

Electronic indicators, Dial Gauges, Precision Indicators



EASY-TO-USE AND VERSATILE

As manufacturer of a full range of precision dial gauges for more than 50 years, we are able to provide you with a wide variety of models.

- Electronic indicators featuring a combined analogue/digital indication with the most up-to-date technology.
- Mechanical dial gauges with high-precision movement and smooth pointer revolution, double-action shockproof mechanisms as well as measuring spans up to 100 mm.



Which Style Do you Need?

- Digital indication provides error-free readout of the measured values as the fractions of the scale divisions need not be estimated, visually.
- Analogue indication has the advantage to change smoothly according to the size of the workpiece feature to be measured. This type of indication is best suited for dynamic measurements, e.g. when determining axial and radial runout errors.
- Electronic indicators provide many additional functions compared to the mechanical models. For more information, also read the pages F-4 to F-11.
- Electronic indicators, precision dial gauges as well as dial test indicators have the capability to measure with the lowest possible hysteresis. Therefore, they are ideally suited for runout inspection where this capability is required.
- In order to significantly reduce the effects of the systematic errors, we recommend to carry out a number of comparative measurements because only the actual size of each related nominal length will be read out. This means that electronic indicators, dial gauges with limited range of indication and precision indicators are best suited for this purpose.
- These hand-held tools also permit to avoid rough reading errors of the metric range.



Standards and Definitions

From now on, the international ISO 463:2006 standard replaces the national ones dealing with dial gauges. Newly applicable definitions and requirements also imply some changes of the so-called design and metrological characteristics, which could not be entirely reported in this issue.

This standard, which is part of the matrix «Product Specification (GPS) – Dimensional measuring equipment», states the requirements that affect the most significant characteristics mentioned above. Therefore, all values indicated in this catalogue as limit values for the metrological characteristics only are based on internal standards proper to our factory.

Electronic indicators

Precision indicators

Definitions used in this section:



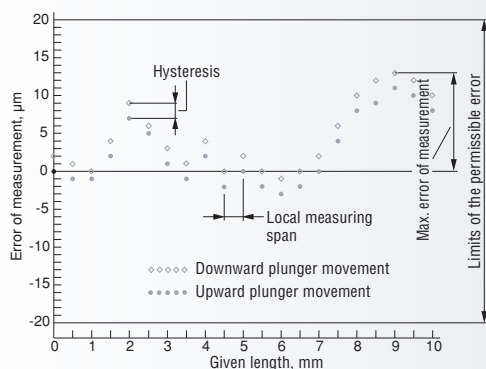
Max. perm. errors in one measuring direction
over the whole measuring range
within the local measuring range
in both measuring directions



Repeatability limit



Max. hysteresis



Mechanical dial gauges

Definitions used in this section for the maximum permissible errors of a metrological characteristic (MPE):



Deviation span
(Error of indication within the measuring range)

Deviation span (error of indication) within
the local measuring span

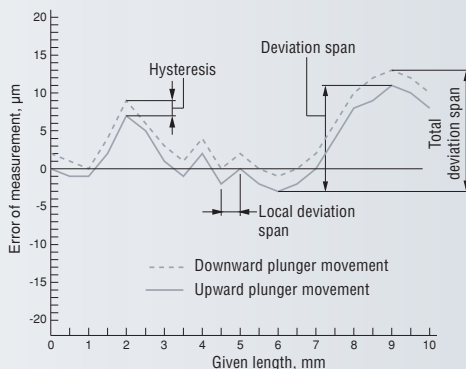
Total deviation span
(Error of indication within the measuring range)



Repeatability limit of indication



Hysteresis of indication



DIAL GAUGES

INDICATORS										
	mm		mm / in		mm / in		mm / in		mm / in	
NUMERICAL	Digico 200 - 300 - 400 - 500 - 600 - 700				12,5 ÷ 25		F-4 - F-7			
	Digico 1				30 ÷ 60		F-8 - F-9			
	Digico 12				5 ÷ 12,5		F-10 - F-11			
ANALOGUE, TYPE HI-FI	0,001				0,1		F-12 - F-13			

						
	mm / in		mm		mm / in	
ANALOGUE	mm	0,1	40 ÷ 58 ÷ 80		10 ÷ 20 ÷ 30	F-14
		0,01	40	    	0,4 ÷ 3 ÷ 5	F-15 - F-17
			58	    	0,8 ÷ 1 ÷ 10 ÷ 30 ÷ 50 ÷ 100	F-18 - F-23
			82	  	10 ÷ 30 ÷ 50 ÷ 100	F-24 - F-26
		0,002	40		0,16 ÷ 3	F-27
			58	 	0,16 ÷ 5	F-28
		0,001	40	  	0,08 ÷ 1	F-29 - F-30
			58	  	1 ÷ 5	F-31 - F-33
			82	 	1 ÷ 5	F-34
	in	0.001	40 ÷ 58		0.2 ÷ 0.4 ÷ 1	F-35
		0.0005	40 ÷ 58	 	0.2 ÷ 0.4 ÷ 1	F-36
		0.0001	40 ÷ 58	 	0.12 ÷ 0.2	F-37
ANALOGUE with small bezel (mm/inch)			29 mm – 1 1⁄8 in		0,2 ÷ 1 mm - 0.01 ÷ 0.04 in	F-38
ANALOGUE with back mounted plunger			38 ÷ 40 ÷ 58	  	0,16 ÷ 0,8 ÷ 1 ÷ 3 mm 0.05 in	F-39 - F-41
ACCESSORIES				Measuring inserts Retraction devices Backs for precision dial gauges		F-42 - F-44 F-45 F-46

TESA DIGICO 400 and 500

- Measuring modes **ABS/REL**.
- Dual LC Display.
- Display rotation through 270°. Same goes for the key functions.
- Mechanical tolerance marks.
- Symbols for both limit values.

Measuring functions and modes

ON – Auto OFF – PRESET mode – Tolerance mode – Data output – Counting sense reversal – Keypad lock – Metric/Inch units – Full RESET.



Combined analogue and numerical display

6-decade LC display field plus minus sign

10 x 5 mm Digit size (H x L)

Resolution to 0,01 mm = ±0,25 mm
Resolution to 0,001 mm = ±0,025 mm

MI or MIE type: metric/inch conversion

Glass scale with incremental divisions, capacitive

≤ 2 m/s

Full-metal housing with front face in polyamide.
Stainless steel plunger.
M2,5 mounting thread for the measuring insert.

RS232, opto-coupled

3V lithium battery, type CR2032

1 year to 2 years

10°C to 40°C

-10°C to 60°C

80%

EN 50081-1
EN 50082-1

Shipping case including one lithium battery 01961000

Identification number

Inspection report with a declaration of conformity



TESA DIGICO 400

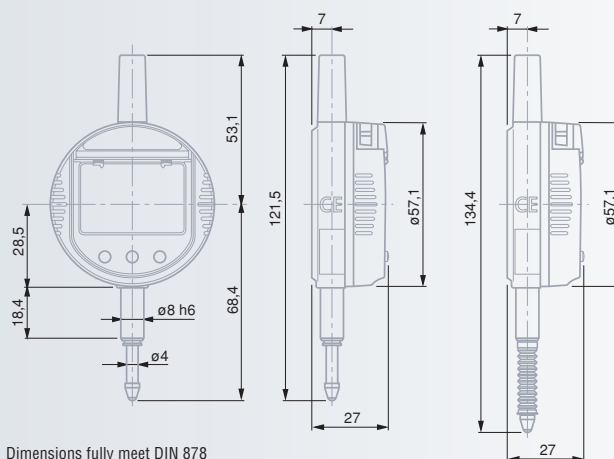
01930240	Digico 405 MI	12,5 / 0.5	0,01 / 0.0005	20	10	< 2	150
01930241	Digico 410 MI	25 / 1	0,01 / 0.0005	20	10	< 2	162

TESA DIGICO 500

01930250	Digico 505 MI	12,5 / 0.5	0,001 / 0.00005	4	2	< 2	150
01930251	Digico 510 MI	25 / 1	0,001 / 0.00005	5	2	< 2	162

TESA DIGICO 505 IP54

01930255	Digico 505 MIE	12,5 / 0.5	0,001 / 0.00005	4	2	< 2	150
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Dimensions fully meet DIN 878

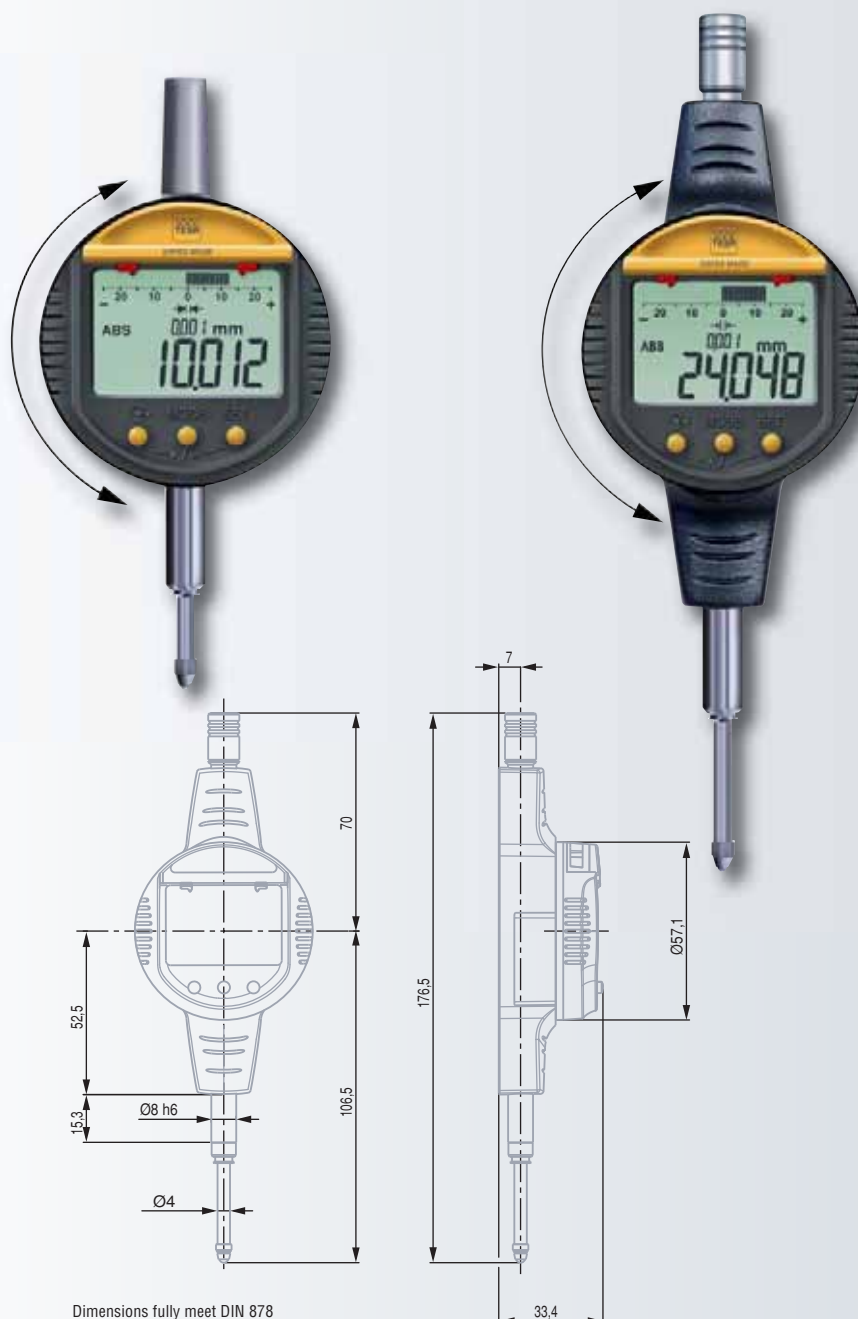
TESA DIGICO 600

- Measuring modes **ABS/REL**.
- Dual LC Display.
- Display rotation through 270°. Same goes for the key functions.
- Mechanical tolerance marks.
- Symbols for both limit values.

Measuring functions and modes

ON – Auto OFF – PRESET mode – Tolerance mode – Value storage mode

- Max • Min • Max-Min (TIR) – Data output – Counting sense reversal – Keypad lock – Metric/Inch units – Full RESET.



Dimensions fully meet DIN 878



Combined
analogue and
numerical display



6-decade LC
display field plus
minus sign



10 x 5 mm
Digit size (H x L)



Resolution to
0,01 mm =
±0,25 mm
Resolution to 0,001 mm =
±0,025 mm



MI or MIE type
with metric/inch
conversion



Glass scale with
incremental divi-
sions, capacitive



≤ 2 m/s



Full-metal housing
with front face in
polyamide.
Stainless steel plunger.
M2,5 mounting thread for
the measuring insert.



RS232,
opto-coupled



3V lithium battery,
type CR2032



1 year to 2 years



10°C to 40°C



-10°C to 60°C



80%



EN 50081-1
EN 50082-1



Shipping case
including a
lithium battery
01961000



Identification
number



Inspection report
with a declaration
of conformity



mm / in



mm / in



µm



µm



N



g

TESA DIGICO 600

		mm / in	mm / in	µm	µm	N	g
01930256	Digico 605 MI	12,5 / 0.5	0,001 / 0.00005	4	2	< 2	150
01930257	Digico 610 MI	25 / 1	0,001 / 0.00005	5	2	< 2	162



Combined
analogue and
numerical display

6-decade LC
display field plus
minus sign

10 x 5 mm
Digit size (H x L)

Resolution to
0,01 mm =
±0,25 mm
Resolution to 0,001 mm =
±0,025 mm

MI or MIE type
with metric/inch
conversion

Glass scale with
incremental divi-
sions, capacitive

≤ 2 m/s

Full-metal housing
with front face in
polyamide.
Stainless steel plunger.
M2,5 mounting thread for
the measuring insert.

