

Limit



Welcome to Limit

Experience from more than 90 years of supplying measuring tools to the Swedish industry has created the trademark Limit. During that time we have learnt what our customers require and appreciate.



This is achieved by developing a relevant and attractive offer across the measurement technology sector, with a focus on user needs. This initiative means that Limit is the only brand on the market that supplies products within all segments of measurement technology.



- Workshop measurement
- Electrical/electronic testing
- Climate and environment
- Laser
- Scales
- Inspection





The operator replaces the inspector

An absolutely crucial part of the investment in measuring trends is that focus has shifted from the inspector to the operator.



About us

Limit supply European market with a broad and qualified assortment for measuring products. The demands from this target group which is probably the most demanding one there is, are well known by us. The demands concern function quality, price and delivery.

The products have been constantly developed according to new production methods and new technology. Today, Limit is represented in more than 25 countries.



This is because we are convinced that a cultural change is underway, in favour of the operator who will accept even greater responsibility for everything he or she does. New technology enables measurement that is faster, simpler and more frequent, which in turn increases the need for easily operated measurement instruments.

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counting scales, suspended weighers,
personal scales, floor scales**

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Calipers

Calipers

Calipers

Calipers are an all round instrument with a relatively high measuring accuracy. Calipers are recommended for measuring where 0.1 measuring is required.

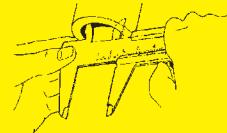
Measuring with vernier calipers means that values less than 1 mm are read by a vernier scale. The zero mark of the vernier scale indicates the measured value in integer mm on the base scale.

Some calipers have a parallax free scale which makes the vernier reading easier and more reliable. Parallax free means that the scales are positioned at the same level and this prevents incorrect reading as the eye's line of sight towards the scale is not perpendicular. Even easier to read are of course the electronic measuring products with digital displays.

Dial calipers are very easy to read and especially when comparing check measurements. The indicator gives a clear visual picture of how big the difference is between the measured values. Calipers are frequently used as they are such universal tools/instruments. You can measure both outer, inner and depth dimensions. Calipers with 4-functions also have the possibility to measure steps, etc. and they are useful when scribing and marking out.

Table of tolerances for vernier callipers according to DIN 862.

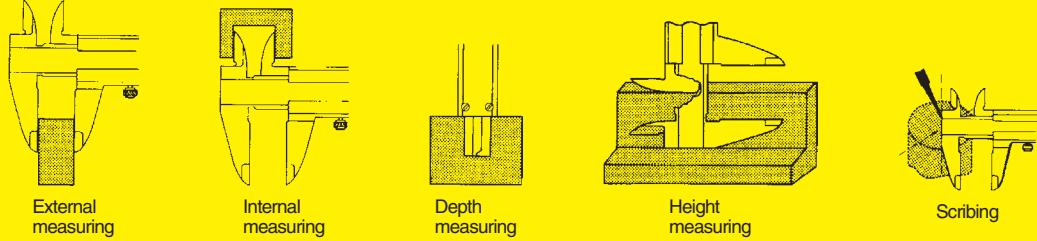
Ref. temperature +20°C.



Linear measure .. mm	0-200	200-300	300-400	400-500	500-600	600-700	700-800
Max deviation mm	±0.04	±0.05	±0.07	±0.08	±0.09	±0.10	±0.11
Linear measure .. mm	800-900	900-1000	1000-1100	1100-1200	1200-1300	1300-1400	1400-1500
Max deviation mm	±0.12	±0.13	±0.14	±0.16	±0.17	±0.18	±0.19
Linear measure .. mm	1500-1600	1600-1700	1700-1800	1800-1900	1900-2000	2000-	
Max deviation mm	±0.20	±0.21	±0.22	±0.23	±0.24	±0.25	

4 functions

Vernier callipers with 4 functions can be used for the following measurements and scribing:



Miniature vernier callipers. Made of brass. Graduated in mm and inches.

Art. no.	2654
Measuring length	mm 100
Jaw length	mm 19

-0203



Miniature vernier callipers. Made of stainless steel. Matt chromium-plated scale. Graduated in mm, plus vernier for $\frac{1}{20}$ mm. With depth gauge and points for internal measuring. DIN 862.

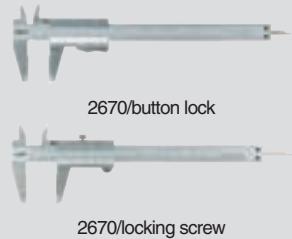
Art. no.	6006
Measuring length	mm 100
Jaw length	mm 27

-0100

Calipers

Calipers

4 functions. Stainless steel. Fully hardened. Matt chromium-plated scale. Graduated in mm and inches, and with Nonie scale for $\frac{1}{128}$ " and $\frac{1}{20}$ mm of 39 mm length. Equipped with depth gauge and needle points for inside measurements. Quick locking. DIN 862. 4-function see information page 2.



Art. no.	2670	-0302	-0351	-0500	-0609
Measurement length..	mm	150	200	150	200
Type	with button lock	button lock	locking screw	locking screw	
Jaw length	mm	38	48	38	48
Ditto calibrated	2670	-0401	-	-	-
Spare part set	2670	-2001	-2001	-2001	-2001

Digital Calipers

Digital sliding calipers Absolute function, which means that the value can shift between the absolute value and a second 0-value. Memory for the original 0-value even after shutdown. Manufactured of stainless steel. Automatic switching off. 4-function. DIN 862. Battery 3 V, type CR1632.



Art. no.	17423	-0102	
Measurement length.....	mm	150	
Jaw length.....	mm	40	
Digit height.....	mm	8	
Resolution	mm	0.01	

Digital caliper. Made of stainless steel. Can be switched between mm and inches. With reset button. Automatic off. DIN 862. Battery 3 V type CR2032



Art. no.	19014	-0103	-0202	-0301	
Measuring length	mm	150	200	300	
Jaw length	mm	40	48	60	
Height of figures	mm	8	8	8	
Resolution	mm	0.01	0.01	0.01	

Digital caliper. Triple reading: metric / inch / inch fraction Made of stainless steel. Automatic switch off.Zero set in any position 4-funcon. DIN 862. Battery type SR44.



Art. no.	14455	-0100	-0209	
Measuring length.....	mm	150	200	
Jaw length	mm	40	48	
Digit height.....	mm	11	11	
Resolution	mm	0.01	0.01	
Resolution	inch	0.0005	0.0005	
Resolution	inch fraction	1/128	1/128	
Extra battery.....	2928	-1003	-1003	

Digital caliper with reading 0.01 mm. Made of stainless steel. Zero set in any position. Automatic switch off. Adjustable between mm and inch. 4 function. DIN 862. Battery type SR44.



Art. nr.	13233	-0101	
Measuring length	mm	150	
Jaw length	mm	40	
Height of figures	mm	11	
Resolution	mm	0.01	
Spare battery.....	2928	-1003	

Calipers

Calipers

Calipers

Waterproof digital caliper



IP 67. Stainless steel. 4-function. Resistant to water, oil, coolant, etc. according to IP 67. Switchable between metric and imperial measurements. Automatic shutoff. DIN 862. Extra battery SR44, art. no. 2928-1003.

Art. no.	12256	-0105	-0204	-0303
Measurement length	mm 150	200	300	
Leg length, ext.	mm 40	50	60	
Leg length, int.	mm 15	20	20	
Digit height	mm 9	9	9	
Resolution	mm 0.01	0.01	0.01	
Accuracy	mm 0.03	0.03	0.03	

With dial indicator



4 functions. Stainless steel. The measuring faces are precision ground and polished. Matt chromium-plated scale. Graduated in mm. DIN 862. 4 functions, see page 2.

Art. no.	5270	-0309
Measuring length	mm 150	
Scale division on dial	mm 0.02	
1 turn of the pointer =	mm 2	
Jaw length	mm 40	

With scribe



Made of stainless steel. The measuring surfaces are matt chromium-plated for non-glare reading. Graduated in mm and inches, and with vernier for $\frac{1}{128}$ " and $\frac{1}{20}$ mm of 39 mm length. Also provided with depth gauge and points for internal measuring. DIN 862.

Art. no.	3513	-0103
Measurement length	mm 150	
Jaw length	mm 40	

For left hand use



4 functions. Stainless steel. Matt chromium-plated scale. Graduated in mm and inches. With depth gauge and points for internal measuring. DIN 862. Supplied in case. 4 functions, see page 2.

Art. no.	10236	-0104
Measuring length	mm 150	
Leg length	mm 40	

Calipers

Calipers

Calipers

For brake drums

Made of stainless steel. Matt chromium-plated scale and vernier. With fine adjustment.

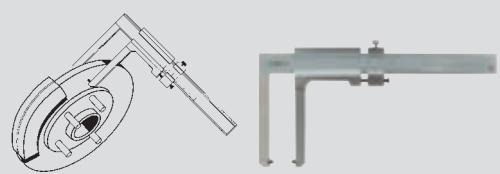
Art. no.	10909	-0050	-0100
Measurement range	mm	40-340	50-500
Leg length	mm	105	150
Art. no.	10909	-0209	
Measurement range	mm	50-600	
Leg length	mm	200	



For brake discs

Made of stainless hardened steel. Matt chromium-plated scale and vernier. Measurement value can be locked when the legs are open.

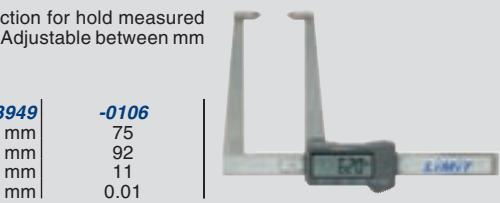
Art. no.	10910	-0107	
Measurement range	mm	0-60	
Leg length	mm	85	



Digital caliper for brake discs. Hardened stainless steel. Holdfunction for hold measured value when caliper remove after measuring. Zero on any position. Adjustable between mm and inch.

Extra battery type SR 44.

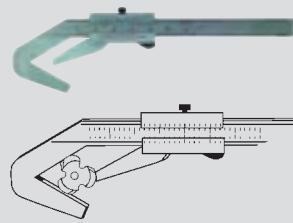
Art. no.	13949	-0106	
Measuring range	mm	75	
Jength of jaws	mm	92	
Digit height	mm	11	
Reading	mm	0.01	



Three point vernier caliper

For measuring external diameter of 3, 6 and 12 bladed tools. Cylindrical objects can also be measured. Of stainless steel. Matt chromium-plated scale. Graduation: mm and inches.

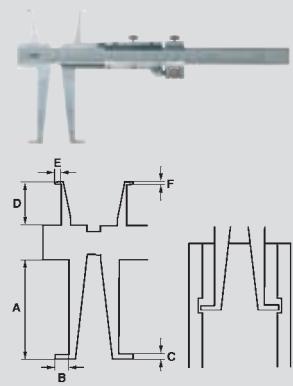
Art. no.	2394	-0109	
Measuring range diameter	mm	4-45	
Vernier	mm	0.02	



Internal vernier caliper

Made of hardened tool steel and with fine adjustment. For inside measurement of inner slot diameter.
12817-0107 has double measurement jaws.

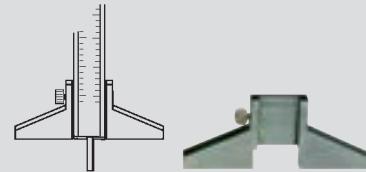
Art. no.	12817	-0107	-0206
Measurement length	mm	9-150	30-300
A	mm	74	110
B	mm	10	10
C	mm	5	5
D	mm	35	-
E	mm	4	-
F	mm	2	-



Depth gauge stop

Suitable for most vernier callipers.

Art. no.	7312	-0107	
Stock length	mm	75	
Track width	mm	4	
Track height	mm	16.5	



Calipers

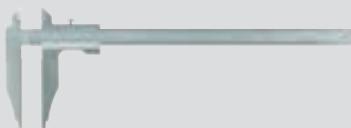
Calipers



Workshop vernier calipers

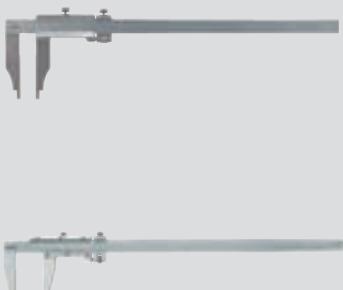
Made of hardened tool steel. Hardened. Matt chromium plated scale graduated in metric and imperial measures. Vernier scale. Tips for internal measurements. DIN 862.

Art. no.	12259	-0102	
Measurement length	mm	300	
Jaw length	mm	60	



Made of stainless steel. Hardened legs. Matt chromium-plated scale. Upper leg ground for access in grooves. Recess on lower legs for internal measurements. Tolerance according to DIN 862. Vernier scale 0.05 mm.

Art. no.	15238	-0101	
Measurement length	mm	300	
Lower leg length	mm	125	
Upper leg length	mm	56	



Made of stainless steel. Hardened. Matt chromium-plated scale. Steps on jaws for internal measuring. Tolerance according to DIN 862. Vernier scale 0.05 mm.

Art. no.	2305	-0057	-0107	-0206	-0404	-0503	
Measuring length	mm	300	400	500	800	1000	
Jaw length	mm	90	200	150	150	150	

Made of tool steel. Hardened. Matt chromium-plated scale. Steps on jaws for internal measuring. With fine adjustment. Tolerance according to DIN 862. Vernier scale 0.05 mm.

Art. no.	2304	-0108	-0207	-0306	-0405	-0504	
Measurement length	mm	500	800	1000	1500	2000	
Leg length	mm	100	125	125	150	200	



Digital workshop vernier calipers

Digital vernier callipers. Stainless steel. Max/min value function. Hold-function. Can be reset to mm or inches. Adjustable absolute value. Fine adjusting screw. DIN 862. Extra battery 3.0V CS 2032 art.no.10960-0304.

Art. no.	2289	-0107	-0156	-0172	-0206	
Measuring length	mm	500	600	800	1000	
Jaw length	mm	100	300	200	150	
Digit height	mm	8	8	8	8	
Resolution	mm	0.01	0.01	0.01	0.01	



Aluminium calipers

Made of structural aluminium. The jaws are made of hardened stainless steel. Easy to use because of their low weight. Non-glare scale. Graduated in mm. Vernier for $\frac{1}{20}$ mm. Tolerance according to DIN 862.

Art. no.	0575	-0104	-0203	-0302	-0401	-0500	-0559	-0609	(-0708)	(-0807)	
Measurement length	mm	500	500	800	800	1000	1000	1500	2000	3000	
Jaw length	mm	150	250	150	400	150	500	150	150	150	
Weight	kg	1.1	1.1	1.5	1.6	1.8	1.9	2.1	2.6	3.4	

Calipers

Calipers

Depth gauges

Made of stainless steel. Matt chromium-plated scale. The ends of the rod and base are hardened. The scale is graduated in mm and has $\frac{1}{20}$ mm vernier. Lockable. Tolerance according to DIN 862.

Art. no.	2643	-0108	-0207	-0405	-0504
Measuring depth	mm	150	200	300	500
Base length	mm	100	100	100	150



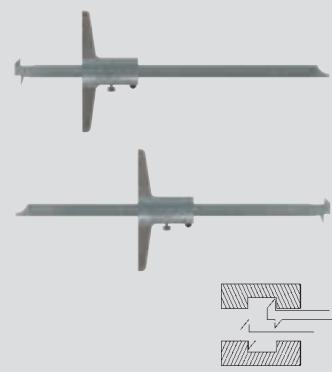
Made of stainless steel. Matt chromium-plated scale. Reversible scale for measuring with hook or tip. Graduated in mm. Vernier scale 0.05 mm. Tolerance according to DIN 862.

Art. no.	2255	-0107
Measuring depth	mm	300
Base length	mm	150
Hook dim.	mm	16x10



Made of stainless steel. Matt chromium-plated scale. Reversible scale for measuring with hook or point. Graduated in mm. Vernier scale 0.05 mm. Tolerance according to DIN 862.

Art. no.	12257	-0104
Measuring depth	mm	200
Stock length	mm	100
Hook length	mm	6



Made of stainless steel. Matt chromium-plated scale. With replaceable, hardened steel pin. The scale is graduated in mm and has $\frac{1}{20}$ mm vernier. Lockable. Tolerance according to DIN 862.

Art. no.	2645	-0106	-0205
Measuring depth	mm	80	200
Base length	mm	50	100



Digital depth gauges

Adjustable absolute value. Can be switched from mm to inches. With reset and off button. Fine adjusting screw. DIN 862. Extra batteries V 13 GS/V 357 (SR44), art.no. 2928-1003.

Art. no.	2146	-0605
Measuring depth	mm	200
Resolution	mm	0.01
Precision	\pm mm	0.03
Base length	mm	100
Indicator rod dim.	mm	14,5 x 4



Calipers

Calipers

Depth gauges

Digital depth gauges



Art. no.	13236	-0108
Tread depth	mm	0-25
Measuring tip dimension	mm	5 x 4
Stop dimension	mm	55 x 6
Extra battery	2928	-1003

Height gauges



Precision design. Matt chromium-plated scale. Graduated in mm. With fine-adjusting screw and vernier reading 0.05 mm. DIN 862.

Art. no.	2249	-0056	-0106	-0205
Scribing height	mm	300	500	1000
Base plate dim.	mm	110x60	150x90	220x150
Weight	kg	2.6	4.7	10
Extra scriber point	2249	-0304	-0403	-0403



The measurement value is read-off in whole mm on the counter and in 0.01 mm on the dial indicator. 1 pointer turn = 1 mm. Dual counter, one adding and one subtracting, that can be reset individually in optional position. Flexible height setting with knob on the back. Measuring tip of hard metal. DIN 862.

