



Comparadores de cilindros

Internal measuring instruments

- Measuring range: 6-450 mm.
- Read-out depends on the type of dial indicator.
- Incl. standard dial indicator 0-3 mm/0.01 mm.
- Clamping shaft: $\varnothing 8$ mm.
- Self-centering (except 907.230).
- Interchangeable measuring inserts with tungsten carbide stylus tip (907.230 with spherical measuring face).
- Also suitable for various dial indicators from e.g. Mitutoyo, TESA, Käfer and Peacock with clamping stem $\varnothing 8$ mm.

Item No.	Measuring range/mm	Measuring depth/mm	Price
907.230	6- 10	40	
907.231	10- 18	100	
907.232	18- 35	125	
907.233	35- 50	150	
907.235	50-160	150	
907.236	160-250	400	
907.237	250-450	400	



907.235 + 907.933



Optional dial indicators

Item No.	Measuring range/mm	Read-out mm	Accuracy mm	Price
Analog:				
907.933	0-10	0.01	-	
Digital (with determination of the reversal point):				
907.879	0-12.7	0.001	± 0.01	
907.878	0-12.7	0.001	± 0.005	
909.250	0-12.5	0.002	± 0.015	
909.251	0-12.5	0.001	± 0.006	



907.879 909.250

Comparadores de cilindros robusto Peacock

Peacock internal measuring instruments

- Measuring range: 6-400 mm.
- Read-out depends on the type of dial indicator.
- Clamping shaft: $\varnothing 8$ mm.
- Self-centering.
- Interchangeable measuring inserts with tungsten carbide stylus tip.
- Also suitable for various dial indicators from e.g. Mitutoyo, TESA and Käfer with clamping stem $\varnothing 8$ mm.



855.160



855.507

Item No.	Measuring range/mm	Measuring depth/mm
855.010	6- 10	50
855.018	10- 18	100
855.035	18- 35	150
855.060	35- 60	150
855.150	50-150	150
855.160	100-160	250
855.250	160-250	250
855.260	250-400	400

Option:
855.507 Peacock dial indicator
0-10 mm, graduation 0.01 mm

Comparadores de cilindros MITUTOYO

Mitutoyo bore gauge sets with dial indicator

Bore gauge sets for measurement of holes and bores. The three measuring heads and three sets of measuring needles cover a measuring range of 18-150 mm.

- Measuring range: 18-150 mm.
- Measuring range dial indicator: 204.612: 0-10 mm, 210.911: 0-1 mm, 543.310: 0-12.7 mm.
- Measuring depth: 18-35 mm: 100 mm, 35-150 mm: 150 mm.
- Read-out depends on the type of dial indicator.
- Accuracy: 0.002 mm.
- Repeatability: 0.0005 mm.
- Clamping shaft: $\varnothing 8$ mm.
- Interchangeable measuring inserts with tungsten carbide stylus tip.
- Plastic cover for dial indicator.
- Several accessories available.
- Delivery in a case incl. dial indicator, three measuring heads and three sets of measuring inserts.



511.921

NEW

Item No.	Measuring range/mm	Dial indicator No.	Read-out mm
Analog:			
511.921	18-150	204.612	0.01
511.922	18-150	210.911	0.001
Digital (with determination of the reversal point):			
511.925	18-150	543.310	0.001



Kroeplin instrumento leitura digital 3 pontos

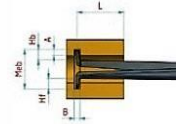
Kroeplin digital internal measuring instruments (3-point)

Kroeplin digital internal measuring instruments (3-point) for easier centering.

- Measuring range: 7-105 mm.
- Resolution: 0.002 or 0.005 mm.
- mm/inch conversion.
- ABS/INC switchable.
- With tolerance display.
- Protection: IP67.
- Delivery in a case with an inspection report.
- Power supply: 2 batteries AAA.