RS232,
opto-coupled

3V lithium battery,
type CR2032

1 year to 2 years

10°C to 40°C

-10°C to 60°C

80%

EN 50081-1
EN 50082-1

Shipping case
including a
lithium battery
01961000

Identification
number

Inspection report
with a declaration
of conformity

TESA DIGICO 705

Use in conjunction with bore gauges with 2-point contact. Allows setting of the dial gauge on the smallest setting ring value.

- Same functions as DIGICO 600.



TESA DIGICO 705

01930258

Digico 705 MI

12,5 / 0.5

0,001 / 0.00005

4

2

< 2

150

Optional accessories available for all TESA DIGICO 200 to 700



01961000 Lithium battery, type CR2032, 3V, 190 mAh

01962002 External power supply

04761054 Mains adapter

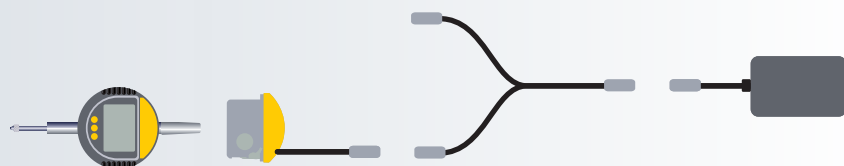
04761055 Cable EU for mains adapter

04761056 Cable US for mains adapter

Measuring inserts listed on page F-42

Backs and retraction devices detailed on page F-45

For information on connecting cables, refer to chapter A



Digico

01962002

04761054

TESA DIGICO 1 and 2

Both models are remarkable for their versatile functions, long measuring travel, high accuracy.

- Analogue and digital display; the latter can be displaced for easy reading in any position.
- Zero setting at any point within the measuring span.
- Data input through the keyboard.
- Counting sense reversal.
- Entry of limit values for classification through displayed symbols.
- Additional green, red or amber coloured background whenever the tool is connected to the mains.
- Value storage through the functions «Highest value», «Lowest value» or «Highest value minus lowest value».



✓
LC display
with coloured
background



6 decades plus
minus sign



9 x 4,5 mm digit
size (H x W)



See table
opposite



Metric/inch
conversion



40 mm
scale length



25 scale divisions



According
to selected
tolerances



30,4 mm
(DIGICO 1) or
60,4 mm
(DIGICO 2)



Incremental
glass scale



Max. 1 m/s for
(DIGICO 1) or
max. 2 m/s for
DIGICO 2



Plunger
guided on a
plain bearing
M2,5 mounting thread for
the measuring insert.



2 µm for DIGICO 1
3 µm for DIGICO 2



1 µm



1 µm



See table
on page F-9



RS232



3,6 V
lithium battery
or mains adapter



mm



mm



in



in

TESA electronic indicators

01930000	DIGICO 1	30	0,001 / 0,01	1.18	0.00005 / 0.0005
01930001	DIGICO 2	60	0,001 / 0,01	3.36	0.00005 / 0.0005

≈ 1000 h with lithium battery

0,002%/°C

10°C to 40°C

-10°C to 50°C



Dial casing of regular models to IP54 (IEC 60529)

290 g (DIGICO 1)
310 g (DIGICO 2)
Moved mass through the plunger:
28 g (DIGICO 1)
27 g (DIGICO 2)

Supplied in a suited shipping case including 1 lithium battery 01960007 plus 1 lift lever 01960005

Identification number

Inspection report with a declaration of conformity



Measuring force



DIGICO 1

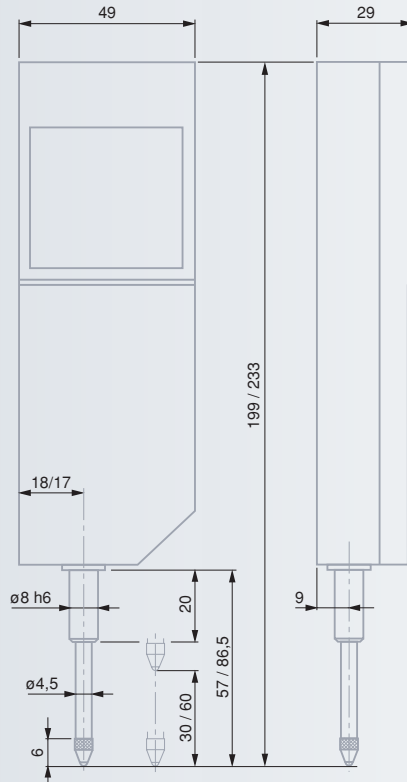
DIGICO 2

Measuring force*
close to plunger stop

– bottom	0,85 N ± 0,15 N	0,90 N ± 0,20 N
– top	1,10 N ± 0,20 N	1,45 N ± 0,25 N

Hysteresis*	0,10 N	0,15 N
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* Valid with the indicator used vertically, with downward oriented plunger, or in static measurement.

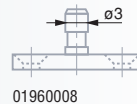


Accessories for TESA DIGICO 1 and 2



04761037	230 V mains adapter, 50 Hz, 9 V, 200 mA, 1,8 VA
04761057	110 V mains adapter
01960007	3,6 V lithium battery, LR6, AA
01960005	Lever for plunger retraction
01960009	Connector for vacuum plunger lift, suitable for DIGICO 1
01960008	Same as above, but for DIGICO 2
01960010	Connector for pneumatic plunger retraction, suitable for DIGICO 1 only
01960011	Adapter for use of the mains adapter together with the switch for triggering data transfer
04768000	Hand switch for triggering data transfer

For information on connecting cables, refer to chapter A



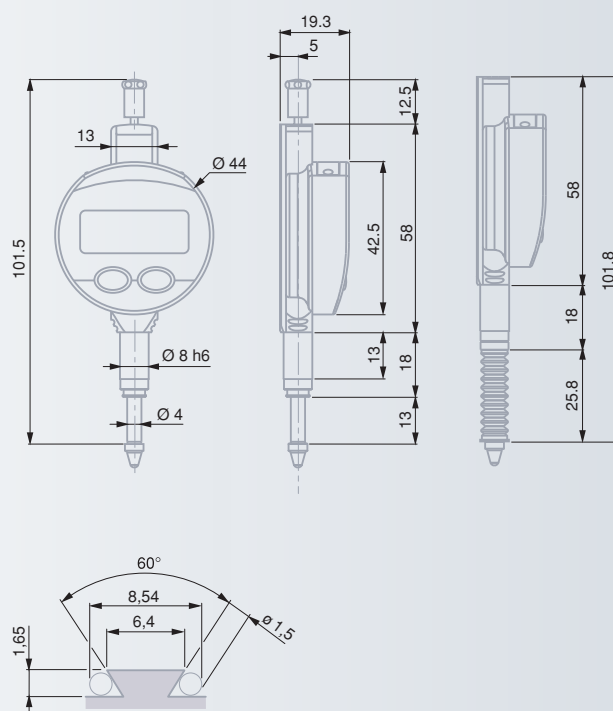
TESA DIGICO 12

Made to measure in extreme workshop conditions – Water and coolant resistant (IP65) – 44 mm dial diameter – Lets you take advantage of the mechanics combined with digital reading.



TESA DIGICO 12 – Standard

- 44 mm dial casing diameter.
- Water and coolant resistant (IP65).
- RS 232 SIMPLEX data output combined with external power supply.
- Inductive measuring system, patented.
- Choice between absolute («ABS») and relative («REL») measuring modes.
- Numerical display.
- Possible setting of PRESET value to ± 130 mm.
- Inverse measuring direction.
- Direct conversion of the metric/inch units.
- Automatic shut down.



5-digit LC display + sign



6 mm digit height



Zero-setting of display



20 μ m



5 μ m



0.5 to 0.9 N (± 0.15 N)



Max. 2 m/s



Number of measurements per second: 7



Working temperature range: $+5^{\circ}\text{C}$ to $+40^{\circ}\text{C}$



3V lithium battery, type CR 2032



Battery life > 3500 hours



RS232



70 g



EN 61326-1



IP65 (IEC 529)



Shipping case including 1 lithium battery, type CR 2032 (order No. 01961000).



Identification number



Declaration of conformity



Models 0.01 mm with report. Models 0.001 mm without report.



mm/in

mm

in

Module

IP65 indicators with electronic module protected against the penetration of liquids

01930130	12,5/0.5	0,01	0.0005	IP65
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01930132	12,5/0.5	0,001 / 0,01	0.00005 / 0.0005	IP65
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IP65 indicators with mechanics and electronics protected against the penetration of liquids

01930131	12,5/0.5	0,01	0.0005	IP65
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01930133	12,5/0.5	0,001 / 0,01	0.00005 / 0.0005	IP65
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LCD,
5 digits + sign

6 mm
digit height

Zero-setting
of display

4 μ m

2 μ m

0,4 to 0,75 N
($\pm 0,15$ N)

Max. 2 m/s

Number of
measurements
per second: 9

Working tempera-
ture range:
+5°C to +40°C

3V lithium
battery,
type CR 2032

Battery life
> 4000 hours

RS232

70 g

EN 61326-1

IP65 (IEC 529)

1 lithium battery,
type CR 2032.
Order number:
01961000.

Identification
number

Inspection report
with a declaration
of conformity

TESA DIGICO 12 – HP

- High-precision measuring system.
- Water and coolant resistant (IP65).
- Combined analogue/digital display.
- Analogue readout from $\pm 0,025$ to $\pm 1,25$ mm.
- NOR/MIN/MAX/MAX-MIN measuring modes.
- 44 mm dial casing diameter.
- RS232 data output, combined with external power supply.
- Inductive measuring system, patented.
- Zero-setting of display.
- Direct conversion of the metric/inch units.
- Automatic shut down. Can also be locked.



mm/in

mm

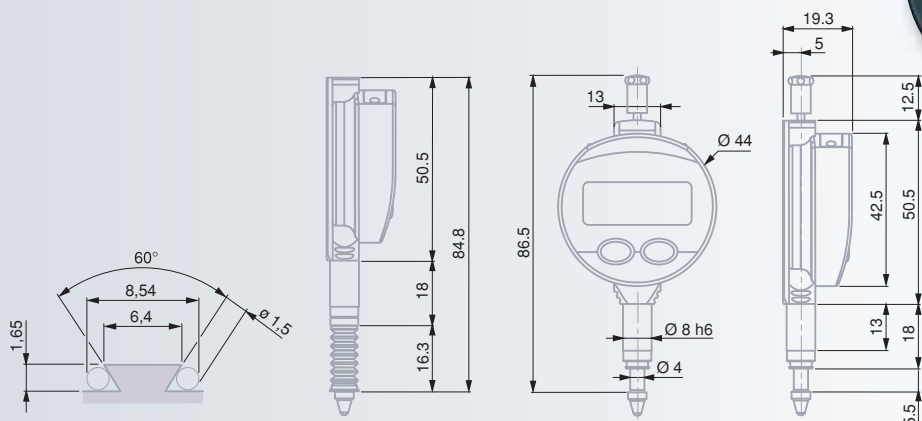
in

IP65 indicator HP with electronic module protected against the penetration of liquids

01930134	5/0.210	0,001 / 0,01	0.00005 / 0.0005	IP65
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IP65 indicator HP with mechanics and electronics protected against the penetration of liquids

01930135	5/0.210	0,001 / 0,01	0.00005 / 0.0005	IP65
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Accessories



03238013 Clamping lug

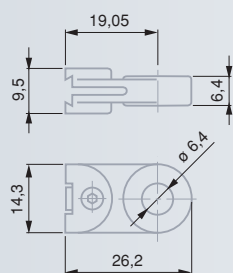
01961012 Upper lift lever

01960005 Lower lift lever

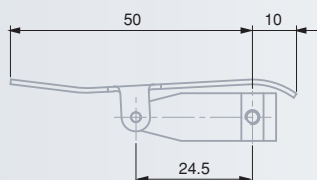
04761060 RS232 connecting cable along with external power supply

01961000 3 V lithium battery, type CR 2032, 190 mAh

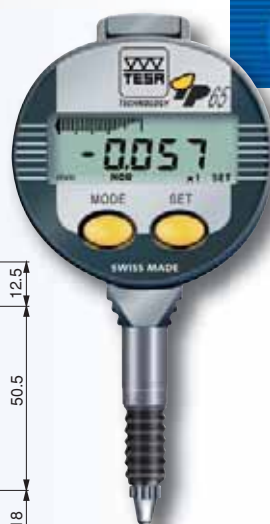
For information on connecting cables, refer to chapter A



03238013



01961012

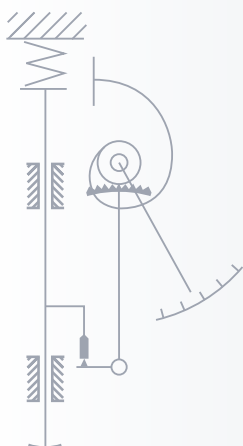


TESA CARY Microcomparators MCA-8

The absolute high precision

Specially designed for high precision measurement by comparison ($0,8 \mu\text{m}$) – Ideal for checking axial and radial runouts with a very low hysteresis ($0,3 \mu\text{m}$).

- TESA CARY precision mechanism mounted parallel to the measuring axis in compliance with the Abbe principle.
- Streamlined steel case for high rigidity.
- High precision throughout the measuring travel.
- Very low measuring force (from 150 mN).
- Non-rotating dial. Quickly set to zero by moving the pointer with just a thumb grip.
- Low sensitivity to temperature variations.



DIN 879



Non-rotating dial



Fine setting when moving the pointer



Full-metal dial casing. Stainless steel plunger, hardened.



