N°	max. kg	g	mm	€	EURO CC
273080 (Kern)	15	20	90 x 30 x 175	71.07	67.00
273081 (Kern)	50	50	90 x 30 x 175	77.25	67.00
273082 (Kern)	50	100	90 x 30 x 175	66.95	67.00
273087 (Vogel Germany)	30	10	95 x 23 x 195	15.03	—

Kern • Electr. Digital Crane Scale

- TÜV approved crane scales acc. to the standards of EN 13155 (loose load receptor) and EN 61010-1 (electr. safety)
- art.-no. 273100 – 273103 prof. device for rough application (industry quality)
- art.-no. 273110 – 273111 compact crane scale (for standard purpose)
- art.-no. 273100 – 273103 self-luminous LED display, digit height 30 mm
- art.-no. 273110 – 273111 LCD display with backlight, digit height 23 mm
- art.-no. 273100 – 273103 incl. remote control, up to 20 m working range
- art.-no. 273110 – 273111 incl. infrared-remote control, up to 2.5 m working range
- with data-hold button, to hold the display value
- art.-no. 273100 – 273103 with adaption to unstable conditions
- hook with safety lock, made from forged steel, chromed, turnable
- standard with internal battery, incl. charge 230 V/AC
- remote control incl. 2x 1.5 V battery (type AAA, art.-no.: 90002)
- adjusting programme (CAL), weigh-in function, by pressing TARE-button switches over to "0"
- accuracy 0.2 % from [max], permissible temperature 0 °C ~ +40 °C
- incl. operation manual

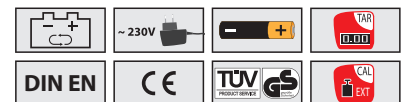
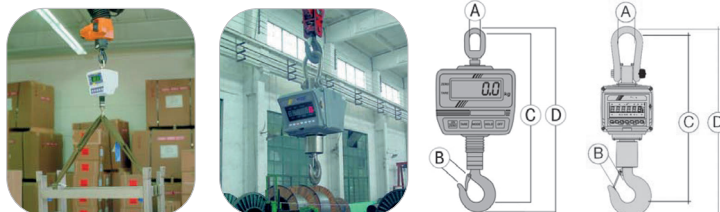
ART N° 273110 – 273111

ART N° 273100 – 273103



Option

- DAkkS calibration certificate by extra charge (afterwards not possible)



ART N°	max. kg	g	A	B	C	D	mm	€	EURO CC
273100	1000	100	80	40	540	610	270 x 175 x 200	710.70	350.00
273101	3000	500	75	50	540	610	270 x 175 x 200	731.30	410.00
273102	5000	500	75	50	650	730	300 x 190 x 230	957.90	500.00
273103	10000	1000	100	60	750	840	300 x 190 x 230	1225.70	700.00
273110	300	100	26	25	358	390	163 x 120 x 159	360.50	350.00
273111	600	200	26	25	358	390	163 x 120 x 159	386.25	350.00

Kern • Electr. Digital Hanging Scale • also with IP65

- with stainless steel snap link and S-hook made from stainless steel
- art.-no. 273083 – 273086 with sturdy ABS plastic housing
art.-no. 273094 – 273097 with sturdy stainless steel housing, in IP65 design
- art.-no. 273083 – 273086 large LCD display, digit height 12 mm
art.-no. 273094 – 273097 large LCD display, at front and rear side, digit height 12 mm
- with data hold button, display can be "frozen" for some seconds, adjusting programme (CAL)
- TARE-button: attach an empty vessel/container and place the display to zero
- automatic power-Off after 3 min., without change of load to preserve the battery
- art.-no. 273083 – 273086 incl. 3x 1.5 V battery (type AA, art.-no.: 90003)
art.-no. 273094 – 273097 incl. 2x 1.5 V battery (type AA, art.-no.: 90003),
incl. operation manual



ART No 273094 – 273097



ART No 273083 – 273086



ART No	IP65 water- and coolant proof	→ ← max. kg	 g	→ ← mm	total height incl. hooks mm	€	EURO CC
273083	X	20	10	80 x 45 x 150	290	108.15	67.00
273084	X	50	100	80 x 45 x 150	290	92.70	67.00
273085	X	100	200	80 x 45 x 150	290	101.97	105.00
273086	X	200	500	80 x 45 x 150	290	97.85	350.00
273095	✓	50	100	95 x 55 x 175	315	133.90	67.00
273096	✓	100	200	95 x 55 x 175	315	133.90	105.00
273097	✓	200	500	95 x 55 x 175	315	133.90	350.00

Test Weights

- for checking of measurements and scales
- available as single weights or in sets
- M1-Quality Class, brass made (stainless steel on request), finely turned
- DAkkS calibration certificate (with extra charge)
- in a plastic case with soft insert (wooden case on request)

Other weights
or set-components
are available on request!



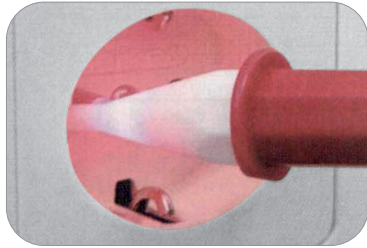
ART No	→ ← kg	→ ← max. ± mg	€	EURO CC
Quality Class M1				
273266	0.100	5	10.92	11.60
273268	0.500	25	31.93	11.60
273269	1.000	50	47.38	11.60
273270	2.000	100	82.40	11.60
273271	5.000	250	179.22	11.60

ART No	→ ← kg	€	EURO CC
Set-Components Quality Class M1			
273282	0.001 – 0.500	162.74	11.60
273283	0.001 – 1.000	257.50	11.60
273285	0.001 – 5.000	731.30	11.60
—	—	—	—
—	—	—	—

Voltage Testers and Miniature Current Clamp

Testboy • Voltage Detector • IP44

- non-contact type, rapid detection of live conductors to e.g. cable connections, cable reels, sockets, electrical outlets, switches, etc.
- particularly well-suited for professional use and as well for hobby
- sturdy ABS-plastic housing, with clip, dustproof and spray water resistant
- contactless and safe testing, works at a distance of 4 mm
- with acoustical signal and built-in LED lamp on top, measuring range 12 V – 1000 V
- overload category CAT III 1000 V
- capacitive process
- incl. 2x 1.5 V battery (type AAA, art.-no.: 90002), with operation manual



ART N°	V AC	mm L x ø	€
640357	12 – 1000	160 x 25	35.19

Testboy • Electr. Digital Miniature Current Clamp • IP44

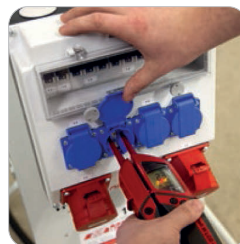
- the manual/automatic test range selector enables versatile and reliable testing use in the service sector, in industry or in the installation whether you want to measure a direct current as shown in the picture to check that a battery's load current will be sufficient, or the load is pulling too much and causing leakage
- the included readiness-bag keeps the device and its attachments safe, even in harsh areas or on the road
- protected housing made of sturdy ABS-plastic, dustproof and spray water resistant
- LCD display with clear reading
- voltage up to 600 V, current AC/DC up to 600 A
- overload category CAT III, 600 V, conductivity with acoustical signal, resistance 0 – 60 Ω
- with diode test, with testing lead set
- incl. 3x 1.5 V battery (type AAA, art.-no.: 90002)
- incl. operation manual



ART N°	V AC/DC	A AC/DC	mm L x W x H	€
640364	-600 V AC/DC	-600 A AC/DC	208 x 75 x 35	143.51

Testboy • Two Pole Voltage Tester • IP65

- the professional appearance is underlined by the mix of materials used in the plastic housing and the rubber handle
- display window made of break proof plastic, scratch resistant
- sturdy ABS-plastic housing, water- and coolant proof acc. to DIN 40050 / IEC 60529
- single pole phase testing, two pole phase sequence testing, autom. load for FI/RCD test
- autom. measurement range, autom. resistance: $I_s \sim 30 \text{ mA ED(DT)} = 30 \text{ sec.}$
- operation panel: finger tip contact, continuity test $0 - 500 \text{ k}\Omega$, with acoustical signal
- incl. 2x 1.5 V battery (type AAA, art.-no.: 90002), with operation manual





ART N°	 V AC / DC	phase indicating	overload category	 mm	€
640332	6 – 1000 AC / DC	> 100 V AC	CAT IV 1000 V	238 x 70 x 30	54.59

Testboy • Two Pole Voltage Tester • IP44

- with 8 LED's, user-friendly design
- for measuring AC / DC, two practical functions in a single device
- the instrument has met with the approval for many customers working in the electrical- and tools branch
- sturdy ABS-plastic housing with rubber handle, dustproof and spray water resistant
- protected against voltage loads from 6 up to 400 V AC / DC
- DC and AC voltage tests with polarity indication can be performed safely
- power supply by test object
- overload category CAT III 1000 V
- with operation manual



ART N°	 V AC / DC	display	 mm	€
640356	6 – 400	8 LED's	120 x 60 x 30	18.54

Multimeters

Testboy • Electr. Digital Multimeter • IP44

• with LED lamp and with non-contact voltage tester
very useful instrument, especially in the field of electrical engineering

- housing is made of tough, damage-resistant ABS-plastic, dustproof and spray water resistant
- large LCD display for clear reading
- current DC and AC up to 4 A
- diode test, transistor test function, conductivity test, with acoustical signal
- incl. 1x measuring lines
- incl. 2x 1.5 V battery (typ AAA, art.-no.: 90002), with operation manual



ART N°	 AC/DC	overload protection	resistance		
640382	0 – 400 V	CAT III / 300 V	2 MΩ	140 x 70 x 35	47.55

Electr. Digital Multimeter • IP44

• with solar charger on top of instrument
very useful instrument, especially in the field of electrical engineering

- housing is made of tough, damage-resistant ABS-plastic, dustproof and spray water resistant
- large LCD display clear reading, digit height 19 mm
- current DC and AC up to 20 A
- incl. thermo probe for temperature measurements
- diode test, transistor test function, conductivity test, with acoustical signal
- with battery test function
- with frequency function
- with decimal digits change
- incl. 2x measuring lines
- incl. rechargeable accu and charger cable, with operation manual



with stand



power plug



solar charger



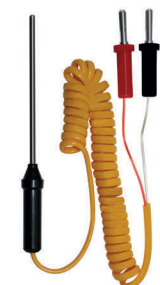
alligator clips



USB cable for charging







measurement probes



temperature probe



ART N°	 AC	 DC	overload category	resistance		
640384	0 – 750 V	0 – 1000 V	CAT III / 600 V CAT IV / 1000 V	60 MΩ	167 x 90 x 50	57.20

IP-Protection types overview acc. to EN 60529 (IP • International Protection)

1. Index

Degree of protection against foreign objects/particles and dust

- IP 4.. Protection against penetration of solid foreign objects von ≥ 1 mm.
- IP 5.. Protection against harmful dust deposits (dust protected).
- IP 6.. Protection against penetration of dust (dust-proof).

2. Index

Degree of protection against water

- IP ..0 no protection
- IP ..2 Protection against dripping water up to 15° tilt housing.
- IP ..4 Protection against water spray from any direction.
- IP ..5 Protection against water jets from any direction.
- IP ..6 Protection against powerful water jets from any direction.
- IP ..7 Protection against temporary immersion in water.
- IP ..8 Protected from ingress of water during immersion for indefinite period.