854.718



Item No.	Meas. depth L/mm	Groove depth A/mm	Groove width B/mm	Type of insert	Insert length Hb/mm
854.715	34	2.2	0.8	⊙	2.5
854.716	75	3.5	1.6	⊙	4.6
854.717	77	5.0	1.5	⊙	5.8
854.718	85	7.0	1.6	⊙	7.3
854.719	84	8.0	1.6	⊙	12.2
854.720	84	8.0	1.6	⊙	12.2
854.721	84	8.5	1.6	⊙	12.2
854.722	84	9.0	1.6	⊙	12.2

Item No.	Measuring range/mm	Resolution mm	Accuracy mm	Repeatability mm	Price
854.715	7- 14	0.002	0.01	0.004	
854.716	10- 20	0.005	0.02	0.01	
854.717	15- 30	0.005	0.02	0.01	
854.718	25- 45	0.005	0.02	0.01	
854.719	40- 60	0.005	0.02	0.01	
854.720	55- 75	0.005	0.02	0.01	
854.721	70- 90	0.005	0.02	0.01	
854.722	85-105	0.005	0.02	0.01	

- Options:**
497.914 Spare battery type AAA
854.952* Interface
854.953* Digimatic cable
854.954* USB cable
854.958* U-WAVE cable

*For data output is an interface and cable needed. Only for new instruments with serial number ≥ 1 .

Types of inserts



Comparadores de cilindros Schwenk

Schwenk internal measuring instruments

These internal measuring instruments are used for measuring cylindrical bores and form deviations compared to standards, for example, setting rings. In order to read out the measured values, any existing dial indicator or measuring probe with a clamping stem of $\phi 8$ mm can be used. The reversal point marks the right diameter of the bores. With digital indicators, it is recommended to use types that have a hold function for minimal measuring values.

- Measuring range: 4.5 - 800 mm.
- Read-out depends on the type of dial indicator or measuring probe.
- Accuracy: 4.5 - 290 mm: ≤ 0.002 mm, 280 - 800 mm: ≤ 0.003 mm.
- Repeatability: 4.5 - 290 mm: ≤ 0.0005 mm, 280 - 800 mm: ≤ 0.0015 mm.
- Clamping shaft: $\phi 8$ mm.
- Self-centering bridge.
- Fixed measuring probe supplied with tungsten carbide ball tip.
- Interchangeable probes standard supplied with tungsten carbide ball tip.
- Interchangeable probes also available with steel or ruby ball tip.
- Interchangeable probes also available with tungsten carbide ball tip.
- Delivery in a case incl. probes, spacer rings (from 12 mm) and measuring report.
- Excl. dial indicator or measuring probe.

Item No.	Measuring range/mm	Measuring depth/mm	Price
852.500	4.5 - 6	80	
852.501	6 - 8	100	
852.502	8 - 12	100	
852.503	12 - 20	110	
852.504	18 - 35	110	
852.505	35 - 60	177	
852.506	50 - 100	177	
852.507	50 - 150	177	
852.508	100 - 160	234	
852.509	100 - 230	234	
852.510	160 - 290	234	
852.511	160 - 360	234	
852.512	280 - 410	400	
852.513	280 - 510	400	
852.514	500 - 800	700	



See for dial indicators the page "Schwenk precision dial indicators".

Comparadores de cilindros Schwenk c/pontas boleadas

Schwenk internal measuring instruments with ball probes

Special internal measuring instruments for measuring profiles and internal toothings without centering bridge. The fixed pin gauge and interchangeable inserts come with internal screw thread, in which ball probes can be placed.

- Measuring range: 8 - 510 mm.
- Read-out depends on the type of dial indicator or measuring probe.
- Accuracy: ≤ 0.002 mm.
- Repeatability: ≤ 0.0005 mm.
- Clamping shaft: $\phi 8$ mm.
- Ball probes available from $\phi 0.5$ mm, rising with 0.001 mm. Deviation diameter: < 0.002 mm.
- Delivery in a case incl. interchangeable inserts and spacer ring(s).
- Excl. ball probes and dial indicator or measuring probe.