Adjustable tolerance marks



M2,5 mounting thread for the measuring insert



Mounted insert with a 3 mm dia. steel ball tip



110 g



Plastic case



Identification number



Inspection report with a declaration of conformity



mm



mm



mN



mm



Range for zero-setting mm

Regular models

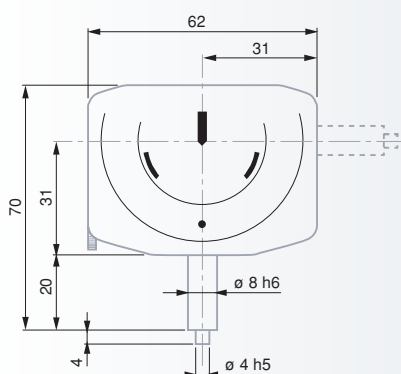
01410423	MCA8-2-500	0,001	0,1	3	500	50 ÷ 0 ÷ 50	± 0,006
01410425	MCA8-2-150	0,001	0,1	3	150	50 ÷ 0 ÷ 50	± 0,006
01410426	MCA8-2-300	0,001	0,1	3	300	50 ÷ 0 ÷ 50	± 0,006

Lateral model

01410424	MCA8-2-L	0,001	0,1	3	500	50 ÷ 0 ÷ 50	± 0,006
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Accessory

On request	Sealing bellow (to be specified when ordering)
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Precision



0,001 mm



Max. perm. errors, G_{ges}

0,8 μm



Repeatability limit, r

0,3 μm



Max. hysteresis, f_u

0,3 μm



DIN 879-1.
All sizes to
EN ISO 463

Ball-bearing
plunger

Full-metal
dial
casing.
Stainless steel plunger,
hardened.

Adjustable
tolerance
marks.
Coupling thread for the
lifting cable.
M2,5 mounting thread for
the measuring insert.

~ 1 N

Mounted insert
with a 3,175 mm
dia. steel ball tip.
Also with lifting
cable.

Suited
plastic case

Declaration
of conformity

ETALON Basic Precision Indicators

The absolute high precision

Remarkably reliable, even when constantly used for series inspection – Specially made for comparative measurements demanding a very low measurement uncertainty – Measure axial and radial runouts with the lowest hysteresis.

- Shockproof movement with gear-lever transmission and long dead travel.
- Large, non-dazzling dial for easy readout.
- No coarse reading errors as the measuring travel is limited to less than one revolution.
- Fine adjustment and protective knob to prevent unintentional pointer displacement.



Regular model

01419051 0,001 0,1 3,0 62 ● 50 ÷ 0 ÷ 50

Model to IP54, protected against the penetration of liquids

01419052 0,001 0,1 3,0 62 ● 50 ÷ 0 ÷ 50

Precision



0,001 mm



Max. perm. errors
in one direction throughout
the measuring range, G_s

1 μ m

over any local
measuring range including
10 scale divisions, G_l

0,7 μ m

in both measuring directions
throughout the measuring
range, G_{ges}

1,2 μ m



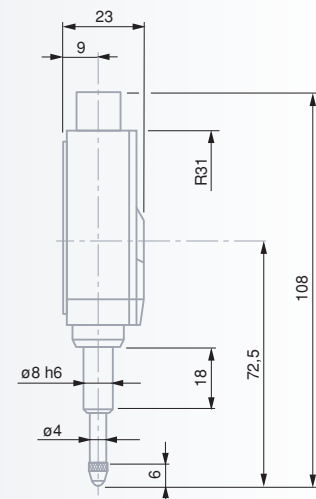
Repeatability limit, r_w

0,5 μ m



Max. hysteresis, f_h

0,5 μ m



Precision Dial Gauges

0,1 mm dial readout / 40, 58 or 80 mm dial diameter



EN ISO 463
Factory standard



0,1 mm



1,1 mm (40 mm dia.)
1,5 mm (58 mm dia.)
2,2 mm (80 mm dia.)



Rotating dial



Full-metal
dial casing.
Stainless steel
fixing shank and
plunger, hardened.



Without
shockproof
mechanism



M2,5 mounting
thread for the
measuring insert



See table
opposite



Mounted insert
with a 3,175 mm
dia. steel ball tip



Suited
plastic case

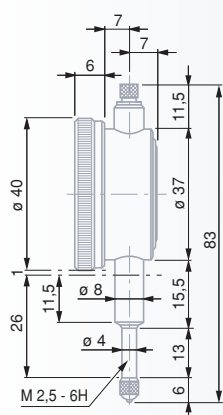


Identification
number

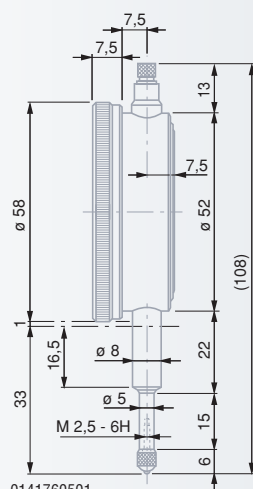


Declaration
of conformity

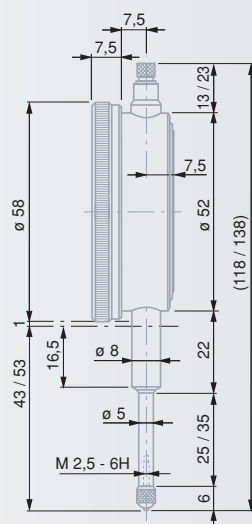
	mm	mm	mm	mm	mm	mm	N
ROCH dial gauges							
0141760500	40	0,1	10	10,5	—	10	0 ÷ 5 ÷ 10 ≤ 1,0
0141760501	58	0,1	10	10,5	—	10	0 ÷ 5 ÷ 10 ≤ 1,0
0141760502	58	0,1	20	20,5	—	10	0 ÷ 5 ÷ 10 ≤ 1,0
0141760503	58	0,1	30	30,5	—	10	0 ÷ 5 ÷ 10 ≤ 1,5
0141760513	80	0,1	30	30,5	—	10	0 ÷ 5 ÷ 10 ≤ 2,0



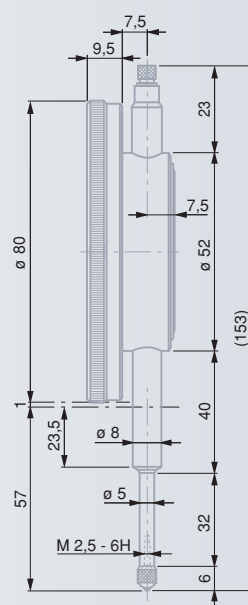
0141760500



0141760501



0141760503
Similar model:
0141760502



0141760513

Maximum permissible errors for a metrological characteristic (MPE)



0,1 mm



10 mm



Deviation span

40 µm



Deviation span within the local
measuring span of 1 mm

25 µm

Total deviation span

55 µm



Repeatability limit

15 µm

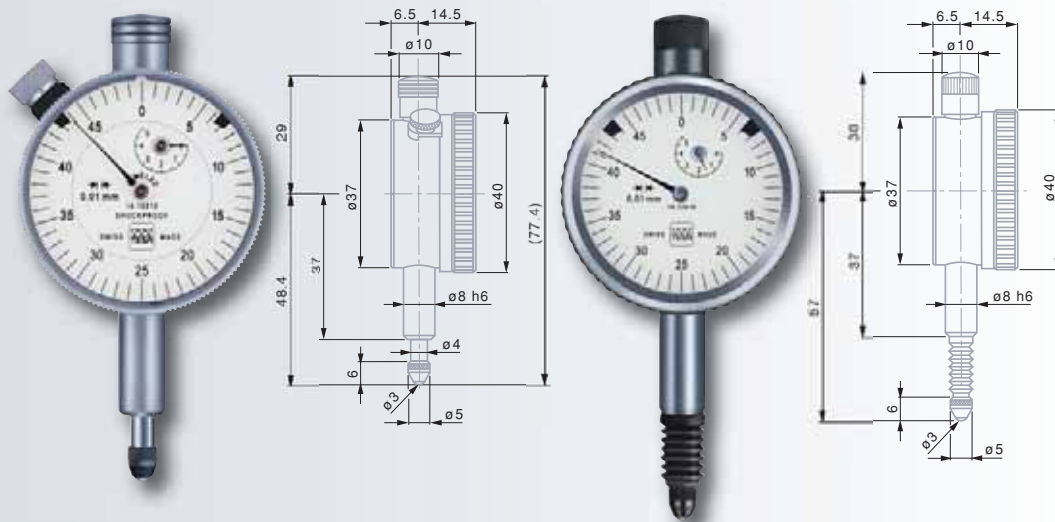


Max. hysteresis

15 µm



- Smooth full-jewelled movement with rubies.
- Full-metal dial casing and bezel.
- Fully shockproof mechanism.
- Non-dazzling dial.
- Swiss Made.



mm

01412410	YE	0,01	5	5,4	–	0,5	0 ÷ 25 ÷ 50	–
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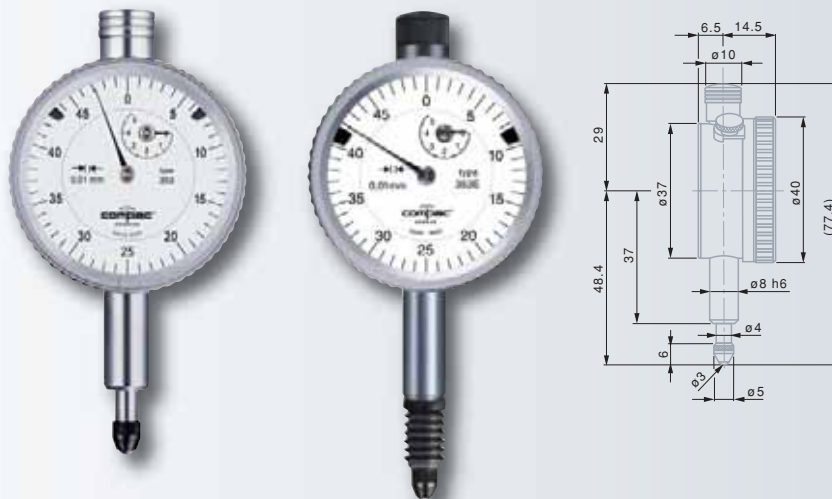
$$\leq 1,4 \text{ N}$$

Precision Dial Gauges

0,01 mm dial readout / 40 mm dial diameter

Remarkable for their robustness, these precision dial gauges are essential for the workshop.

- Smooth jewelled movement with rubies.
- Full-metal dial casing.
- Optimum protection against shocks.
- Swiss Made.



EN ISO 463
Factory
standard



0,01 mm



2,2 mm



Rotating dial



Full-metal
dial casing.
Stainless steel
fixing shank and plunger,
hardened.



Adjustable tolerance
marks. M2,5
mounting thread
for the measuring insert.



3 mm dia.
ball tip, already
mounted



Cardboard box



Identification
number



Inspection report
with a declaration
of conformity



mm

mm

mm

mm

COMPAC dial gauge

353 0,01 5 5,4 ● — 0,5 0 ÷ 25 ÷ 50

COMPAC IP54 dial gauge, protected against the penetration of liquids

353E 0,01 5 5,4 ● — 0,5 0 ÷ 25 ÷ 50

COMPAC dial gauge with limited reading range

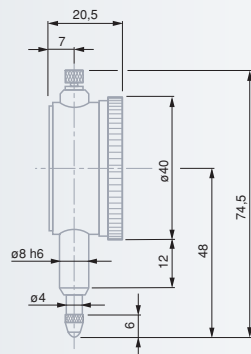
353S 0,01 ±0,2 3,3 ● — 0,5 20 ÷ 0 ÷ 20

Permissible limits of a metrological characteristic (MPE/MPL)

	± 0,2 mm	5 mm
Deviation span	7 µm	12 µm
Deviation span within the local measuring span 0,10 mm	5 µm	6 µm
Total deviation span	9 µm	14 µm
Repeatability limit	3 µm	3 µm
Max. hysteresis	3 µm	3 µm
Measuring force	≤ 1,4 N	≤ 1,4 N
– Model IP54	–	≤ 2 N



* With extra red tinted reverse numbering.



01419047

Precision Dial Gauges

0.01 mm dial readout / 57 or 58 mm dial diameter



EN ISO 463
Factory standard



0.01 mm



1.5 mm



Rotating dial.
Regular models
with or without dial lock.



Full-metal
dial casing.
Stainless steel
fixing shank and plunger,
hardened.



With or without shockproof mechanism



Adjustable tolerance marks. M2,5 mounting thread for the measuring insert.



3 mm dia.
ball tip, already
mounted



Cardboard box



Identification
number

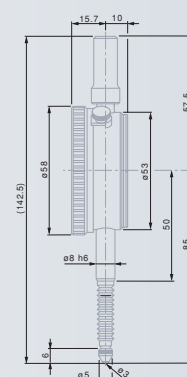


 Inspection report with a declaration of conformity

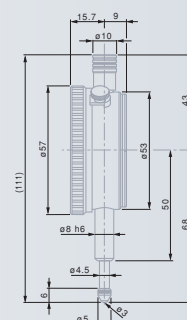
								
TESA dial gauges								
01410610	YR	0,01	10	10,5	●	●	1	0 ÷ 50 ÷ 100
01410611	YR	0,01	10	10,5	●	●	1	0 ÷ 50 ÷ 0
01412310	YE	0,01	10	10,5	—	—	1	0 ÷ 50 ÷ 100
MERCER dial gauges								
01416020	250-1	0,01	10	10,5	—	●	1	0 ÷ 50 ÷ 0
01416021	251-1	0,01	10	10,5	—	●	1	0 ÷ 50 ÷ 100
TESA IP54 dial gauges, protected against the penetration of liquids								
01410721	YR	0,01	10	10,5	●	—	1	0 ÷ 50 ÷ 0
01412411	YE	0,01	10	10,5	—	—	1	0 ÷ 50 ÷ 100
TESA dial gauge with limited reading range								
01412211	YE	0,01	± 0,4	4	●	—	1,27	40 ÷ 0 ÷ 40

Permissible limits of a metrological characteristic (MPE/MPL)

			
		± 0,4	10 mm
	Deviation span	7 µm	15 µm
	Deviation span within the local measuring span 0,10 mm	5 µm	8 µm
	Total deviation span	9 µm	17 µm
	Repeatability limit	3 µm	3 µm
	Max. hysteresis	3 µm	3 µm
	Measuring force	≤ 1 N	≤ 1,5 N
	– Models IP54	–	≤ 2,2 N