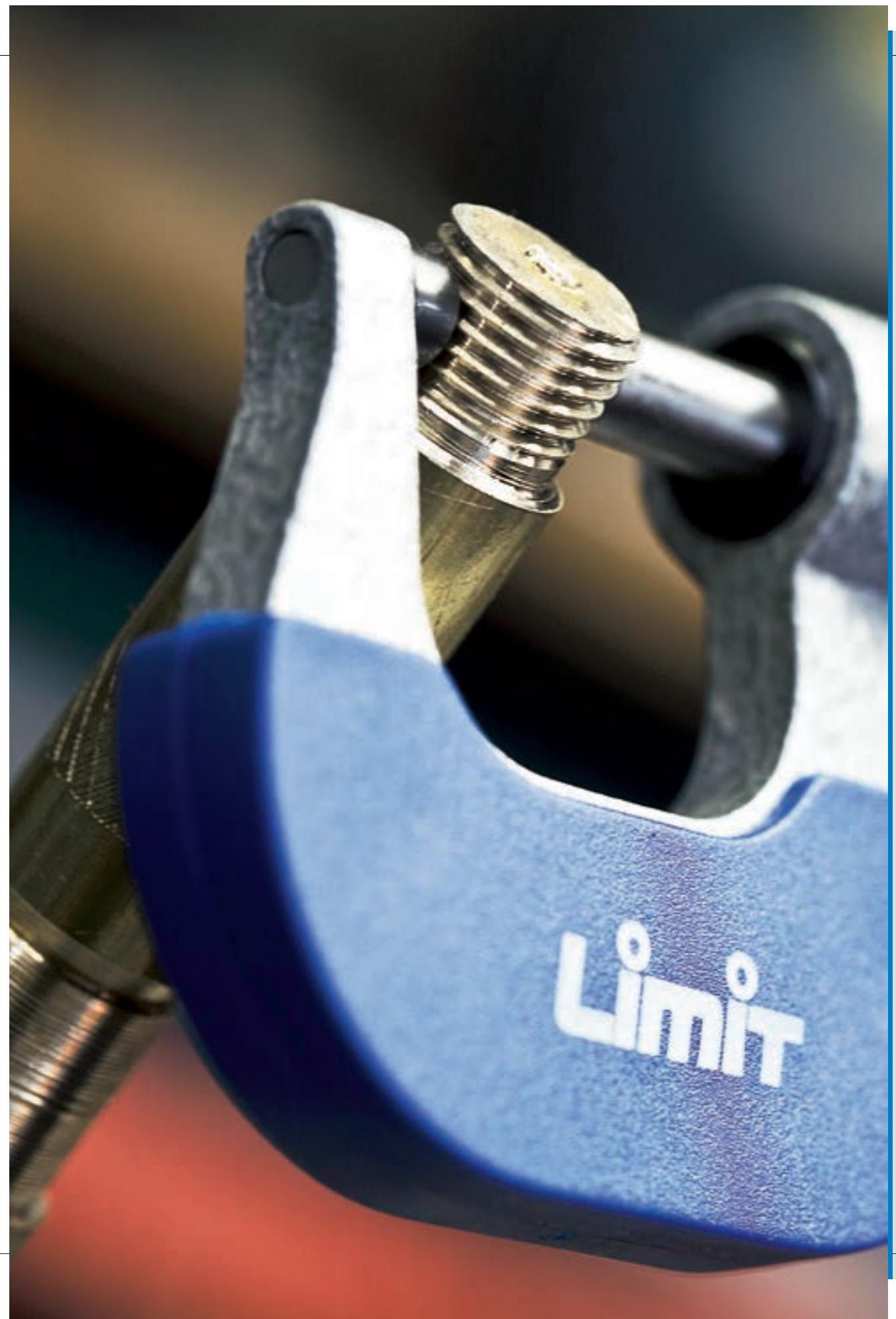
Art. no.	10235	-0105
Scribing height	mm	500
Base dim.	mm	150x100
Extra scriber	10235	-0204



Digital height gauge

Of stainless steel. High contrast LCD display. Adjustable measurement direction and between mm and imperial measurements. Reset button. Hold function. DIN 862. Extra batteries 3 V-CR 2032, art. no 10960-0304.

Height marking gauges	2146	-1108	-1306
Scribing height	mm	300	500
Resolution	mm	0.01	0.01
Precision	±mm	0.03	0.03
Horizontal range of measuring tip, max	mm	110	145
Base dim.	mm	110x65	120x170
Overall height	mm	455	640
Extra scriber	2146	-1207	-1405



Micrometers

Micrometers

Micrometers

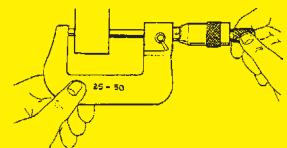
When accuracy of 0.01 mm is required the micrometer is the most common instrument. The external measuring screw usually has an increment of 0.5 mm/revolution.

The base scale is on the sleeve and is graduated in intervals of 0.5 mm. On the thimble there are 50 graduation marks which indicate 1/100 value (0.01 mm).

Micrometers also have a friction facility which allows a constant measuring power which is important when measuring 1/100 and 1/1000 mm measurements.

There are many different micrometers for different appliances e.g. outer, depth, bore/hole measurements. Further more there are micrometers with different designs for the feeler pin for special purposes.

Table of tolerances for micrometers according to DIN 863



Measuring range mm	Permitted total error μm	Parallelism tolerance for measuring surfaces with measuring pressure 10 N μm
0 - 25	4	2
25 - 50	4	2
50 - 75	5	3
75 - 100	5	3
100 - 125	6	3
125 - 150	6	3
150 - 175	7	4
175 - 200	7	4
200 - 225	8	4
225 - 250	8	4
250 - 275	9	5
275 - 300	9	5



Forged frame and matt chromium-plated scale. Hardened 6.5 mm with fine-polished measuring faces of hard metal. Friction sleeve and lock nut. DIN 863.

Art. no.	9538	-0101	-0200	-0309	-0408
Measuring range	mm	0-25	25-50	50-75	75-100
Reading	mm	0.01	0.01	0.01	0.01
Precision	±mm	0.004	0.004	0.005	0.005
Ditto calibrated.....	9538	-0150	-	-	-
Art. no.	9538	-1000	-1109	-1208	-1307
Measurement range.....	inch	0-1	1-2	2-3	3-4
Reading	inch	0.0001	0.0001	0.0001	0.0001
Precision	±mm	0.004	0.004	0.005	0.006



Set of 4 micrometers including standard gauge and hook spanner. Supplied in practical plastic case. DIN 863.

Art. no.	9538	-2008
Measurement range	mm	0-100
Resolution	mm	0.01
Precision 0-50.....	±mm	0.004
Precision 50-100	±mm	0.005

Micrometers

Micrometers

Micrometers

Splashproof – IP54. Forged frame. Hardened spindle 6.5 mm with fine-polished measuring faces of hard metal. Off button. Friction sleeve and lock nut. DIN 863. Battery type SR 44, art no 2928-1003.

Art. no.	9664	-0107	-0206	-0305	-0404
Measurement range	mm	0-25	25-50	50-75	75-100
Resolution	mm	0.001	0.001	0.001	0.001
Precision	±mm	0.004	0.004	0.005	0.005



Enamelled steel frame and matt chromium-plate scale. Hardened spindle 6.5 mm with fine-polished measuring faces of hard metal. Friction screw and lock nut. DIN 863.

Art. no.	9542	-0105	-0204	-0303	-0402
Measuring range.....	mm	100-125	125-150	150-175	175-200
Reading	mm	0.01	0.01	0.01	0.01
Precision	±mm	0.006	0.006	0.007	0.007



Measurement value is shown on the counter. Fine-polished measuring faces of hard metal. Friction drum and lock nut. DIN 863.

Art. no.	11910	-0105	-0204
Measurement range	mm	0-25	25-50
Reading	mm	0.01	0.01



Enamelled steel frame and matt chromium-plated scale. With interchangeable insert rods. Hardened spindle and insert rods 8.0 mm with fine-polished measuring faces of hard metal. DIN 863.

Art. no.	9544	-0103	-0202
Measuring range.....	mm	0-150	150-300
Reading	mm	0.01	0.01
Precision	±mm	0.006	0.009



Forged frame. Hardened spindle and interchangeable insert rods 8 mm with fine-polished measuring faces of hard metal. Absolute/incremental measuring. Adjustable absolute value. Friction sleeve and lock nut. DIN 863. Battery type SR 44, art.no. 2928-1003.

Art. no.	9676	-0103
Measuring range	mm	0-150
Resolution.....	mm	0.001
Precision	±mm	0.006



Micrometers

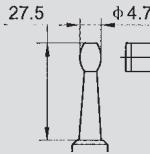
Micrometers

Micrometers



Enamelled low weight frame of steel. Matt chromium-plated scale. Adjustable measuring rod with fixed spacing sleeves. Hardened spindle 8.0 mm with fine-polished measuring faces of hard metal. DIN 863.

Art. no.	9545	-0102	-0201	-0300	-0409
Measuring range	mm	300-400	400-500	500-600	600-700
Reading.....	mm	0.01	0.01	0.01	0.01
Precision.....	±mm	0.011	0.013	0.015	0.016
Art. no.	9545	-0508	-0607	-0706	
Measuring range	mm	700-800	800-900	900-1000	
Reading.....	mm	0.01	0.01	0.01	
Precision.....	±mm	0.018	0.020	0.020	



Tube micrometer

Forged frame and matt chromium-plated scale. Hardened spindle 6.5 mm with fine-polished measuring face of hard metal. Anvil 4.8 mm. Friction sleeve and lock screw. DIN 863.

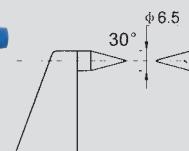
Art. no.	9548	-0109
Measuring range	mm	0-25
Reading.....	mm	0.01
Precision.....	±mm	0.006



Digital tube micrometer

Digital tube micrometer. Waterproof IP 54. Forged frame with matt chromium-plated scale. Hardened spindle with twin spherical measuring faces. Friction sleeve and lock nut. Can be switched between mm and English inches. Automatic switching off. DIN 863. Supplied in case. Battery type SR44, art no. 2928-1003.

Art. no.	13268	-0109
Measurement range	mm	0-25
Resolution.....	mm	0.001
Precision.....	mm	±0.004



With conical measuring tips

Forged frame with matt scale. Hardened spindle 6.5 mm with hardened measuring tips of hard metal. Friction screw and lock nut. DIN 863.

Art. no.	9564	-0108
Measuring range	mm	0-25
Reading.....	mm	0.01
Precision.....	±mm	0.004

Micrometers

Micrometers

Micrometers

Wire micrometer

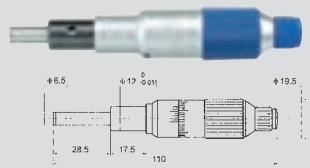
Matt chromium-plated scale. Hardened spindle 6.5 mm with fine-polished measuring faces of hard metal. Friction sleeve and lock nut. DIN 863.



Art. no.	9614	-0108
Measuring range	mm	0-13
Reading	mm	0.002
Precision	±mm	0.004
Measuring height	mm	5

Micrometer head

Vernier for reading 0.01 mm. Measuring face of hard metal. With friction thimble. DIN 863.



Art. no.	7324	-0103
Measuring range	mm	0-25
Fitting diam.xlength	mm	12x17

Thread micrometers

Forged frame with matt chromium-plated scale. Reading 0.01 mm. For outside measuring of thread diameter. Interchangeable V-shaped and cone-shaped anvils (Not included). Friction thimble and locking device. Tolerance according to DIN 863.



Art. no.	13272	-0103	-0400	-0509	-0608
Measuring range	mm	0-25	25-50	50-75	75-100
Accuracy	mm	0.01	0.01	0.01	0.01
Precision	mm	±0.004	±0.004	±0.004	±0.005
Set with 6 pairs of V-shaped and cone-shaped anvils 60°	13272		-0202		
Pitch	mm	0.4-0.5 0.6-0.9 1-1.75 2-3 3.5-5 5.5-7 64-48 44-28 24-14 13-9 8-5 4.5-3.5			
Threads per inch					
Set with 10 pairs of V-shaped and cone-shaped anvils 55°	13272		-0301		
Threads per inch			60-48 48-40 40-32 32-24 24-18 18-14 14-10 10-7 7-4.5 4.5-3.5		

Micrometer holders

Rotating holder. Grey enamelled.



Art. no.	6007	-0208
Tension area	mm	0-14
Height	mm	100
Diameter	mm	105
Weight	kg	1.7

Rotating holder.



Art. no.	10238	-0102
Clamping range	mm	7-16
Base (length x width)	mm	120x80

Micrometers

Micrometers



Control gauges

Intended for controlling external micrometers. The measuring values correspond to the lower and upper limit for respective measuring range. Size 50 mm and larger are provided with insulation to counteract heat from hand.

Art. no.	2624	-3006	-3105	-3204	-3303
Length	mm 25	50	75	100	
Precision	± µm 0.5	1.0	1.0	1.5	
Art. no.	2624	-3402	-3501	-3600	-3709
Length	mm 125	150	175	200	
Precision	± µm 1.5	2.0	2.0	2.5	

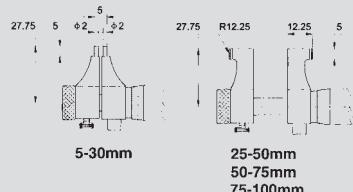


Depth micrometer

Reading 0.01 mm, with interchangeable insert rods in steps of 25 mm. Matt chromium-plated micrometer head. DIN 863.

Art. no.	7325	-0102
Measuring depth	mm 0-100	
Base length	mm 63	
Number of insert rods	unit 4	
Insert rod diameter	mm 4.5	

Internal micrometers



Matt chromium-plated scale. Hardened and fine-polished measuring faces. Friction screw and lock screw. DIN 863. Supplied with adjusting ring.

Art. no.	9615	-0107	-0206	-0305	-0404
Measuring range	mm 5-30	25-50	50-75	75-100	
Reading	mm 0.01	0.01	0.01	0.01	
Precision	±mm 0.007	0.007	0.008	0.008	

Micrometers

Internal micrometers

Matt chromium-plated scale. Consist of measuring head and requisite extension sleeves.
Supplied with adjusting frame. DIN 863.

Art. no.	9623	-0107	-0206	-0305
Measuring range	mm	50-200	50-600	150-1400
Reading	mm	0.01	0.01	0.01
Number of parts	unit	5	7	9



Three-point internal micrometers



For measuring holes. With friction device that gives a constant measurement force and self-centering measurement device. Measuring faces of hard metal. Measurement tips reach to 0.5 mm from the bottom of a blind hole. Setting ring included.

Art. no.	12781	-0109	-0208	-0307	-0406	-0505	-0604	-0703	-0802	-0901	-1008
Measurement range	mm	12-16	16-20	20-25	25-30	30-40	40-50	50-63	62-75	75-88	87-100
Reading	mm	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Precision	mm	0.004	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005	0.005
Measuring depth	mm	80	80	90	90	97	97	114	114	114	114
Förlängningsstång	mm	150	150	150	150	150	150	150	150	150	150

Set of several micrometers incl. setting rings and extension bar. The micrometers have measuring faces of hard metal. Measurement tips reach to 0.5 mm from the bottom of a blind hole.



Art. no.	12782	-0108	-0207
Measurement range, diameter.....	mm	20-50	50-100
Extension bar	mm	150	150
Number of micrometers	ea	4	4
No. of setting rings	ea	2	2
Measuring depth	mm	240-247	264

Micrometers

Micrometers



Three-point internal micrometers

Setting rings

Intended for inspection and setting internal micrometers and hole indicators.

Art. no.	-0107	-0206	-0305	-0404	-0503	-0602	-0701
Diameter	mm 10	mm 16	mm 25	mm 30	mm 40	mm 62	mm 87
Tolerance	µm ±1.5						
Cylindricity.....	µm 1.0						



Telescopic gauges

Adjustable gauge. Set of 6. Consists of two spring-loaded measuring cylinders. Of hardened steel. Locking with screw in top part of the handle. Can be read with a micrometer.

Art. no.	5291	-0106
Measuring range	mm 8-150	



Spare gauges of set 5291.

Art. no.	5291	-0205	-0304	-0403
Measuring range	mm 8-12.7	mm 12.7-19	mm 19-32	
Art. no.	5291	-0502	-0601	-0700
Measuring range	mm 32-54	mm 54-90	mm 90-150	



Cylinder gauges

For precision measuring in holes and grooves. Provided with interchangeable measuring tips and spacers for different dimensions. The gauge is centered automatically with a spring-loaded support and has a hard metal coated measuring tip. Complete with dial indicator. Accuracy is $\pm 15 \mu\text{m}$ plus the gauge's accuracy, which is accordance with DIN 878.

Art. no.	6193	-1002	-1101	-1200	-1309	-1408
Type		D	E	F	H	J
Measurement range	mm 10-18	mm 18-35	mm 35-50	mm 50-160	mm 160-250	
Precision	mm 0.01	mm 0.01	mm 0.01	mm 0.01	mm 0.01	mm 0.01
Measuring depth	mm 100	mm 125	mm 150	mm 150	mm 400	
Bottom holes can be measured from the bottom	mm 7	mm 7	mm 7.5	mm 10	mm 15	
Number of measuring tips	mm 9	mm 9	mm 4	mm 12	mm 12	
Extra measurement tips - set	6193	-2000	-2109	-2208	-2307	-2406



Dial gauges

Dial gauges

Dial indicators and dial test indicators are used for comparison measurements i.e. when the read value does not indicate the absolute measured value but a relative (incremental) measured value. The deviation from a master or a gauge block combination is read. With a digital indicator however the absolute measured value can be preset which simplifies the reading. The dial indicator can also be used together with a bore gauge for bore/hole measuring, or using a measuring fixing device.

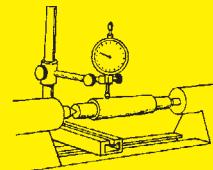
Dial test indicators are used in places where access is difficult, such as inside a bore/hole. By moving the feeler pin of the dial test indicator along a surface roughnesses and eccentricities can be read. The feeler pin of the dial test indicator makes a circular movement unlike the movement of the dial indicator which is linear. Therefore it is important to hold the feeler pin perpendicular to the measured surface.