Tolerance limits acc. to EC-Measuring Directive 2004/22

Pocket Tapes / Steel Rules

Length	m	1	2	3	4	5	8	10
Tolerance class I	mm	± 0.3	± 0.4	± 0.5	± 0.6	± 0.7	± 1.0	± 1.2
Tolerance class II	mm	± 0.7	± 0.9	± 1.1	± 1.3	± 1.5	± 2.1	± 2.5

Folding Rules

Length	m	1	2	3
Tolerance class II	mm	± 1.0	± 1.2	± 1.4
Tolerance class III	mm	± 1.8	± 2.2	± 2.6

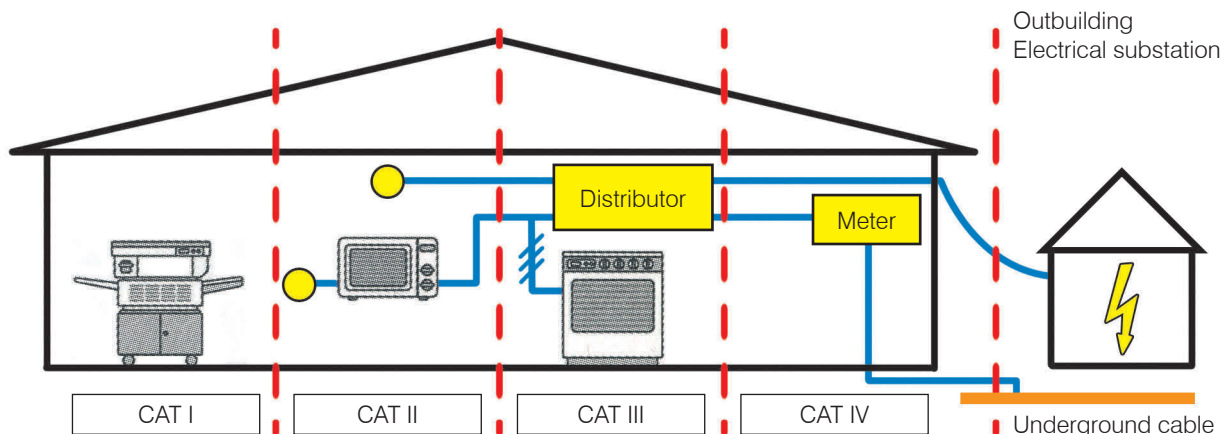
Thickness tolerances for feeler gauges and feeler gauge rolls

nominal thickness mm	0.000 – 0.024	0.025 – 0.039	0.040 – 0.062	0.063 – 0.124	0.125 – 0.159	0.160 – 0.199	0.200 – 0.249	0.250 – 0.314	0.315 – 0.389	0.400 – 0.499	0.500 – 0.629	0.630 – 0.799	0.800 – 0.999	1.000 – 1.249
Tolerance T2 μm	± 2	± 3	± 4	± 5	± 6	± 7	± 8	± 9	± 11	± 12	± 14	± 17	± 19	± 24
Tolerance T3 μm	± 1.5	± 2	± 3	± 4	± 5	± 5	± 6	± 7	± 8	± 9	± 10	± 12	± 13	± 17

Measuring categories CAT I up to CAT IV

- CAT I:** approved for measurements on circuits that are not directly connected to the power grid. (e.g. specially protected devices)
- CAT II:** approved for measurements on circuits which are electrically connected directly to the low voltage grid. (e.g. household appliances)
- CAT III:** approved for measurements in building installation (e.g. as distribution, wiring, sockets, switches)
- CAT IV:** approved for measurements at the source of low-voltage installations (e.g. as meters, mains terminals, primary overcurrent protection devices)

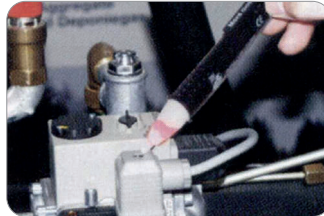
Any questions?
We are pleased to advise!



Magnet and Brake Fluid Tester, Car Tester

Testboy • Magnet Field Detector, non contact

- with LED lamp, non contact
- easy and quick contact-free detection of magnetic-fields
- all permanent and synthetic magnetic fields are indicated by the tip lighting up
- the built-in magnet-field sensor allows a reliable check proper function of hydraulic and pneumatic valves, relays and contactors
- rugged ABS-plastic housing, with clip
- safe and contactless testing, works at a distance of 4 mm
- optical red LED display, with built-in permanent magnet for a quick self test
- incl. 2x 1.5 V battery (type AAA, art.-no.: 90002), with operation manual



ART N°		length x ø	
640376	all magnetic fields	160 x 25	23.10

Testboy • Brake Fluid Tester, DOT 3, DOT 4, DOT 5.1 • IP44

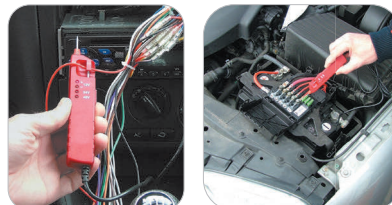
- fast and accurate check on the water content in the brake fluid
- thanks to various measuring ranges, user-friendly operation and compact design, the device is ideal for use in garages and motorcycle workshops
- check brake fluids DOT 3, DOT 4, DOT 5.1
- acid- and alkaline housing, with clip
- visual indicating via 3 LED's
- measuring point illumination
- incl. 2x 1.5 V battery (type AAA, art.-no. 90002), with operation manual



ART N°		length x ø	
640372	DOT 3 / DOT 4 / DOT 5.1	152 x 23.5	60.60

Testboy • Car Tester, Voltage Tester for 3 – 48 V • IP40

- with integrated piercing probe
perfect instrument for fault diagnostics in cars, trucks, etc.
- rugged ABS plastic housing, dust proof
- LED's with indicating 12 V / 24 V / 48 V
- power supply via test object
- protection class III, IEC/EN 61010-1
- with operation manual



ART N°	DC	length x width x height	
640366	3 – 48 V	145 x 25 x 16	15.83

Electr. Digital Thermometer

NEW

- for quick and exact measurement of temperatures
- with external temperature probe, type K
- rugged, ABS-plastic housing, with insulating peel
- large LCD display, 3 1/2 -digit, with clear reading, with battery indicator
- On/Off button, data hold button, measuring in °C and °F, max. display 1999
- 1 input for temperature probes type K, for temperature and relative measurements
- response time approx. 2.5 sec
- storage temperature 0 °C ~ +50 °C, rel. humidity < 80 % RH
- incl. 1x 9 V battery (type 6LR61, art.-no.: 90006), with operation manual

Option

- spare part temperature probe art.-no. 649303



with stand



probe

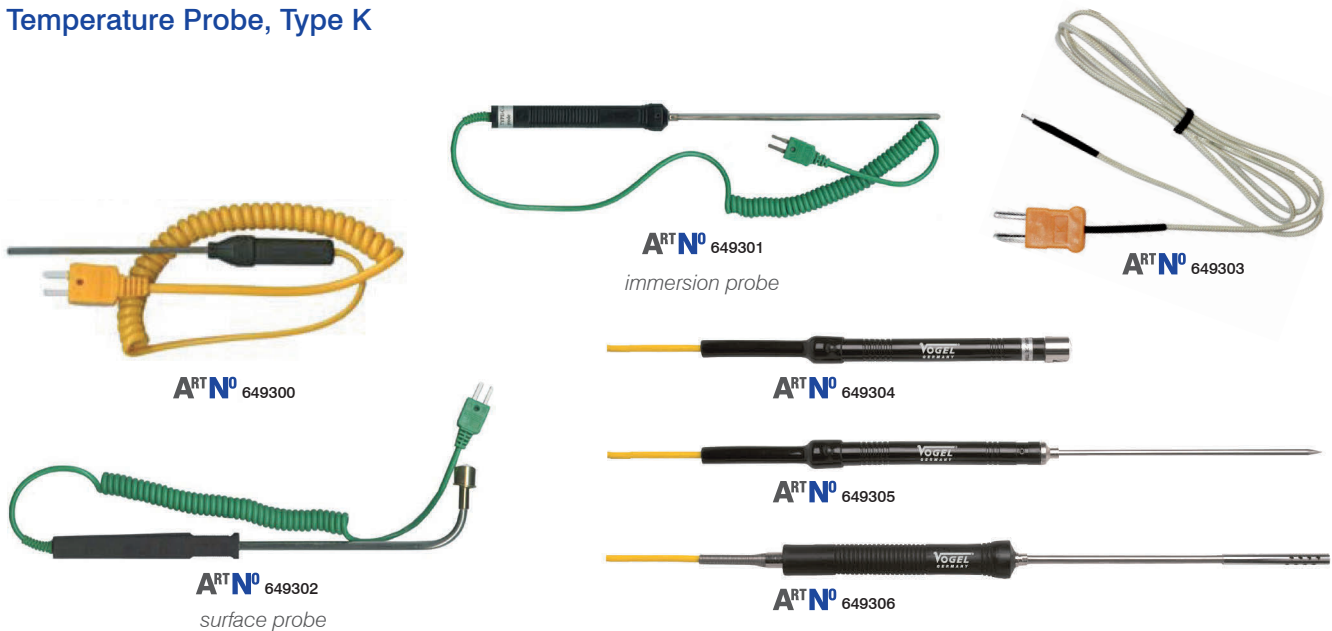


bumper case



ART N°	capacity of device °C	°C at -50 °C ~ 200 °C	max. -50 °C ~ 200 °C / 200 °C ~ 1000 °C / 1000 °C ~ 1300 °C	mm	€
640303	-50 ~ +1300	1.0	±0.1 % +1 °C / ±0.3 % +2 °C / ±0.5 % +2 °C	147 x 71 x 34	35,37

Temperature Probe, Type K



ART N°	capacity of device °C	L mm	ø mm	€
649300	~ +700 °C	~ 84	3	3.46
649302	~ +400 °C	~ 150	15	96.48

ART N°	capacity of device °C	L mm	ø mm	€
649301	~ +700 °C	~ 150	4	46.69
649303	~ +400 °C	~ 950	2	1.43
649304	~ +400 °C	~ 15	14.92	60.94
649305	~ +600 °C	~ 150	3.5	56.48
649306	~ +800 °C	~ 170	5	94.93

Infrared Laser Thermometers

Infrared Laser Thermometer

NEW

- suitable for use in industrial companies, car garages, heating, refrigeration and air-conditioning systems or the electric trade
- pistol-size with laser pointer
- for contactless and quick measuring of temperatures
- the devices fulfill the strict requirements of the European and national guidelines

- rugged ABS-plastic housing, resistant to breaking by impact
- large LCD display with clear reading, with backlighting
- temperature in °C / °F, Auto power-off, Data Hold function
- laser protection class II, operation temperature 0 °C ~ 50 °C
- storage temperature -10 °C ~ +50 °C, rel. humidity < 80 % RH
- **640323** emissivity fixed: $\epsilon = 0.95$
- **640324** emissivity adjustable: $\epsilon = 0.99 - 0.95 - 0.89 - 0.85 - 0.79 - 0.75$
- incl. 1x 9 V battery (type 6LR61, art.-no.: 90006), with operation manual

