



3.1415926
53589793
238164
32190
02884

All what is counting from



2272 Piece Counter, 50 mm dia., 4-digits, lever on top, fixing plate 60 x 20 mm, zero setting knob on righthand.



2272

2394

2394 Piece Counter, 46 mm dia., 4-digits, fixing plate of 64 mm dia., to be bolt onto tables, zero setting knob on righthand.

2269 Stroke Counter, 4-digits, lever on righthand, zero setting knob on lefthand, base plate 52 x 30 mm, switching to „B“.



2269

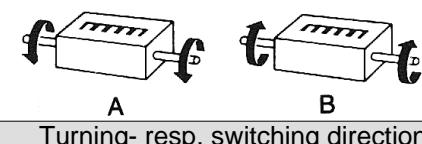
2399 Meter Counter, adding-up, 6 digits, drive on both sides, turning B, gear 1 : 2, zero setting knob. Suitable for this meter counter measuring wheel 0.2 m circumference, 4 mm bore, rubber coated.



2399

2403

2403 Cloth Meter Counter, reading m/cm, with extension shaft and support. Circumference of measuring wheel 1/3 meter, card cloth coated, turning „B“.



A B
Turning- resp. switching direction



Precise measuring with



9830 Yarn tension meter for checking yarn tension at winding, beaming, knitting, etc. Priceworthy instrument of solid design, and of high precision, deflection rollers on ball bearings, gauded dial. For measuring Range s see table No. 1.



9830

9832 Yam tension meter. Function and design as 9831, however, it is smaller, lighter, and more handy. Lowest tension to be taken is 0.3 g. Space between guide rollers of 22 mm. For measuring Range s see table No. 1.



9832/9833



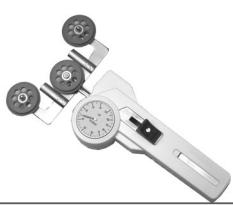
9832/9833



9835



9836



9837



9838



9839



9849

9833 Yarn tension meter as 9832, however, space between guide rollers of 38 mm. For measuring range see table no. 3.

Article-No	Range in Gramm	Article-No.	Range in Gramm	Article-No.	Range in Gramm
9830/10	0,5-3	9832/12	1-5	9833/10	3-30
9830/11	1-5	9832/13	1-10	9833/11	5-50
9830/12	2-10	9832/14	1-12	9833/12	10-100
9830/13	2-12	9832/15	2-20	9833/13	20-150
9830/15	5-30	9832/16	3-30	9833/14	20-200
		9832/17	5-50	9833/15	20-300
		9832/18	10-100		

Table 3

9835 Tension meter for various applications in all industry branches.

9836 Special tension meter for limited access space or threads closely side by side.

9837 Special tension meter to minimize bending of materials like fibre optics, carbon and technical fibres.

9838 Special tension meter for measuring all kinds of tapes, films, foils, fibre bundles, etc.

Article-No.	Range in cN						
9835/1	10-50	9836/1	10-50	9837/1	20-120	9838/1	10-50
9835/2	20-120	9836/2	20-120	9837/2	20-400	9838/2	20-120
9835/3	20-200	9836/3	20-200	9837/3	50-1000	9838/3	20-200
9835/4	20-400	9836/4	20-400			9838/4	20-400
9835/5	50-1000	9836/5	50-1000			9838/5	100-1000
9835/6	200-2000	9836/6	200-2000			9838/6	200-2000
9835/7	400-5000					9838/7	400-5000
9835/8	1000-8000					9838/8	2,5-10daN
9835/9	2,5-10daN					9838/9	5-20daN
9835/10	5-20 daN						

Table 4

9839 Tension meter for various applications in all industry branches, like textile and wire industry.

9849 Tension meter for continuous use and supervise, see table no.5.

Article-No.	Range in cN	Article-No.	Range in cN
9839/1	20-120	9849/1	2-10
9839/2	20-200	9849/2	2-20
9839/3	20-400	9849/3	3-30
9839/4	50-1000	9849/4	5-50
9839/5	200-2000	9849/5	10-100
9839/6	400-3500	9849/6	20-200
9839/7	400-5000	9849/7	20-300
9839/8	500-8000	9849/8	50-500
9839/9	2-10 daN	9849/9	50-1000
9839/10	5-20 daN		
9839/11	5-30 daN		
9839/12	5-50 daN		

Table 5



9851,9852 Electronic tension meter with numerous evaluation functions. For users to record additional data-processing, f.e. system ISO 9000 and following, see table no. 6.