Table of tolerances for dial indicators according to DIN 878.

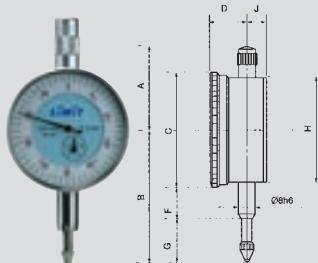
(Tolerance according to DIN 7168/1).

Max permitted measuring deviation for all measuring ranges.

(Reference temperature +20°C.)



Measuring range	mm	0.4	0.8	3	5	10
Max deviation incl. backlash	µm	9	9	12	14	17



Mini dial gauge. With turnable scale. Extra pointer that shows whole mm. Replaceable measuring tip. Without mounting lug. Tolerance according to DIN 878.

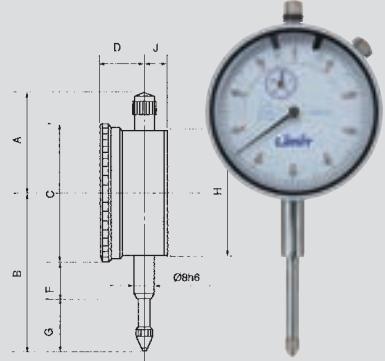
Art. no.	10390	-0106
Measurement range	mm	5
Scale division	mm	0.01
Scale graduation	mm	0.50, 50.0
One pointer turn =	mm	0.5
Dial diameter	mm	40
Fixing pin diameter	mm	8
Dimension A	mm	38
Dimension B	mm	48
Dimension C	mm	42
Dimension D	mm	14
Dimension F	mm	14
Dimension G	mm	13
Dimension H	mm	40
Dimension J	mm	7

Dial gauges

Dial gauges

With turnable scale and two adjustable tolerance indexes. Extra pointer that indicates whole millimetres. Body made of aluminium. Replaceable measuring tip. Without mounting lug. Tolerance according to DIN 878.
Accessories, see 5318 page 0000.

Art. no.	11911	-0104	-0203
Measurement range	mm	10	25
Scale division.....	mm	0.01	0.01
Scale graduation.....		0-100, 100-0	0-100, 100-0
One pointer turn =.....	mm	1	1
Dial diameter.....	mm	58	58
Fixing pin diameter.....	mm	8	8
Dimension A.....	mm	44	38
Dimension B.....	mm	69	81
Dimension C.....	mm	58	58
Dimension D.....	mm	17	17
Dimension F.....	mm	18	18
Dimension G.....	mm	21	34
Dimension H.....	mm	54	54
Dimension J.....	mm	8.5	8.5



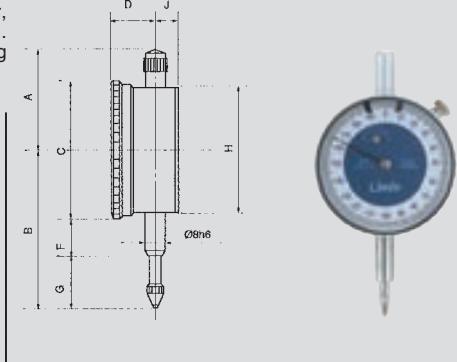
Art. no.	11911	-1003
Measurement range	inch	0.5
Scale division.....	inch	0.0005
Scale graduation.....	inch	0-50, 50-0
One pointer turn =.....	inch	0.05
Dial diameter.....	mm	58
Fixing pin diameter.....	inch	3/8
Dimension A.....	inch	1.48
Dimension B.....	inch	2.74
Dimension C.....	inch	2.28
Dimension D.....	inch	0.64
Dimension F.....	inch	0.69
Dimension G.....	inch	0.91
Dimension H.....	inch	2.11
Dimension J.....	inch	0.32

Dial gauges

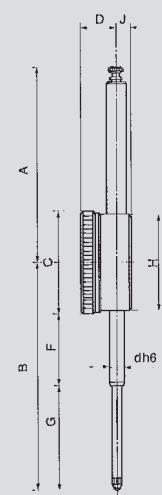
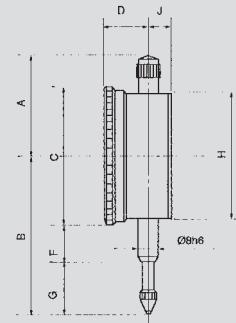
With turnable scale and two adjustable tolerance indexes. Extra pointer, graduated in 0.2 mm up to whole mm. Body made of aluminium. Replaceable measuring tip. Without mounting lug. Tolerance according to DIN 878.

Accessories, see 5318 page 0000.

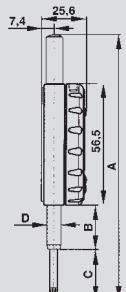
Art. no.	11912	-0103
Measurement range	mm	1
Scale division.....	mm	0.001
Scale graduation.....		0-100, 100-0
One pointer turn =.....	mm	0.2
Dial diameter.....	mm	58
Fixing pin diameter.....	mm	8
Dimension A.....	mm	45
Dimension B.....	mm	69
Dimension C.....	mm	58
Dimension D.....	mm	17
Dimension F.....	mm	18
Dimension G.....	mm	34
Dimension H.....	mm	54
Dimension J.....	mm	8.5



Dial gauges



15130-0100



Electronic dial gauge

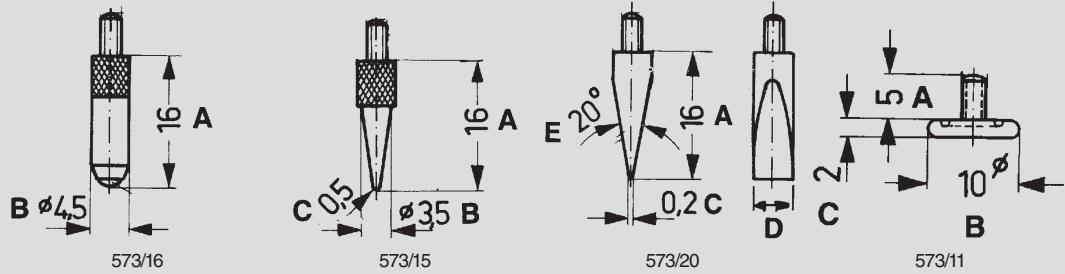
Digital gauge, tolerance function. Adjustable between absolute and incremental measurement values. Resetting. Adjustable between metric and imperial. DIN 878. Extra battery 3 V type CR 2025.

Art. no.	15130	-0100	-0209	-0308
Measurement range.....	mm 12.5	25	12.5	
Reading.....	mm 0.01	0.01	0.01	0.001
Precision.....	mm 0.02	0.02	0.02	0.013
Digit height.....	mm 12	12	12	12
Dial diameter.....	mm 57	57	57	57
Gauge thickness.....	mm 26	26	26	26
Fixing pin diameter.....	mm 8	8	8	8
Measure A.....	mm 123.5	151.0	123.5	
Measure B.....	mm 20	20	20	20
Measure C.....	mm 24	34	24	24
Measure D.....	mm 8	8	8	8

Dial gauges

Dial gauges

Accessories



Spare measuring tips for dial indicators.

Art. no.	5318	-1004	-1103	-1202	-1301
Orig. no.	573/16	573/16	573/15	573/20	573/11
Tip	Half round		Tapered	Flat	Flat
Dimension A	mm	16	16	16	5
Dimension BØ	mm	4.5	3.5	-	10
Dimension C	mm	-	0.5	0.2	2
Dimension D	mm	-	-	5	-
Dimension E	mm	-	-	20°	-

Extension bars mm	Art. no. 2651
Length 10 mm	-0131
Length 30 mm	-0206
Length 60 mm	-0305
Length 90 mm	-0404

Back with lug. For Limit analogue digital gauges, diameter 58 mm. Manufactured of aluminium.



Art. no.	17424	-0101	-0200
Securing hole diameter	mm	6.5	6.5
Back diameter	mm	53	53
No. of screw holes	ea	3	4

15129-0103. Holder for indicator dial. With 8 and 6 mm holes and dovetail slot for level type dial indicator.

15129-0202. Holder with ball joint for level type dial indicator. Dovetail slot.



Art. no.	15129	-0103	-0202
Hole diameter for indicator dial/level type dial indicator	mm	8 and 6	8
Holder arm dim.	mm	6x12	Ø 8
Length	mm	100	65

Dial gauges



Magnetic stand with dial indicator



Magnetic stand 11908-0208 with indicator dial 11911-0104.

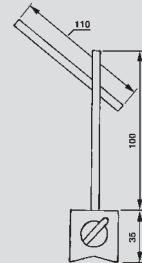
Art. no.	11908	-1008
Indicator stand:		
Max height adjustment	mm	330
Base dim.	mm	50x55x58
Securing hole diam.	mm	8
Magnetic force	kg	80
Weight.....	kg	1.9
Indicator dial:		
Measurement range	mm	10
Scale division	mm	0.01
Scale graduation	mm	0-100, 100-0
One pointer turn =	mm	1
Dial diameter	mm	58

Dial gauges

Magnetic stands

Mini stand with magnetic base. V-slot in magnetic base's bottom. Magnetism switched on and off with a lever.

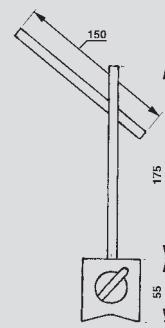
Art. no.	15128	-0104
Max height adjustment	mm	230
Dimension of magnetic foot	mm	30x35x36
Mounting hole diameter	mm	8 and 6
Magnetic fastening force	kg	40
Net weight	kg	2



With fine adjustment. With magnetic base. The bottom and back are magnetic. The magnetism is switched on and off with the button. Vertically and horizontally adjustable. Supplied with top and bottom holder, but without dial indicator.

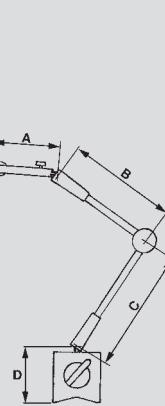
Art. no.	6019	-1004
Max height adjustment	mm	250
Base dimensions	mm	50x55x58
Mounting hole diameter	mm	8
Magnetic force	kg	75
Net weight	kg	1.5

Top and bottom holder.....	6019	-0402
Separate magnetic base. Threaded hole M8....	6019	-0600



With fine adjustment in the top holder. Holder with holes for indicator dial and dovetail slot for rocker indicator. Central locking with one knob for the bottom, middle and top joints. Magnetic base with V-slot in the bottom. Supplied without indicator dial.

Art. no.	11908	-0208	-0307
Max height adjustment	mm	330	385
Base dim.....	mm	50x55	50x75
Mounting hole diameter	mm	8	8
Magnetic force.....	kg	80	100
Net weight	kg	8	2.2
Mått A	mm	70	80
Mått B	mm	115	115
Mått C	mm	145	190
Mått D	mm	55	55



Flexible arm - lockable with lever in every required position. Magnetic base - on the V-shaped bottom and one side. The magnetism is switched on and off with a knob. Supplied without dial indicator.

Art. no.	6020	-0201
Arm length	mm	330
Base dimensions	mm	50x55x58
Mounting hole diameters	mm	6 & 8
Magnetic force.....	kg	80
Net weight	kg	1.6



Dial gauges

Dial gauges



Electronic

Digital display. Can be switched between mm or inches. Automatic switching off. Reset button.
Extra battery V13GS/V 357 (SR44), art.no. 2928-1003.

Art. no.	2294	-0100
Measuring range.....	mm	0-15
Resolution.....	mm	0.01
Tolerance.....	mm	±0.02
Measuring surface diameter.....	mm	8.9
Yoke depth.....	mm	13

Dial gauges



Thickness gauges

Suitable for both soft and hard materials.

Art. no.	11915	-0100
Measurement range	mm	10
Reading.....	mm	0.01
Measuring surface diameter	mm	8
Yoke depth	mm	12

11915	-0100
mm	10
mm	0.01
mm	8
mm	12



Suitable for both soft and hard materials.

Art. no.	11916	-0109
Measurement range	mm	10
Reading.....	mm	0.01
Measuring surface diameter	mm	10
Yoke depth	mm	30

11916	-0109
mm	10
mm	0.01
mm	10
mm	30



Suitable for both soft and hard materials.

Art. no.	11917	-0108
Measurement range	mm	10
Reading.....	mm	0.01
Measuring surface diameter	mm	10
Yoke depth	mm	120

11917	-0108
mm	10
mm	0.01
mm	10
mm	120



Steel rules and squares

Protractor measuring

For protractor measuring with 1° accuracy protractors with graduations in integer grades are used. For more accurate measuring than integer grades a bevel vernier protractor is used.

Planetary and squarness control

When controlling planetary and squarness rules or squares are used. There are both rules and squares with different tolerances. The most accurate types are knife edge rules and knife edge squares which have a knife edge formed black coloured edge for better contrast effect.

When using you see a light gap between the work piece and the measuring tool. By using a thickness gauge you can feel how rough a surface is or how high the angular error is.

Gauge blocks

To calibrate or reset measuring equipment, measuring fixing devices or gauge, gauge blocks are used. Also when adjusting tools and machines gauge blocks are used. Gauge blocks are blocks manufactured with a high dimensional accuracy, planetary and parallelism. By surface roughness the gauge blocks can obtain a very high adhesive strength when the blocks are turned and pressed together. That is how gauge block combinations are put together so that the total measurement value of all blocks is equal to the total length.

Table of tolerances according to DIN 866

For engineer's folding rules

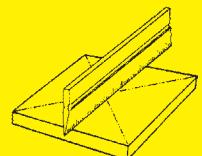


Measuring precision	length mm	Type A		Type B	
		Width 0.07- 0.10 mm	Width 0.10- 0.15 mm	Width 0.10- 0.15 mm	Width 0.10- 0.15 mm
Type A	mm	0.04	0.04	0.06	0.06
Type B	mm	0.10	0.10	0.15	0.15
		500	1000	1500	2000
				3000	4000

Table of tolerances according to DIN 874.

Levelness tolerance (flatness) in μm for different degrees of precision.

The levelness tolerance indicates the max deviation between the lowest and highest point. (Reference temperature +20°C.)



Engineer's rules					Straight-edges		
Length in mm					Length in mm		
± 2	00	0	1	2	± 2	00	
500	4	7	12	21	75	2	
750	6	9,5	17	27	100	2	
1000	8	12	21	33	150	3	
1500	—	17	29	46	300		3
2000	—	22	37	58			
2500	—	27	46	71			
3000	—	32	54	83			
4000	—	42	71	108			
5000	—	—	87	133			

Steel rules and squares

Table of tolerances for surface plates according to DIN 876

The levelness tolerance indicates the max deviation between the highest and lowest point on the surface.
(Ref. temperature +20°C.)



Measuring surface length mm	Levelness tolerance (flatness) in µm for different degrees of precision:				
	00	0	1	2	3
100	2	4	11	22	44
160	2	5	12	23	46
250	3	5	13	25	50
400	3	6	14	28	56
630	3	7	16	33	65
1000	4	8	20	40	80
1600	5	10	26	52	104
2000	6	12	30	60	120
2500	7	14	35	70	—

Length of long leg mm	Rectangularity tolerance in µm for degree of precision:				Surface smoothness tolerance in µm for degree of precision:*)			
	00	0	1	2	00	0	1	2
50	3	—	—	—	2	3	5	10
75	3	7	14	28	2	3	5	11
100	3	7	15	30	2	3	6	12
150	4	8	18	35	3	4	7	14
200	4	9	20	40	3	4	8	16
250	5	10	23	45	3	5	9	18
300	5	11	25	50	3	5	10	20
500	7	15	35	70	4	7	14	28
750	10	20	43	85	5	10	19	38
1000	12	25	60	120	6	12	24	48
1500	17	35	85	170	8	17	34	68

*) The surface smoothness tolerance for flat sides is 6 times the given value for contact surfaces.

Table of tolerances for gauge blocks according to DIN 861

(correspond with ISO 3650 and SS 3348)



Nominal length mm	Degree of precision 00		Degree of precision 0		Degree of precision 1		Degree of precision 2	
	Length tolerance *) µm	Max length variation width **) µm	Length tolerance *) µm	Max length variation width **) µm	Length tolerance *) µm	Max length variation width **) µm	Length tolerance *) µm	Max length variation width **) µm
—10 (10)—25 (25)—50	±0.06 ±0.07 ±0.10	0.05 0.05 0.06	±0.12 ±0.14 ±0.20	0.10 0.10 0.10	±0.20 ±0.30 ±0.40	0.16 0.16 0.18	±0.45 ±0.60 ±0.80	0.30 0.30 0.30
(50)—75 (75)—100 (100)—150	±0.12 ±0.14 ±0.20	0.06 0.07 0.08	±0.25 ±0.30 ±0.40	0.12 0.12 0.14	±0.50 ±0.60 ±0.80	0.18 0.20 0.20	±1.00 ±1.20 ±1.60	0.35 0.35 0.40
(150)—200 (200)—250 (250)—300	±0.25 ±0.30 ±0.35	0.09 0.10 0.10	±0.50 ±0.60 ±0.70	0.16 0.16 0.18	±1.00 ±1.20 ±1.40	0.25 0.25 0.25	±2.00 ±2.40 ±2.80	0.40 0.45 0.50
(300)—400 (400)—500 (500)—600	±0.45 ±0.50 ±0.60	0.12 0.14 0.16	±0.90 ±1.10 ±1.30	0.20 0.25 0.25	±1.80 ±2.20 ±2.60	0.30 0.35 0.40	±3.60 ±4.40 ±5.00	0.50 0.60 0.70
(600)—700 (700)—800 (800)—900 (900)—1000	±0.70 ±0.80 ±0.90 ±1.00	0.18 0.20 0.20 0.25	±1.50 ±1.70 ±1.90 ±2.00	0.30 0.30 0.35 0.40	±3.00 ±3.40 ±3.80 ±4.20	0.45 0.50 0.50 0.60	±6.00 ±6.50 ±7.50 ±8.00	0.70 0.80 0.90 1.00

*) = Permitted ± deviation at arbitrary point in relation to nominal dimension.