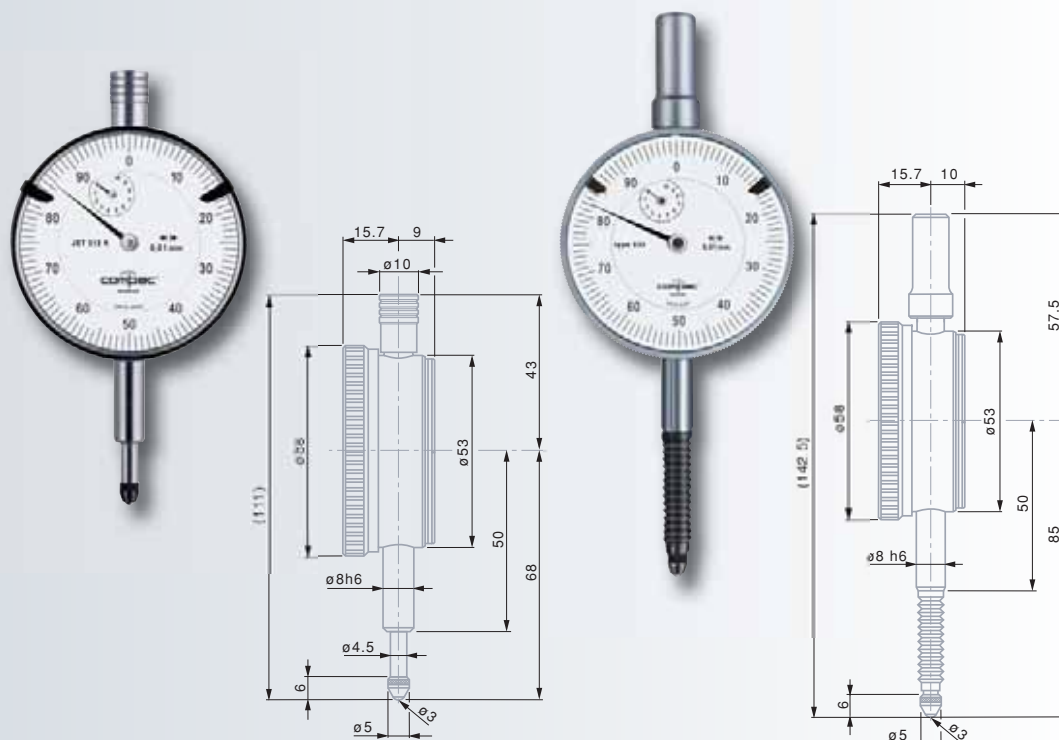
01410721 – 01412411



01410610 – 01410611

Precision Dial Gauges

0,01 mm dial readout / 58 mm dial diameter



EN ISO 463
Factory
standard



0,01 mm



1,5 mm



Rotating dial
with or without
dial lock



Full-metal
dial casing.
Stainless steel
fixing shank and plunger,
hardened.



Adjustable toler-
ance marks. M2,5
mounting thread
for the measuring insert.



3 mm dia.
ball tip, already
mounted.



Cardboard box



Identification
number



Inspection report
with a declaration
of conformity



mm



mm



mm



mm



COMPAC dial gauges

512K	0,01	10	10,5	—	—	1	0 ÷ 50 ÷ 100
532	0,01	10	10,5	●	—	1	0 ÷ 50 ÷ 100

COMPAC IP 54 dial gauge, protected against the penetration of liquids

532E	0,01	10	10,5	●	—	1	0 ÷ 50 ÷ 100
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COMPAC dial gauges with limited reading range

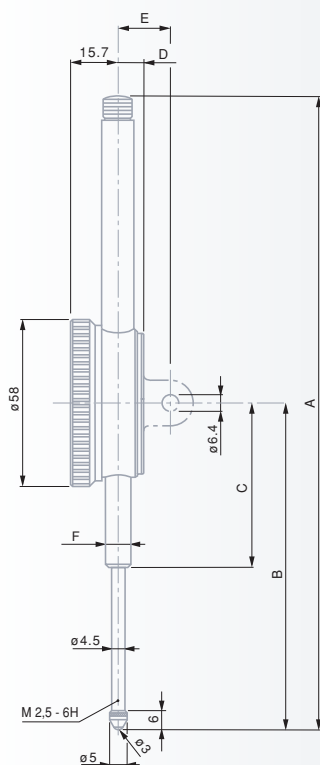
532S	0,01	± 0,4	4	●	●	1,27	40 ÷ 0 ÷ 40
533S	0,01	± 0,5	4	●	—	1,27	50 ÷ 0 ÷ 50

Permissible limits of a metrological characteristic (MPE/MPL)

	±0,4 / ±0,5 mm	10 mm
Deviation span	7 µm	15 µm
Deviation span within the local measuring span 0,10 mm	5 µm	8 µm
Total deviation span	9 µm	17 µm
Repeatability limit	3 µm	3 µm
Max. hysteresis	3 µm	3 µm
Measuring force	≤ 1 N	≤ 1,5 N
— Model IP54	—	≤ 2,2 N

Long Range Precision Dial Gauges

0,01 mm dial readout / 58 mm dial diameter



	30 mm	50 mm	100 mm
A	148	228	390
B	88	117,2	211,6
C	50	60	103,6
D	10	9	9
E	20	19	19
F	Ø 8h6	Ø 8h6	Ø 8h6

	mm	mm	mm	mm	mm	mm	mm
COMPAC dial gauges							
712	0,01	30	30,5	●	—	1	0 ÷ 50 ÷ 100
722	0,01	50	50,5	●	—	1	0 ÷ 50 ÷ 100
732	0,01	100	100,5	●	—	1	0 ÷ 50 ÷ 100
MERCER dial gauge							
01416039 252-1	0,01	30	30,5	●	●	1	0 ÷ 50 ÷ 100

Permissible limits of a metrological characteristic (MPE/MPL)

	30 mm	50 mm	100 mm
Deviation span	20 µm	25 µm	30 µm
Total deviation span	25 µm	30 µm	35 µm
Repeatability limit	3 µm	3 µm	3 µm
Max. hysteresis	5 µm	5 µm	8 µm
Measuring force	≤ 2,2 N	≤ 2,5 N	≤ 3,2 N



EN ISO 463
Factory
standard



0,01 mm



1,5 mm



Rotating dial
with or without
dial lock



Full-metal
dial casing.
Stainless steel
fixing shank and plunger,
hardened.



Adjustable toler-
ance marks. M2,5
mounting thread
for the measuring insert.



3 mm dia.
ball tip, already
mounted.



Cardboard box



Identification
number



Inspection report
with a declaration
of conformity

Long Range Precision Dial Gauges

0,01 mm dial readout / 58 mm dial diameter

Both models 0141760635 and 0141760636 are particularly profitable.



EN ISO 463
Factory
standard

0,01 mm

1,5 mm

Rotating dial

Full-metal
dial casing.
Stainless steel
fixing shank and plunger,
hardened.

With or without
shockproof
mechanism

Adjustable
tolerance
marks.

Model No. 0141760640
with fine adjust mounted
under the protective cap
for dial reading.
M2,5 mounting thread for
the measuring insert.

For accuracy,
see table on
page F-22

See table
opposite

Mounted insert
with a 3,175 mm
dia. steel ball tip.

Exception:
Each model No. 0141760631
has a ruby ball tip.

Plastic case or
cardboard box

Identification
number

Declaration
of conformity



ROCH dial gauges

	mm	mm	mm	mm	mm	mm	N
0141760631	0,01	10	10,5	—	1	0 ÷ 50 ÷ 100*	≤ 1,4
0141760635	0,01	10	10,5	—	1	0 ÷ 50 ÷ 100*	≤ 1,4
0141760636****	0,01	10	10,5	—	1	0 ÷ 50 ÷ 100*	≤ 1,4
0141760640	0,01	10	10,5	●	1	0 ÷ 50 ÷ 100*	≤ 1,4
0141761213***	0,01	15	15,5	●	1	0 ÷ 50 ÷ 100*	≤ 1,6
0141760651	0,01	30	30,5	—	1	0 ÷ 50 ÷ 100	≤ 1,6
0141760653	0,01	30	30,5	●	1	0 ÷ 50 ÷ 100	≤ 1,6
0141760661	0,01	50	51	—	1	0 ÷ 50 ÷ 100	≤ 2,2
0141760662**	0,01	50	51	—	1	0 ÷ 50 ÷ 100	≤ 2,2
0141760663	0,01	50	51	●	1	0 ÷ 50 ÷ 100	≤ 2,2
0141760671	0,01	80	81	—	1	0 ÷ 50 ÷ 100	≤ 3,0

ROCH IP54 dial gauge, protected against the penetration of liquids

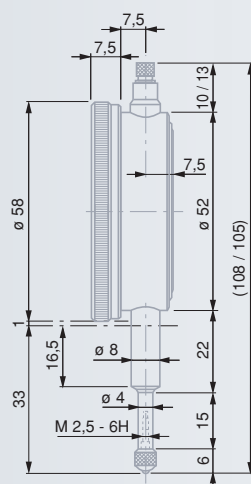
0141760624	0,01	10	10,5	●	1	0 ÷ 50 ÷ 100*	≤ 2
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* With extra red tinted reverse numbering.

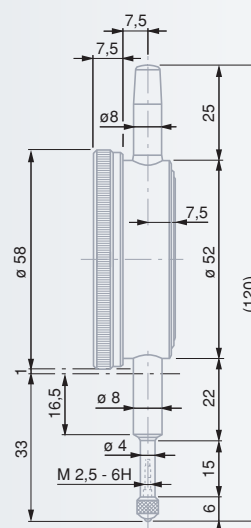
** Counterclockwise numbering.

*** 60,4 mm dial diameter.

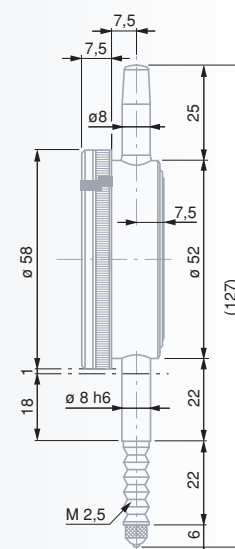
**** With mounted central lug back.



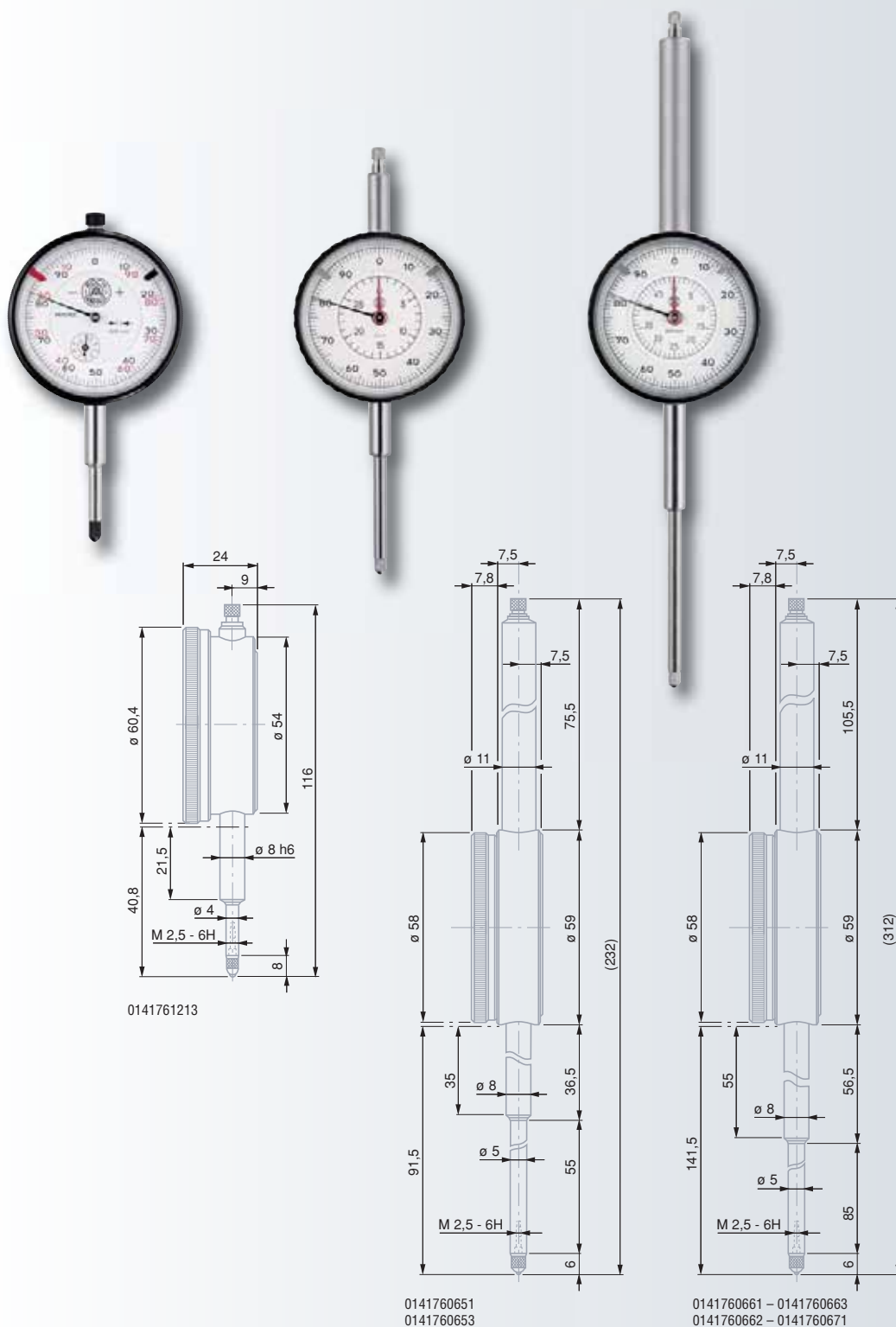
0141760631
0141760635
0141760636



0141760640



0141760624



EN ISO 463
Factory standard



0,01 mm



1,5 mm



Rotating dial



Full-metal
dial casing.
Stainless steel
fixing shank and plunger,
hardened.



With or without
shockproof
mechanism



Adjustable tolerance
marks.
M2,5 mounting
thread for the measuring
insert.