ART N° 640324

ART N° 640323



ART N°	°C	°C	max. °C	°C	measuring optics	mm	€
640323	-25 ~ +400	1.0	±1	±1.0	10:1	180 x 100 x 50	59.42
640324	-10 ~ +499.5 500 ~ +1.450	0.5 1.0	±1	±1.0	35:1	180 x 100 x 50	237.69

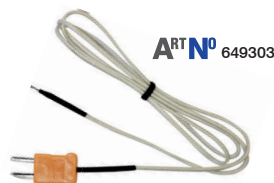
Infrared Laser Thermometer

- pistol-sized, with K-type temperature probe and shiftable laser pointer
- for quick measuring of temperatures, by temperature probe or contactless
- the devices fulfill the strict requirements of the european national guidelines

- rugged ABS plastic housing
- large LCD display with clear reading, with backlight
- temperature reading in °C / °F, with shiftable laser pointer
- autom. power off after ~ 20 sec., response time < 0.5 sec., laser protection class II
- data hold function for short memory time of the measuring value, Min/Max-function
- average value selectable, with battery indicator
- storage temperature -10 °C ~ +60 °C, operation temperature 0 °C ~ +50 °C
- relative humidity 10 – 90 % RH, emissivity adjustable
- incl. 1x 9 V battery (type 6LR61, art.-no.: 90006)
- with operation manual

ART N° 640317-2

ART N° 640314



ART N°	°C	°C	max. °C	°C	measuring optics	mm	€	ART N° spare probe	€
640314	-30 ~ +550	0.1	±4.0 / ±4 %	±1.0	12:1	170 x 135 x 50	43.93	649303	4.13
640317-2	-50 ~ +1300	0.1	±2.0 / ±2 %	±1.0	16:1	170 x 135 x 50	105.64	—	—

Electr. Digital Moisture Meter

- for measurements of wood moisture, paper, building materials, etc.
- with 4 contact pins

- rugged, polyamide housing material
- large LCD display with clear reading
- On/Off button, data hold button
- autom. power off, battery indicator
- setting the upper limit of the moisture ratio
- storage temperature -10 °C ~ +60 °C, operation temperature 0 °C ~ +40 °C, rel. humidity < 70 % RH
- incl. 1x 9 V battery (type 6LR61, art.-no.: 90006)
- with operation manual



ART No	wood	digit	digit	mm	€
641006	5 % – 40 %	1.0 %	±1.0 % Rh+0.5	129 x 63 x 32	30.97

Electr. Digital Moisture Meter **NEW**

- for measurement of building materials, concrete, wood, etc.

- robust, ABS plastic housing
- large LCD display, 3 digits, with clear reading, digit height 15 mm
- On / Off key, data hold function, min / max key, measurement in digits
- depth of penetration about 20 – 40 mm
- low battery indication, backlight switchable
- storage temperature 0 °C ~ 50 °C, rel. Humidity < 80 % RH
- incl. 1x 9 V battery (type 6LR61, art.-no.: 90006), with operation manual



ART No	capacity device digits	digit	digit	mm	€
641009	0 – 100	1	±1	180 x 45 x 35	135.65

Electr. Digital Moisture Meter

- for measurements of wood moisture, paper, carton, building material, grain, etc.
- with insulating peel
- measurement via 2 external contact pins

- rugged, polyamide housing material
- large LCD display with clear reading
- On/Off button, data hold button, button for wood density selection
- button for selection of moisture measurement / temperature measurement (in °C or °F)
- battery indicator, with backlight
- setting the upper limit of moisture ratio, rel. humidity < 70 % RH
- storage temperature -10 °C ~ +60 °C, operation temperature -10 °C ~ +40 °C
- incl. 4x 1.5 V battery (type AA, art.-no.: 90003)
- with operation manual



ART No	wood	digit	digit	temperature	temperature	digit	housing	€
641008	2 % – 70 %	0.5 %	±1.0 % Rh +0.5	-10 °C – 60 °C	1 °C / 2 °F	±2 °C / ±4 °F	174 x 38 x 73	142.96

Sound Level Meter, Lux Meter, Anemometers

Electr. Digital Sound Level Meter

- for sound and noise measurements acc. to the international directives whether in industry, craft, or housekeeping
- useful device for air-conditioning, aviation industry, environmental technology
- with self-calibration
- rugged, polyamide housing material
- On/Off button, data memory for 4700 measurements, slow-/fast-button, clock- and calendar indicator
- with tripod mounting screw on the rear side, autom. power off
- large LCD display, 4-digit, with clear reading, battery indicator
- frequency range 31.5 Hz ~ 8.5 KHz, A/C frequency weighting select switch, AC/DC out put
- bar graph indicator with 50 dB scale, 1 dB step, with pre-select of min/max.-value
- microphone 1/2 inch, electret condenser-microphone, with detachable foam ball for outside measuring
- storage temperature -20 °C ~ +70 °C, operation temperature 0 °C ~ +45 °C, DC 6 V input port, AC analog output port
- incl. 4x 1.5 V battery (type AA, art.-no.: 90003), USB data cable, software, with operation manual



Option

- charging by power supply possible (only when using rechargeable batteries)



ART NO	level range dBA / dBC	dB	max. dB	linearity range dB	mm	€	CC
641106	40 – 80 / 50 – 100 / 60 – 110 / 80 – 130	0.1	± 1.5	50	220 x 80 x 35	145.26	inclusive

Electr. Digital Luxmeter

- utilising a silicon photo diode with filter behind a large diffusor that is connected to the device by cable ensures that the light intensity can be read in all positions without restriction
- rugged, polyamide housing material
- large LCD display, 3 1/2 digit, with clear reading
- On/Off switch, data hold switch, 3-step measurement setting function
- max. reading value 1999, test rate 0.5 sec., temperature characteristic ±0,1 %/°C
- storage temperature -20 °C ~ +70 °C, operation temperature 0 °C ~ +45 °C
- incl. 1x 9 V battery (type 6LR61, art.-no.: 90006), with operation manual



ART NO	LUX	LUX	max. < 10000 LUX	max. > 10000 LUX	mm	€	EURO CC	
640342	1 – 100000	1	±4%	±5% ± 10 Digits	±2%	130 x 72 x 30	41.23	129.00

Electr. Digital Anemometer

- for many outdoor applications and for several industry purposes
- for to measure the wind speed in different units
- ideal device for heating- and ventilation technician, shipping industry, etc.
- with Beaufort scale display

- rugged, polyamide housing material
- with tripod mounting screw on the rear side
- large LCD display with clear reading and backlight
- wind speed unit selection: m/s; Ft/min; Knots; Km/h; Mph
- with max.-value and data hold button, average and current speed measuring, temperature reading in °C and °F, switchable
- storage temperature -20 °C ~ +70 °C, operation temperature -10 °C ~ +45 °C
- incl. 1x 9 V battery (type 6LR61, art.-no.: 90006), with operation manual

- art.-no. 641205: without data output
- art.-no. 641204: without data output, with external impeller



ART NO	wind speed m/s	wing volume m³/min.	speed m/s	temperature °C	max. wing speed	max. temperature °C	mm	€
641204	0.3 ~ 45	—	0.1	0.2	±0.1 Digit	± 2	160 x 62 x 35	94.32
641205	0.3 ~ 30	—	0.1	0.2	±0.1 Digit	± 2	165 x 85 x 38	35.66

Electr. Digital Surface Roughness Tester

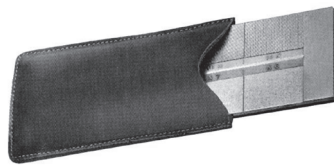
- portable roughness measuring device for the measurement of Rz, Ra, Rq, Rt
- robust aluminium housing, Ra, Rz, Rq, Rt roughness parameters in one gauge
- large OLED display, with switchable backlight, „low-battery“ indicator
- On/Off push button, autom. shutdown after 3 min., with beep (start-test-ready)
- measuring range selectable in μm / μinch , parameter Ra (ISO and Rz DIN)
- min. probe tips curvature radius 10 microns ± 1 microns, angle $90^\circ +5^\circ / -10^\circ$
- different display values $< 12\%$, error indication $\pm 15\%$
- force measurement: 0.016 N, force measurement share: 800 N/m
- working temperature $-20^\circ\text{C} \sim +40^\circ\text{C}$, rel. humidity $< 90\%$
- tracing length 6 mm, tracing speed 1.0 mm / sec., sensor pressure 0.5 N
- integrated sensor protection, with simple calibration function
- incl. roughness standard plate Ra, accuracy acc. ISO class 3
- with 3.7 V Li-Ion rechargeable battery, incl. charger 9 V AC
- incl. operation manual



ART No	$\mu\text{m} / \text{inch}$	$R_a \mu\text{m}$	$R_z \mu\text{m}$	$R_q \mu\text{m}$	$R_t \mu\text{m}$	tracing length mm	mm	€
657120	0.01 / 1	0.05 – 10	0.1 – 50	0.05 – 10	0.1 – 50	6	70 x 105 x 25	1184.57

Surface Finish Specimen „RUGOTEST“

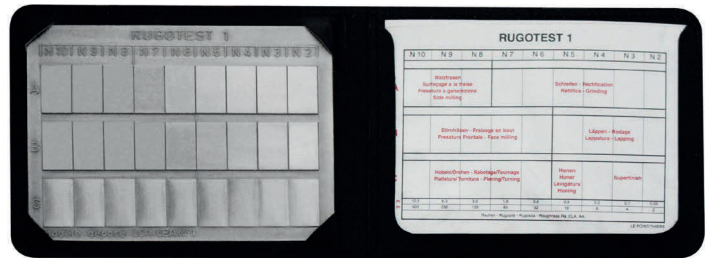
- acc. to the norms NF E 05-501, ISO/R 468 and ISO 2632
- for testing surface roughness by sight and touch method (with finger-tip)
- available for all standard machining methods
- wear-resistant and made of stainless steel
- delivery with description



ART No 651101 – 651107



ART No 651001



ISO

ART No	machining method	quantity of plates	comparison range $R_a \mu\text{m}$	ISO class	mm	€
651001	general (standard)	27	0.05 – 12.5	N2 – N10	120 x 90	267.78
651002	sand	6	0.8 – 25.0	N6 – N11	120 x 90	235.79
651003	shot / grit (coarse + fine)	18	0.0125 – 25.0	N0 – N11	120 x 90	257.65
651101	planing	6	0.8 – 25.0	N6 – N11	110 x 50	166.31
651102	turning	6	0.4 – 12.5	N5 – N10	110 x 50	161.46
651103	face milling	6	0.4 – 12.5	N5 – N10	110 x 50	166.31
651104	surface grinding	8	0.025 – 3.2	N1 – N8	130 x 50	166.31
651105	cylindrical grinding	8	0.025 – 3.2	N1 – N8	130 x 50	166.31
651107	spark erosion	6	0.4 – 12.5	N5 – N10	110 x 50	166.31