Item No.	Measuring range/mm	Measuring depth/mm	Price	Item No.	Set of ball probes	Price
852.625	8 - 12	100		852.626	ϕ optional	
852.627	12 - 22	102		852.628	ϕ optional, ≤ 4 mm	
852.629	22 - 55	110		852.630	ϕ optional, ≤ 7 mm	
				852.631	ϕ optional, > 7 mm	
				852.635	Insert sleeve for probes of internal measuring instrument 852.629	
852.632	55 - 250	177		852.633	ϕ optional, ≤ 7 mm	
852.636	100 - 510	235		852.634	ϕ optional, > 7 mm	

See for dial indicators the page "Schwenk precision dial indicators".

Comparadores de cilindros Schwenk até 2500mm

Schwenk internal measuring instruments for great depths

Special series of internal measuring instruments with extra long handles for measuring cylindrical bores and form deviations of bores up to 2.5 meters.

- Measuring range: 4.5 - 800 mm.
- Measuring depth: 250 - 2500 mm.
- Read-out depends on the type of dial indicator or measuring probe.
- Clamping shaft: $\phi 8$ mm.
- Self-centering bridge with wear resistance coating.
- Fixed measuring probe supplied with tungsten carbide ball tip.
- Interchangeable probes supplied with tungsten carbide ball tip.
- Delivery in a case incl. interchangeable probes and spacer rings (from 12 mm).
- Excl. dial indicator or measuring probe.



Meas. depth	250 mm	500 mm	750 mm	1000 mm	1250 mm	1500 mm	2000 mm	2500 mm
Measuring range/mm	Item No.	Item No.	Item No.	Item No.	Item No.	Item No.	Item No.	Item No.
4.5 - 6	852.520							
6 - 8	852.521	852.522	852.523	852.524				
8 - 12	852.525	852.526	852.527	852.528				
12 - 20	852.529	852.530	852.531	852.532				
18 - 35	852.533	852.534	852.535	852.536	852.537			
35 - 60	852.538	852.539	852.540	852.541	852.542	852.543	852.544	852.545
50 - 100	852.546	852.547	852.548	852.549	852.550	852.551	852.552	852.553
50 - 150	852.554	852.555	852.556	852.557	852.558	852.559	852.560	852.561
100 - 160		852.562	852.563	852.564	852.565	852.566	852.567	852.568
100 - 230		852.569	852.570	852.571	852.572	852.573	852.574	852.575
160 - 290		852.576	852.577	852.578	852.579	852.580	852.581	852.582
160 - 360		852.583	852.584	852.585	852.586	852.587	852.588	852.589
280 - 410		852.590	852.591	852.592	852.593	852.594	852.595	852.596
280 - 510		852.597	852.598	852.599	852.600	852.601	852.602	852.603
500 - 800				852.604	852.605	852.606	852.607	852.608

See for dial indicators the page "Schwenk precision dial indicators".

Comparadores de cilindros Schwenk Vario e furos cegos

Schwenk Vario internal measuring instruments

The Vario internal measuring instruments come with an extra high centering bridge that gives a more stable alignment, which means that it is no longer necessary to look for the reversal point. In this way, the internal measuring instruments are highly useful for serial inspection.

- Measuring range: 20 - 170 mm.
- Read-out depends on the type of dial indicator or measuring probe.
- Accuracy: ≤ 0.002 mm.
- Repeatability: ≤ 0.001 mm.
- Clamping shaft: $\phi 8$ mm.
- High self-centering and self-aligning bridge.
- Fixed measuring probe supplied with tungsten carbide ball tip.
- Interchangeable probes supplied with tungsten carbide ball tip.
- Short handle.
- Delivery in a case incl. interchangeable probes and spacer rings.
- Excl. dial indicator or measuring probe.

Item No.	Measuring range/mm	a mm	Price
852.610	20 - 35	21	
852.611	35 - 55	23	
852.612	50 - 80	24	
852.613	80 - 120	24	
852.614	120 - 170	30	



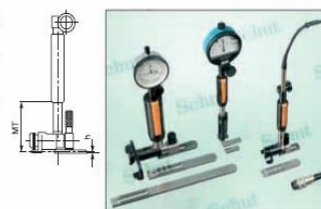
See for dial indicators the page "Schwenk precision dial indicators".