In order
to eliminate
any hysteresis
when measuring with
the plunger moving
downward, this feature
has to be coupled on
the measuring points,
directly.



See table
on the previous
page F-21



Mounted insert
with a 3,175 mm
dia. steel ball tip.

Exception:
Each model No. 0141761213
has a ruby ball tip



Plastic case or
cardboard box



Identification
number



Declaration
of conformity

Maximum permissible errors for a metrological characteristic (MPE)

	0,01 mm	10 mm	15 mm	30 mm	50 mm	80 mm
Deviation span		15 µm	20 µm	20 µm	25 µm	30 µm
Deviation span within the local measuring span of 0,1 mm		5 µm	5 µm	5 µm	5 µm	5 µm
Repeatability limit		3 µm	3 µm	3 µm	3 µm	3 µm

Precision Dial Gauges

0,01 mm dial readout / 58 mm dial diameter

Regular and long range models



EN ISO 463
Factory
standard

0,01 mm

1,5 mm

Rotating dial

Full-metal
dial casing.
Stainless steel
fixing shank and plunger,
hardened.

With or without
shockproof
mechanism

Adjustable toler-
ance marks.
M2,5 mounting
thread for the measuring
insert.

See table
opposite

Mounted insert
with a 3,175 mm
dia. steel ball tip

Plastic case or
cardboard box

Identification
number

Declaration
of conformity



mm

mm

mm

mm

N

ETALON dial gauges

01419048	0,01	10	58	—	1	0 ÷ 50 ÷ 100	≈ 1
01419049	0,01	30	58	●	1	0 ÷ 50 ÷ 100	1,5 ÷ 2
01419050	0,01	50	58	●	1	0 ÷ 50 ÷ 100	1,5 ÷ 2

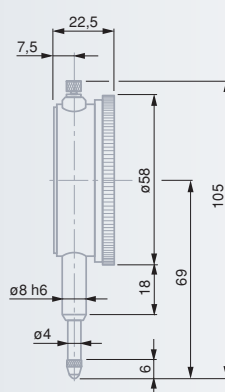
Plunger retraction device

01462003 Lift lever

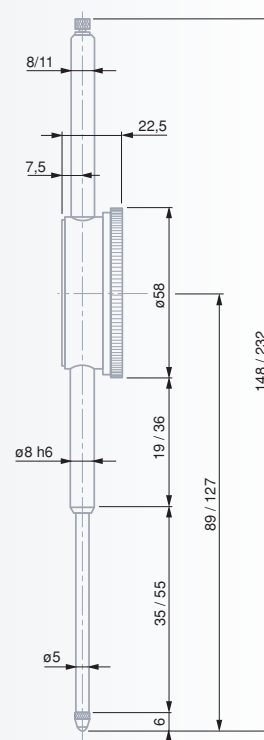
Backs with permanent magnet or central lug, see page F-45.

Maximum permissible errors for a metrological characteristic (MPE)

	mm	10	30	50
	µm	15	20	25
	µm	8	9	12
	µm	3	3	3



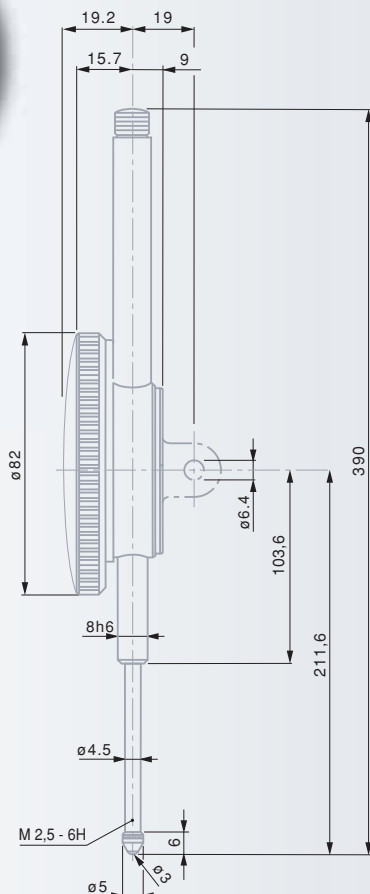
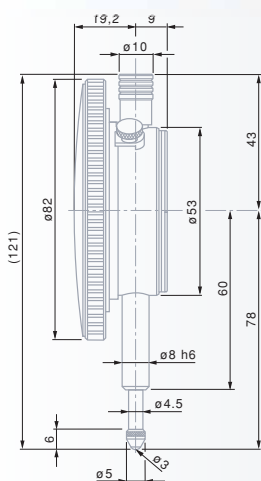
01419048



01419049 - 01419050

Precision Dial Gauges

0,01 mm dial readout / 82 mm dial diameter



EN ISO 463
Factory
standard



0,01 mm



2,3 mm



Rotating dial
with or without
dial lock



Full-metal
dial casing.
Stainless steel
fixing shank and plunger,
hardened.



High performance
shock proof system
in both directions



Adjustable toler-
ance marks. M2,5
mounting thread
for the measuring insert.



3 mm dia.
ball tip, already
mounted



Cardboard box



Identification
number



Inspection report
with a declaration
of conformity



mm

mm

mm

mm

TESA dial gauge with dial lock

01410910 YR 0,01 10 10,5 ● 0,1 0 ÷ 50 ÷ 100

TESA dial gauge with a long range

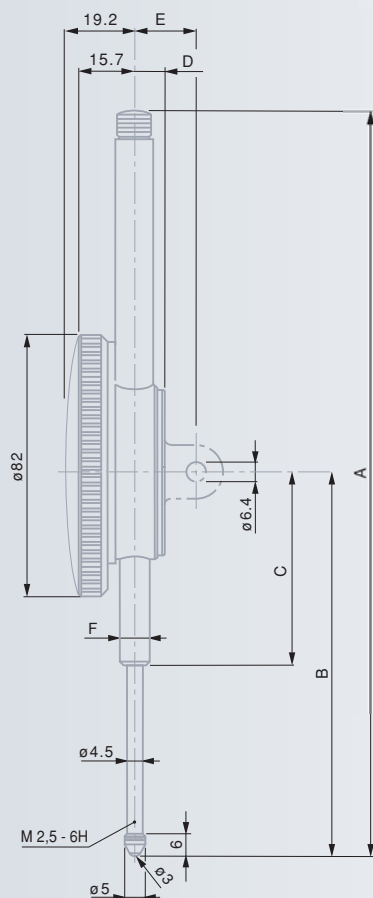
01412014 YE 0,01 100 100,5 ● 1 0 ÷ 50 ÷ 100

Permissible limits of a metrological characteristic (MPE/MPL)

		
	10 mm	100 mm
 Deviation span	15 µm	30 µm
 Deviation span within the local measuring span 0,10 mm	8 µm	–
 Total deviation span	17 µm	35 µm
 Repeatability limit	3 µm	3 µm
 Max. hysteresis	3 µm	8 µm
 Measuring force	≤ 1,4 N	≤ 3,2 N



0,01 mm dial readout / 82 mm dial diameter



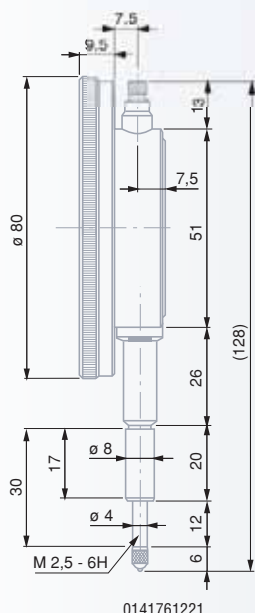
			
mm	30 mm	50 mm	100 mm
A	158	228	390
B	98	117,2	211,6
C	60	60	103,6
D	10	9	9
E	20	19	19
F	Ø 8h6	Ø 8h6	Ø 8h6

							
	mm	mm	mm			mm	
<i>COMPAC dial gauges with a long range</i>							
712G	0,01	30	30,5	●	—	1	0 ÷ 50 ÷ 100
722G	0,01	50	50,5	●	—	1	0 ÷ 50 ÷ 100
732G	0,01	100	100,5	●	—	1	0 ÷ 50 ÷ 100
732GB	0,01	100	100,5	●	●	1	0 ÷ 50 ÷ 100

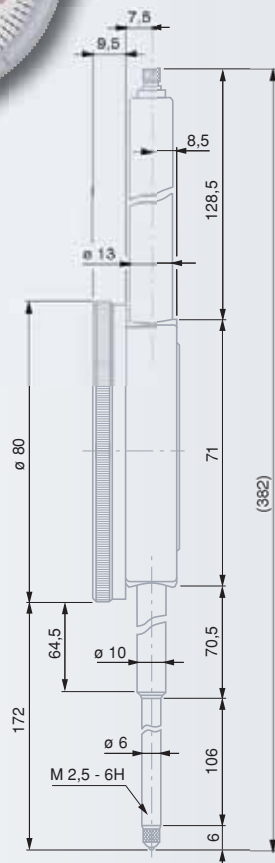
	30 mm	50 mm	100 mm
Deviation span	20 µm	25 µm	30 µm
Total deviation span	25 µm	30 µm	35 µm
Repeatability limit	3 µm	3 µm	3 µm
Max. hysteresis	5 µm	5 µm	8 µm
Measuring force	≤2,2 N	≤2,5 N	≤3,2 N

Precision Dial Gauges

0,01 mm dial readout / 80 mm dial diameter



0141761221



0141761224



EN ISO 463
Factory
standard



0,01 mm



2,2 mm



Rotating dial



Full-metal
dial casing.
Stainless steel
fixing shank and plunger,
hardened.



With or without
shockproof
mechanism



Adjustable
tolerance marks.
M2,5 mounting
thread for the measuring
insert.



See in the
table opposite



Mounted insert
with a 3,175 mm
dia. steel ball tip



Cardboard box



Identification
number



Declaration
of conformity



mm



mm



mm



mm



mm



mm



mm



N

ROCH dial gauges

0141761221	0,01	10	10,4	—	1	0 ÷ 50 ÷ 100*	≤1,4
0141761224	0,01	100	100,5	—	1	0 ÷ 50 ÷ 100	≤3,5

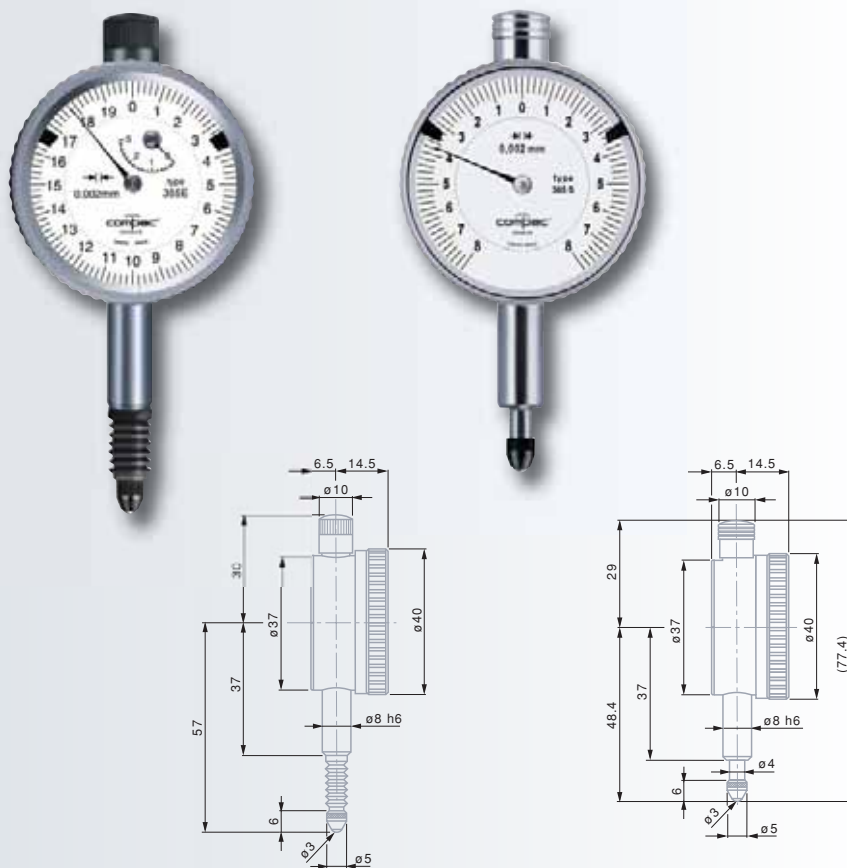
* With extra red tinted reverse numbering.

Maximum permissible errors for a metrological characteristic (MPE)

	10 mm	100 mm
Deviation span	15 µm	35 µm
Deviation span within the local measuring span of 0,1 mm	5 µm	8 µm
Total deviation span	19 µm	—
Repeatability limit	3 µm	8 µm
Max. hysteresis	3 µm	—

Precision Dial Gauges

0,002 mm dial readout / 40 mm dial diameter



EN ISO 463
Factory
standard



0,002 mm



1,1 mm



Rotating dial



Full-metal
dial casing.
Stainless steel
fixing shank and plunger,
hardened.



Adjustable toler-
ance marks. M2,5
mounting thread
for the measuring insert.