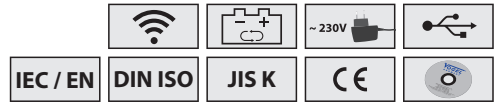
Surface Roughness Testers, Accessories

Electr. Digital Surface Roughness Tester

- high performance device, for professional demand
- for measurement of roughness parameters
- Rz, Ra, Rq, Ry, Rt, Rv, R3z, R3y, RzJIS, Rsk, Rku, Rsm, Rmr with USB 2.0 data output
- rugged ABS plastic housing, in ergonomic design
- large OLED display with clear reading and with backlight
- comprehensive information and graphic representations
- diamond tracer tip, 90°, radius 5 µm, contact power 4 mN (0.4 gf)
- standard acc. to ISO, DIN, ANSI, JIS
- digital filter RC, PCRC, Gauss, D-T13565, data memory 2 MB + 2 GB
- with built-in and rechargeable Li-Ion battery, charger 100 – 240 V / 50/60 Hz
- up to 10 hrs. permanent use, with calendar and RTC
- On/Off button, autom. power off, battery indicator
- selectable languages: english, german, chinese
- reliable software for the electrical motor drive
- connection to PC or printer, incl. interface cable
- incl. software, ground plate, calibration test block, standard tracer (art.-no.: 657210), with operation manual



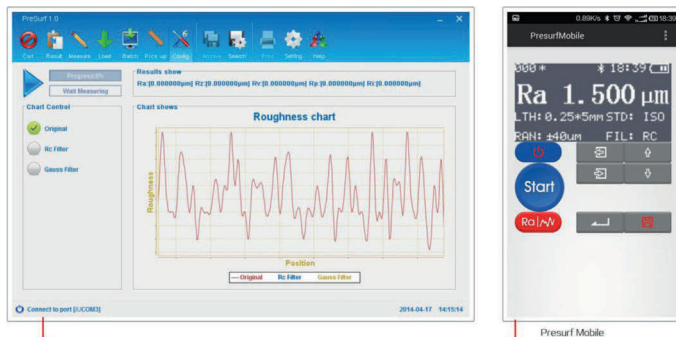
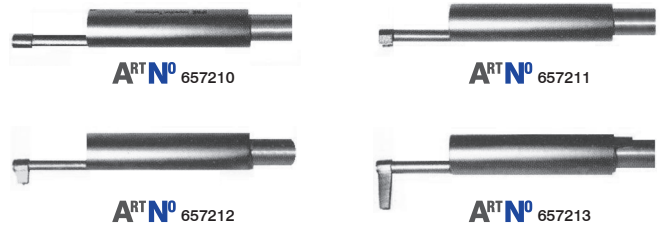
extensive information and graphic representations



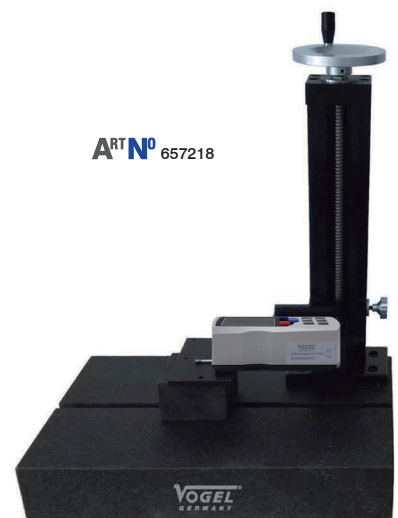
ART NO	Ra / Rq µm	Rq/Rt/Rp/Rv/R3z/R3y/ RzJIS/Rsk/Rku/Rsm/Rmr µm	max. %	cut-off length mm	cut-off length mm	mm	€
657113	Ra 0.005 – 16 / 0.02 – 160	±0.6 %	< ±10	< 6	0.25 / 0.8 / 2.5	140 x 55 x 47	1771.42

Accessories for art.-no. 657113

- art.-no. 657210 tracer, straight (standard) (€ 633.85)
- art.-no. 657211 tracer, angled (758.35 €)
- art.-no. 657212 tracer, for ø 3 mm bore depth (€ 885.69)
- art.-no. 657213 tracer, for ø 10 mm bore depth (€ 1013.02)
- art.-no. 657214 Ra test block (€ 30560)
- art.-no. 657218 stand (€ 136673)
- art.-no. 657219 PC software for wireless data transfer (€ 155.63)



Example for a wireless transmission



Image/Video Borescope Console • IP54 with 3.5" TFT colour monitor, with connection for all our hoses

- top model for varied industry purposes, e.g. automotive-, machinery-, pipeline-, shipbuilding-, aircraft-, turbine-, wind power industry, and many more
- for quick, visual inspection and documentation, useful in hard to reach places
- with 3 adjustable LED's at the hose-end
- with USB 2.0, TV output (PAL), reset, mini-USB and micro SD slot
- spray water proof console, acc. to DIN 40050 / IEC 60529

- sturdy industry quality, housing with rubber cover, M6 thread insert
- 3.5 inch TFT colour monitor, monitor resolution 640 x 480 pixel
- photo taking (JPEG 1600 x 1200) and video recording (AVI)
- with zoom button (x2/x3/x4) and image freeze
- 180° frame rotation and mirror image
- 7 selectable languages, DE/EN/FR/ES/RU/JP/CN
- ON/OFF button, date/time function, power saving mode, battery status
- build-in flashlight (level-1/-2/-3)
- build-in rechargeable Li-ion battery
- incl. 4 GB memory SD card, USB power cable (USB/mini-USB), 240 V USB charger, AV cable, bracket with M6 thread, with operation manual



table stand with M6 thread



LED light (3 levels)



LED light

tube threaded connection



SD card slot

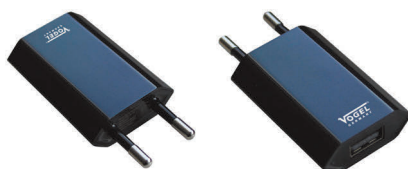
TV connection
mini USB connection



memory card
(4 GB)



extendable table stand



USB charger



Backside
rear with rubberized housing protection



Backside
rear without rubberized housing protection



USB charger cable







AV cable



Example: brake discs control



ART N°				
620003	Photo (JPG) 1600 x 1200	Video (AVI) 640 x 480	145 x 95 x 37	196.03

Accessories for Borescopes

Image/Video Borescope Hoses • IP67 endoscope hoses with matching threaded connection suitable for our model console (art.-no.: 620003)

- different hoses available
- oil-, water- and coolant proof, acc. to DIN 40050 / IEC 60529

- sturdy industry quality, flexible and semi-rigid design
- camera resolution 300.000 pixel
- perfect image recognition in the depth of field
- lenses with bright, white LED's
- 3 times adjustable LED light, console setting
- with operation manual

More hose types
available on request

above: hose \varnothing 9.0 mm,
with 0° and 90° lens



below: hose \varnothing 3.7 mm,
with 0° lens



rubberized grip for secure grip,
only at viewing direction 0° and 90°



hose
 \varnothing 3.7 mm or \varnothing 4.5 mm,
with 0° lens

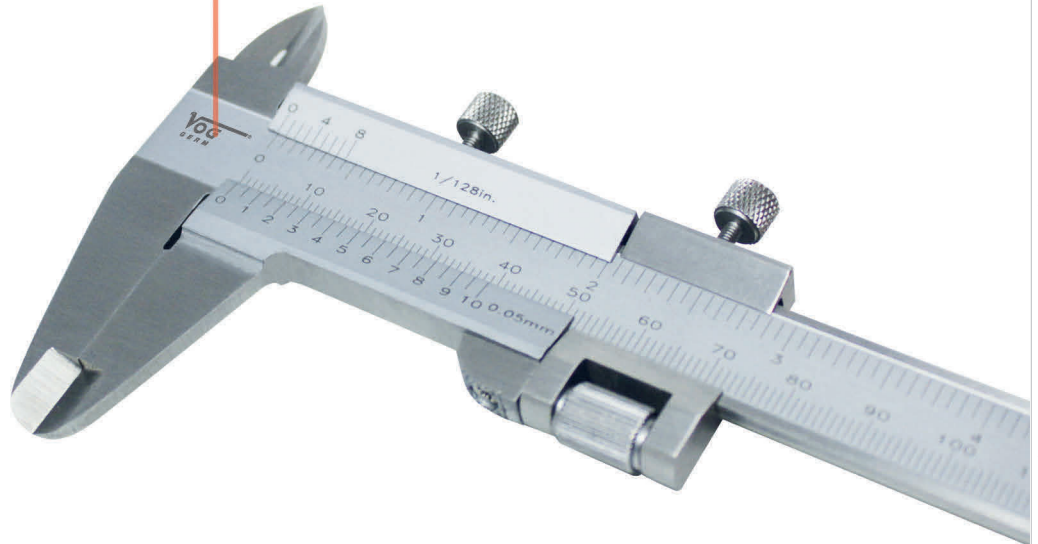


hose \varnothing 9.0 mm,
with 0° and 90° lens

ART N°	hose — mm	field of view °	hose- \varnothing mm	quantity LED	hose type		€
					flexible	semi rigid	
620050	1000	0	3.7	6	✓	✗	255.18
620051	3000	0	3.7	6	✓	✗	280.45
620052	5000	0	3.7	6	✓	✗	305.71
620055	1000	0	4.5	6	✗	✓	202.12
620056	3000	0	4.5	6	✗	✓	227.39
620057	5000	0	4.5	6	✗	✓	252.66
620060	1000	0 / 90	9.0	4 / 2	✗	✓	159.17
620061	3000	0 / 90	9.0	4 / 2	✗	✓	184.44
620062	5000	0 / 90	9.0	4 / 2	✗	✓	209.70



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LASERCENTER**



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for high precision

Special scales, your logotypes, pictures, drafts etc.
There is nothing impossible.

Laser engraving has a lot of advantages.
One is the top quality, high accuracy and the long-life cycle.

Flexibility is an asset of Vogel Germany for your needs because manufacturing is on a low cost level.

Laser engravings are possible on:

- ✓ steel, high-grade steel, stainless steel
- ✓ cast iron
- ✓ non-ferrous metal
- ✓ special plastic material





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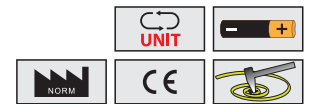
				
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Electr. Digital Angle Measurer Spirit Level

- automatic calculation of single and double mitre angles without any other tools
- sturdy aluminium housing, with adjustable bevel blade
- large LCD display, digit height 12 mm, reading from all directions possible, with shiftable backlight
- rapid calculation and transfer of angles by means of memory function for frequently used angle dimensions
- power On/Off button, data hold function, shock resistant up to 1 m falling down
- precise mitre- and self-calibration function
- with 1x horizontal vial and 1x vertical vial
- with fixing screw for fixing the angle setting
- incl. 2x battery 1.5 V (type AAA, art.-no.: 90002)
- incl. operation manual



ART N°						
711020	0 – 225°	0.05°	0.1°	1 mm/m = ±0.057°	440 x 60 x 25	121.70

Electr. Digital Angle Measurer Spirit Level

- for quick and accurate measuring of angular degrees, can also be used as a spirit level
- with 1x horizontal vial and 1x vertical vial
- sturdy aluminium housing, with adjustable bevel blade
- large LCD display with clear reading, digit height 12 mm
- On/Off and zero button, zero setting at any position
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual



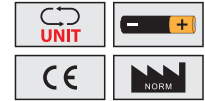
ART N°						
711025	0° – 225°	0.1°	0.2°	1 mm/m = ±0.057°	305 x 52 x 23	29.01

Electr. Digital Light Alloy Spirit Levels

Electr. Digital Light Alloy Spirit Level

• for trade and industry

- rugged, rectangular profile, made of light alloy
- large LCD display with clear reading, digit height 12 mm, with shiftable back light
- display always appears in the reading direction no matter which direction the device is rotated
- conversion between ABS- and INC-measurement
- calculation of ascend/descend, angle and deviation
- with self-calibration function
- power On/Off button, data hold function
- with 1 x horizontal vial and 1 x vertical vial
- incl. 2x 1.5 V battery (type AAA, art.-no.: 90002)
- with operation manual