**) = Permitted length variation (depending on flatness and parallelism error).

Steel rules and squares

Steel rules and squares



Art. no.	2702	-0106	-0205	-0304	-0403	-0502	-0601
Length.....	mm	100	150	200	300	500	1000
Widthxthickness	mm	13x0.5	13x0.5	13x0.5	13x0.5	18x0.5	18x0.5

Steel rules

Of matt chromium-plated, stainless steel. **Extra thin** and bendable. Graduated in mm/mm on top and bottom edge.



Art. no.	2703	-0055	-0105	-0204	-0303
Length.....	mm	150	300	500	1000
Widthxthickness	mm	15x0.5	25x1.0	30x1.2	35x1.5

Hardened **stainless** steel. Matt chromium-plated, non-glare scale. Graduated on one side - top in mm/mm, bottom in inches.



Art. no.	8427	-0107	-0206	-0305	-0404	-0503	-0602
Length.....	mm	150	300	600	1000	2000	3000
Widthxthickness	mm	15x0.5	25x1	30x1.2	35x1.5	40x2	40x3
Precision	mm	±0.12	±0.13	±0.16	±0.20	±0.30	±0.40

Hardened **stainless** steel. With matt, chromium-plated surface for non-glare reading. Graduated in mm on top edge and half mm on bottom edge. Blank back.



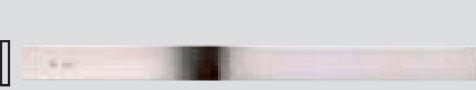
Graduated top edge	2706	-0102	-0201	-0300	-0409	-0508
Length	mm	500	1000	1500	2000	3000
Widthxthickness	mm	25x5	30x6	30x6	40x8	40x8

Dito calibrated	2706	-	-0250	-	-0458	-
------------------------------	-------------	---	--------------	---	--------------	---

Engineers rules



Of steel. Ground faces. Tolerance according to DIN 866/II. Graduated in mm.



Steel rules

All faces bright. Flat faces ground - edges precision gauged. Tolerance according to DIN 874.

DIN 874/2. Rectangular section.

DIN 874/1. 500-2000 mm with rectangular section. 2500-4000 mm with I-section and hand grips.

Calibration certificate included.

Art. no. DIN 874/2	2507	-0103	-0202	-0301	-0400	(-0509)	(-0608)	(-0707)
Length	mm	500	1000	1500	2000	2500*	3000*	4000*
Widthxthickness	mm	30x6	40x8	50x10	60x12	70x15	80x15	100x16
Weight	kg	1.3	2.5	5.8	11.4	14.3	17.1	22.8
Dito DIN 874/1	2507	-1507	-1606	-1705	-1804	(-1903)	(-2000)	(-2109)
Widthxthickness	mm	40x8	50x10	60x12	70x15	80x15	100x16	120x20
Weight	kg	1.3	4.0	8.4	12.0	17.0	28.0	35.0

*Length 2500-4000 according to DIN 874/1 has I-section.

Steel rules and squares

Steel rules

Sharp edge rules

Suitable for checking flatness. Tempered special steel. Smooth ground faces and polished edge. Insulation to counteract heat from hand. The measurement edge has a 30° angle and is black for better contrast. Tolerance according to DIN 874/00.
Supplied in a wooden box.



Art. no.	5209	-0107	-0206	-0305	-0404
Length	mm	75	100	200	300
Width x thickness	mm	22x6	22x6	22x6	30x7
Weight	g	40	60	120	750

Workshop squares

Sliding bevels



Of steel. Ground and polished. The blade folds into the leg. With wing nut.

Art. no.	2544	-1007	-1106	-1205	-1304
Leg length.....	mm	200	300	400	500
Leg cross-section	mm	25x5	25x5	30x5	30x5

Flat squares

Zinc plated steel. With uniformly thick legs. All faces machined. 3rd quality.

Long leg mm	Short leg mm	Width x thickness mm	Right-angled ±µm	Art. no.
150	100	25x5	55	-0109
200	130	25x5	60	-0208
300	175	25x5	70	-0307
400	230	25x5	80	-0406
500	250	25x5	90	-0505
600	300	25x5	100	-0604



Zinc plated steel.

Long leg mm	Short leg mm	Dimension mm	Art no
750	375	30x5	-1001
1000	500	30x5	-1100
1500	750	30x5	-1209
2000	1000	40x5	-1308



With equally thick legs. Of steel. All faces ground and polished.

Long leg. mm	Short leg. mm	Width x thickness mm	DIN 875/2 Art. no. 2533
75	50	15x4	-1505
100	70	20x5	-1604
150	100	25x6	-1703
200	130	30x7	-1802
300	200	40x8	-1901
400	265	45x10	-2008



Base squares

Zinc plated steel. Legs with a uniform thickness and horizontal underside. The base is attached by soldering in the milled slot. All faces machined. 3-quality.

Long leg mm	Short leg mm	Width X thickness mm	Base width mm	Right-angled ±µm	Art. no.
150	100	25x5	22	55	-0108
200	130	25x5	22	60	-0207
300	175	25x5	22	70	-0306
400	230	25x5	22	80	-0405
500	250	25x5	22	90	-0504
600	300	25x5	22	100	-0603



Steel rules and squares

Steel rules and squares



Workshop squares

Base squares

Of steel. Precision design. All faces ground. Manufactured according to tolerance DIN 875/2.

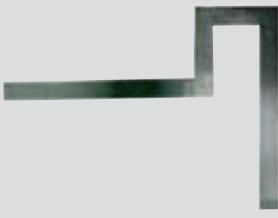
Long leg. mm	Short leg. mm	Width x thickness mm	Base width mm	DIN 875/2 <i>Art. no.</i> 2534	Calibrated <i>Art. no.</i> 2534
100	70	20x5	20	-2007	-
200	130	30x7	30	-2106	-1553
300	200	40x8	40	-2205	-1652
400	265	40x10	45	-2304	-



Made of tool steel. With ground edges. The base is screwed in position.

Long leg mm	Short leg mm	Dimension mm	<i>Art. no.</i>
750	375	30x5	19016
1000	500	30x5	-1000
1500	750	30x5	-1109
2000	1000	40x5	-1208
			-1307

Flange squares



To adjust and control flange on pipes. Chromed pattern steel.

<i>Art. no.</i>	2541	<i>Dimension</i>	-1000	<i>Max. flange</i>	-1109	-1208
Dimension	mm	300x300	400x400	100x60	124x65	500x500
	mm					124x65

Engineer's square



Made of tool steel. All sides precision machined. DIN 875/2.

<i>Art. no.</i>	16246	-0109	-0208	-0307	-0406
Long leg.....	mm	75	100	150	200
Long shank diam.....	mm	20x1.5	20x1.5	25x1.5	25x1.5
Short leg.....	mm	50	70	100	130
Short shank diam.	mm	20x9	20x9	25x11	25x12.5
<i>Art. no.</i>	16246	-0505	-0604	-0703	-0802
Long leg.....	mm	260	300	400	500
Long shank diam.....	mm	30x2	30x2	38x25	50x2
Short leg.....	mm	160	175	250	265
Short shank diam.	mm	30x17.5	30x19	38x19	50x21
<i>Set of 4 squares</i>	16246	-0901			
Sizes	mm				
		75x50, 100x70, 150x100, 200x130			

Steel rules and squares

Workshop squares

Sharp edge squares

Of hardened steel. Smooth ground faces and polished edge. Equally thick legs. Tolerance according to DIN 875/00.

Long leg mm	Short leg mm	Width x thickness mm	DIN 875/00 Art. no. 5217
50	40	13.5x4	-1006
75	50	15x4	-1105
100	70	20x5	-1204
150	100	25x6	-1303
200	130	30x7	-1402



Adjustable squares

Adjustable stop along a graduated steel rule. Tolerance according to DIN 875/2.

Art. no.	2542	-0107	-0206
Steel rule, length	mm	100	150
Adjustable stop, length.....	mm	70	100



Centre square

Of steel. Intended for round workpieces, but can also be used as stock or T-squares.

Art. no.	2542	-0209
Blade length	mm	200
Stock length.....	mm	150



Protractors

Of sheet metal. The disc is graduated from 0-180° in both directions. Supplied with circular or rectangular disc. With locking nut.

Art. no.	2549	-0103
Disc shape	mm	Circular
Disc diameter	mm	85
Leg length	mm	150



Of steel. Disc graduated from 0-180°. Matt chromium-plated. With locking screw.

Art. no.	2548	-0104	-0203	-0302	-0401
Disc diameter	mm	80	120	150	200
Leg length	mm	120	150	200	300



Precision design. Of steel. Graduated from 10-170°. The leg slides and can be locked in the required position along the full blade.

Art. no.	2550	-0109	-0208	-0406
Disc diameter.....	mm	150	200	300
Leg length	mm	300	400	600



Steel rules and squares

Steel rules and squares

Universal protractors

Digital angle gauge. Spirit level vial on top. Display with large digits. The display can be reset in all positions and switches to absolute value. Hold button for freezing of the measurement value. The arm is lockable using the lock knob which can be moved in different positions.
Supplied with 1 battery 3 volt, type 2032.



Art. no.	16658	-0100
Reading.....	mm	0-360°
Graduation		0.1°
Precision		±0.25°
Jaw length.....	mm	250
Digit height		13



Of stainless steel. Protractor has the entire circumference graduated 0-90° in both directions and can be set at the required angle against the stop. Provided with magnifying glass for simple reading. With vernier for reading 1/12° = 5 minutes. The sliding blades can be locked with locking nuts. Supplied with two replaceable blades.

Art. no.	12258	-0103
Blade length	mm	150 and 300



Precision design. Dial with a rotating scale for approximate readings and a pointer for accurate readings gives simple and reliable results. Sliding rule and angle stop included. Can be used through 360 degrees.

Art. no.	11919	-0106
Rotating scale	degrees	10-20-30-40-50 etc.
One pointer turn =	degrees	10
Pitch	min	5
Rule length	mm	300
Angle stop	mm	65



Digital angle gauge. Manufactured of stainless steel. Reading alternatives 0-360°, 0-180° or 0-90°. Can be reset in all positions. Freezing of the measurement value. 2 rulers 150 and 300 mm. Setting angle 90°.

Art. no.	15127	-0105
Reading	mm	0-360°, 0-180° or 0-90°
Resolution		0.1°
Precision		±0.2°
Length of rules		150 and 300



Combined square

With protractor, angle stop and centre head. All parts slide on the graduated rule. Vial on the protractor and angle stop. The rule is graduated in millimetre and imperial measures.

Art. no.	11918	-0107
Protractor	degrees	0-180
Rule length	mm	300
Angle stop length.....	mm	110
Centre head length	mm	63
Extra rule 300 mm	11918	-0156
Extra rule 600 mm	11918	-0206
Spare part set (screw/spring/nut)	11918	-0305

Steel rules and squares

V blocks

Of stress-free cast iron. Precision machined in pairs. Parallelism of base and V-groove, max 0.03 mm. V-groove angle 90°.

Art. no.	2502	-0108	-0207	-0405	-0603
Width	mm 75	100	150	205	
Height	mm 60	65	90	140	
Thickness	mm 32	41	63	100	
V-groove width	mm 44	50	82	100	
V-groove depth	mm 23	28	39	56	



Precision design. For clamping when drilling, milling, grinding or measuring. Manufactured in pairs of hardened and smooth ground steel. Supplied in sets, with 2 blocks and 2 clamps..

Art. no.	5252	-0202	-0301	-0400
Clamping diam. max	mm 25	37	40	
Lengthxwidthxheight	mm 40x32x32	50x37x37	75x55x55	



Engineers surface plates

Manufactured of well-aged cast iron. Stable construction. Grained to tolerance DIN 876/1

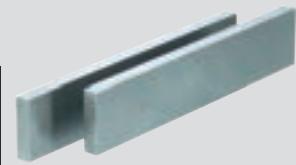
Art. no.	19017	-1009	-1108	-1207	-1306
Dimension	mm 200x200	300x300	400x400	600x500	
Weight	kg 7	19	27	59	



Parallel blocks

Set of 8 pairs. Ground in pairs. Hardened steel HRC 55-62. Parallelism tolerance. ±0.005 mm.

Art. no.	15153	-1001	-1100	-1209
Length	mm 120	160	200	
Thickness	mm 8	8	8	
Height	mm 12, 17, 22, 25, 28, 32, 36, 38	12, 17, 22, 25, 28, 32, 36, 38	12, 22, 25, 28, 32, 36, 38, 43	



Gauge blocks

Manufactured of hardened, special steel. Ground and hand polished. Supplied in wooden case.

DIN 861/2. Suitable for checking and setting dial indicators and workshop gauges etc.

DIN 861/1. Suitable for checking gauges and measuring instruments, and inspection work in instrument departments.

Only sold in complete sets.

Total number of blocks	ea. 47		87
Measuring range	mm 1.005		1.001-1.009
Number of blocks (range)	unit 1 (0.005 mm)		9 (0.001 mm)
Measuring range	mm 1.01-1.20		1.01-1.49
Number of blocks (range)	unit 20 (0.01 mm)		49 (0.01 mm)
Measuring range	mm 1.30-1.90		0.50-9.50
Number of blocks (range)	unit 7 (0.10 mm)		19 (0.50 mm)
Measuring range	mm 1.00-9.00		-
Number of blocks (range)	unit 9 (1.00 mm)		-
Measuring range	mm 10.00-100.00		10.00-100.00
Number of blocks (range)	unit 10 (10.00 mm)		10 (10.00 mm)
 DIN 861/2	5272	-0109	-0208
 DIN 861/1	5272	-0307	(-0406)



Angle block set

Set of 12 angle blocks for measurement, inspection and setting of machines, tools or angle gauges. The block is precision ground and manufactured of hardened special steel. Semi-magnetic for easy application in combination with each other or against the workpiece. Angle accuracy ±0.01 mm per 100 mm.

Supplied in case.

Art. no.	15323	-0107
Squares	1/4°, 1/2°, 1°, 2°, 3°, 4°, 5°, 10°, 15°, 20°, 25°, 30°	
Block length	mm 76	



Steel rules and squares

Steel rules and squares

Machine levels

Digital precision levels

Digital spirit level and angle gauge. Magnetic on the base. Can be reset in all positions. Absolute function, which means that the value can shift between the actual 0-value and a second 0-value. The measurement can be frozen in the desired position. Automatic switching off.



Art. no.	17425	-0100
Dimensions	mm	50x50x32
Reading	degrees	0-180
Resolution		0.1
Precision.....		±0.3
Enclosure protection class.....		IP54
Battery.....		3V type CR 2032



Mini digital level and protractor. The display shows two values. One absolute value and one relative value. Flip up display for easy reading from above. Zero setting in any position. Hold function to freeze the value. Magnet on base for fitting on saw blades, steel frames etc. Automatic off after 3 minutes.

Art. no.	17425	-0209
Dimension.....	mm	60x50x32
Range		0-180°
Min reading		0.1°
Accuracy		±0.3°
Dust/water proof.....		IP 54
Battery.....		2 pc 1.5V type AAA



Digital spirit level and angle gauge. Magnetic with V-groove on the base. Can be reset in all positions. Absolute function, which means that the value can shift between the actual 0-value and a second 0-value. The measurement can be frozen in the desired position. Automatic switching off.

Art. no.	17426	-0109
Dimensions	mm	150x60x31
Reading	degrees	0-180
Resolution		0.1
Precision.....		±0.3
Enclosure protection class.....		IP 54
Battery.....		3V type CR 2032



Even levels

Precision level of cast iron. Adjustable, graduated longitudinal and transverse vials. Precision in accordance with DIN 877. V-groove in contact surface.

Art. no.	0749	-0055	-0154	-0204	-0402
Length	mm	100	150	200	200
Scale	mm	0.05	0.05	0.10	0.02
Width×height	mm	35×30	44×40	46×46	46×46
Noggrannhet	±mm/m	0.025	0.025	0.025	0.005

Frame levels



Precision level of cast iron. Adjustable, graduated longitudinal and transverse vials. Precision in accordance with DIN 877. V-groove in contact surface.

Art. no.	0757	-0039	-0054	-0104	-0203
Length	mm	100	150	200	200
Height	mm	100	150	200	200
Scale	mm/m	0.05	0.05	0.10	0.02
Noggrannhet	±mm/m	0.025	0.025	0.025	0.005



Scribing and marking

Scribes / Marking



Grinding gauge

Used for grinding twist drills. Graduated up to 25 mm.

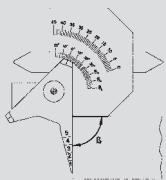
Art. no.	2565	-0102
For drills up to	mm	50
Nose angle		118°



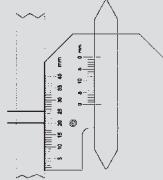
Welding gauges

With 12 blades for measuring the height of plane welding joints. Bright.

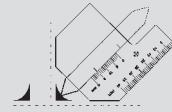
Art. no.	7403	-1006
Measuring range	mm	3-12



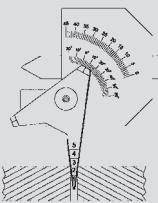
Angle measuring 70°-90°-150°



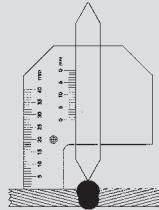
Steel rule 0-40 mm



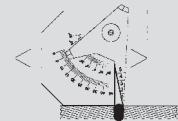
Welding joint measuring 0-10 mm



Diameter of hole 1-5 mm



Height 0-10 mm

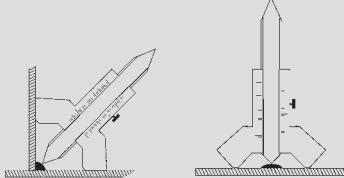


Width 0-45 mm

For measuring of welding joints in corner. Heights of welding joints. Height gauge. Material thickness. Angle measuring. Distance between plates. Hole diameter.