3 mm dia.
ball tip, already
mounted



Cardboard box



Identification
number



Inspection report
with a declaration
of conformity



mm



mm



mm



mm



COMPAC dial gauge

355 0,002 3 3,3 ● — 0,2 0 ÷ 10 ÷ 20

COMPAC dial gauge IP54, protected against the penetration of liquids

355E 0,002 3 3,3 ● — 0,2 0 ÷ 10 ÷ 20

COMPAC dial gauge with limited reading range

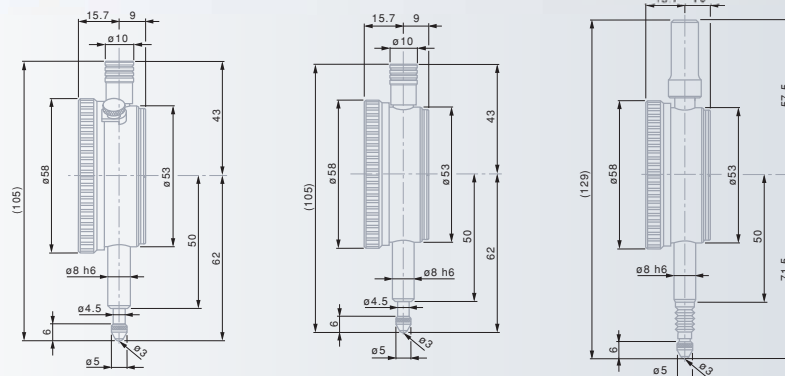
365S 0,002 ±0,08 1,5 ● — 0,2 8 ÷ 0 ÷ 8

Permissible limits of a metrological characteristic (MPE/MPL)

	±0,08 mm	3 mm
Deviation span	2 µm	10 µm
Deviation span within the local measuring span 0,10 mm	2 µm	6 µm
Total deviation span	4 µm	12 µm
Repeatability limit	1 µm	1,5 µm
Max. hysteresis	1 µm	2 µm
Measuring force – Model IP54	≤ 1,4 N –	≤ 1,4 N ≤ 1,7 N

Precision Dial Gauges

0,002 mm dial readout / 58 mm dial diameter



EN ISO 463
Factory
standard



0,002 mm



1,5 mm



Rotating dial
with or without
dial lock



Full-metal
dial casing.
Stainless steel
fixing shank and plunger,
hardened.



Adjustable toler-
ance marks. M2,5
mounting thread
for the measuring insert.



3 mm dia.
ball tip, already
mounted.



Cardboard box



Identification
number



Inspection report
with a declaration
of conformity



mm



mm



mm



mm



mm



mm



mm

MERCER dial gauges

01416034	253-1	0,002	5	5,3	—	●	0,2	0 ÷ 10 ÷ 0
01416035	254-1	0,002	5	5,3	—	●	0,2	0 ÷ 10 ÷ 20

COMPAC dial gauge

555		0,002	5	5,3	●	—	0,2	0 ÷ 10 ÷ 20
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COMPAC dial gauge IP54, protected against the penetration of liquids

555E		0,002	5	5,3	●	—	0,2	0 ÷ 10 ÷ 20
------	--	-------	---	-----	---	---	-----	-------------

COMPAC dial gauge with limited reading range

565S		0,002	±0,08	3,3	●	—	0,2	8 ÷ 0 ÷ 8
------	--	-------	-------	-----	---	---	-----	-----------

Permissible limits of a metrological characteristic (MPE/MPL)

Deviation span	±0,08 mm	5 mm
Total deviation span	4 µm	12 µm
Repeatability limit	1 µm	2 µm
Max. hysteresis	1 µm	2 µm
Measuring force — Model IP54	≤ 1,5 N —	≤ 1,5 N ≤ 1,7 N



EN ISO 463
Factory
standard



0,001 mm



1,1 mm



Rotating dial,
With or without
dial lock.



Full-metal
dial casing.
Stainless steel
fixing shank and plunger,
hardened.



High performance
shock proof system
in both directions



Adjustable toler-
ance marks. M2,5
mounting thread
for the measuring insert.



3 mm dia.
ball tip, already
mounted.



Cardboard box



Identification
number



Inspection report
with a declaration
of conformity

Precision Dial Gauges

0,001 mm dial readout / 40 mm dial diameter



mm

mm

mm

mm

TESA dial gauges

01410010	YR	0,001	1	1,5	●	●	0,1	0 ÷ 50 ÷ 100
01410011	YR	0,001	1	1,5	●	●	0,1	0 ÷ 50 ÷ 0
01412510	YE	0,001	1	1,5	●	—	0,1	0 ÷ 50 ÷ 100

TESA dial gauges IP54, protected against the penetration of liquids

01410120	YR	0,001	1	1,5	●	—	0,1	0 ÷ 50 ÷ 100
01410121	YR	0,001	1	1,5	●	—	0,1	0 ÷ 50 ÷ 0
01412710	YE	0,001	1	1,5	●	—	0,1	0 ÷ 50 ÷ 100

COMPAC dial gauge

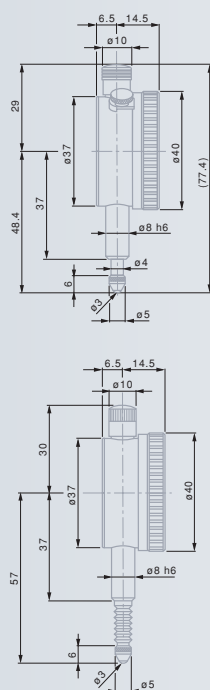
367		0,001	1	1,5	●	—	0,1	0 ÷ 5 ÷ 10
------------	--	-------	---	-----	---	---	-----	------------

COMPAC dial gauge IP54, protected against the penetration of liquids

367E		0,001	1	1,5	●	—	0,1	0 ÷ 5 ÷ 10
-------------	--	-------	---	-----	---	---	-----	------------

COMPAC dial gauge with limited reading range

367S		0,001	±0,04	1,5	●	—	0,1	4 ÷ 0 ÷ 4
-------------	--	-------	-------	-----	---	---	-----	-----------



Permissible limits of a metrological characteristic (MPE/MPL)

	±0,04 mm	1 mm
Deviation span	2 µm	4 µm
Deviation span within the local measuring span 0,10 mm	2 µm	4 µm
Total deviation span	4 µm	5 µm
Repeatability limit	1 µm	1 µm
Max. hysteresis	1 µm	1 µm
Measuring force	≤ 1,4 N	≤ 1,7 N
– Models IP54	—	≤ 2 N

Precision Dial Gauges

0,001 mm dial readout / 58 mm dial diameter



EN ISO 463
Factory
standard



0,001 mm



1,5 mm



Full-metal
dial casing.
Stainless steel
fixing shank and plunger,
hardened.



High performance
shockproof system
in both directions



Adjustable toler-
ance marks. M2,5
mounting thread
for the measuring insert.



3 mm dia.
ball tip, already
mounted



Cardboard box



Identification
number



Inspection report
with a declaration
of conformity



mm



mm



mm



mm



TESA dial gauges

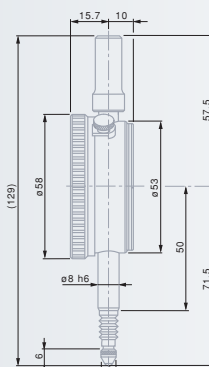
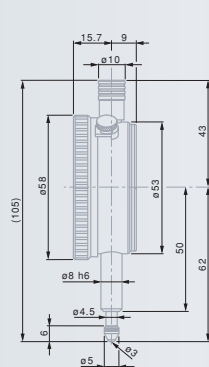
01412511	YE	0,001	1	1,5	●	—	0,1	0 ÷ 50 ÷ 100
01410410	YR	0,001	1	3,3	●	—	0,1	0 ÷ 50 ÷ 100
01410411	YR	0,001	1	3,3	●	—	0,1	0 ÷ 50 ÷ 0
01412611	YE	0,001	5	5,3	●	—	0,2	0 ÷ 100 ÷ 200

COMPAC dial gauges IP54, protected against the penetration of liquids

01412711	YE	0,001	1	1,5	●	—	0,1	0 ÷ 50 ÷ 100
01410520	YR	0,001	1	3,3	●	—	0,1	0 ÷ 50 ÷ 100

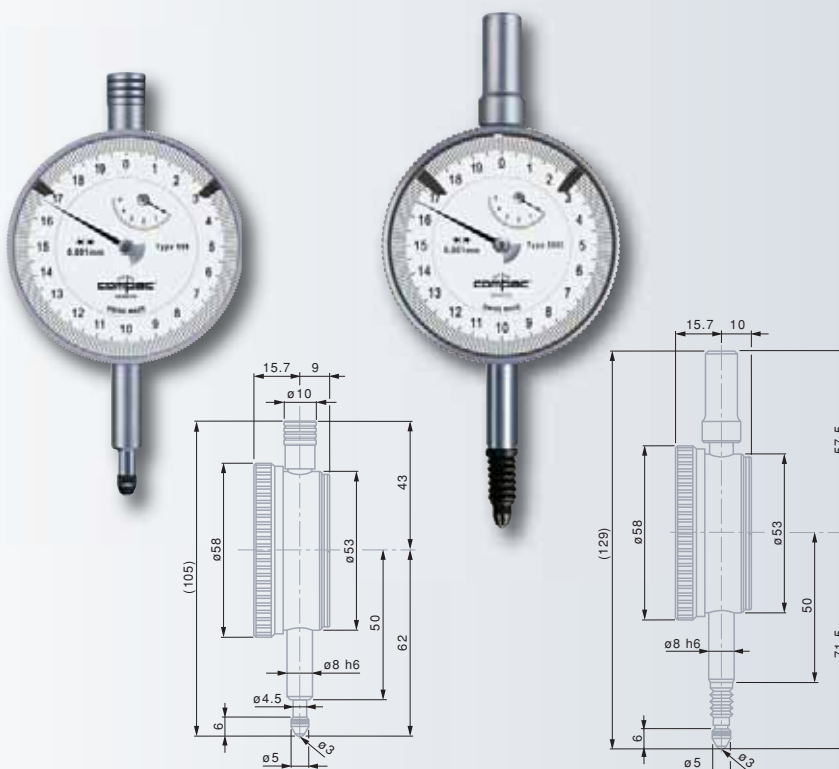
Permissible limits of a metrological characteristic (MPE/MPL)

	1 mm	5 mm
Deviation span	4 µm	12 µm
Deviation span within the local measuring span 0,10 mm	4 µm	
Total deviation span	5 µm	14 µm
Repeatability limit	1 µm	2 µm
Max. hysteresis	1 µm	2 µm
Measuring force — Models IP54	≤ 1,7 N	≤ 1,5 N ≤ 1,7 N



Precision Dial Gauges

0,001 mm dial readout / 58 mm dial diameter



- EN ISO 463 Factory standard
- 0,001 mm
- 1,5 mm
- Rotating dial
- Full-metal dial casing. Stainless steel fixing shank and plunger, hardened.
- Adjustable tolerance marks. M2,5 mounting thread for the measuring insert.
- 3 mm dia. ball tip, already mounted.
- Cardboard box
- Identification number
- Inspection report with a declaration of conformity

		mm		mm		mm		mm		mm	
COMPAC dial gauges											
556	0,001	5	5,3	●	—	0,2	0 ÷ 10 ÷ 20				
567	0,001	1	3,3	●	—	0,1	0 ÷ 5 ÷ 10				
COMPAC dial gauges IP54, protected against the penetration of liquids											
556E	0,001	5	5,3	●	—	0,2	0 ÷ 10 ÷ 20				
567E	0,001	1	3,3	●	—	0,1	0 ÷ 5 ÷ 10				

Permissible limits of a metrological characteristic (MPE/MPL)

			
		1 mm	5 mm
	Deviation span	4 µm	12 µm
	Total deviation span	5 µm	14 µm
	Repeatability limit	1 µm	2 µm
	Max. hysteresis	1 µm	2 µm
	Measuring force	≤ 1,5 N	≤ 1,5 N
	– Models IP54	≤ 1.7 N	≤ 1.7 N

Precision Dial Gauges

0,001 mm dial readout / 58 mm dial diameter



EN ISO 463
Factory
standard

0,001 mm

0,8 mm
(No. 0141761281,
0141761282
and 0141761283)
1,5 mm (No. 0141761284)

Rotating dial

Full-metal
dial casing.
Stainless steel
fixing shank and plunger,
hardened.

With or without
shockproof
mechanism

Adjustable toler-
ance marks.
M2,5 mounting
thread for
the measuring insert.

For accuracy,
see the table
on page F-30

See table
opposite

Mounted insert
with a 3,175 mm
dia. steel ball tip

Suited plastic case

Identification
number

Declaration
of conformity



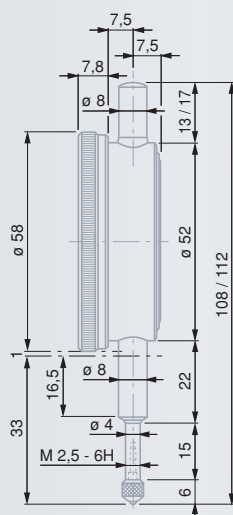
ROCH dial gauges

	mm	mm	mm	mm	mm	mm	N
0141761282	58	0,001	1	1,1	—	0,2	0 ÷ 100/0 ÷ 100* ≤ 1,5
0141761283	58	0,001	1	1,1	●	0,2	0 ÷ 100/0 ÷ 100* ≤ 1,5
0141761284	58	0,001	1	1,1	●	0,1	0 ÷ 50 ÷ 100* ≤ 1,5

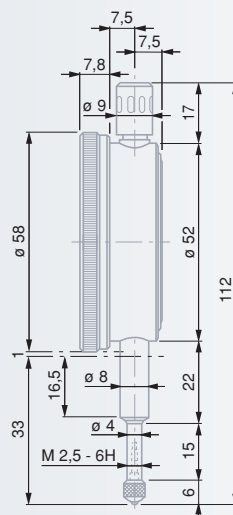
ROCH dial gauge IP54, protected against the penetration of liquids

0141761281	58	0,001	1	1,1	●	0,2	0 ÷ 100/0 ÷ 100* ≤ 2,0
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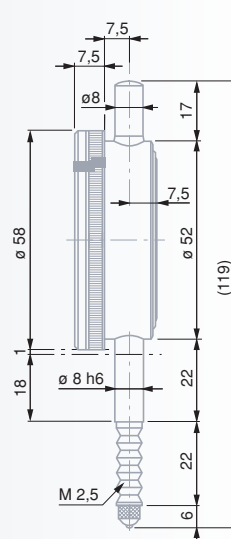
* With extra red tinted reverse numbering.