Article-No.	Range in cN cN	Article-No.	Range in cN cN
9851/1	0,1-200	9852/1	0,1-200
9851/2	0,1-500	9852/2	0,1-500
9851/3	50-1000	9852/3	50-1000
9851/4	200-2000	9852/4	200-2000
9851/5	250-2500	9852/5	250-2500
9851/6	500-5000	9852/6	500-5000
9851/7	1-10 daN	9852/7	1-10 daN
9851/8	2-20 daN	9852/8	2-20 daN
9851/9	5-50 daN	9852/9	5-50 daN

Tabelle 6



9851



9852



9853/9854

9853,9854 Tension meter for sensitive materials like fibre optics, carbon and technical fibres, see table no. 7.

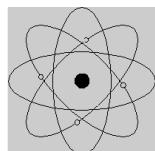
9857 Electronic tension meter, microprocessor-controlled for use on limited access space, see table no. 7.

Article-No.	Range in cN cN	Article-No.	Range in cN	Article-No.	Range in cN cN
9853/1	2-200	9854/1	2-200	9857/1	0,5-100
9853/2	5-500	9854/2	5-500	9857/2	1-200
9853/3	50-1000	9854/3	50-1000	9857/3	1-500

Tabelle 7



9857



Precision is the word,  has the solution!

3991 Precision Tachometer for all rotary or linear speed measurements, independent of sense of rotation. Locking button for showing the result, patented reverse gear, indifferent to change of temperature, and to magnetic fields. Deviation $\pm 0,5\%$.

Range from 40 to 50,000 t.p.m. and from 4 to 5,000 m.p.m. to be set into the following steps: 40 to 500 t.p.m. and from 4 to 50 m.p.m. 400 to 5,000 t.p.m. and from 40 to 500 m.p.m. 4,000 to 50,000 t.p.m. and from 400 to 5,000 m.p.m.

In handy box 85 x 155 x 45 mm, with 1 rubber point, rubber bush, rubber funnel, wheel disk, and extension. Weight of approx. 580 g.



3991



9899

9899 Portable electronic yarn length meter, 220 V, very handy. A diode indicates the yarn speed fed to the machine - either per revolutions or per seconds. Indication in cm; device available completely in a case. Upon request indication as well in inch and/or 110 Volt.



3961

3961 Thickness meter for quick measuring of the thickness of leather, felt, fabrics, knitted- and warp-knitted goods.

Technical data:

Depth of bow 50 mm
Measuring Range 25 mm
Reading 1/10 mm



3962

3962 Thickness meter DMD 820 V for warp-knitted goods.

Technical data:

Measuring Range : 0-10 mm
Reading: 0,01 mm/digital
Depth of bow: 200 mm
Measuring area: 25 cm²
Measuring pressure: 0,5 kPa



9811

Equipment with stand.

9811 Electronic quadrant scale for samples determining the weight of fabrics for samples of 100 square centimeters, weighing Range 1 - 12,000 g/m² (121 g effective) scale 1 g/m² (0.01 g effective) bowl 116 mm diameter.



9812/9813

9812 Quadrant scale (surface scale), weighing Range without extra weight 0 - 250 g/m², with extra weight 200 - 450 g/m²

9813 Quadrant scale (surface scale) as No. 9812, however, weighing Range without extra weight 0 - 450g/m², with small extra weight 400 - 850 g/m², with big extra weight 800 - 1,250 g/m²



9815

9815 Sample cutter for precise cutting of circular samples of exactly 100 square centimeters, for use on quadrant scales. Accurate cutting edges by circular guided blades, and by draw-cut. 4 adjustable and interchangeable blades, with pad of porous rubber.

9815/1 Sample cutter like 9815 but cutting depth 10 mm.

9815/2 Cutting blades for sample cutter 9815.