Supplied in plastic wallet.

Art. no.	9754	-1007
Limit	mm	Combi
Welding joint	mm	0-10
Height measurement	mm	0-10
Length	mm	45
Angle	mm	70°-90°-150°
Hole diameter	mm	1-5



For measuring the height of plane weld joints, and the height in corners. Of steel. Graduated in mm and with 1/10 mm vernier. Apices 60°-70°-80°-90°.

Art. no.	2569	-0108
Length of graduation	mm	20

Scribes / Marking

Thread gauges

Hardened. For Whitworth or metric thread system, and for checking of turning centres.

Art. no.	2575	-1009		-1108	
Thread gauge		55°		60°	
Thread system		W		M+UN	



Universal. For V-threads, square and acme threads.

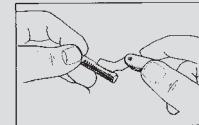
Art. no.	2577	-1007	
Thread gauges (V-threads)		55° and 60°	
For number of threads (square threads)	per inch	2 2.5 3 3.5 4 4.5 5 6 7 8	
For pitches (acme thread 30°)	mm	2 3 4 5 6 7 8 9 10 12	



Screw pitch gauges

Hardened. With folding blades. For internal and external measurements.

Art. no.	2580	-1002	-1101	-1200	-1309	-1408	
Thread system.....		W	M	M/UNC	UNC-	UNF	T-pipe (R)
Thread gauge		55°	60°	60°	60°	60°	55°
No. of blades	ea.	28	24	55	30	30	6
For no. of threads	per inch	4-62	-	4-42	4-42	4-42	8-28
For pitches.....	mm	-	0.25-6	0.25-6	-	-	-

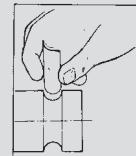


Radius gauges



With folding blades for measuring radii on concave and convex surfaces.

Art. no.	2584	-1008	-1107	-1206	
For radii	mm	1-7	7.5-15	15.5-25	
No. of blades.....	ea.	17+17	16+16	15+15	
Intervals.....	mm	(1-3)=0.25 (3-17)=0.5	0.5	(15.5-20)=0.5 (20-25)=1	



Angle gauges

With folding blades of steel. The blade ends are bevelled at various angles.

Art. no.	2586	-1006	
No. of blades	ea.	18	
For angles, degrees		1 2 3 4 5 7 8 9 10 12	
		14 16 18 20 25 30 40 45	



Scribes / Marking



Hole size gauges

For measuring and inspection of hole diameters or slot widths. Stainless steel with matt chromium-plated scale.

Art. no.	1441	-1003
Measuring range	mm	1-15
Graduation	mm	0.1
Scale length	mm	120
Thickness	mm	1.2



Taper of measuring needle 1:10. Direct reading 0.1 mm and vernier reading 0.01 mm. The needle is precision hardened and ground. With protective sleeve. Nickel-plated.

Art. no.	2641	-0209
Orig. no.	mm	2
For diameter.....		0-5



Drill and wire gauge

For drill and wire diameters with mm dimensions.

Art. no.	2590	-0309
Hole diameter	mm	0.1-10
Intervals	mm	0.1
No. of holes	ea.	100
Thickness	mm	2



Surface gauge

For comparative determination of surface smoothness or scraping with finger tip. For machine operators, inspectors and designers etc. 6 different methods and 6 Ra values each. Manufactured of stainless steel alloy. Scratch resistant.

Art. no.	5370	-0100
Polishing		
Broaching		
Surface grinding	Ra	1.6 0.8 0.4 0.2 0.1 0.005
Horizontal milling		
End face milling		
Straight-turning	Ra	12.5 6.3 3.2 1.6 0.8 0.4



Profile patterns

For impression of required profile, where curved and irregular lines are to be formed. For carpet and floor laying, manufacturing of shelves and benches, and turning etc. Round gauges of stainless steel.

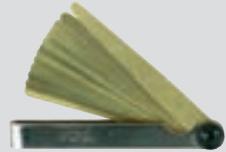
Art. no.	9739	-0108
Length	mm	150
Max profile depth	mm	48

Scribes / Marking

Feeler gauges

With blades of **brass** in mm dimensions. Nickel-plated, lockable holder and tapered blades.

Art. no.	6792	-1007	-1106	-1205
No. of blades.....	unit	8	13	20
Measuring range	mm	0.05-0.50	0.05-1.00	0.05-1.00
Blade length	mm	100	100	100



With blades in mm dimensions. For measuring slots and bearing play, etc. With nickel-plated, lockable holder, tapered blades.

Blade length 100 mm	2595	-3001	-3100	-3209	-3308	-3407	-0601
Range of measuring.....	mm	0.03-0.10	0.05-0.50	0.10-0.50	0.05-1.00	0.05-1.00	0.10-2.00
No. of blades.....		8	8	21	13	20	20
Blade length 200 mm	2595	-	-	-	-3506	-3605	-1104
Range of measuring.....	mm	-	-	-	0.05-1.00	0.05-1.00	0.10-2.00
No. of blades.....		-	-	-	13	20	20



Calibrated. Tolerance according to DIN 2275. Certificate included. Calibrated at two measuring points per blade. Blades in mm dimensions. For measuring slots and bearing play, etc. With nickel-plated, lockable holder.

Art. no.	2595	-2003	-2102	-2201
No. of blades.....	unit	8	13	20
Measuring range	mm	0.03-0.10	0.05-1.00	0.05-1.00
Blade length	mm	100	100	100



Calibrated

With blades in mm dimensions. Held in key ring. Cylindrical blades.

Art. no.	2597	-1003
Orig. no.		133
No. of blades	ea.	13
Measuring range	mm	0.05-1.00
Blade width.....	mm	12.7
Blade length.....	mm	300



Scribes / Marking



Feeler strips

Cold-rolled, hardened and polished bright. With rounded edges. Etched dimensions every 150 mm. Supplied in plastic boxes (thicknesses over 0.60 mm in metal boxes). Length per box, 3 m. Width 13 mm. (Other widths on request.)

Art. no.	2599	-0052	-0102	-0201	-0300	-0409
Blade thickness	mm 0.01		0.02	0.03	0.04	0.05
Tolerance	mm ± 0.004		± 0.004	± 0.004	± 0.004	± 0.004
Art. no.	2599	-0508	-0607	-0706	-0805	-0904
Blade thickness	mm 0.06		0.07	0.08	0.09	0.10
Tolerance	mm ± 0.004		± 0.004	± 0.004	± 0.004	± 0.005
Art. no.	2599	-1308	-1506	-1605	-1704	-1902
Blade thickness	mm 0.15		0.20	0.25	0.30	0.35
Tolerance	mm ± 0.005		± 0.007	± 0.008	± 0.009	± 0.009
Art. no.	2599	-2009	-2108	-2207	-2405	-2504
Blade thickness	mm 0.40		0.45	0.50	0.60	0.70
Tolerance	mm ± 0.010		± 0.010	± 0.013	± 0.015	± 0.015
Art. no.	2599	-2702	-2801	-2900		
Blade thickness	mm 0.80		0.90	1.00		
Tolerance	mm ± 0.017		± 0.017	± 0.017		

Feeler strip holder

For feeling strips 2599.



Art. no.	2600	-0109
Length	mm 135	
Width	mm 13	

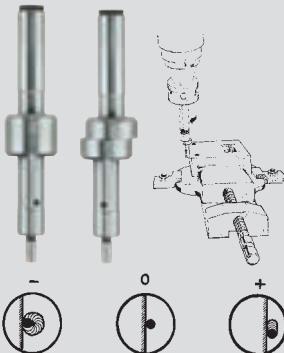


Adjustment cube

Adjustment cube for positioning tools against workpieces or machine tables on milling and drilling machines. Indicator dial shows the spring plate pressure. At "0" the distance is 50 mm. Magnetic base for easy application both vertically and horizontally. Adjustment cube has an integrated calibration mechanism.

Art. no.	15320	-0100
Height	mm 50.00	
Plate travel	mm 3	
Indicator dial graduation	mm 0.01	
Width x length	mm 50 x 50	

Electronic edge finders



Mechanical edge sensor. Simplifies the set-up process and positioning of the tool spindle in relation to the work piece or machine table on the milling machines and drilling machines. The sensor is mounted in the tool spindle's chuck. During rotation the moving contact tip is guided towards the edge of the work piece and the distance between the edge detector and the work piece can be determined.

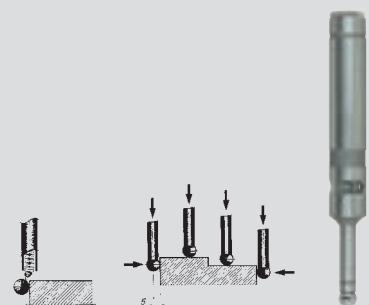
Art. no.	17250	-0100
Contact tip diameter	mm 10.0 / 4.0	
Shank diameter	mm 10.0	
Total length	mm 90	
Precision	mm ± 0.001	

Scribes / Marking

Electronic edge finders

Electronic edge detector. Simplifies the set-up process and positioning of the tool spindle in relation to the work piece or machine table on the milling machines and drilling machines. LED and audio signal indicate contact between the spindle and work piece. Precision manufactured measurement spindle with steel ball that springs laterally.

Art. no.	16711	-0105
Ball diameter	mm	10.00
Shank diameter	mm	20
Total length	mm	157
Precision	mm	± 0.005
Battery		2 x 1.5V LR01



Digital Linear Scales and Readout



15139-0101



15139-0200



Linear scales

For setting and positioning on lathes and millers.

15139-0101. 3-axis display unit for millers. The display unit features functions for radius milling, angle milling, pocket milling, linear and circular hole patterns, tool compensation, etc. Memory for 200 coordinate settings. Complete including arm and assembly accessories.

15139-0200. 2-axis display unit for lathes. The display unit features functions for radius/diameter setting, tool exchange, measures tapers. Memory for 200 coordinate settings. Complete including arm and assembly accessories.

The equipment conforms to the CE low voltage directive 73/23/EEC and 89/336/EEC.

Linear scales with photoelectric reading technique. Complete incl. cable, protective plate and assembly accessories.

Display unit	15139	-0101	-0200
Limit	No	DRO-3M	DRO-2L
Intended for.		miller	lathe
Resolution	mm	0,005	0,005
Precision	mm	$\pm 0,005$	$\pm 0,005$
Power supply	V	240	240
Working temperature	°C	0-45	0-45
Storage temperature	°C	-30 - 70	-30 - 70
Relative humidity max		90%	90%
Enclosure class		IP53	IP53

Linear scales	15139	-0309	-0408	-0507	-0606	-0705	-0804	-0903	-1000
Measurement length	mm	150	200	250	300	400	500	600	700
Total length	mm	290	340	390	440	540	640	740	840
Height x thickness incl. saddle	mm	53x22							
Securing holes c-c	mm	274	324	374	424	524	624	724	824

Linear scales	15139	-1109	-1208	-1307	-1406	-1505	-1604	-1703	-1802
Measurement length	mm	800	900	1000	1200	1400	1600	1800	2000
Total length	mm	940	1040	1140	1350	1550	1750	1950	2150
Height x thickness incl. saddle	mm	53x22	53x22	53x22	28x66	28x66	28x66	28x66	28x66
Securing holes c-c	mm	924	1024	1124	1330	1530	1730	1930	2130

Scribing and marking

Scribing and marking



Tachometer

Digital reading. Combined photo measuring alternative mechanical contact measuring.
Photo measuring. Point the instrument against a reflecting tape or contrast part on the rotating object. Measuring distance 50-150 mm.
Contact measuring. Measuring rev/min or surface speed. Press measuring ring/point against center of the rotation object for rpm reading. Alternative press measuring wheel against surface of the object for speed reading.
 Memory for last measured value and max and min value.
 Supplied with english manual. Batteries ar not included.
 Battery 4 pcs 1.5V LR06.

Art. no.	13237	-0107
Limit.	No	R 2000
Range: Photo	rpm	2.5-100 000
Contact	rpm	2.5-20 000
Contact	m/min	0.05-2000
Contact	ft/min	0.02-6560
Spare reflecting tape 5x350 mm	13237	-0206
Spare measuring points 3 pcs	13237	-0305



Torque tester

Torque Check. Digital measurement instrument designed to check torque wrenches. Robust and easy. Accuracy is $\pm 1\%$ of the measurement value. The instrument is available in two variants: 10-350 Nm or 100-1000 Nm. As standard supplied with factory calibration certificate clockwise.

Art. no.	13528	-0105	-0204
Limit	No	TC 350	TC 1000
Torque range	Nm	10-350	100-1000
Torque range	lbf-ft	7.5-265	75-750
Drive	inch	$\frac{1}{2}$ "	$\frac{3}{4}$ \diamond ext.

Scribes / Marking

Rubber hardness tester

Measures soft materials, hardness e.g. rubber, soft plastic materials, leather etc. A spring loaded measurement tip is held against the material and the hardness is stated in Shore A. The measurement surface should be relatively flat and the measurement surface size at least 12 mm in diameter and the measurement is made at least 12 mm from the outer edge. Calibration can be done with the enclosed test block. The instrument has a mean value function for 2 to 9 measurements. Automatic shutoff after 1 minute. The instrument follows the standards according to DIN 53505, ISO 868, ASTM D 2240.

Art. no.	14485	-0104
Limit	No	4000
Measurement range	Shore A	0-100
Min. material thickness	mm	6
Precision	%	±1
Working temperature	°C	0-50
Relative humidity	% RH	0-80
Batteries	V	1.5 (4 x LR 03 AAA)
Weight	g	170



Vibrometer

For measuring speed and acceleration and movement

Vibration meter for control of machines, electric and pneumatic hand tools, etc. To measure the vibration is an important way to prevent ergonomic human injuries, and to prevent future maintenance on the machines. Easy to use, attach the magnetic sensor on the machine, press the button and read the measured value. Supplied complete with sensor and manual.

Art. no.	19037	-0106
Limit	No	4800
Acceleration	m/s ²	0-199
Min reading		0,1
Velocity	mm/s	0-200
Min reading		0,1
Displacement	μm	2000
Min reading		1
Battery		1 pc 9V type 6F22
Sensor diameter	mm	25
Dimension	mm	160x68x30
Weight	g	200



Coating thickness gauge

Measures layer thickness of lacquer, plastic, zinc, etc. on different metals. Can measure both on underlying magnetic metals and non-magnetic metals such as copper, aluminium, stainless steel, etc. Easy to calibrate with supplied control coatings. Instructions included. Automatic switching off after 2 minutes.

Art. no.	14483	-0106
Limit	No	5100
Measurement range	μm	0-1000
Resolution 0-100	μm	0,1
Resolution 100-1000	μm	1
Precision		±2.5 μm or 1-3%
Batteries 1.5 V		4 x LR03 AAA
Dimensions	mm	161x69x32
Weight	g	200
Control films 4	14483	-0205



Scribing and marking

Scribes / Marking



Ultrasound thickness gauge

Digital instrument that measures material thickness using ultrasound technology on most homogeneous materials. To measure material thickness using ultrasound technology is very suitable when access is only possible from one side. E.g. pipes, tanks, cisterns, glass structures, etc. Suitable materials to measure material thickness with ultrasound technology are metals, glass and plastics. The condition is that the material is homogeneous, that both sides are parallel and that the surfaces are not too uneven. Automatic switching off after 2 minutes. Instructions included.

Art. no.	14484	-0105
Limit	No	5500
Measurement range	mm	1.2-200
Resolution	mm	0,1
Measurement sensor Ø	mm	10
Accuracy 1-10 mm	mm	±0,4
Accuracy 10-100 mm	mm	±0,4 + 1%
Accuracy 100-250 mm	mm	±3%
Working temperature	°C	0-50
Relative humidity	% RH	0-80
Batteries		4 x 1.5V LR03 AAA
Weight	g	165
Extra probe 8 mm	14484	-0204

Scribes

Double ended

With one straight and one bent point. Hardened. Round, knurled holder. Separately packed in plastic case.

Art. no.	5253	-0102	-0201
Type		Steel point	Hard metal point
Length	mm	240	240
Diameter	mm	4	4

With clip

With hard metal point. Hexagonal, smooth handle. With clip.

Art. no.	2474	-1001
Length	mm	150
Diameter	mm	6
Ditto 10-pack	2474	-0201

With hard metal point. Round, knurled handle. With clip.

Art. no.	2475	-0101
Length	mm	130
Diameter	mm	7

Propelling pen with automatic locking. Point of hard metal. With clip.

Scriber	2482	-1001
Length	mm	150
Extra hard point for 2482-0102	2482	-0201
Length x diameter	mm	20x2

With automatic punch marker

For both scribing and centre punching. Pressing the tip in the pen releases the mainspring for the centre punch. Tip of chrome vanadium steel. Rubber grip.

Scriber	10230	-0100
Length	mm	140
Extra tips	10230	-0209
Length x diameter	mm	40x3

Scribes / Marking

Scribes

With handle

With hard metal tip. The blade is reversible and can be pushed into the holder. With plastic holder.



Scriber	2485	-0109	
Blade length, overall	mm	90	
Diameter	mm	7	
Extra hard metal blade, art. no.	2485	-0208	

Surface gauges

Round base. Holder for lifting and lowering scriber. With one straight and one bent steel point.



With fine adjustment

Heavy duty base with V-groove in bottom. The base has two through guide pins. The spindle is mounted in a rocker arm, with screw for fine adjusting. With one straight and one bent steel point.



Marking gauges

Marking gauge

Made of steel. Scale graduated in millimetres. Enamelled. Supplied complete with lead-pencil.



Art. no.	2396	-0107	
Length of graduation	mm	90	

For scribing with scriber to edge. Graduated scale. Hardened scribing edge.