Schwenk internal measuring instruments for blind bores

These internal measuring instruments have been designed in such a way that they can measure the roundness and cylindricity of blind bores almost to the bottom. The adjustable measuring axis can be changed easily, and is equipped with ruling and toothing, so it can't move during measurement.

- Measuring range: 20 - 400 mm (up to 600 mm on request).
- Read-out depends on the type of dial indicator or measuring probe.
- Accuracy: 20 - 60 mm: ≤ 0.004 mm, 50 - 400 mm: ≤ 0.0025 mm.
- Repeatability: ≤ 0.001 mm.
- Clamping shaft: $\phi 8$ mm.
- Self-centering bridge.
- Fixed measuring probe supplied with tungsten carbide ball tip.
- Interchangeable, adjustable measuring axes standard supplied with tungsten carbide ball tip.
- Fixed probe and interchangeable axes also available with ruby ball tip.
- Distance ball tips to bottom blind bores (h): 20 - 140 mm: 1.5 mm, 110 - 400 mm: 2.0 mm.
- Delivery in a case incl. interchangeable axes.
- Excl. dial indicator or measuring probe.

Item No.	Measuring range/mm	MT mm	h mm	Price
852.615	20 - 50	77	1.5	
852.616	20 - 60	77	1.5	
852.617	50 - 110	60	1.5	
852.618	50 - 140	60	1.5	
852.619	110 - 300	90	2.0	
852.620	110 - 400	90	2.0	



See for dial indicators the page "Schwenk precision dial indicators".

Schwenk Rabito internal measuring instruments

The design of the Rabito internal measuring instruments is based on Schwenk's well-proven principle, and has been developed to offer a high accuracy at a low price. Due to the robust construction very suited for use in the clean room as well as for batch measurements on the production floor.

- Measuring range: 18 - 150 mm.
- Read-out depends on the type of dial indicator or measuring probe.
- Accuracy: ≤ 0.004 mm.
- Repeatability: ≤ 0.002 mm.
- Clamping shaft: $\varnothing 8$ mm.
- Travel: 1.4 mm (18 - 25 mm: 1.3 mm).
- Fixed and interchangeable measuring probes supplied with tungsten carbide ball tip.
- Item 852.957 consists of item 852.954, an extension up to 50 mm and item 852.956.
- Delivery in a case incl. interchangeable probes and spacer rings. Excl. setting rings and dial indicator or measuring probe.



Item No.	Measuring range/mm	Measuring depth/mm	Price
852.954	18 - 35	176	
852.955	35 - 60	178	
852.956	50 - 150	178	
852.957	18 - 150	178	

See for dial indicators the page "Schwenk precision dial indicators".

Schwenk internal measuring instruments/contourmeters

Internal measuring instruments to measure the cross-sections of round and not-round bores. The surface may be smooth or rough.

- Measuring range: 14 - 180 mm.
- Graduation: 0.1 mm.
- Stainless steel strip.
- Tape width: 20 mm.
- Delivery in a case.
- Available on request:
 - for larger diameters up to 330 mm,
 - with measuring report,
 - digital model (incl. display).



Item No.	Measuring range/mm	Price
852.683	14 - 24	
852.684	22 - 40	
852.685	35 - 60	
852.697	55 - 100	
852.937	95 - 180	

TESA CNC presetting bench units TPS 300/500/1000

The TESA TPS CNC universal presetting benches are specially designed for checking and presetting all kind of 2-point and 3-point handheld tools used for both internal and external measurements up to 1040 mm. The need for a wide variety of setting standards such as ring gauges and gauges blocks is eliminated. By using universal accessories the instrument is suitable for presetting and checking micrometers, calipers, dial indicators, dial test indicators, three-point internal micrometers and internal measuring instruments from various manufacturers.

- The preset values and the motorized position movement allow instantaneous use of the instrument.
- All entered preset values respect ISO/DIN 286 tolerances. Individual tolerances can be programmed.