ART N°					
712020	4 x 90°	0.1°	0.2°	416 x 50 x 21	43.18

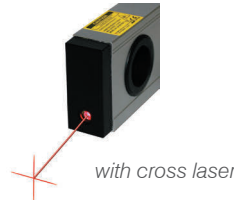
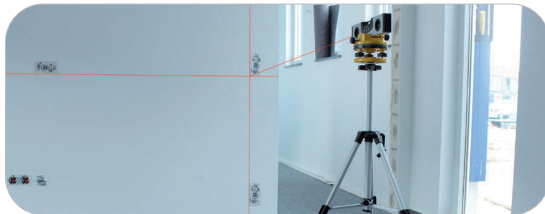
Electr. Digital Light Alloy Spirit Level

• with cross laser, angle degree indicator and percent deviation

- rugged, rectangular profile, made of light alloy, with ribbed surface
- large LCD display, digit height 10 mm, reading from all directions possible
- switchable display in angle-, percentage measuring- and tangent-mode
- On/Off button, data hold function and memory function
- magnetic inserts in the bottom and M6 thread for tripod attachment
- with each 1x horizontal and 1x vertical vial
- with self-calibration and switchable cross laser, range about 7 m (inside)
- incl. 1x 9 V battery (type 6LR61, art.-no.: 90006), with operation manual



with magnet inserts and M6 thread for tripod attachment



ART N°					
712010	4 x 90°	0.05°	0.1	225 x 57 x 25	72.76

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www.vogel-germany.de



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GERMANY
Measuring Solutions

Any questions?

We are pleased to advise.

Spirit Levels „NIVEAU NORM“

- top quality spirit levels with plane surfaces
- rugged light alloy rectangular profile, from up 1500 mm length with extrem solid wallthickness
- with 1x horizontal vial and 1x vertical vial
- barrel-shaped vials with patented SOLID built-in system, permanent fixed and constantly aligned with the profile
- surfaces in stratosilver elocated
- measuring accuracy adjusted by electronical adjustment and at final inspection
- measuring accuracy in normal position $0.5 \text{ mm/m} = 0.029^\circ$, with reversal measurement minimum $0.75 \text{ mm/m} = 0.043^\circ$

art.-no.: 714100 – 714110

- with strong adhesive magnet in the measurement base



plane, rectangular aluminium profile, extruded and warm cured



without magnets



with strong adhesive magnet in the measurement base

ART No 714000 – 714010



ART No 714100 – 714110

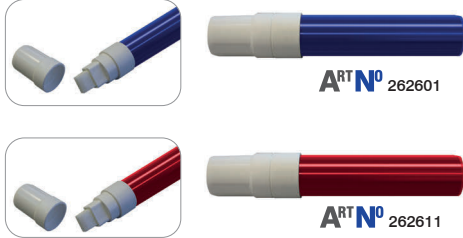


ART No	mm	mm	Magnet	max. vial	€
714000	200	50 x 22	X	0.5 mm/m = $\pm 0.029^\circ$	11.84
714001	300	50 x 22	X	0.5 mm/m = $\pm 0.029^\circ$	10.67
714002	400	50 x 22	X	0.5 mm/m = $\pm 0.029^\circ$	11.12
714003	500	50 x 22	X	0.5 mm/m = $\pm 0.029^\circ$	12.58
714004	600	50 x 22	X	0.5 mm/m = $\pm 0.029^\circ$	12.70
714005	800	50 x 22	X	0.5 mm/m = $\pm 0.029^\circ$	14.31
714006	1000	50 x 22	X	0.5 mm/m = $\pm 0.029^\circ$	15.92
714007	1200	50 x 22	X	0.5 mm/m = $\pm 0.029^\circ$	19.09
714008	1500	50 x 22	X	0.5 mm/m = $\pm 0.029^\circ$	26.72
714009	1800	50 x 22	X	0.5 mm/m = $\pm 0.029^\circ$	32.85
714010	2000	50 x 22	X	0.5 mm/m = $\pm 0.029^\circ$	36.45
714100	200	50 x 22	✓	0.5 mm/m = $\pm 0.029^\circ$	26.67
714101	300	50 x 22	✓	0.5 mm/m = $\pm 0.029^\circ$	25.50
714102	400	50 x 22	✓	0.5 mm/m = $\pm 0.029^\circ$	34.22
714103	500	50 x 22	✓	0.5 mm/m = $\pm 0.029^\circ$	36.72
714104	600	50 x 22	✓	0.5 mm/m = $\pm 0.029^\circ$	37.71
714105	800	50 x 22	✓	0.5 mm/m = $\pm 0.029^\circ$	40.41
714106	1000	50 x 22	✓	0.5 mm/m = $\pm 0.029^\circ$	42.04
714107	1200	50 x 22	✓	0.5 mm/m = $\pm 0.029^\circ$	50.58
714108	1500	50 x 22	✓	0.5 mm/m = $\pm 0.029^\circ$	57.91
714109	1800	50 x 22	✓	0.5 mm/m = $\pm 0.029^\circ$	59.79
714110	2000	50 x 22	✓	0.5 mm/m = $\pm 0.029^\circ$	70.17

Marking Ink, Dressing Paste, Special Cleaner

EMIL OTTO • Marking Ink

- for the marking of machining points on surfaces
- as marker, in a spray bottle or in a plastic canister available
- dries within seconds
- non-reflective fluid
- good adhesions and can be removed easily
- 2 different colours available



ART N°	colour	contents ml	marker	spray bottle	canister	€
262601	blue	30	✓	—	—	13.13
262603	blue	500	—	—	✓	19.38
262604	blue	1000	—	—	✓	33.04
262605	blue	500	—	✓	—	23.23
262611	red	30	✓	—	—	12.51
262613	red	500	—	—	✓	19.10
262614	red	1000	—	—	✓	34.80
262615	red	500	—	✓	—	23.23

EMIL OTTO • Dressing Paste

- the test pieces are covered with the dressing paste, then moved one after the other or on a dressing plate: by this the paste forms a colour coat, showing the evenness
- easy to remove
- 2 different colours available
- delivery in a tube or in a plastic box



ART N°	colour	contents ml	tube	box	€
262631	blue	80	✓	—	13.07
262632	blue	250	—	✓	19.10
262641	red	80	✓	—	12.42
262642	red	250	—	✓	19.05

EMIL OTTO • Special Cleaner

- this cleaner dissolves dressing paste, marking ink etc.
- skin friendly (art.-no.: 262645)
- delivery in a spray can or canister

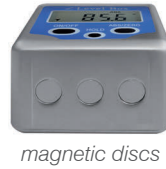


ART N°	contents ml	spray can	canister	€
262644	1000	—	✓	25.33
262645	500	✓	—	19.75

Universal Bevel Protractors, Anglemeters

Electr. Digital Angle-Sensor „Bevel-Box“ and „Level-Box“ • IP54

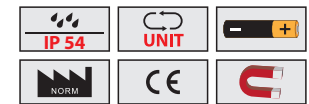
- dust- and splash water proof acc. to DIN 40050 / IEC 60529
- ideal device for angle adjustment, can be used for many purposes
- rugged metal housing
- large LCD display with clear reading, digit height 10 mm
- with 3 magnetic discs in the bottom of the housing
- with On/Off-, zero- and ABS button, data hold function
- art.-no. 32 0011 added with a vial on top of the housing
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual



ART No					€
320010	±180°	0.1°	±0.1°	50 x 50 x 32	56.25
320011	±180°	0.1°	±0.1°	50 x 63 x 32	61.80

Electr. Digital Angle-Sensor with 90° swiveling LCD display • IP54

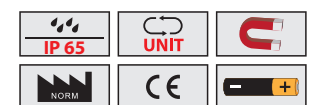
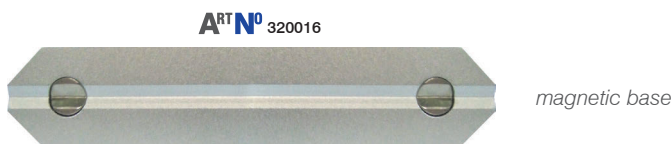
- dust- and splash water proof acc. to DIN 40050 / IEC 60529
- ideal device for angle adjustment, can be used for many purposes
- large LCD display, with clear reading, digit height 8 mm
- LCD display swivelling up to 90°, with direction indicating vial in the display
- with magnetic V-base
- On/Off button and data hold function
- incl. 2x 1.5 V battery (type AAA, art.-no.: 90002), with operation manual



ART No					€
320015	±180°	0.1°	±0.1°	55 x 57 x 32	46.78

Electr. Digital Protractor • IP65

- water- and coolant proof acc. to DIN 40050 / IEC 60529
- ideal device for precise leveling and measuring of flatness and squareness, can be used for many purposes
- sturdy housing with aluminium V-prism at top and bottom side
- art.-no. 320016 additionally with magnetic discs in the V-bottom
- large LCD display, with clear reading, digit height 9 mm
- with acoustic signal and backlight
- autom. 180° rotating display, by turning up-side down
- with data hold function, ABS system, with easy to handle self calibration
- On/Off- and zero button, zero setting at any position
- incl. 2x 1.5 V battery (type AAA, art.-no.: 90002), with operation manual

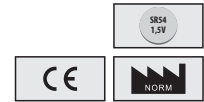


ART No						€
320013	4 x 90° (0 – 360°)	0.05°	±0.15°	150 x 33 x 60	X	74.87
320016	4 x 90° (0 – 360°)	0.05°	±0.15°	150 x 33 x 60	✓	81.68

Stopwatches

Electr. Digital Stopwatch

- for standard requirements
- with 2-button-operation
- sturdy ABS-plastic housing
- LCD display with clear reading
- start / stop / reset-addition / split / dual measuring
- incl. 1x 1.5 V battery (type SR54, art.-no.: 90310), with lanyard and operation manual



ART NO	sec.	indicating range hrs. / min. / sec.	LCD digits	digit height mm	mm	€
580210	1/100	9 / 59 / 59.99	7	6.5	66 x 70 x 21	31.59

Electr. Digital Stopwatch • IP54

- for standard requirements
- with 3-button-operation
- sturdy ABS-plastic housing
- splash water proof acc. to DIN 40050 / IEC 60529
- LCD display with clear reading
- start / stop / reset-lap / split / daytime / date / alarm with snooze
- art.-no. 580505 with 1.5 V battery (type LR44, art.-no.: 90213), art.-no. 580506 with 3 V battery (type CR2032, art.-no.: 90112)
- with lanyard, protection pouch and operation manual

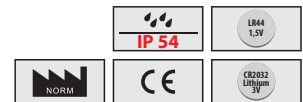
additional functions for art.-no. 580506

- memory for 10 laps
- recall of lap and split times

ART NO 580505



ART NO 580506



ART NO	sec.	indicating range hrs. / min. / sec.	LCD digits	digit height mm	mm	€
580505	1/100	9 / 59 / 59	6	11	85.5 x 64 x 22	29.71
580506	1/100	9 / 59 / 59.99	7	5 / 4	85.5 x 64 x 22	34.40