Art. no.	2379	-0108	-0207
Adjustable length	mm	0-200 40	0-300 40
Width	mm		

For metal

Of stainless steel. Measuring rod and slide as sliding calliper. Roller housed in ball bearings as stock when scribing to edge of workpiece. Graduated in mm with vernier scale $\frac{1}{10}$ mm of 39 mm length. Replaceable hardened scriber.



Supplied in plastic case.

Art. no.	9717	-0104	
Measurement length	mm	200	
Scriber diam.	mm	2.0	
Scriber length	mm	32	
Extra scriber	9717	-0203	
Size	mm	$\varnothing 2.0 \times 30$	

Scribing and marking

Scribes / Marking

Marking gauges

For metal



Chromed scale and round beam. Round contact plate made from cast iron. Fine adjustment and interchangeable scriber. Reading 0,1 mm.

<i>Art. no.</i>	2413	-1005	
Length	mm	300	
<i>Extra scribe</i>	2413	-1104	



Combined dividers and sliding calipers

Of steel. Precision design. With hardened and ground points. Graduated in mm with 1/10 mm vernier.

<i>Art. no.</i>	2436	-0208	
Length	mm	200	
Length of points	mm	45	



Bar calipers

Flat beam and with fine adjustment. Interchangeable hardened scriber. Reading 0,1 mm.

<i>Art. no.</i>	2420	-2004	-2103	-2202	-2301	
Length	mm	500	1000	1500	2000	
Max. diameter	mm	1000	2000	3000	4000	
<i>Extra ritsspetsar (1 par)</i>	2420	-2400	-2400	-2400	-2400	



Compasses

For pencils

Wing divider. Of steel. Rectangular shanks. With side-mounted arc and holder for pencil. Supplied without pencil.

<i>Art. no.</i>	2428	-0109		-0208	
Length	mm	175		300	
Max grip width	mm	190		350	



Dividers

Of steel. Rectangular shanks. With hardened points.

<i>Art. no.</i>	2432	-0400		-0707	
Length	mm	200		300	
Max grip width	mm	380		580	



Wing dividers

Of steel. Rectangular shanks. With hardened points. Side-mounted arc. Length 400-500 mm. With round shanks.

<i>Art. no.</i>	2429	-0207	-0405	-0702	-0801	-1007	
Length	mm	150	200	300	400	500	
Max grip width	mm	170	235	390	545	670	

Scribes / Marking

Compasses

Outside calipers

With flat shanks and adjusting nut.

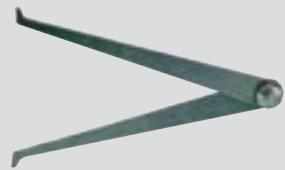
Art. no.....	2439	-0502	-0700	-1005	-1104
Length	mm 200	300	500	800	1250
Max. size	mm 300	500	850		



Inside calipers

With flat shanks and adjusting nut.

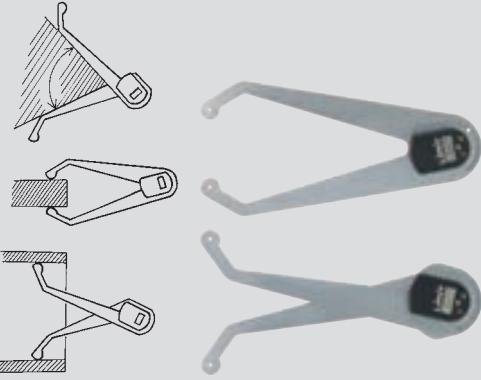
Art. no.....	2440	-0509	-0707	-1002
Length.....	mm 200	300	500	
Max. size	mm 370	570	950	



Inside and outside reading digital caliper

Trikometer. Caliper with digital reading of inside and outside thickness/diameter measuring. Can also measure angles. Suitable for measuring larger pipes, buildings materials etc. Hold funktion to freeze the measure value.

Art. no.....	19020	-0105
Arm length.....	mm 400	
Outside measuring range	mm 0-570	
Inside measuring range	mm 35-600	
Reading.....	mm 0.1	
Accuracy	mm ±1	
Angles	degrees 0-180°	
Reading	degrees 0.05	
Avgcuracy	degrees ±1°	



Spring dividers and calipers

Outside calipers. With flat shanks and hardened points. Fitted with adjusting nut.

Art. no.....	2443	-0407	-0506	-0704
Length.....	mm 150	200	300	
Max. size	mm 125	170	250	



Dividers. With flat shanks and hardened points. Fitted with adjusting nut.

Art. no.....	2444	-0406	-0505	-0703
Length.....	mm 150	200	300	
Max. size	mm 150	190	275	



Inside calipers. With flat shanks and hardened points. Fitted with adjusting nut.

Art. no.....	2445	-0405	-0504	-0702
Length.....	mm 150	200	300	
Max. size	mm 150	180	260	





5



F



Scribes / Marking

Number punches

No 1733. For iron and metal. Nine stamps. For stamping in materials with a tensile strength of up to 150 kp/mm². Hardened on the engraving side in accordance with HRC 60-63. In plastic boxes.

No 5175. For hard steel. Nine stamps. Fully ground. For stamping in materials with a tensile strength of up to 200 kp/mm². Hardened on the engraving side in accordance with HRC 60-61. In plastic boxes.

Spare numbers.

Minimum sorted number 5.

Number height mm	No 1733		No 5175	
	Art. no. 1733	Shank square mm	Art. no. 5175	Shank square mm
2	-0101	6	-0107	7
3	-0200	6	-0206	8
4	-0309	7	-0305	9
5	-0408	8	-0404	10
6	-0507	9	-0503	12
8	-0606	11	-0602	14
10	-0705	12	-0701	16
12	-0804	14	-	-
15	-0903	16	-	-

Letter punches

Alphabetical punches

No 1735. For iron and metal. Letters A-Z. For stamping in materials with a tensile strength of up to 150 kp/mm². Hardened on the engraving side in accordance with HRC 60-63. In plastic boxes.

No 5176. For hard steel. A-Z and & characters. Fully ground. For stamping in materials with a tensile strength of up to 200 kp/mm². Hardened on the engraving side in accordance with HRC 60-61. In plastic boxes.

Spare letters.

Minimum sorted number 5.

Letter height mm	No 1735		No 5176	
	Art. no. 1735	Shank square mm	Art. no. 5176	Shank square mm
2	-0109	6	-0106	7
3	-0208	6	-0205	8
4	-0307	7	-0304	9
5	-0406	8	-0403	10
6	-0505	9	-0502	12
8	-0604	11	-0601	14
10	-0703	12	-0700	16
12	-0802	14	-	-
15	-0901	16	-	-

Stamp sets

Complete sets in steel with holder and interchangeable types. The types are hardened for stamping in hard materials. Types hardened to HRC 37. The width of the holders permits insertion of 6-10 types at the same time. Supplied complete with 100 type – 58 letters, 35 digits and special characters, plus a number of blank types for spacing. Key and pincers also included. In wooden case.

Spare letters and digits.

Minimum sorted number 5.

Art. no.	5889	-0104	-0203	-0302
Type height	mm	3	4	5
Total number of types	mm	100	100	100
Number of types held in holder	mm	10	8	6
Text length	mm	40	40	40



Electric testing and inspection

Multimeters



Digital multimeter in pocketsize with autorange. Measuring DC/AC voltage, resistance, frequency and capacitance. Also diodetest, continuity with buzzer, datahold, relative mode, low battery capacity warning and auto off after 15 minutes.
Supplied complete with testleads, battery, cover and manual.
Max display 3999. Safety isolation CAT II 300 V, IEC 61010.

Art. no.	14488	-0101
Limit	No	200
DC Voltage		400 mV-4-40-300 V
Resolution		0.1 mV
Accuracy		±0.8% + 1 digit
AC Voltage		4-40-300 V
Resolution		1 mV
Accuracy		±1.2% + 3 digits
Resistance		400 Ω-4-40 KΩ-4-40 MΩ
Recipution		0.1 Ω
Accuracy		±1% + 2 digits
Capacitance		4-40-400 nF-4-40-200 μF
Resolution		0.001 nF
Accuracy		4% + 3 digits
Frequency		10 Hz-100 KHz
Resolution		0.01 Hz
Accuracy		±0.5% + 3 digits
Duty cycle		0.1 - 99.9%
Battery		1pc 3V (CR2032)
Dimension		108x58x12
Weight	mm	62
	g	



Digital pen multimeter with auto range. Has integrated torch and integrated protected sleeve for the fixed measurement tip. Measures direct/alternating voltage, resistance and capacitance. In addition, diode test and continuity test med buzzer. Hold function. Automatic switching off after 10 minutes. Display lighting and low battery capacity warning. Supplied complete with test cables, batteries and Swedish user guide. Scale length 3000. Insulation CAT III 300 V according to IEC 61010.

Art. no.	16755	-0102
Limit	No	240
Direct voltage		0-3-30-300 V
Max. resolution		0.001 mV
Inaccuracy		±1% +3 digits
Alternating voltage		0-3-30-300 V
Max resolution		0.001 mV
Inaccuracy		±1% +4 digits
Resistance		0-300 Ω-3-30-300 kΩ-3-30 MΩ
Max resolution		0.1 Ω
Inaccuracy		±1% + 3 digits
Capacitance		3-30-300 nF-3-30-300 μF-3mF
Max resolution		0.001 nF
Inaccuracy		±3% + 5 digits
Working temperature		0-4 0°C
Storage temperature		-10 - +50 °C
Battery		1 x 3V CR2032
Dimensions		20 x 27 x 182 mm
Weight		90 g

Electric testing and inspection

Multimeters

Digital multimeter palmsize and display backlight. Measuring DC/AC voltage, DC current, resistance, temperature. Also diodetest, continuity test with buzzer, datahold, low battery capacity warning.

Supplied completely with test leads, temperature probe for max. 260°C, battery and English manual. Rubber cover and bench stand. Max. display 1999. Safety insulation CAT I 600 V / CAT II 300 V, IEC 61010. Fused to max. 200 mA.



Art. no.	12860	-0103
Limit	No	300
DC voltage	DCV	200-2000 mV- 20-200-500 V
resolution	µV	100
accuracy		± 1.2% + 2
AC voltage	ACV	200-500 V
resolution	µV	100
accuracy	µV	± 1.2% + 10
DC current	DCA	2000 µA-20-200mA-10A
resolution	µA	0.1
accuracy	µA	± 1% + 2
Resistance	Ω	200 Ω -2-20-200 KΩ-20 MΩ
resolution		0.1
accuracy		± 0.8% + 2
Temperature	°C	-40 -+1000
resolution	°C	1
accuracy	°C	± 1% + 3
Battery		1 pcs 9 V (6F22)
Dimension	mm	130x74x35
Weight	g	156
Extra test leads	12860	-0202
Extra temp. probe for max. 260°C	12860	-0301

Digital multimeter with large display, shows correct input for test lead and selected function. Measuring AC/DC voltage, DC/AC current, resistance, capacitance, frequency, temperature. Also diodetest, transistortest, continuity test with buzzer, datahold, low battery capacity warning.

Supplied completely with leads, multi purpose socket, temperature probe type K for max. 260°C and English manual. Rubber cover and bench stand. Max. display 1999. Safety insulation CAT II 1000 V / CAT III 600 V, IEC 61010. Fused to max. 200 mA.



Art. no.	12860	-0106
Limit	No	500
DC voltage	DCV	200 mV-2-200-200-1000 V
resolution	mV	0.1
accuracy		± 0.5% + 1
AC voltage	ACV	2-20-200-1000 V
resolution	mV	1
accuracy	µV	± 0.8% + 3
DC current	DCA	2-200 mA-10 A
resolution	µA	0.01
accuracy		± 0.8% + 1
AC current	ACA	2-200 mA-10 A
resolution	µA	1
accuracy		± 1% + 3
Resistance	Ω	200 Ω -2-20 KΩ-2-20 MΩ
resolution		0.1
accuracy		± 0.8% + 1
Capacitance		2-200 nF-100µF
resolution		1 pF
accuracy		± 4% + 3
Frequency	KHz	2-20
resolution	Hz	1
accuracy		± 1.5% + 5
Temperature	°C	-40 -+1000
resolution	°C	1
accuracy		± 1% + 3
Automatic off after	min	15
Battery		1 pcs 9 V (6F22)
Dimensions	mm	179x88x39
Weight	g	380
Extra test leads	12860	-0202
Extra temp. probe max. 260°C	12860	-0301
Extra multi socket	12859	-0205

Electric testing and inspection



Electric testing and inspection

Multimeters

Digital multimeter. Measuring DC/AC voltage, DC/AC current, resistance, capacitance, frequency temperature. Also diode test, continuity test with buzzer, data hold, low battery capacity warning. Supplied with test leads, battery and manual. Max display 1999. Safety isolation CAT II 600 V / CAT I 1000 V. IEC 61010. Fused to max 20 A.

Art. no.	19018	-0109
Limit	No	400
DC voltage		200 mV-2-20-200-1000 V
Min resolution		100 µV
Accuracy		±0.5% + 1 digits
AC voltage		2-20-200-750 V
Min resolution		1 mV
Accuracy		±0.8% + 3 digits
DC current		2 mA-200 mA-20 A
Resolution		0.01 µA
Accuracy		±0.8% + 1 digits
AC current		2 mA-200 mA-20 A
Resolution		1 µA
Accuracy		±1% + 3 digits
Resistance		200 Ω - 2-20 KΩ - 2-20 MΩ
Min resolution		0.1 Ω
Accuracy		±0.8% + 1 digits
Capacitance		2 - 200 nF - 20 µF
Min resolution		0.01 nF
Accuracy		±4% + 3 digits
Frequency		2 - 20 KHz
Min resolution		1 Hz
Accuracy		±1.5% + 5 digits
Temperature		-40 - 1000 °C
Min resolution		1 °C
Accuracy		4±% + 4 digits
Operation temperature		0-40 °C
Storage temperature		-10 - 50 °C
Battery		1 pc 9 V 6F22
Dimension		172x83x38 mm
Weight		310 g

Digital multimeter for auto and engine mechanics. Large display, shows beside measure value also correct input for test leads and selected function. Measuring DC/AC voltage, DC current, resistance, capacitance, Dwell and engine tach. Also diodetest, continuity test with buzzer, datahold, low battery capacity warning. Supplied completely with test leads and alligator clip, battery and English manual. Rubber cover and bench stand. Max. display 1999. Safety insulation CAT II 1000 V / CAT III 600 V, IEC 61010. Fused to max. 10 A.

Art. no.	12858	-0107
Limit	No	500 Auto
DC voltage	DCV	200 mV-2-200-1000 V
resolution	mV	0.1
accuracy		± 0.5% + 5
AC voltage	V	2-20-200-750 V
resolution	mV	1
accuracy	µV	± 0.8% + 5
DC current	DCA	200 mA-10 A
resolution	mA	0.01
accuracy		± 0.8% + 5
Resistance	Ω	200 Ω-2-20 KΩ-2-20 MΩ
resolution		0.1
accuracy		± 0.8% + 5
Dwell: resolution		0.1°
accuracy		± 3% + 5
Engine tach: resolution	rpm	10
accuracy		± 3% + 5
Battery	mm	1 pcs 9 V (6F22)
Dimension		179x88x39
Weight	g	380
Extra test leads	12860	-0202

Electric testing and inspection

Multimeters

Digital multimeter with both automatic and manual measurement range setting. Analogue bar diagram for quick or instable signals. True RMS for both voltage and amperage when measuring non linear signals. Registering of max. and min. value. Measures direct/alternating voltage, direct/alternating current, resistance, capacitance, frequency. In addition, diode test, continuity test with buzzer, hold function, display lighting and low battery capacity warning. Can be connected to a PC.

Supplied complete with test cables, PC cable with software, batteries and Swedish User Guide. Scale length 6000. Insulation CAT III 1000V/ CAT IV 600 V according to IEC 61010. Fuse protected to 10 A.



Art. no.	15322	-0108
Limit	No	610
Direct voltage		60-600 mV-6-60-600-1000 V
Max resolution		0.10 mV
Inaccuracy		±1% +3 digits
Alternating voltage		60-600 mV-6-60-600-750 V
Max resolution		0.01 mV
Inaccuracy		±1.2 % 5 digits
Direct current		600-6000 µA-60-600 mA-6-10A
Max resolution		0.1 µA
Inaccuracy		±1 % +3 digits
Alternating current		600-6000 µA-60-600 mA-6-10A
Max resolution		0.1 µA
Inaccuracy		±1.2% +5 digits
Resistance		600 Ω-6-60-600 KΩ-6-60 MΩ
Max resolution		0.1 Ω
Inaccuracy		±1.2 % + 2 digits
Capacitance		40-400 nF-4-40-400-4000 µF
Max resolution		0.01 nF
Inaccuracy		±3% + 5 digits
Frequency		10 Hz-10 MHz
Max resolution		0.001 Hz
Inaccuracy		±0.1% + 4 digits
Working temperature		0-40 °C
Storage temperature		-10 - 50 °C
Battery		1 x 9 V6F22
Dimensions	mm	177x85x40
Weight	g	300

Clamp multimeters

Digital clamp multimeter with autorange. Measures DC/AC voltage, AC current, resistance. Also testing diode, continuity with buzzer, datahold, low battery capacity warning. Supplied complete with test leads, carrying case, battery and English manual.

Max. display 1999. Safety insulation CAT II 600 V/CAT 300 V, IEC 61010.



Art. no.	12856	-0109
Limit	No	20
DC voltage	DCV	200 mV-2-20-200-600 V
resolution	mV	0.1
accuracy		± 0.8% + 1
AC voltage	ACV	2-20-200-600 V
resolution	mV	1
accuracy		± 1.2% + 5
AC current	ACA	2-20-200-400 A
resolution	mA	1
accuracy		± 4% + 5
Resistans	Ω	200 Ω-2-20-200 KΩ-2-20 MΩ
resolution		0.1
accuracy		± 1% + 2
Automatic off after	min	15
Battery		2 pcs 1.5 V (LR06)
Dimension	mm	208x76x30
Weight	g	260
Extra test leads	12860	-0202

Electric testing and inspection

Multimeters

Clamp multimeters



Digital clamp multimeter with autorange.
Measures DC/AC voltage DC/AC current, Resistance, Frequency. Also testing diode, continuity with buzzer, datahold, low battery capacity warning.
Supplied completely with test leads, carrying case, battery and manual.
Max display 3999. Safety isolation CAT II 600V/ CAT III 300 V, IEC 61010.