9816/1 Cutting pads of porous rubber, abt. 300 x 200 mm, soft quality.

9816/2 Cutting pads like No. 9816/1, but hard quality (min. 50° Shore).



9847 Shade difference meter for realizing accurate immediate discrepancies in colour and shade

Measurements: 17,8 x 7,6 x 7,6 cm, D65/10 optics response

Instrument stores one reference value for comparison to measured sample and will "beep" when tested colour is out of tolerance. Accessories included: calibration plaque, 6 rechargeable mi-cad. batteries and generic carrying case. Weight: approx. 1 kg



9847



Textile Hygrometer



9840 Electronic Textile Hygrometer, small and handy, for universal use. For the power supply you need an international normed exchangeable 9-volt-battery. Moisture measuring bases on the principle of electric conductance, moisture and conductance being in reciprocal function to each other. Deviation of moisture indication $\pm 0.2\%$ Electrical deviation $\pm 0.1\%$ relating to absolute dial value.



9840

Dimensions: approx. 170 x 115 x 50 mm Weight: approx. 400 g.



Please look at the ordering numbers below.

For the point electrodes Nos. 9841, 9842, 9843, 9844, 9868 and 9869, a special cable No. 9846, and the universal electrode socket No. 9845



9840

9845 Universal Electrode Socket



9845



9846

9846 Measuring cable, approx. 100 cm of length

Only in connection with special cable 9846 and universal electrode socket 9845.



9841/9842



9843/9844

9841 Point Electrode, needle length of 25 mm, 8 needles

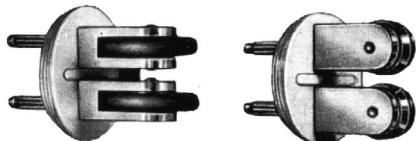
9842 Point Electrode, needle length of 45 mm, 8 needles

9843 Point Electrode, needle length of 100 mm, 2 needles

9844 Point Electrode, needle length of 325 mm, 2 needles

9868 Roller Electrode, 60 x 40 mm dia. for textiles

9869 Grooved Roller Electrode, 65 x 40 mm dia for hanks or threads



9868

9869



Time and motion study easy with



3976/2

3976/2 The „Programtimer 100“ is equipped with:

- Single and advanced time display
- Display of measuring point
- Storage of max. 7 single- and 7 advanced times
- Erase of memory during the time study, recovery is possible
- Recalling of memory at any time
- DIN A4 writing surface
- Changeable paper and pencil support
- Carrying belt
- Case
- Batteries

Technical Data:

Electronic: Microprocessor Energy supply: 1 x Mignon-cell 1.5 V, IEC R 6

Duration of operation: 1 year

Temperature Range of application: -10 C up to + 60 C

Time measuring unit: 1/100 min

Display: 2 rows display LCD upper row 6 digits lower row 7 digits

Range of operation:

- Advanced and total time 9999:99 1/100 min
- Single time 999:99 1/100 min
- Measuring points max. 99
- Memory capacity: 7 advanced times and 7 single times

Weight: 1,000 g

Dimension: 400 x 330 x 18/11 mm



3975 This table stop clock has an optimal stability because of its ergonomical design. The clearly arranged clock face luminous minute points in the dark. The working time of the includes Mignon battery is 18 months. Suitable for school, sports, industry and labour.

Technical data:

- Movement: quartz controlled 32,768 KHz
- Dial: first hand 60 min., second hand 60 sec.
- inner scale: 1-100/100 min.
- size: 175x 130x40/95 mm
- face dia: 110 mm
- weight: 370 g approx.
- temperatur in use: -10 ° to +60 ° C



3975



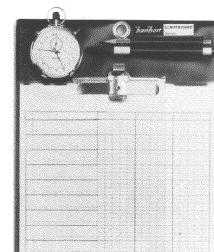
3992

3992 Double Stop Watch of high precision, shock-, dust- and waterproof, with double stop, lever-watch, 7 jewels, with unbreakable, anti-magnetic spring, dial graduation 1/100 min, housing of approx. 55 mm dia., according to industrial standards. With index pointer for interim time stopping.