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LED Handheld Magnifier

- with 3 powerful bright LED lights
- high tech optic, hardened lens surface
- frame and handle made of rugged ABS plastic
- incl. 3x 1.5 V battery (type AAA, art.-no. 90002), with operation manual



ART No	size of lens ø mm	magnification	quantity LEDs	LED light colour	→ mm ←	€
600145	75	3 x	3	white	195 x 85 x 30	6.16
600148	90	2.5 x	3	white	210 x 105 x 30	7.52

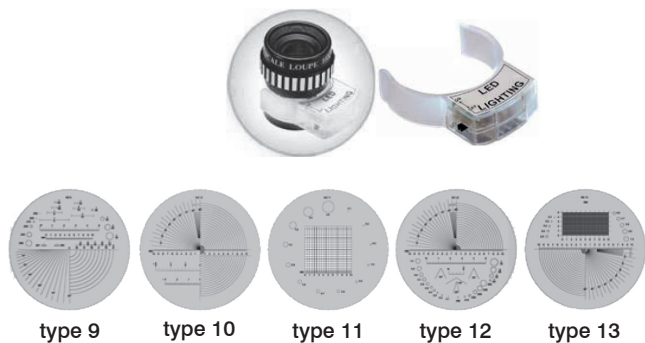
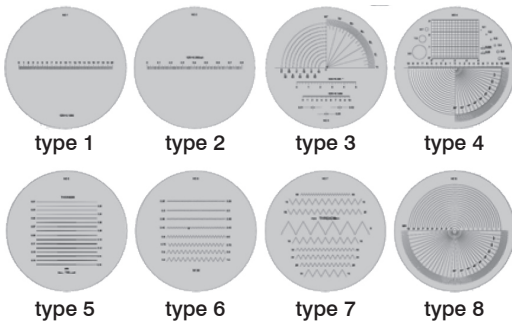
Precision Technical Magnifier

- with LED-Light and exchangeable scales
- tempered glass-lenses, housing made of aluminium / ABS / PE
- delivery with crosshair at:
art.-no. 601126 = 10 – 0 – 10 mm scale, graduation 0.1 mm, scale-ø 26 mm
art.-no. 601135 = 12 – 0 – 12 mm scale, graduation 0.1 mm, scale-ø 35 mm
- adjusting by focus-ring, exchangeable measuring scales
- attachable LED unit, bright, white LED light
- incl. 3x 1.5 V battery (type LR41, art.-no.: 90203)



Exchangeable Scales

- tempered glass lenses, please mention type code and outside diameter!



ART No	size of lens ø mm	magnification	→ mm ←	€
601126	18.5	10 x	95 x 70 x 65	80.08
601135	21.0	10 x	95 x 70 x 65	91.95

LED Handheld Magnifier

- very popular model
- allicate glass optic, scratch-resistant and solvent-resistant
- with high power LED, rugged ABS-plastic housing
- with aplanatic lens
- incl. 3x battery 1,5 V (type AAA, art.-no.: 90002)



ART No	size of lens ø mm	magnification	→ mm ←	€
600166	30	10 x	38 x 105 x 25	24.76
600167	21	15 x	38 x 105 x 25	30.22

Precision Magnifiers and Linen Testers

Watchmaker Magnifiers and Stone Magnifiers

- suitable for craftsmen and industry
- biconvex silicate lens
- flame resistant plastic housing, with air hole to cope up with steaming



ART N°	size of lense ø mm	magnification	€
600194	25	7 x	14.90
600195	25	10 x	15.84

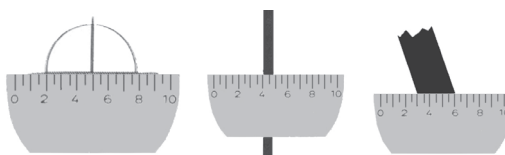
Technical Stand Magnifiers


- with measuring scale
- for precise measurements between scale lines, spaces, etc.

- adjustable aplanatic lens
- black chromed metal housing
- stainless steel scale, with clear graduation



More scales as spare part
are available on request!



ART N°	size of lense ø mm	magnification	length of scale mm	 mm	possibility of reading mm	€	EURO CC
600178	20	10 x	10	0.10	0.025	123.65	25.00
600180	20	8 x	10	0.10	0.025	118.51	25.00
600179	20	6 x	20	0.10	0.025	125.61	25.00

Linen Testers

- product for highest demands
- biconvex lens, optically ground silicate glass
- precision brass body, satin chromed



ART N°	size of lense ø mm	magnification	height mm	cut-out mm	€
600200	12.5	12 x	23	10 x 10	16.79
600201	14.5	10 x	27	15 x 15	19.81
600202	17.5	8 x	33	20 x 20	20.57
600204	31.5	5 x	53	30 x 30	38.68

Precision Folding Magnifier

- popular technical folding magnifier
- compound triple lens, aplanatic lens precision glass optic
- polished chrome plated metal housing, with loop
- metal lens frame, wrapped with black rubber



ART N°	size of lense ø mm	magnification	→ mm ←	€
600150	18	10 x	35 x 23 x 18	29.85

Precision Folding Magnifier

- proven technical folding magnifier
- precision glass optics
- satin chrome plated brass housing, with loop
- black lacquered metal lens frame



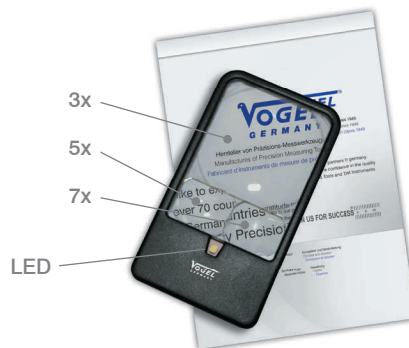
ART N° 600159



ART N°	size of lense ø mm	magnification	type of lense		→ mm ←	€
			aplanatic	biconvex		
600153	20.3	10x	✓	—	39 x 39 x 34	40.45
600159	30	4x + 6x = 10x	—	✓	42 x 27 x 56	60.40

Magnifier with LED Lamp

- in pocket size
- with 3 magnifying lenses
- 3x, 5x and 7x magnification
- with one extra bright LED lamp
- in a rugged ABS-plastic housing
- incl. 2x 3 V battery (type CR2032, art.-no.: 90112)



ART N°	magnification	field of view mm	→ mm ←	€
601230	3x / 5x / 7x	50 x 50 / 25 x 20 / 25 x 20	117 x 61 x 9	10.07

Head-Wearing Magnifier, Illuminated Magnifiers and Accessories

Head-Wearing Magnifier

- with swiveling LED-Lamp, detachable
- total new model with 2 powerful LED lights
- ideal for technicians, watchmakers, electronics techn. , dentists, etc.

- frame is made of high-quality plastic
- forehead and headband with adjusting screws for perfect fit
- with 5 different lenses of high-quality, with special surface treatment
- 11 magnification possibilities with 2 attachable lenses, up to 6x magnification
- incl. 3x 1.5 V batteries (type AAA, art.-no.: 90002), with operation manual



swiveling lens



5 different lenses



removable LED



ART N°	magnification possibility	quantity lenses	field of view mm	quantity LEDs	LED light colour	working distance mm	€
600230	1 - x / 1.5 - x / 2 - x / 2.5 - x / 3 - x / 3.5 - x / 4 - x / 4.5 - x / 5 - x / 5.5 - x / 6 - x	5	110 x 40	2	white	60 - 350	19.81

Professional LED Illuminated Magnifier

- with articulated arm
- adjustable at any position, with 360° rotation

- metal body, powder coated, insulation lamp housing made of rugged plastic
- with extra large and precision glass lens, 3 dpt.
- with table clamp, cable inside of the arm, overload category CAT I
- with extra bright LED's, mounted around the lens



ART N° 600354



ART N° 600350



ART N°	voltage	magnification	field of view mm	total throat mm	€
600350	230	1.75 x	∅ 127	900	74.28
600354	230	1.75 x	190 x 160	900	123.32

Accessories for Illuminated Magnifiers



ART N°	article description	suitable for art.-no.	€
600337	table clamp	600350 + 600354	16.89

Inspection Tool Kit

- multipart set, especially for garages, mechanics, plumbers, etc.
- well assembled kit for professional users

5-piece set, contents:

- stainless steel telescope bar with quick release, non-slip grip, 530 mm working length
- socket with ultra bright NICHIA LED-Licht, incl. 3x 1.5 V battery (type LR44, art.-no.: 90213)
- socket with powerful magnet, 8lb, for to pick up and hold metal objects in hard to reach places
- inspection mirrors, with perfect reflection, no deterioration in the mirror mounted in a stainless steel frame, 360° rotatable, one mirror in ø 50 mm and one mirror rectangular 60 x 40 mm
- in a strong case with zip

7-piece set, contents:

- quality claw pick-up device, semi-rigid hose, 400 mm length
- stainless steel telescope bar with quick release, non-slip grip, 530 mm working length
- socket with ultra bright NICHIA LED light, incl. 3x 1.5 V battery (type LR44, art.-no.: 90213)
- socket with powerful magnet, 8lb, for to pick up and hold metal objects in hard to reach places
- inspection mirrors, with perfect reflection, no deterioration in the mirror mounted in a stainless steel frame, 360° rotatable, one mirror in ø 50 mm and one mirror rectangular 60 x 40 mm
- stainless steel tray, ø 110 mm, with powerful permanent magnetic bottom for small parts
- in a strong case with zip



Price / Performance:
good - excellent



ART No	set	telescope bar	LED	mirror ø 50 mm	mirror 60 x 40 mm	magnet	claw pick-up	magnetic tray	€
474470	5-pcs.	✓	✓	✓	✓	✓	✗	✗	49.09
474471	7-pcs.	✓	✓	✓	✓	✓	✓	✓	73.29

Magnetic Tray

- stainless steel, polished
- with powerful permanent magnet bottom



ART No	Gauss	mm	€
474475	1000 – 1200	ø 150	7.86

Magnet Lifters

Magnet Lifter

- professional model for the technician
- with quick release
- with telescope bar

- socket with magnet
- telescope bar, stainless steel
- 360° rotatable and swivel joint
- insulated handle, with clip





ART N°	 mm	 kg	€
474441	~650	8	21.95

Magnet Lifter

- with telescope bar

- telescope bar, stainless steel, with clip
- art.-no. 334614 additionally with scriber

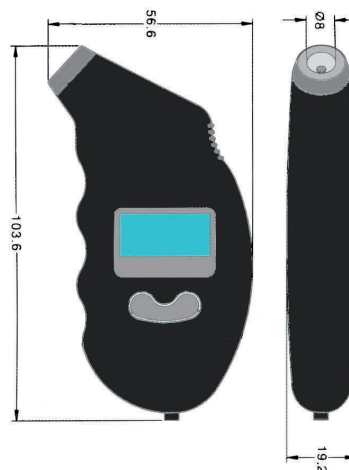






ART N°	 mm	 kg	€
474442	~ 530	3.5	7,00
334614	~ 650	1.0	4,78

Electr. Digital Tire Pressure Gauge

- for quick and independent measuring of the tire pressure

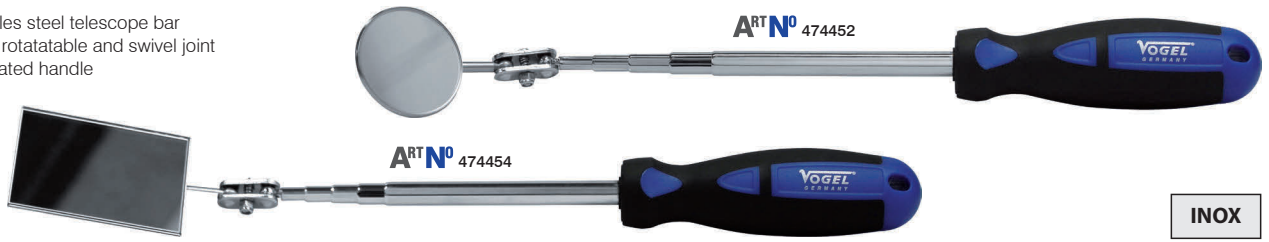
- sturdy ABS plastic housing
- large LCD display with clear reading, digit height 9.5 mm
- LCD display with backlight
- lighted valve tip
- On/Off button, autom. shutdown
- units in PSI, Bar, Kgf/cm², Kpa, switchable
- reading 0.1 PSI; 0.01 Bar; 0.01 Kgf/cm²; 1 Kpa
- incl. 1x 3 V battery (type CR2032, art.-no.: 90112), with operation manual