0141761282
0141761283



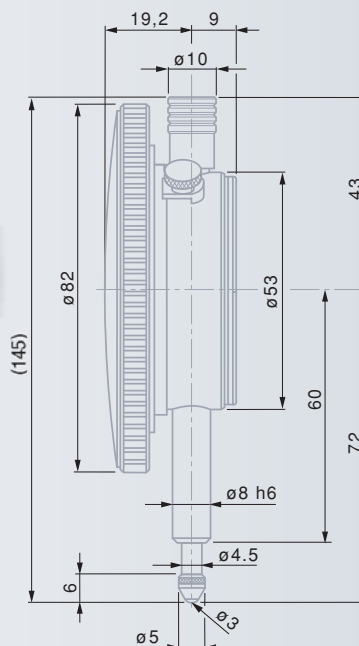
0141761284



0141761281

Precision Dial Gauges

0,001 mm dial readout / 82 mm dial diameter



EN ISO 463
Factory
standard



0,001 mm



2,3 mm



Rotating dial.
With or without
dial lock.



Full-metal
dial casing.
Stainless steel
fixing shank and plunger,
hardened.



High performance
shockproof system
in both directions



Adjustable tole-
rance marks. M2,5
mounting thread
for the measuring insert.



3 mm dia.
ball tip, already
mounted



Cardboard box



Identification
number



Inspection report
with a declaration
of conformity



TESA dial gauges

01410810	YR	0,001	1	3,3	●	●	0,1	0 ÷ 50 ÷ 100
01410811	YR	0,001	1	3,3	●	●	0,1	0 ÷ 50 ÷ 0

COMPAC dial gauge

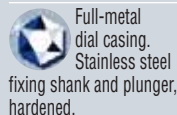
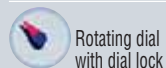
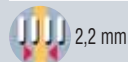
556G		0,001	5	5,3	●	—	0,2	0 ÷ 10 ÷ 20
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Permissible limits of a metrological characteristic (MPE/MPL)

	1 mm	5 mm
Deviation span	4 µm	12 µm
Deviation span within the local measuring span 0,10 mm	4 µm	—
Total deviation span	5 µm	14 µm
Repeatability limit	1 µm	2 µm
Max. hysteresis	1 µm	2 µm
Measuring force	≤ 1,7 N	≤ 1,5 N

Precision Dial Gauges

0.001 in dial readout / 40 or 58 mm dial diameter

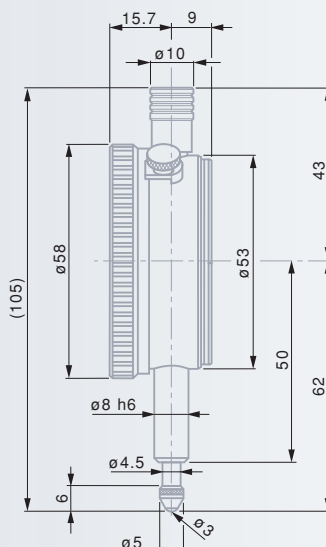
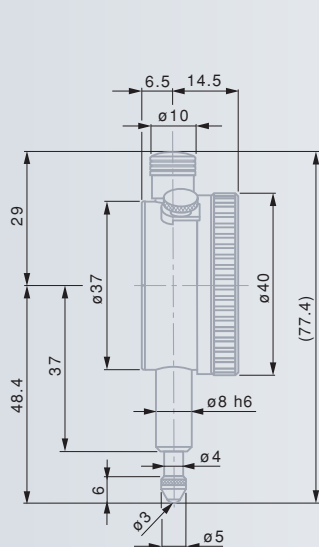


MERCER dial gauges

01426010	181-1	40	0.001	0.200	0.212	—	●	0.1	0 ÷ 50 ÷ 0
01426011	182-1	40	0.001	0.200	0.212	—	●	0.1	0 ÷ 50 ÷ 100
01426026	210-1	58	0.001	0.400	0.420	—	●	0.1	0 ÷ 50 ÷ 0
01426027	211-1	58	0.001	0.400	0.420	—	●	0.1	0 ÷ 50 ÷ 100
01426031	216-1	58	0.001	1	1.2	●	●	0.1	0 ÷ 50 ÷ 100

Permissible limits of a metrological characteristic (MPE/MPL)

	0.2 in	0.4 in	1 in
Deviation span	0.0005 in	0.0006 in	0.0008 in
Total deviation span	0.0006 in	0.0007 in	0.001 in
Repeatability limit	0.00015	0.0002	0.00015
Max. hysteresis	0.00015 in	0.0002 in	0.0002 in
Measuring force	≤ 1,4 N	≤ 1,4 N	≤ 2,2 N



Precision Dial Gauges

0.0005 in dial readout / 40 or 58 mm dial diameter



Factory standard



0.0005 in



3,1 mm



Rotating dial with or without dial lock



Full-metal dial casing. Stainless steel fixing shank and plunger, hardened.



Adjustable tolerance marks. M2,5 mounting thread for the measuring insert.



Mounted insert with a 3 mm dia. steel ball tip



Cardboard box



Identification number

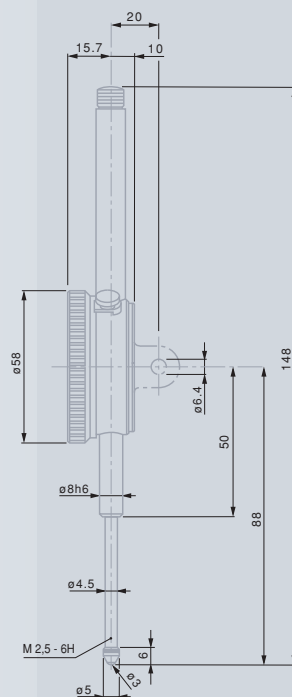
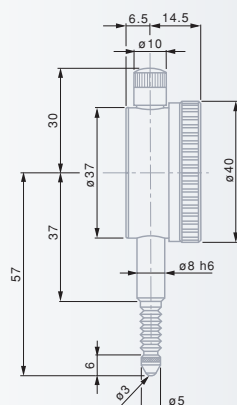


Inspection report with a declaration of conformity

No	=	mm	in	in	in	in	in	in
<i>MERCER dial gauges</i>								
01426012	183-1	40	0.0005	0.200	0.212	●	●	0.05 0 ÷ 25 ÷ 0
01426013	184-1	40	0.0005	0.200	0.212	●	●	0.05 0 ÷ 25 ÷ 50
01426020	212-1	58	0.0005	0.400	0.420	—	●	0.05 0 ÷ 25 ÷ 0
01426021	213-1	58	0.0005	0.400	0.420	—	●	0.05 0 ÷ 25 ÷ 50
01426032	217-1	58	0.0005	1	1.2	●	●	0.05 0 ÷ 25 ÷ 50
<i>COMPAC dial gauge</i>								
354A		40	0.0005	0.200	0.212	●	—	0.02 0 ÷ 10 ÷ 20
<i>COMPAC dial gauge IP54, protected against the penetration of liquids</i>								
354AE		40	0.0005	0.200	0.212	●	—	0.02 0 ÷ 10 ÷ 20

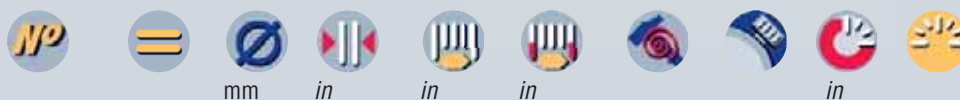
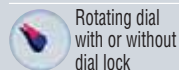
Permissible limits of a metrological characteristic (MPE/MPL)

	0.2 in	0.4 in	1 in
Deviation span	0.0005 in	0.0006 in	0.0008 in
Total deviation span	0.0006 in	0.0007 in	0.001 in
Repeatability limit	0.00015 in	0.0002 in	0.0015 in
Max. hysteresis	0.00015 in	0.0002 in	0.0002 in
Measuring force — Model IP54	≤ 1,4 N ≤ 1,7 N	≤ 1,4 N —	≤ 2,2 N —



Precision Dial Gauges

0.0001 in dial readout / 40 or 58 mm dial diameter



COMPAC dial gauge IP54, protected against the penetration of liquids

355AE 40 0.0001 0.120 0.130 ● – 0.01 0 ÷ 5 ÷ 10

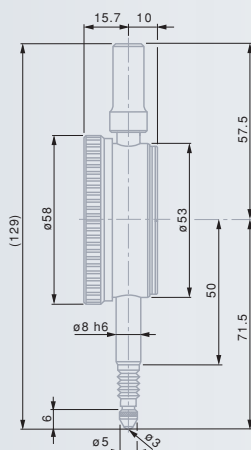
MERCER dial gauges

01426028 240-1 58 0.0001 0.200 0.210 – ● 0.01 0 ÷ 50 ÷ 0

01426029 241-1 58 0.0001 0.200 0.210 – ● 0.01 0 ÷ 50 ÷ 100

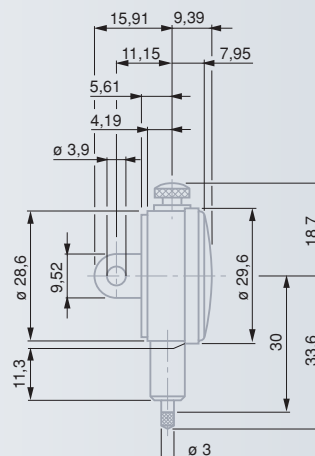
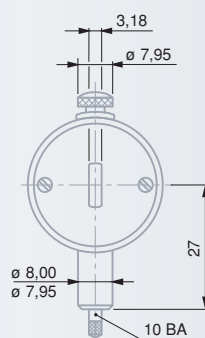
Maximum permissible errors for a metrological characteristic (MPE)

	0.0004	0.0005
	0.0005	0.00055
	0.00006	0.00006
	0.00008	0.00008
	≤ 2 N	≤ 2.2 N



Small Dial Gauges

MERCER Series 70, 1 1/8 in or 29 mm dial diameter



Models to 0.001 or 0.0001 in

Standard models			in	in	in	in		N
01426050	71	0.001	0.04	0.05	—	0.04	0 ÷ 20 ÷ 0	≤ 1,5
01426051	73	0.0001	0.01	0.05	—	0.01	0 ÷ 5 ÷ 0	≤ 1,5

Models to 0,01 or 0,002 mm

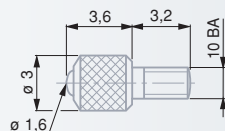
Standard models			mm	mm	mm	mm		N
01416050	72	0,01	1	1,2	—	1	0 ÷ 50 ÷ 0	≤ 1,5
01416051	74	0,002	0,2	1,2	—	0,2	0 ÷ 10 ÷ 0	≤ 1,5

Permissible limits of a metrological characteristic (MPE/MPL)

		0.001 in	0.0001 in	0,01 mm	0,002 mm
Deviation span		0.0005 in	0.0005 in	10 µm	6 µm
Total deviation span		0.0008 in	0.0007 in	13 µm	9 µm
Repeatability limit		0.0003 in	0.0002 in	3 µm	2 µm
Max. hysteresis		0.0003 in	0.0002 in	3 µm	3 µm

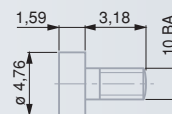
Accessories for MERCER dial gauges, series 70

10 BA coupling thread



Standard insert with spherical measuring faces.

				mm
03560072	Steel	1,6		
03560073	Carbide	1,6		



Measuring insert with a flat measuring face.

				mm
03560074	Steel	4,76		



Factory standard or EN ISO 463 for metric models



See table opposite



2,25 mm or 0,9 mm



Rotating dial



Full-metal dial casing. Stainless steel fixing shank and plunger, hardened.



Without shockproof mechanism



Back with central lug. Measuring insert with a 10BA coupling thread.



See in the table opposite



Mounted insert with a 3 mm dia. steel ball tip



Cardboard box



Identification number



Inspection report with a declaration of conformity



EN ISO 463.
Factory
standard.



Rotating dial



Full-metal
dial casing.
Stainless steel
fixing shank and plunger,
hardened.



Shockproof
system protecting
the movement



Adjustable
tolerance marks.
M2,5 mounting
thread for the measuring
insert.
Fastening sleeve with a
8h6 or 25h6 stem diameter.



Mounted insert
with a 3 mm
ball tip dia.



Cardboard box



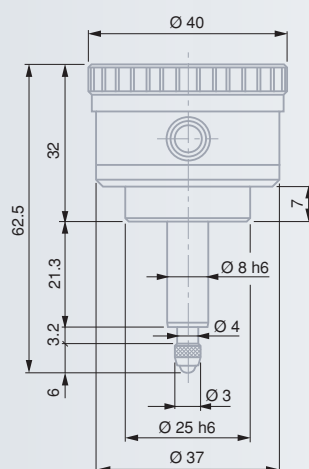
Serial number



Inspection report
with a declaration
of conformity

Dial Gauges with Back Mounted Plunger

0,01 or 0,002 mm dial readout / 40 mm dial diameter



COMPAC dial gauges

	mm	mm	mm	mm	mm	µm	µm	µm	N
CP 352	0,01	3	3,2	1	0 ÷ 50 ÷ 100	14	3	3	0,9
CP 353	0,01	3	3,2	0,5	0 ÷ 25 ÷ 50	14	3	3	0,9
CP 355	0,002	3	3,2	0,2	0 ÷ 10 ÷ 20	14	2	2,5	0,9

COMPAC dial gauges with a limited reading range

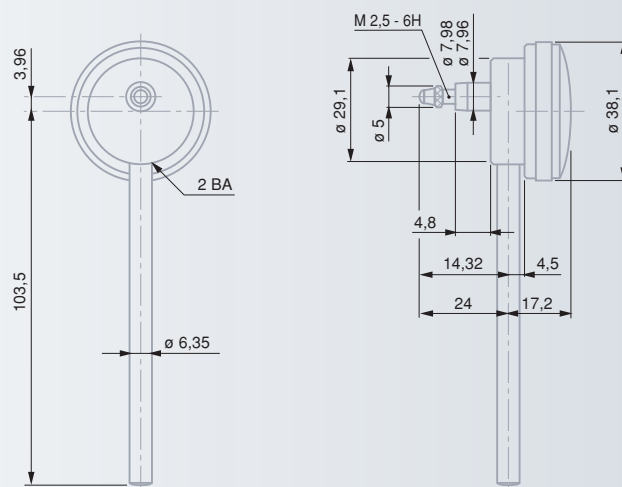
CP 352S	0,01	±0,4	3,2	(1)	40 ÷ 0 ÷ 40	9	3	3	0,9
CP 355S	0,002	±0,08	3,2	(0,2)	8 ÷ 0 ÷ 8	9	2	2,5	0,9

S: Models with a restricted reading range.