3994 Robotimer, time recording device for recording all times in one operation, by one person only. Errors are excluded by double time recording. The Robotimer consists of 4 stop watches and of 1 piece counter. The first 3 watches (lever-type, 7 jewels) are indicating the time in 1/100 minutes, the fourth one (lever-type, 11 jewels) is indicating the total time. Both, watches, and piece counter, are fitted on a table of aluminium of approx. 300 x 400 mm.



3994



3977

3977 Scriptboard, plastic-blotting-pad with clear protective foil, with holder for stop-watch (delivery without stop-watch) writing utensils and paper holder. Measurements: 22.5 x 39.5 cm.



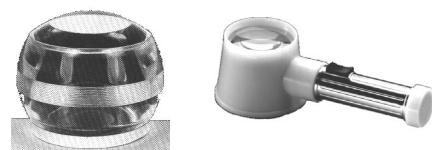
3999

3999 Special stop watch with high precision by direct stopping of a push-button, good readable LCD-display, sturdy housing (82 x 61 x 28 mm) with protection bag.

Special technical data: - Measuring up to 99999,99 min.

- 3 single-time-stores
- store for total time

We are exactly looking at ...



9569

9593

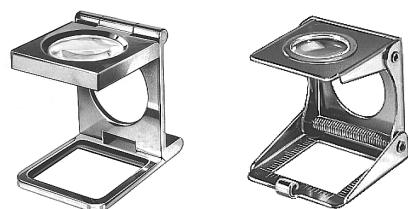
9569 Upright magnifier, for testing continuous or piece fabrics. The aspheric lens is fitted for plain or relief views. Field of approx. 46 mm dia., total height 60 mm, 6-fold magnification.

9593 Luminous Magnifier, lens tube of white plastic, handle of metal, 10-fold magnification, with 2 batteries of 1.5 Volt, object field of 60 mm dia.



9016

9016 Magnifier, pocket type, with plastic frame, 50 mm dia., 10-fold magnification, in a neat's leather bag.



9020-9024

9015

Thread counter, made from solid brass.

Article-No.	9019	9020	9021	9023	9024
Size	10 x 10 mm	20 x 20 mm	1 x 1 inch	30 x 30 mm	50 x 50 mm
Magnification	12-fold	8-fold	6-fold	5-fold	3-fold

Table 10



9014

9556

9015 Thread Counter, with spring, 20 x 20 mm, 8-fold magnification.

9014 Upright magnifier, especially suitable for measuring the size of stitches, 8-fold magnification. The measuring field with a 10 mm scale

9556 Magnifying Glass 50 mm dia., handle of plexiglass, 2 1/2-fold magnification.

Lunometer, thread counter for all thread structures, scale in centimeters, english and french inc, see table no.8.

Article-No.	Measuring range in cm	Measuring range in english inch	Measuring range in french inch	Testing ground size in mm
9025/1	10-24	25-60	26-64	35x205
9025/2	14-34	37-86		22x131
9025/3	20-48	50-120	53-128	35x152
9025/4	40-95	100-240	107-256	18x76
9025/5	80-190	200-480	213-512	10x38

Table 8

9561 Binocular head magnifier of metal, without magnifying glass, varnished white, front cushion, head-band adjustable of nickel-plated steel, plastic-plated, lens-frame with glass-lenses of high quality, easy to remove. Suitable for eyeglass-wearers. See table no. 8 for the available magnifying glasses.

Article-No.	9561/1	9561/2	9561/3	9561/4	9561/5	9561/6
Magnification:	1,0	1,5	2,0	2,5	3,0	3,5
Working width:	250	220	170	150	130	100

Table 9

9571/1 Luminous Magnifier, with lens 120 mm dia. for 2 1/2-fold magnification, and additional lens for 4-fold magnification, with ring type fluorescent lamp 22 Watt (cold light). Working range 900 mm, weight without foot 3 kg, complete, with foot of 7.5 kg.

9564/3 micro-magnifier with illumination suitable for surface testing of materials of any kind suc as metals, textiles, minerals, lacquers, links etc. Precise focusing by means of adjustment ring.magnification: 30 x. Fitted completely with batteries in gift packing.



9561/1-6



9571/2



9564/3