ART N°	for cars	 PSI	 Bar / Kgf/cm ²	 Kpa	 %	€
214460	✓	0 – 100	0 – 7 / 0 – 7	0 – 700	1 %	10.04

Professional Inspection Mirror

- with telescope bar
- stainless steel telescope bar
- 360° rotatable and swivel joint
- insulated handle

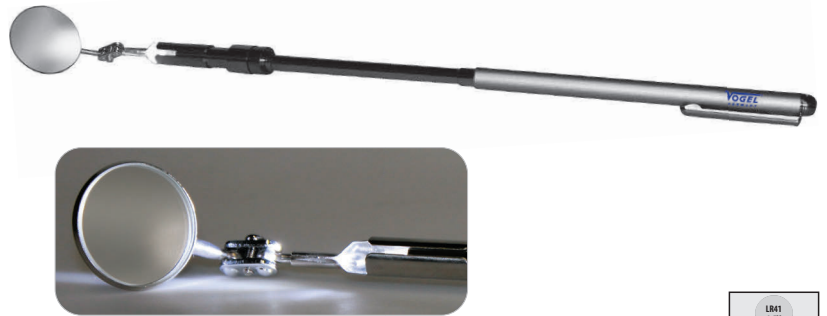


INOX

ART N°	→ ← mm	→ ← mm	€
474452	~ 610	ø 40	13.49
474453	~ 620	ø 50	13.87
474454	~ 620	43 x 65	14.67

Professional Inspection Mirror

- with telescope arm and LED light
- stainless steel telescope bar
- 360° rotatable and swivel joint
- with clip
- detachable LED light, switchable
- incl. 3x 1.5 V battery (type LR41, art.-no.: 90203)



bright LED light, detachable

LR41
1.5V

ART N°	→ ← mm	→ ← mm	€
474465	~ 610	ø 26	24.08

Professional Inspection Mirror

- with 5x magnification and telescope bar
- stainless steel telescope bar
- 360° rotatable and swivel joint
- insulated handle



INOX

ART N°	→ ← mm	→ ← mm	€
474460	~ 610	ø 24	15.85
474461	~ 510	ø 55	21.95

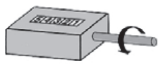
Stroke Counters

Stroke Counter

- zero reset by means of turning knob
- adding in one stroke direction
- the lever can be relocated at any position of the driving shaft and returns automatically to the basic position
- movement of stroke min. 38°, max. 60°
- driving shaft righthand side or lefthand side available



driving shaft at right side



ART No	€	ART No	€	revolution max. 1/min.	quantity of digits	digit height mm	driving shaft-ø mm	base plate mm	height mm
477001	52.05	477002	55.23	500	5	4.5	4.0	40 x 46	27.5
477003	55.23	477004	56.98	500	5	4.5	4.0	60 x 29	27.5

driving shaft at left side



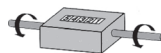
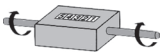
ART No	€	ART No	€	revolution max. 1/min.	quantity of digits	digit height mm	driving shaft-ø mm	base plate mm	height mm
477005	55.23	477006	55.23	500	5	4.5	4.0	40 x 46	27.5
477007	55.23	477008	55.23	500	5	4.5	4.0	60 x 29	27.5

Stroke Counter

- zero reset by means of detachable key
- adding in one stroke direction
- the lever can be relocated at any position of the driving shaft and returns automatically to the basic position
- movement of stroke min. 38°, max. 60°
- driving shaft righthand side and lefthand side



driving shaft at right and left side



ART No	€	ART No	€	revolution max. 1/min.	quantity of digits	digit height mm	driving shaft-ø mm	base plate mm	height mm
477010	77.99	477011	78.98	500	6	4.5	4.0	60 x 70	28.0
477012	117.34	477013	117.34	500	7	7.0	7.0	120 x 64	45.0

Manual Piece Counters and Length Counters

Mechanical Manual Piece Counter

- for counting the number of people in cinemas, at sporting events, at ski lifts, etc.
- also for counting piece parts when taking inventory, during production or when counting traffic
- sturdy metal housing
- available with retaining ring, table mounting or wall mounting

ART N° 477103



ART N° 477101



ART N° 477102

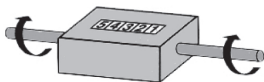
ART N° with retaining ring	€	ART N° with table mounting	€	ART N° with wall mounting	€	quantity of digits	digit height mm	housing-ø mm	base plate-ø mm
477101	61.05	477102	55.55	477103	53.07	4	4,5	47	65

Length Counter (Meter Counter)

- zero reset by means of detachable key
- adding in one turning direction and in backwards turning minus
- standard: 5 rev. = 10 figures = 1.0 m by 20 cm measuring wheel circumference
- measuring range: 99.999,9 m (red decimal display)
- revolution max. 100 m/min. with measuring wheel
- revolution max. 300 m/min. without measuring wheel
- driving shaft righthand side and lefthand side



driving shaft at right and left side

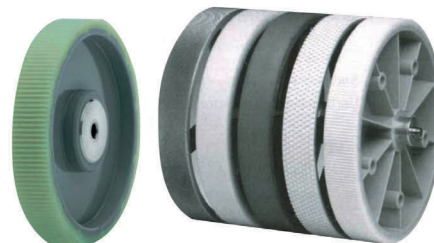


ART N°	revolution max. 1/min.	quantity of digits	digit height mm	driving shaft-ø mm	base plate mm	height mm	€
477130	100 / 300	6	4.5	4.0	60 x 70	28.0	77.64

Measuring Wheel

- made from various material and with several surfaces

Other bore hole- and wheel-diameters on request!



ART N°	measuring wheel- circumference cm	bore hole-ø mm	plastic / hytel ribbed	aluminium / rubber nap version	aluminium / knurled	€
477140	20	4.0	✓	—	—	48,34
477141	20	4.0	—	✓	—	65,48
477142	20	4.0	—	—	✓	50,12

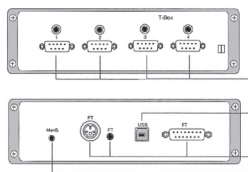
Data Cables and Accessories for Electr. Digital Devices

	ART N°	article description	€		ART N°	article description	€	
 compatible with 	2040101	WiFi	141.49	 compatible with 	209001	Interface USB - Mini-USB, 0.01 mm / 0.001 mm, with data key	143.45	
 compatible with 	2040102	WiFi Mini-USB	112.31		209010	foot switch made of metal, with cinch plug 2.5 mm	34.37	
 2023100	2023100	PROXIMITY - RS232	153.51		209011	foot switch made of metal, with cinch plug 3.5 mm	31.86	
 2023101 Software		PROXIMITY - USB		2023101	Software	155.99		2023105
 Software 	2424101	POWER - USB, external power	232.74		2023104	wireless data transfer USB receiver (up to 15 m distance)	693.27	
	2020188	USB - RS232, adapter (optional suitable for 2323100)	47.87		2023106	wireless data transfer USB receiver Bluetooth®	27.69	
 compatible with 	2420192	USB - Mini-USB (with data key) optional, additional available: foot switch (art. no. 209011)	206.33		2023106S	wireless data transfer USB receiver Bluetooth®	128.60	
 compatible with 	2420194	USB-PC - Duo-Data output interface box with data key and with foot switch port (connectivity also for Mitutoyo Digimatic measuring devices) optional, additional available: foot switch (art.-no.: 209011)	106.11		209000	Bluetooth® transmitter	52.81	
 compatible with 	3420195	USB - Mini-USB interface box with data key and with foot switch port optional, additional available: foot switch (art.-no.: 209011)	106.11		209009	Bluetooth® transmitter Mini-USB	52.91	
 compatible with 	230139	USB - Mini-USB interface box with data key and with foot switch port optional, additional available: foot switch (art.-no.: 209011)	86.76		209006	WiFi transmitter	56.15	
					209007	WiFi receiver	55.50	
					209008	WiFi transmitter Mini-USB	56.15	
					2401961	Interface Adapter DIGIMATIC	108.94	
					2401962	Interface Adapter Bluetooth®	287.21	
					2401953	data cable USB - V2.0 ~ 2m	336.73	
					2401954	data cable DIGIMATIC - V2.0 ~ 2m	198.08	
					2401955	data cable U-Wave - V2.0 ~ 2m	287.21	
					2401956	Transmitter	534.81	
					2401957	Receiver	1059.71	
					2401958	USB Bluetooth® V4.0 dongle included	21.46	

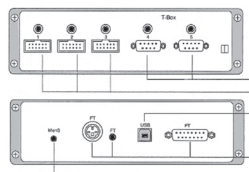
T-BOX, Interface box

- data transfer device through keyboard codes, that means the T-Box, can be used with any software by manual input, e.g. MS-Excel®
- USB keyboard interface with different inputs
- power supply via USB interface
- no special software for the USB interface is needed
- the USB interface is seen as a key board
- other settings such as language, separators, measuring devices and timer
- foot switch port, data key at measuring device/cable for data transfer or via timer
- RS232C interface* for over 60 measuring devices
- incl. USB cable and operation manual

* plug assingment like at a PC interface (COM). For various OptoRS232 and RS232 measuring devices. Original data cables can be used.