Item No.	Type
782.848	TPS 300
782.849	TPS 500
782.850	TPS 1000

Options

Item No.	Measuring range/mm
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Self-centering internal meas. instr. (2-point):

782.951	4.5 - 6
782.952	6 - 12.5
782.953	12 - 25
782.954	25 - 50
782.955	50 - 150
782.956	150 - 300
782.957	240 - 550

Internal meas. instr. (2-point, small bores):

782.959	6 - 12.5
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Internal measuring instruments (2-point):

782.961*	10 - 150
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Micrometers and external meas. instruments:

782.960*	40 - 1040
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TESA Inotest:

782.962*	50 - 1040
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Dial indicators (clamping stem $\varnothing 8$ mm):

782.966	10 - 150
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Dial test indicators:

782.967	Dial indicator stand
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*Two needed.

- Internal measuring range:
 - TPS 300: 4.5 - 305 mm,
 - TPS 500: 4.5 - 508 mm,
 - TPS 1000: 10 - 1016 mm.
- External measuring range:
 - TPS 300: 40 - 330 mm,
 - TPS 500: 40 - 532 mm,
 - TPS 1000: 40 - 1040 mm.
- Resolution: 0.001 mm.
- Accuracy at $20 \pm 0.5^\circ\text{C}$ and a relative humidity of $50 \pm 5\%$: $\pm (1.5 + L/300)$ μm (L in mm).
- Repeatability: 0.001 mm.
- RS232C data output.
- Measuring force: 10 N.
- Dimensions and weight:
 - TPS 300: 610 x 300 x 270 mm, 50 kg,
 - TPS 500: 820 x 300 x 300 mm, 75 kg,
 - TPS 1000: 1330 x 340 x 300 mm, 300 kg.
- Three rubber feet acting like vibration inhibitors.
- Delivery with an inspection report and a declaration of conformity.
- Power supply: 80 - 240 V, 50 - 60 Hz.



Ask for the detailed brochure

Dialtest crankshaft meters

- Measuring range: 45 - 500 mm.
- Graduation: 0.01 mm.
- Rotatable dial.
- Delivery with dial indicator, counter-weight and extensions in a case.



Item No.	Measuring range/mm	Price
831.469	45 - 150	
831.470	60 - 300	
831.471	60 - 500	

Options:

- 831.472 Separate dial indicator for 831.469
- 831.473 Counterweight for 831.469
- 831.474 Separate dial indicator for 831.470 and 831.471
- 831.475 Counterweight for 831.470 and 831.471



0735 Crankshaft gauges



- Model**
- With dial gauge
 - To be positioned between 2 crank arms
 - Centre punch is not required
 - Horizontal position of the dial gauge is assured with a plumb bob
- Delivery**
- Wooden case



Measuring range	Reading	Order no.
45 - 150	0.01	0735 101
60 - 300	0.01	0735 102
60 - 500	0.01	0735 103

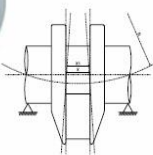
0735 Replacement gauge for 0735

- Model**
- Without backplate

Order no.
For measuring range 45 - 150 mm
0735 801
For measuring range 60 - 300 / 60 - 500 mm
0735 802

Crankshaft meters

- Measuring range: 60 - 500 mm.
- Graduation: 0.01 mm.
- Rotatable dial.
- Delivery with dial indicator, counter-weight and extensions in a case.



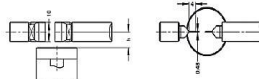
Item No.	Measuring range/mm	Price
907.918	60 - 300	
907.919	60 - 500	

Option:
907.917 Separate dial indicator

0736 Length measuring instruments for external incisions



- Model**
- Ideal for serial measurements of incision diameters on turned parts
 - Narrow measuring faces
 - High precision ball guide of the transmission bolt
 - Round support table, height adjustable, clamped for setting the exact measuring position
 - Heavy stand
 - Base unit in the angular grid $0^\circ / 30^\circ / 60^\circ / 90^\circ$
 - Tilted and clamped
 - Support for indicators with shaft $\varnothing 8$ mm
 - Display devices: analogue and digital indicators
- Delivery**
- Versions with other measuring inserts are available upon request
 - Cardboard box
 - Without digital indicator (optional)



Measuring range	Size of table	Height h	Order no.
0 - 10	25	8	0736 101
0 - 25	38	13	0736 102
25 - 50	50	25	0736 103