Art. no.	14487	-0102
Limit	N	21
DC Voltage		400 mV-4-40-400-600 V
Resolution		0.1 mV
Accuracy		±0.8% + 1 digit
A Voltage	mm	4-40-400-600 V
Resolution		1 mV
Accuracy		±1% + 5 digits
DC Current		40-400 A
Resolution		0.01 A
Accuracy		±2% + 3 digits
AC Current		40-400 A
Resolution		0.01 A
Accuracy		±2.5% + 5 digits
Resistance		400 Ω-4-40-400 KΩ-4-40 MΩ
Resolution		0.1 Ω
Accuracy		±1% + 2 digits
Frequency		10 Hz - 1 MHz
Resolution		0.001 Hz
Accuracy		±0.1% + 3 digits
Duty cycle		0.1%-99.9%
Batter		9 V (6F22)
Dimension		210x76x30
Weight	g	200



Digital clamp multimeter with autorange.
Measures DC/AC voltage DC/AC current, Resistance, Frequency. Also surge Current measurement, Max/Min mode, true RMS for AC voltage, testing diode, continuity with buzzer, datahold, low battery capacity warning.
Supplied completely with test leads, carrying case, battery and manual.
Max display 6666. Safety isolation CAT II 600V/ CAT III 300 V, IEC 61010.

Art. no.	14486	-0103
Limit	No	23
DC Voltage		6.6-66-600 V
Resolution		0.1 mV
Accuracy		±0.8% + 1 digit
AC Voltage	mm	6.6-66-600 V
Resolution		1 mV
Accuracy		±1.2% + 5 digits
DC Current		66-1000 A
Resolution		0.01 A
Accuracy		±1.5% + 8 digits
AC Current		66-1000 A
Resolution		0.01 A
Accuracy		±2% + 8 digits
Resistance		600 Ω-46.6-66-600 KΩ-6.6-66 MΩ
Resolution		0.1 Ω
Accuracy		±1.2% + 2 digits
Frequency		660 Hz-6.6-66-660 Khz-6.6-66 MHz
Resolution		0.1 Hz
Accuracy		±0.1% + 3 digits
Duty cycle		0.1%-99.9%
Battery		9 V (6F22)
Dimension		285x105x45
Weight	g	533

Electric testing and inspection

Voltage tester

Voltage and continuity tester with 3 phase rotation detection. Distinguish between phase and zero. Checking function of earth leakage circuit breaker. Single hand test on 19 mm wallsockets. Buzzer indicate continuity. Shows DCV polarity + or -. Flashlight in handle. Automatic on and off. Supplied with battery, probe tips protection and manual.

Safety isolation CAT IV 600 V, IEC 61010. Water and dust protection IP 65.

Limit 110. Ledlights shows voltage in 7 levels. 12-24-50-120-230-400-690 V.

Limit 112. Display shows real voltage value and also ledlights in 7 levels.

Art. no.....	14489	-0100	-0209
Limit	No	110	112
Display		No	Yes
Ledlights.....		Yes	Yes
Voltage	ACV	12-690	12-690
Voltage.....	DCV	12-690	12-690
Continuity.....		Summer	Summer
Battery		2 pcs 1.5V AA	2 pcs 1.5V AA
Dimension	mm	260x56x20	260x56x20



14489-0100



14489-0209

Voltage detectors

Control of electrical voltage or not in conductors, wallsocket etc. Distinguish between phase and zero. Non-contact, just place the tip near an AC voltage conductor. Led flash and buzzer when conductor is live. Buzzer can be turned off. Both automatic and manual off. The instrument is continual checking function and battery status by regular ledflash.

Supplied with battery and manual. Safety isolation CAT IV 1000V.



Art. no.....	14501	-0104
Limit	No	100
AC Voltage.....	V	90-1000
Dimension	mm	18x150
Batteries		2 pcs 1.5V AAA

IR Thermometer

Non contact, infra-red thermometer that measures outdoor temperature with high accuracy and quick reading. The laser spot indicates the centre of the measurement area. Registers max. and min. values. Automatic shutoff after 8 seconds. Display lighting. Adjustable between °C and °F. Warning for low battery voltage. Battery and Swedish instructions included.

Art. no.	15318	-0104
Limit.....	No	91
Measurement range	°C	-18 to +380
Resolution.....	°C	0.1
Accuracy.....	°C	2 or 2%
Measuring surface/Distance		1:10
Emission factor.....		Fixed 0.95
Working temperature.....	°C	0-50
Storage temperature.....	°C	-20 - 65
Size	mm	169x138x53
Weight	g	270
Battery.....		1 x 9 V 6F22



Electric testing and inspection



IR Thermometer

Non contact, infra-red thermometer that measures outdoor temperature with high accuracy and quick reading. The laser spot indicates the centre of the measurement area. Adjustable emission factor. Registers max-min-difference-average value. Scanning function for continuous measurement. Tripod thread 1/4" for mounting on a stand. Automatic shutoff after 8 seconds. Display lighting. Adjustable between °C and °F. Warning for low battery voltage.

Protective holster, battery and Swedish instructions included.

Art. no.	15319	-0103	-0202
Limit	No 92	93	
Measurement range.....	°C -18 to +550	-32 to +1050	
Resolution	°C 0.1	0.1	
Precision	°C 1.8 or 1.8%	1.8 or 1.8%	
Measuring surface/Distance.....		1:12 1:30	
Emission factor		0.10-1.00	0.10-1.00
Working temperature.....	°C 0 - 50	0 - 50	
Storage temperature	°C -20 - 65	-20 - 65	
Size.....	mm 169x138x53	169x138x53	
Weight	g 270	270	
Battery		1 x 9 V 6F22	1 x 9 V 6F22



Thermometer

Digital transducer thermometer. Two channels for simultaneous measuring with two different transducers. Up to 99 measurements can be stored over time, either at preset time intervals or through manual registration. Stored measurements can be transferred to a PC. Registers max. min. values, difference between measurement points. Hold function. The instrument is easy to adjust for possible measurement faults from the transducer. Display lighting. Adjustable between °C and °F. Warning for low battery voltage. Transducer type K, J and E can be used. Wire transducer type K max. 260 °C included and USB cable and software, battery and Swedish instructions.

15321-0208 Plug-in transducer air/liquid type K -50 to +600 °C. Sensor length 180 mm. Cable length 1000 mm.

15321-0307 Surface transducer type K -50 to +500 °C. Transducer length 125 mm. Cable length 1000 mm.

12860-0301 Wire transducer type K -50 to +260 °C. Wire length 900 mm.

Art. no.	15321	-0109
Limit	No 60	
Measurement range Type K	°C -200 to +1370	
Resolution	°C 0.1	
Precision.....	°C 0.8 ±0.5%	
Working temperature	°C -10 to +50	
Storage temperature	°C -40 to +60	
Size	mm 175x8x30	
Weight	g 270	
Battery.....		1 x 9 V 6F22
Plug-in transducer air/liquid type K -50 to +600 °C	15321	-0208
Surface transducer type K -50 to +500 °C	15321	-0307
Wire transducer type K -50 to +260 °C	12860	-0301

Electric testing and inspection

Sound level meter

Soundmeter



Digital sound level meter. Two different filter curves A or C and quick or slow sound recording. The A-filter corresponds to the human ear's frequency sensitivity and is suitable for environmental sound measurements. The C-filter is linear and is ideal for inspecting machines. Quick (fast) sound recording is used when you want to see rapid sound peaks. The slow mode gives a stable measurement result of sound that varies or pulses. The sound can be read instantaneously or gives a mean value under a selected time period, from 10 sec to 24 hours. Integrated memory for 30 measurements or the instrument can be connected to a PC for registration of measurement values. Registration of max. value. Alarm function which indicates with a LED when the sound level is above a set value. The number of measurement values that exceed the alarm value during the measurement period can be shown. Adjustable automatic or manual shutoff. Integrated calibration function 94 dB. Instructions included.

Conforms to standard IEC 651 Type 2, ANSI 1.4 Type 2.

Art. no.	15152	-0103
Limit	No	7000
Measurement range.....	dB	30-130
Resolution.....	dB	0,1
Precision	dB	±1
Speed Fixed	ms	125
Speed Slow	sec	1
Measurement periods		10 sec, 1 min, 5 min, 10 min, 15 min, 30 min, 1 hour, 8 hours, 24 hours 30 20-12500
Memory capacity	Hz	4 x 1.5V LR03 AAA
Frequency range		236x63x26
Batteries		170
Size	mm	
Weight	g	
Computer cable with software for connection to PC. Connection RS-232.	15152	-0202
Sound calibrator 94 and 114 dB.....	15152	-0301
Battery adapter.....	15152	-0400

Pocket lenses

Workshop pocket lenses

Lens with transparent acrylic tube, which gives good light conditions.

Art. no.	16779	-0104
Magnification		10 X
Viewing diam.....	mm	25



Measurement lens with measurement scale and LED lighting. Ring for focusing.
16780-0101 With length scale.

16780-0200 With length, angle and radius scales.

Art. no.	16780	-0101	-0200
Magnification		10 X	10 X
Scale length	mm	25	25
Graduation	mm	0.1	0.1
View size diameter.....	mm	30	30
Battery		1 pc 6V 4LR44	1 pc 6V 4LR44



Electric testing and inspection



Pocket lenses With length scale

Mini microscope with length scale and LED lighting. Ring for focusing. Rotatable length scale through 360°.

Art. no.	16781	-0100
Magnification	20 X	
Scale length	6	
Graduation	0.05	
Viewing diam.....	6	
Battery.....	3 x 1.5V SR44	



Microscope Inspection equipment

Stereo microscope for laboratories and measurement rooms. Variable zoom optics 20 X - 40 x. Image turned the right way. Profile lighting from below and incidental lighting with adjustable luminosity. Double dials on the right and left-hand sides for focusing and magnification. Adjustable eye distance.

Supplied with transparent disc, black and white disc, pincers with holder, protective hood, halogen lamps. Mains connection 230 V.

Art. no.	16782	-0109
Magnification	10 X - 40 X	
Ocular	WF 10X	
Working distance max.....	0-50	
Eye distance.....	50-75	
Dimension LxWxH.....	230 x 150 x 420	
Weight.....	5	



Inspection cameras

Handheld inspection camera for connection to a PC. For inspection and localisation of problems in e.g. cavities in walls, drains, electrical cabinets, motors, etc. Easy to inspect in dark and confined areas. Camera function also permits documentation. Integrated LED lighting in the camera head. The flexible arm is self-supporting. Functions such as adjustment of brightness and photography are performed from the handle.

Accessories such as hook and magnet make it easy to pick up dropped objects. Waterproof camera head and flexible arm (IP 67).

Supplied with hook and magnet, PC cable, software and Swedish User Guide. Power supply taken from the PC.

Art. no.	16777	-0106
Arm and camera head. Length	m	0.9
Camera head. Diameter.....	mm	14
Arm. Diameter	mm	8.5
Focusing distance.....	mm	60 - ∞
Viewing angle.....		54°
USB cable.....	m	2
Pixels.....		640x480

Electric testing and inspection

Inspection cameras

Portable video scope with 2,4" LCD colour monitor. For inspection and troubleshooting inside walls, machines, electrical cabinets, sewage etc. Easy to inspect in dark and inaccessible places. Integrate LED-lighting in camera head. The picture can be turned on the monitor. The camera and the flexible tube is self-supporting and waterproof IP 67.

Accessories such as mirror, hook and magnet making it easy to pick up lost items. Supplied complete with mirror, hook, magnet and manual. Batteries and SD-card are not included.



Art. no.	19012	-0105
Monitor		LCD 2.4"
Tube and camera head. Length	mm	900
Camera head. Diameter	mm	9
Tube. Diameter	mm	8
Protection class. Camera and Tube		IP 67
View angle		50°
Pixels Total		640x480
Operation. Temperature	°C	-10...+50
Batteries		4 pc 1.5V type AA
 Extension tube 2 m	17427	-0207
Extends the camera arm to a total of 2.9 metres or with up to 4 extension arms to 8.9 metres.		
Fits 5.8, 9 and 17 mm camera heads.		
 Camera head 9 mm	17427	-0306
Camera head with tube length 0.9 m		
 Camera head 5.8 mm	17427	-0405
Extra small camera head with tube length 0.9 m		

Portable inspection camera with 2.4" colour monitor. Detachable monitor with wireless camera unit connection up to 10 metres. The detachable monitor simplifies inspection, especially in confined and awkward areas and when you wish to make an inspection for a long period of time. Suitable for inspection and localisation of problems in e.g. cavities in walls, drains, electrical cabinets, motors, etc. even in dark and confined areas. Integrated LED lighting in the camera head with adjustable brightness. The image can be turned 180° on the monitor. The camera and the flexible arm are self-supporting and waterproof IP 67.

Component parts such as mirror, hook and magnet make it easy to pick up dropped objects. Supplied complete with colour monitor, mirror, hook and magnet and Swedish Instructions. Battery powered (batteries not included).



Extension arm 2 metres. Extends the camera arm to a total of 2.9 metres. Suitable standard camera head.

Camera head 9 mm. Extra small camera head with arm length 0.9 metres.

Art. no.	17427	-0108
Monitor		LCD 2.4"
Arm camera head. Length	mm	900
Camera head. Diameter	mm	17
Arm. Diameter	mm	8
Protection class Camera and arm		IP 67
Viewing angle		50°
Pixel total		640x480
Working temperature	°C	-10...+50
Batteries		4 x 1.5V type AA
 Accessories		
Extension arm 2 metres	17427	-0207
Extends the camera arm to a total of 2.9 metres or with up to 4 extension arms to 8.9 metres.		
Fits 5.8, 9 and 17 mm camera heads		
 Camera head 9 mm	17427	-0306
Camera head with arm length 0.9 metres.		
 Camera head 5.8 mm	17427	-0405
Extra small camera head with arm length 0.9 metres.		



Electric testing and inspection



Inspection cameras

Recordable inspection camera with 3.5" colour monitor. Detachable monitor with wireless camera unit connection up to 10m. With SD card both still and moving images can be stored and later played back on the monitor or transferred to a PC or TV screen. The detachable monitor simplifies inspection, especially in confined and awkward areas and when you wish to make an inspection for a long period of time. Suitable for inspection and localisation of problems in e.g. cavities in walls, drains, electrical cabinets, motors, etc. even in dark and confined areas. Integrated LED lighting in the camera head with adjustable brightness. The camera and the flexible arm are self-supporting and waterproof IP 67. Accessories such as mirror, hook and magnet make it easy to pick up dropped objects. Supplied with 2G memory card, USB cable and TV connection cable, colour monitor, hook and magnet, and Swedish user guide. Battery powered (batteries not included).

Art. no.	19011	-0106
Monitor		LCD 3.5"
Camera, Diameter	mm	9
Arm and camera head. Length	mm	900
Arm. Diameter	mm	8
Protection class Camera and arm		IP 67
View angle		50°
Pixel total		640x480
Working temperature	°C	-10...+50
Batteries		4 x 1.5V type AA
 Extension arm 2 m	17427	-0207
Extends the camera arm to a total of 2.9 metres or with up to 4 extension arms to 8.9 metres. Fits 5.8, 9 and 17 mm camera heads.		
 Camera head 9 mm	17427	-0306
Camera head with arm length 0.9 m		
 Camera head 5.8 mm	17427	-0405
Extra small camera head with arm length 0.9 metres		



Compact video recorder with integrated lighting. Designed for film and audio documentation from inspections etc. outdoors or in dark spaces. Easy operation in both recording and playback. Press the record button and recording begins. Press again to stop. Playback is made directly to PC with USB cable without installing software. Lighting that can be selected in three stages. Heavy metal body. Supplied with 4 GB memory card, rechargeable lithium battery 3,7 V/2000 mAH, charger, USB cable and carrying strap.

Art. no.	19013	-0104
Recording time	hour	3.5-5
Charge time	hour	4
Memory capacity		4 GB
Dust/Waterproof		IP 65
Wiewing angle		56°
Pixles		640x480
Operating temperature	°C	0...50
Length	mm	190
Weight	g	300





Laser / Construction

Distance meter

Range finder with laser technology. High accuracy ± 2 mm even over long distances. A red laser dot identifies the measuring target. Suitable for all professionals who need quick and reliable measurements over longer distances. The smart display shows the steps in multi-step measurements as well as the last 2 measurements. The laser beam's reflection strength against the measuring point is shown by an indicator symbol on the display. Can calculate area and volume. Height calculation using Pythagorean theorem function. Continuous measurement. Minimum and maximum values. Memory for the 10 most recent measurements. Adjustable reference from the front edge, rear edge or corner stand. Switchable between metric and imperial measurement. Display lighting. Automatic switching off. Supplied with storage case, batteries and Swedish manual. Made according to Standard EN61326-1 EMC, EN60825-1.

Art. no.	17861	-0051
Limit	No	1045
Measurement range	m	0.05-45
Precision	mm	± 2
Enclosure protection class ..		IP 40
Memory capacity		10
Batteries		2 x AA type
Battery capacity	no. of measurements.	3000
Working temperature.....	$^{\circ}\text{C}$	0...+40
Storage temperature	$^{\circ}\text{C}$	-10...+60
Dimensions	mm	110 x 48 x 25
Weight	g	80

Range finder with laser technology. High accuracy ± 2 mm even over long distances. A red laser dot identifies the measuring target. Suitable for all professionals who need quick and reliable measurements over longer distances. The smart display shows the steps in multi-step measurements as well as the selected mode and the last 3 measurements. Can calculate area and volume. Height calculation using Pythagorean theorem function. Addition and subtraction. Continuous measurement. Min. and max. function. Memory function. Adjustable reference from the front or rear edges. Switchable between metric and imperial measurement. Display backlight. Auto shut off. Supplied with soft case, batteries and Swedish manual. Made according to Standard EN61326-1 EMC, EN60825-1.