ART N° 2002095



ART N° 2002097



ART N°	data ports	mm	€
2002095	4x Opto RS232C, 9-pin	168 x 122 x 52	911.65
2002097	3x Mitutoyo Digimatic; 2x Opto RS232C, 9-pin	168 x 122 x 52	911.65

Keyboard Interface

- with measuring equipment cable and data key in one device
- USB keyboard interface with various ports (optional)
- power supply via USB interface
- no special software for the USB interface is needed
- the USB interface is seen as a key board
- other settings such as language, separators, measuring devices and timer
- data key at measuring device/cable for data transfer or via timer
- with operation manual



ART N°	data ports	€
2002610	Opto RS232 C	263.44
2002611	Proximity	249.92

Electr. Digital LCD Display

- better reading over long distances, for quality control
- display with red, green or yellow digits available
- operation with data cable or wireless
- data ports for Opto RS232C, RS232C or (Mitutoyo Digimatic on request!)
- digit height 25 mm, 7-digits or digit height 57 mm, 6-digits (incl. pre-signs)
- two tolerance limits -OT / UT- for good- / bad evaluation
- display with 3 LED's in red / green and yellow
- housing form is designed as stand alone or for wall mounting
- incl. power supply 220 V and operation manual



ART N°	€	ART N°	€	ART N°	€	ART N°	€	mm
OPTO RS232C without LED's		OPTO RS232C with LED's		RS232C with LED's		Opto RS 232 + RS 232 without LED's		
with cable connection				wireless operation				
2002220	783.39	2002221	678.91	2002222	1209.75	2002230	1155.78	254 x 56 x 91.5

Data Processing

Measurement Data Transmission System WiFi

- wireless transmission of measurement data for max. up to 8 measurement instruments from measurement instrument to PC via WiFi adapter
- transmitter (art.-no.: 209006)
- receiver (art.-no.: 209007)
- transmitter and receiver as set (art.-no.: 2040101)

as a SET
ART N° 2040101
 € 141.49



example for
 Micrometers



example for
 Dial Indicators



example for
 Calipers



example for
 Depth Calipers



example wireless data transmission
 via WiFi

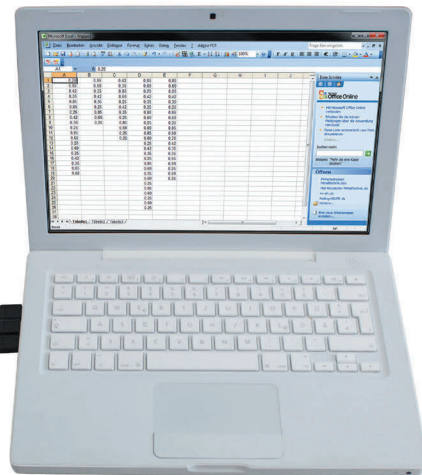


Measurement Data Transmission System „I-DAS“

- Measurement data transfer via USB interface to PC
 Data management via standard software, for example MS Excel®
- cable and interface selection can be found on page 334

example measurement data transmission
 via USB interface

ART N° 2420192
 € 206.33



Measurement Data Transmission with Data Box

- Connection via USB data cable, also suitable for Digimatic connection (Mitutoyo compatible)
- Data box with USB cable connection (art.-no.: 2420194)
- Footswitch with cable connection (art.-no.: 209011)

example measurement data transmission via duo data output (via USB interface or for Mitutoyo Digimatic)

ART N° 2420194
€ 106.11



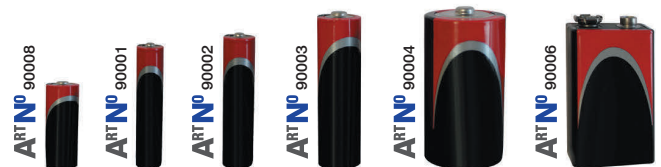
individual components can be found on page 334

ART N° 209011
€ 31.86



Batteries

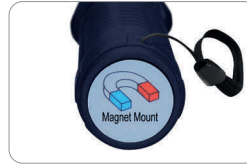
ART N°	battery type	voltage	€
90006	6LR61 (Alkaline)	9.0	3.08
90003	AA (Alkaline)	1.5	1.73
90002	AAA (Alkaline)	1.5	1.19
90052	AAA (rechargeable)	1.5	7.18
90001	AAAA (Alkaline), LR61	1.5	4.70
90213	LR44	1.5	0.50
90101	CR1632	3.00	3.91
90110	CR2016	3.00	3.42
90112	CR2032	3.0	1.24
90008	MN21 23 (Alkaline)	12	3.42
90004	LR14 (C-Cell)	1.5	2.92



Work Lamp and Hand-Held Refractometers

LED Work Lamp

- modern work lamp
- designed for universal working places
- sturdy housing
- with rubber covered handle
- with hand strap, ON/OFF pressure switch
- 52 bright white LED's at the side and one LED at the top
- incl. 3x 1.5 V battery (type AA, art.-no.: 90003)



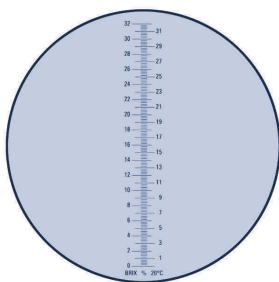
magnetic bottom



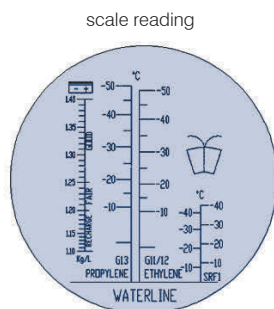
ART ^N °	quantity of LED's	LED light colour	→ mm ←	€
600025	52 + 1	white	280 x 42 x 42	6.73

Hand-Held Refractometer

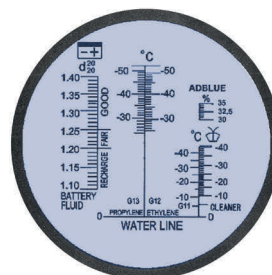
- refractometers are optical precision instruments for measuring the optimal concentration of liquids
- rugged stainless steel housing with rubber handle
- with adjusting screw, folding cover, okular with rubber eye cup, quality optic
- incl. operation manual



ART^N° 653200



ART^N° 653210



ART^N° 653211

Further instruments available on request



ART ^N °	application range	→ mm ←	→ max. ←	→ mm ←	€
653200	lubricants, coolant liquids, fruit, juices, wines, etc.	0 – 32 % Brix	±0.20 %	170 x ø -29	30.88
653210	automotive industry (standrad)	E: -40 °C – 0 °C P: -50 °C – 0 °C B: 1.10 – 1.40 SG	±5 °C ±5 °C ±0.01 SG	153 x ø -29	44.49
653211	automotive industry (universal with Adblue) Adblue concentration, coolant liquids, antifreeze, detergents and battery acidity	Adblue: 30 – 35 % E: -40 °C – 0 °C P: -50 °C – 0 °C B: 1.10 – 1.40 SG	5 °C 5 °C 0.01 SG	170 x ø 29	40.12

Repair Service

Benefit from our many years of experience in the repair of measuring tools and the procurement of spare parts and accessories. By having the measuring tools checked by us or our calibration laboratory, you save time, money and unnecessary transport when troubleshooting errors.

Repair, adjustment and testing / calibration from a single source ensure that your measuring tools are in perfect condition.

Overview of services:

- ✓ Visual and functional test
- ✓ Dismantling and cleaning
- ✓ Replacement of the defect parts
- ✓ Assembly with function test
- ✓ Calibration if desired

Any questions?

We are happy to help.



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TERMS OF SALE, DELIVERY AND PAYMENT

1. GENERAL

The type and scope of delivery are determined in the order confirmation. The following terms of sale, delivery and payment are authoritative for each delivery to be made by us. We are not bound by the customer's purchasing conditions, even if we do not expressly contradict them. By placing an order, the buyer accepts our conditions without exception. Oral or telephone agreements require our written confirmation. Obvious errors in offers, order confirmations etc. are expressly reserved and can be taken into account at any time. We are entitled to process the data received about buyers with regard to the business relationship or in connection with this - regardless of whether these come from the buyer himself or from third parties - within the meaning of the Federal Data Protection Act.

2. OFFERS

Our offers are non-binding regard to price, quantity, delivery time and delivery options. An order is deemed to have been placed when we have confirmed it in writing. Changes to the goods in terms of appearance or technology are permitted without special notice, provided that the function of the item is not impaired. Article images used in the catalogue may differ from the original article. No liability is assumed for any printing errors, product changes due to technical developments and/or model changes. For printing reasons, the colours in the catalogue may also differ from the original colour of the products.

3. SPECIAL PRODUCTION

In the case of custom-made products, excess or short deliveries of up to 10 % are permitted. This also includes series parts that are to be specially marked at the express request of the customer. The customer cannot withdraw from the order after the order has been confirmed. We do not take back specially manufactured or marked goods.

4. PRICES, DELIVERY BASE AND PACKAGING

All prices mentioned are non-binding and are in EURO per piece or in accordance with the specified quantity units from the price list plus statutory VAT, ex works, excluding packaging. A shipping service of € 7.90 within Germany is charged for each delivery. For freight forwarded goods or deliveries outside of Germany, the shipping service are billed separately. We reserve the right to correct the prices if there are changes in the basic costs, such as raw material, alloy surcharges, energy, wages, etc. by the day of delivery. In the case of special packaging instructions by the customer, the associated additional costs will be charged. Packaging will not be taken back.

5. DELIVERY

Unless otherwise agreed in writing, delivery takes place at the expense and risk of the buyer. The goods are dispatched by a carrier of our choice, unless otherwise agreed. We reserve the right to carry out orders in partial deliveries. In case of goods being taken back as a gesture of goodwill, we are entitled to charge a restocking fee of 15 % of the value of the goods taken back, at least € 15.00 and most € 250.00.

6. DELIVERY TIME, DELIVERY DEADLINES

The delivery time begins after receipt of all information required for the execution of the order. Agreed delivery times are appropriately extended in the event of unforeseen events that are beyond our control, such as strikes, lockouts, operational disruptions, delays in the delivery of primary material, regardless of whether these events occur with us or with our supplier. We are not responsible for such circumstances even if we are already in default. If they occur, both parties are entitled to withdraw from the contract. No claims can be made for late delivery.

7. COMPLAINTS

Obvious defects must be reported in writing and specified within 10 days of receipt of the goods.

8. WARRANTY

For all Vogel Germany measuring tools that are rendered unusable due to proven material or manufacturing defects, we will replace them within one year of delivery. This free replacement service is excluded if the tools have become unusable due to natural wear and tear or improper handling.

9. DISCLAIMER

We do not guarantee the suitability of our products for the purpose intended by the customer. We do not accept any liability for damage caused by unsuitable or improper use, commissioning by the customer or third parties or for natural wear and tear. Any claims for damages, irrespective of the legal reason, and in particular liability through tort (product liability) are excluded - as far as legally permissible.

10. PAYMENT

The payment terms valid on the day of delivery are decisive for the settlement of our invoices. The terms of payment and payment deadlines stated on the invoice apply. We reserve the right to request advance payment. Payments from abroad must be made free of bank charges. Discounts based on specified conditions can only be recognized if no other due invoices are open. The purchaser is in default of payment upon receipt of the first reminder or without a reminder 30 days after the due date and receipt of an invoice in accordance with § 286 Abs.3 German Civil Code (BGB). In the event of default, we are entitled to default interest in accordance with § 286 of the German Civil Code (BGB), subject to proof of further damage caused by default.

11. RETENTION OF TITLE

We reserve title to all goods delivered by us until the buyer has paid all claims arising from the business relationship, including future claims. The buyer is entitled to resell the reserved goods in the ordinary course of business. In the event of a resale, the buyer has to reserve ownership of the sold goods to his customer under the same conditions. The buyer already now assigns to us the purchase price claim to which he is entitled from the resale against the customer.

12. PLACE OF COMPETENCY, JURISDICTION, APPLICABLE LAW

The place of competency is Kevelaer (Germany). The place of jurisdiction for all disputes arising from our legal relationship with the customer is Kevelaer (Germany). However, we are also entitled to take legal action at the customer's headquarters. German law applies and, in exceptional cases, UN sales law

13. OTHER CLAIMS

Other claims - for whatever reason - remain excluded unless they have been expressly confirmed to the buyer in writing

14. OTHERS

If individual regulations of these terms of sales, delivery and payment are or become ineffective, this shall not affect the validity of the remaining regulations.



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