Art. no.	17861	-0101
Limit	No	1060
Measurement range	m	0.5-60
Precision	mm	± 2
Memory	quantity	20
Enclosure protection class		IP 54
Batteries		2 x AA type
Working temperature.....	$^{\circ}\text{C}$	0...+40
Storage temperature	$^{\circ}\text{C}$	-10...+60
Dimensions	mm	120 x 46 x 27
Weight	g	100

Range finder 1060 and cross laser 1001 HV in handy protective case, easy to carry.

Art. no.	17861	-2008
Limit	No	1060 + 1001 HV

Laser / Construction

Cross lasers

Cross line laser with very bright and sharp laser lines. Compact model in pocket format. One horizontal and one vertical line. The vertical line runs 115 degrees up to the ceiling. Self-levelling with magnetic damping compensator. The lines can be lit individually or together. Alternatively, self-levelling can be disconnected to show a sloping line. A mechanical lock of the pendulum mechanism acts both as a main switch and transport lock.

Can be used outdoors or in bright rooms with a separate laser detector (not included).

2 laser diodes class 2M, 15 mw 635 nm.

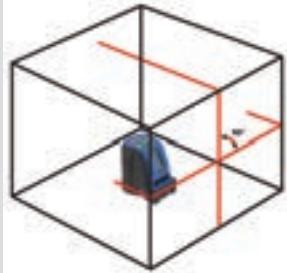
Supplied together with mount for tripod/wall mounting, reflective target plate, soft case, batteries and Swedish manual.

Art. no.	17862	-0100
Limit	No	1001 HV
Levelling range	mm	± 3°
Precision	mm	±3 mm/10 m
Enclosure protection class		IP 54
Batteries	hours	3 x AA type
Operating time	°C	10
Working temperature		-10...+50
Threaded mount		1/4"
Dimensions	mm	90 x 90 x 65
Weight	g	365
Accessories		
Laser detector with holder for level rod	17862	-0209
Reach	m	35
Wall bracket/adapter	17863	-0208

Can be wall mounted and also has a magnet for metal studs. Screw 1/4" for mounting on a line laser and nut thread 5/8" for mounting on a tripod.



17862-0209



Combined cross laser and dot laser. Very bright and sharp laser lines. One horizontal line and one vertical line and 5 dots. The vertical line runs 115 degrees up to the ceiling. Self-levelling with magnetic damping compensator. The lines and dots can be lit individually or together. A mechanical lock acts as a transport lock. Can be used outdoors or in bright rooms with a separate laser detector (not included).

2 laser diodes class 15 mw, 635 nm for lines and 1 x 10 mw 635 nm for dots.

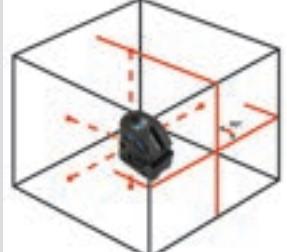
Supplied together with mount for tripod/wall mounting, reflective target plate, soft case, batteries and Swedish manual.

Art. no.	17863	-0109
Limit	No	1002 HVP
Levelling range	mm	± 4°
Line accuracy	mm	±3 mm/10 m
Dot accuracy	mm	±4 mm/10 m
Enclosure protection class		IP 54
Batteries	hours	3 x AA type
Operating time	°C	7
Working temperature		-10...+50
Threaded mount		1/4"
Dimensions	mm	113 x 115 x 70
Weight	g	500
Accessories		
Laser detector with holder for level rod	17862	-0209
Reach	m	35
Wall bracket/adapter	17863	-0208

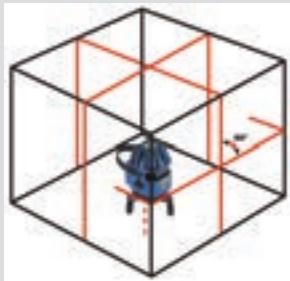
Can be wall mounted and also has a magnet for metal studs. Screw 1/4" for mounting on a line laser and nut thread 5/8" for mounting on a tripod.



17863-0209



Laser / Construction



Cross lasers

Multi cross line laser with 4 vertical lines and 1 horizontal line and one plumb to the floor. Very bright and sharp laser lines. The vertical lines intersect on the ceiling. Self-leveling with magnetic damping compensator. The lines can be lit individually or together. A mechanical lock of the pendulum mechanism acts both as a main switch and transport lock.

Integrated tripod that can be rotated 360°. Fine adjustment screws for turning movement and height adjustment of the legs. Circle vial for coarse adjustment. Can be used outdoors or in bright rooms with a separate laser detector (not included).

5 laser diodes class 2M, 15 mw 635 nm for lines and 1 laser diode class 2M, 5 mw 650 nm for dots.
Supplied with reflective target plate, soft case, batteries and Swedish manual.

Art. no.	17864	-0108
Teng Tools	No	1004 HV
Levelling range.....	mm	± 3°
Precision	mm	±2 mm/10 m
Enclosure protection class		IP 54
Batteries	hours	4 x AA type
Operating time	°C	7
Working temperature.....	mm	-10...+50
Dimensions	g	110 x 130 x 190
Weight		980
Laser detector with holder for level rod	17862	-0209
Reach.....	m	35



Includes instrument 17864-0108, laser receiver with holder 17862-0209 and a tripod 18112-0106.

Art. no.	17864	-2005
Limit	No	1004 HV

Laser / Construction

Rotating lasers

Rotating laser with visible laser beam. Can be used both outdoors and indoors, water jet protection class IP 54. Motorised automatic self-levelling in both horizontal and vertical planes with ability of manual slope setting. Scanning mode with adjustable scanning angle. Tilt function with alarm after which the instrument must be manually restarted after e.g. tilting or when the instrument is moved from its initial level. The remote control adjusts the tilt, rotation speed, scanning angle and the rotating scanning area in both directions. Laser detector with dual indication window, display lighting, adjustable tone, fine alternative coarse accuracy.

The instrument can be calibrated according to instructions in the manual.

Supplied in a hard plastic case with remote control, laser detector with holder, reflective target plate, wall mount, rechargeable battery pack with charger and Swedish manual. Laser diode class 2M, 1mw 635 nm.



Art. no.	17865	-0206
Limit	No	1200 HV
Active measuring radius	m	150
Horizontal accuracy	mm	±1,2 mm/10 m
Vertical accuracy	mm	±1,5 mm/10 m
Self-levelling range		± 5°
Rotation speed	rpm	120-500
Remote control distance	m	30
Enclosure protection class		IP 54
Operating time	hours	20
Working temperature	°C	-10...+50
Dimensions	mm	160 x 140 x 188
Weight	kg	1.9
Accessories		
<i>Extra battery pack</i>	17865	-0305
<i>Extra battery charger</i>	17865	-0404
<i>Extra laser receiver</i>	17865	-0503
<i>Extra clip for laser receiver</i>	17865	-0602
<i>Extra remote control</i>	17865	-0701
<i>Wall bracket. With 5/8" fastening screw. Adjustment 110 mm in height.</i>	17865	-0800

Laser / Construction

Rotating lasers

Rotary laser in sturdy design for horizontal measurements. Designed primarily for outdoor use, splash-proof protection class IP 66. Visible light beam. Motorised automatic self-levelling with the ability to manually slope. Electronic sensors. Shake function with alarm after which the instrument must be manually restarted after e.g. shaking or when moved from its initial level. Laser detector with dual indication window, display lighting, adjustable tone, fine alternative coarse accuracy.

The instrument can be calibrated according to instructions in the manual.

Supplied in a hard plastic case included laser detector with holder, rechargeable battery pack with charger, extra battery holder for alkaline batteries and Swedish manual. Laser diode class 2M, 1mw 635 nm.



Art. no.	17866	-0106
Limit.....	No	1300 H
Active measuring radius.....	m	200
Precision.....	mm	±0.7 mm/10 m
Self-levelling range.....		±5°
Rotation speed.....	rpm	600
Protection class.....		IP 66
Operating time.....	hours	18
Working temperature.....	°C	-10....+50
Dimensions	mm	166 x 166 x 222
Weight.....	kg	2.5
Accessories		
Extra battery pack	17866	-0205
Extra battery charger	17865	-0404
Extra laser receiver	17865	-0503
Extra clip for laser receiver	17865	-0602



Laser package 1200 HV. Includes instrument 17865-0206, tripod 17868-0104 and level rod 17867-0105.

Laser package 1300 HV. Includes instrument 17866-0106, tripod 17869-0103 and level rod 17867-0105.

Art. no.	17865-2004	17866-2003
Limit.....	No 1200 HV	No 1300 H

Laser / Construction

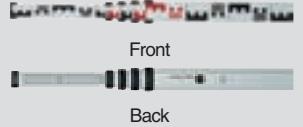
Measuring rod

Telescopic level rod made of aluminium. E-scale on one side and mm-scale on the other. Each section locks automatically when fully extended. Supplied with circular vial and protective case. Length 5 m.

Art. no.
Length

17867
m

-0105
5



Front
Back

Rotating lasers

Accessories for rotating laser.

Target. Increases the visibility of the laser beam. With the magnetic mount, suspension hole and leg support.

Red laser glasses. Increases the visibility of the laser beam.

Art. no.
Product....

17863

-0307
Target 105x75 mm

-0406
Red laser glasses



17863-0307

17863-0406

Supports

Aluminium tripod for line lasers. Mounting screw thread $\frac{5}{8}$ ". Fine height adjustment via rack pillar and crank.

Art. no.
Max. height.....
Height adjustment with crank.....
Length, folded.....
Weight.....

18112
mm 1500
mm 300
mm 600
kg 1.2



Laser / Construction

Supports



Aluminium stand. Suitable for all types of surveying instrument and laser instrument with $\frac{5}{8}$ " threaded mount. With carrying strap.

Art. no.	17868	-0104
Max. height	m	1.65
Weight	kg	3.6



Sturdy aluminium stand. Gear rack post with crank for precise height adjustment. For levelling lasers and surveying instruments. Suitable for all brands with $\frac{5}{8}$ " threaded mount.

Art. no.	17869	-0103
Max. height	m	2.3
Height adjustment with crank	m	0.3
Weight	kg	7.5



Measuring wheel

Used for measuring longer distances, for example, at roadworks and the like. The measuring wheel is weight balanced for comfortable use. Wheel brake in the handle and standing frame. Folds in two parts for easy transport. Supplied with transport bag.

Art. no.	17428	-0107
Wheel circumference	m	1
Measurement range	m	10 000
Minimum reading.....	dm	1
Precision.....	mm/m	± 0.5
Weight incl. bag.....	kg	2.5



Scales

Scales



2800-0107

Parcel scales

Dial and analogue display. For storerooms, warehouses, offices and factories etc. The precision is better than scale graduation. Stainless weighing plate and casing. Large and easy to read scale with protective glass for hand and face. Zero point tarring range about 5% of the capacity.

Art. no.	2800	-0107	-0305	-0404
Designation.....		KC-3	KC-4	KC-4
Capacity	kg	8	30	50
Load plate	mm	220 x 220	320 x 315	320 x 315
Graduation	g	20	100	200
Face diameter	mm	196	255	270
Overall height.....	mm	280	310	350
Weight	kg	3	6.5	11



Letter/kitchen scales in compact design. Display with large easy to read digits. Function keys for on, quick tare and off. Load plate of toughened glass. Battery operation with 1 x 3 V type CR2032 included.

Art. no.	15886	-0205
Designation		LEM8
Capacity	g	5000
Graduation/Resolution	g	1
Precision	g	± 1
Load plate	mm	Ø 160
Digit height	mm	14
Weight of scales	kg	0.52



Electronic parcel scales with digital display. Platform and display unit separate.

Display unit can be freestanding or fixed on a wall/stand. Large clear 25 mm high digits and angled display with background lighting.

Function keys for zeroing, weight unit, tarring, net/gross. Stainless load plate. Mains or battery powered. Supplied with mains adapter and rechargeable battery. Battery operation up to 80 hours.

Art. no.	10929	-0031	-0056	-0072	-0098	-0197
Designation.....	LE2-30	LE2-60	LE2-150	LE3-150	LE4-300	LE4-300
Capacity	kg	30	60	150	150	300
Graduation/Resolution	g	10	20	50	50	100
Precision	g	± 10	± 20	± 50	± 50	± 100.0
Weighing plate dim.....	mm	315 x 325	315 x 325	315 x 325	450 x 350	600 x 600
Weight of scales incl. display	kg	38	38	38	68	124

Scales

Parcel scales

Electronic floor scale with post display. **Large clear 30 mm LED with wide angled display.**
Heavy duty design with overload protection. The display can be mounted on a post or be used free-standing.

Function keys for zeroing, weight unit, tarring, net/gross. Stainless load plate. Mains or battery powered. Supplied with mains adapter and rechargeable battery. Battery operation up to 80 hours.

Art. no.	18420	-0103	-0202	-0301	-0400
Designation		LPW-2	LPW-4	LPW-6	LPW-8
Capacity	kg	60	150	300	600
Graduation/Resolution	g	10	20	50	100
Precision	g	± 10	± 20	± 50	± 100
Weighing plate dim.	mm	400 x 300	500 x 400	600 x 500	800 x 600
Weight of scales incl. display	kg	10	13	24	38



Precision scales

Electronic table scales with digital display, compact design.

LEM7-0.5 = Pocket scales: Touch display with large easy to read digits with background lighting. Function frames for on/off, quick tare, counter function and different weight units. Battery operation, protective cover for the whole top section incl. the stainless load platform. Battery powered 2 x 1.5 V type AAA included.

LEM7-10 = Precision scales: Display with large easy to read digits. Function keys for on/off, zero reset/tare, counter function and units. Stainless platform. Mains connection 230 V, or battery operation. Supplied with mains adapter.

Art. no.	16890	-0108	-0207
Designation.....		LEM7-0.5	LEM7-10
Capacity	g	500	10.000
Graduation/Resolution	g	01	1
Precision	g	± 0.1	± 1
Load plate	mm	60 x 60	170 x 180
Digit height	mm	10	20
Weight of scales.....	kg	012	144



Scales

Counting scales

Electronic counting scales with 3 separate digital displays to determine the number and weight. Shows item weight, total weight and calculated number. 10-keys for the input of quantity in a sample or known unit weight. Optional automatic shutoff or continuous drift.

Automatic optimization function for the best counter accuracy. Taring and 0-position functions. Stainless load plate. Mains connection 230 V, or battery operation. Supplied with mains adapter and rechargeable batteries for 120 hours of continuous use.

Art. no.	10932-0044	16891-0107
Designation.....	LEC-7.5	LEC6-20
Capacity.....	kg	7.5
Graduation/Resolution	g	1
Precision	g	±1
Weighing plate dimension.....	mm	260 x 210
Weight	kg	3.6



Scales

Scales



KC-08

KC-11

CLH4

Suspended weighers

Suspended weigher suitable for diverse hanging and pulling weighing needs. Accuracy is better than one graduation/division.

KC series. Analogue Features protective glass of acrylic, screw for zero adjustment (taring).

CLH4 series. Electronic with 14 mm high digits and quick tarring key. Hooks and eyes steel. Battery powered 2 x 1.5V type AA included.

Art. no.	2797	-0102	-0300	-0409	-0557	-0607	-0615	-0623	-0706	-0805	
Designation	KC-08	KC-08	KC-08	KC-08	KC-230	KC-11	CLH4-30	CLH4-60	CLH4-150	CLH4-300	
Capacity kg	25	50	100	200	250	30	60	150	300		
Graduation g	100	200	500	500	1000	20	50	100	200		
Face diameter mm	150	150	150	254	195	-	-	-	-		
Overall height..... mm	365	390	390	660	475	342	342	342	342		
Weight..... kg	1.2	1.3	1.3	3.8	3.3	0.5	0.5	0.5	0.5	0.5	
<i>Spare protective glass..</i>	<i>2797</i>	<i>-1001</i>	<i>-1001</i>	<i>-1001</i>	-	-	-	-	-	-	



LEP-180

Personal scales

Personal scales with digital display for the weight and BMI-values. Display with large easy to read digits.

LEP-180. Function keys for setting gender, length, age, on/off. Automatic weight display after foot pressure. Battery operation, load plate of toughened glass. Battery operation with 2 x 3 V batteries, type CR2032 included.

LEP-300. Display with large easy-to-read digits, background lighting. Main switch, function keys for setting the height (BMI), switch kg/lbs, resetting/tare on/off. Stainless load plate. Mains connection 230 V, or battery operation. Supplied with mains adapter and rechargeable batteries. Battery operation up to 80 hours.

Art. no.	15587	-0105	-0204	
Designation	No	LEP-180	LEP-300	
Capacity kg	180	300		
Graduation/Resolution g	100	100		
Precision g	± 300	± 100		
Load plate mm	Ø 350	130 x 205		
Overall height mm	40	1030		
Digit height mm	16	25		
Weight of scales kg	2.22	5.4		

Floor scales

Electronic floor scale with post display. Large clear 30 mm LED display with angled display Heavy duty design equipped with overload protection. Function keys for zeroing, weight unit, tarring, net/gross. Stainless load plate. Mains or battery powered. Supplied with mains adapter and rechargeable battery. Battery operation up to 80 hours.

Art. no.	4828	-0051	
Designation		LE9-USE	
Capacity kg	1500		
Graduation/Resolution kg	0.5		
Precision kg	± 0.5		
U beam, external	mm	1200 x 840	
U beam, internal	mm	1055 x 600	
Height	mm	85	
Digit height on display	mm	25	
Weight	kg	38	