Since the pointer travels less than one revolution, all reading errors due to the revolution counter are eliminated.

Dial Gauges with Back Mounted Plunger

MERCER Serie 90, 38 mm dial diameter



Models to 0,01 mm

No	=	mm	mm	mm	mm	mm	N
01416060	93	0,01	1	3,5	—	1	0 ÷ 50 ÷ 0 ≤1,5
01416061	94	0,01	1	3,5	—	1	0 ÷ 50 ÷ 100 ≤1,5

Models to 0.001 in

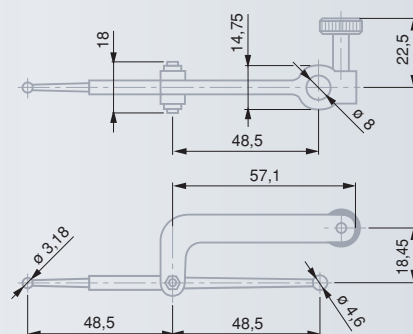
No	=	in	in	in	in	in	N
01426060	91	0.001	0.05	0.14	—	0.05	0 ÷ 25 ÷ 0 ≤1,5
01426061	92	0.001	0.05	0.14	—	0.05	0 ÷ 25 ÷ 50 ≤1,5

Maximum permissible errors for a metrological characteristic (MPE)

	0,01 mm	0.001 in
Deviation span	25 µm	0.0010 in
Total deviation span	40 µm	0.0015 in
Repeatability limit	12 µm	0.0005 in
Max. hysteresis	12 µm	0.0005 in

Accessories for MERCER dial gauges, series 90

Swivelling arm	Amplification
03560078	1:1



Factory standard or EN ISO 463 for metric models



0.001 in and 0,01 mm



2,4 mm or 1,2 mm



Rotating dial



Full-metal dial casing. Stainless steel fixing shank and plunger, hardened.



Without shockproof mechanism



Measuring insert with a M2,5 thread. Also with a 6,35 mm dia. holding rod that can be unscrewed.



See table opposite



Mounted insert with a 3 mm dia. steel ball tip



Cardboard box



Identification number



Inspection report with a declaration of conformity



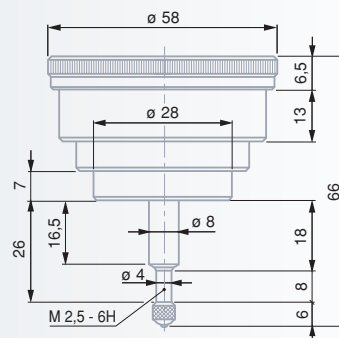
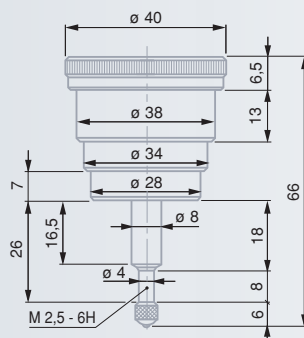
Dial Gauges with Back Mounted Plunger

0,01 mm dial readout / 40 or 58 mm dial diameter



ROCH dial gauges	mm	mm	mm	mm	mm	mm	mm	N
0141760566	40	0,01	3	3,5	—	0,5	0 ÷ 25 ÷ 50*	≤1,2
0141760611	58	0,01	3	3,5	—	1	0 ÷ 50 ÷ 100*	≤1,5

* With extra red tinted reverse numbering.



Maximum permissible errors for a metrological characteristic (MPE)

Deviation span	3 mm
Deviation span with the local measuring span of 0,1 mm	12 µm
Total deviation span	5 µm
Repeatability limit	15 µm
Max. hysteresis	5 µm
	15 µm



EN ISO 463
Factory
standard



0,01 mm



2,2 mm (Ø 40)
1,5 mm (Ø 58)



Rotating dial



Full-metal
dial casing.
Stainless steel
fixing shank and plunger,
hardened.



Without shock-
proof mechanism



Adjustable toler-
ance marks.
M2,5 mounting
thread for the measuring
insert.



See table
opposite



Mounted insert
with a 3,175 mm
dia. steel ball tip



Cardboard box



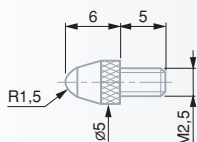
Identification
number



Declaration
of conformity

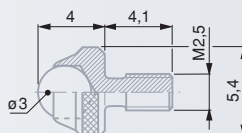
Measuring Inserts for Dial Gauges, Axial Probes and other Handtools

Executions with a M2,5 coupling thread



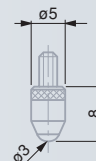
Standard spherical measuring inserts.

Nº		L mm
03510001	Steel	6
03510002	Carbide	6
03560001	Sapphire	6



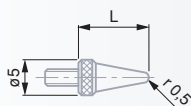
Short spherical measuring insert.

Nº		L mm
03560007	Carbide	4



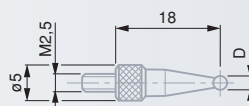
Long spherical measuring inserts.

Nº		L mm
03560019	Steel	8
03560020	Carbide	8
03560021	Sapphire	8



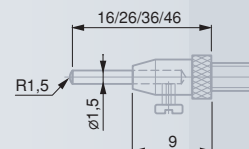
Spherical measuring inserts,
R = 0,5 mm.

Nº		L mm
03560035	Steel	5
03560036	Steel	10
03560037	Steel	15
03560038	Steel	20
03560039	Steel	30
03560040	Steel	40



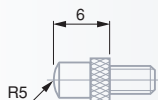
Spherical measuring inserts.

Nº		mm
03560051	Carbide	1
03560052	Carbide	2
03560053	Carbide	3
03560054	Carbide	4
03560055	Carbide	5
03560056	Carbide	6
03560057	Carbide	7
03560058	Carbide	8
03560059	Carbide	9
03560060	Steel	10
03560061	Steel	11
03560062	Steel	12



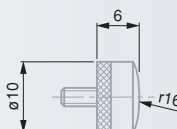
Spherical measuring insert with
4 interchangeable pins, R = 1,5 mm.

Nº		L mm
03510201	Steel	16, 26, 36, 46



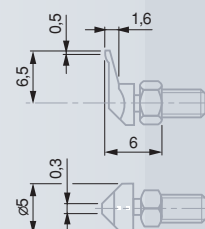
Spherical measuring inserts.

Nº		R mm
03510101	Steel	5
03510102	Carbide	5



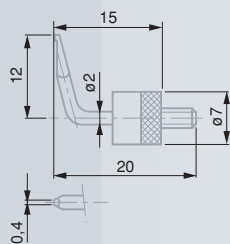
Spherical measuring inserts

Nº		R mm
03560017	Steel	16
03560018	Carbide	16



Measuring insert with offset (A)
contact point and lock nut for radial
alignment.

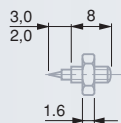
Nº		A mm
03510401	Steel	6,5



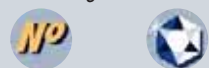
Measuring insert with offset (A) contact point and lock nut for radial alignment.



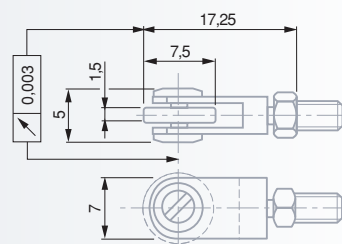
	A mm
03560063 Steel	12



Measuring insert with needle contact point.



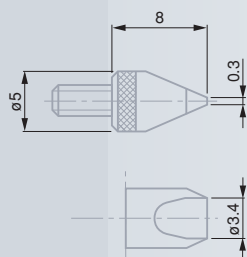
03560030 Steel



Measuring inserts with ball-bearing rollers. Lock nut for radial alignment.



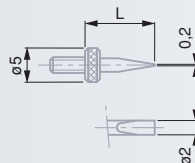
	Shape
03560010 Steel	cylindrical
03560011 Steel	ball-shaped



Inserts with a blade-shaped measuring face. Lock nut for radial alignment.



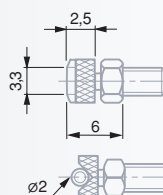
	B mm
03560024 Steel	0,3
03560025 Carbide	0,3



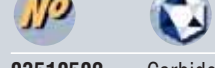
Inserts with a blade-shaped steel face. Lock nut for radial alignment.



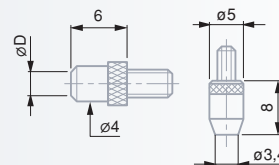
	L mm	B mm
03560031	5	0,2
03560032	10	0,2
03560033	15	0,2
03560034	20	0,2



Insert with a cylindrical measuring face. Lock nut for radial alignment.



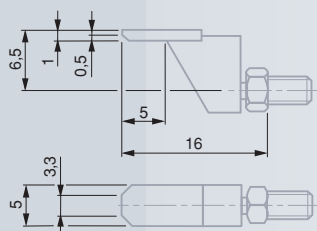
03510502 Carbide



Inserts with a flat measuring face.



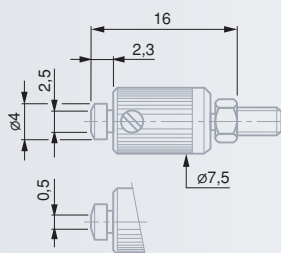
	mm
03510801 Steel	2,5
03510802 Carbide	2,5
03560022 Steel	3,4
03560023 Carbide	3,4



Insert with a narrow, off-centre measuring face. Lock nut for radial alignment.



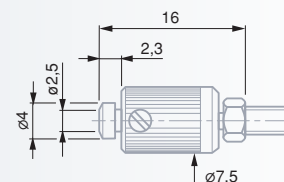
	B mm
03510602 Carbide	0,5



Insert with a narrow, parallel measuring face, adjustable. Lock nut for radial alignment.



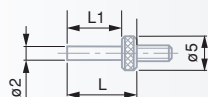
	B mm
03510702 Carbide	0,5



Insert with a flat, parallel measuring face., adjustable. Lock nut for radial alignment.

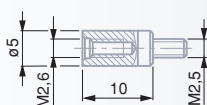


	mm
03510902 Carbide	2,5



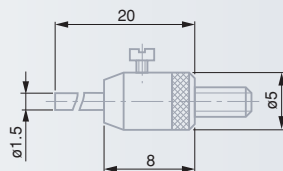
Steel inserts with a flat measuring face.

Nº	L mm	L1 mm	mm
03560026	5	2,8	2
03560027	10	7,8	2
03560028	15	12,8	2
03560029	20	17,8	2



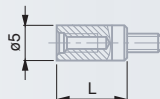
Connectors for measuring inserts.

Nº	Outside	Inside
03560092	M2,5	M2
03560066	M2,5	M2,6
03560067	M2,5	M3
03560064	M2,6	M2,5
03560065	M3	M2,5



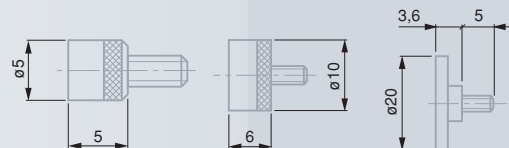
Inserts with a flat measuring face as well as interchangeable pin.

Nº	Material	mm
03560008	Steel	1,5
03560009	Carbide	1,5



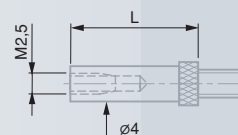
Extensions for measuring inserts.

Nº	L mm
03560042	10
03560043	15
03560044	20
03560045	25
03560046	30
03560047	35
03560048	40
03560049	45
03560050	50



Inserts with a flat measuring face.

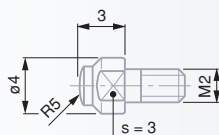
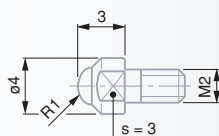
Nº	Material	mm
03560012	Steel	5
03560013	Carbide	5
03560014	Steel	10
03560015	Carbide	10
03560016	Steel	20



Extensions for measuring inserts.

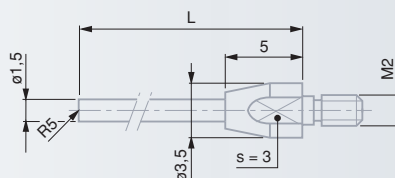
Nº	L mm
03540501	10
03540502	15
03540503	20
03540504	40

Executions with a M2 Coupling Thread



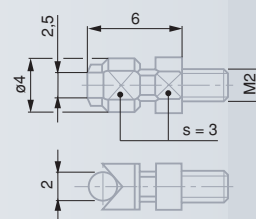
Spherical measuring inserts. M2 thread.

Nº	Material	R mm
03510204	Carbide	R 1
03510103	Carbide	R 5



Spherical measuring inserts, R = 5 mm. M2 thread.

Nº	Material	L mm
03510202	Carbide	16
03510203	Carbide	26

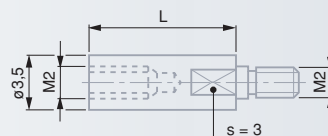


Measuring insert with cylindrical measuring face. Lock nut for radial alignment. M2 thread.

Nº	Material
03510503	Carbide

Extensions for measuring inserts, M2.

Nº	L mm
03540505	10
03540506	15





Devices for Plunger Retraction

Top mounted retraction devices.



mm

03560004	Retraction device	Ø 40
03560005	Retraction device	Ø 58

Each consisting of:

Lift lever
Head screw



Bottom mounted retraction device.



03540104	Retraction device
-----------------	-------------------

Consisting of:

03540101	Lift lever
03540102	Washer



Bottom mounted lift lever.



01960005



90° Angle Probe



03560006	90° angle probe used for the transmission of the plunger movement up to 10 mm. Suited for dial gauges with a 0,01 mm scale division.
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Furnished with:

03560012	Measuring insert with a 5 mm diameter flat face
-----------------	---



Backs for ROCH or ETALON Dial Gauges



Magnetic face



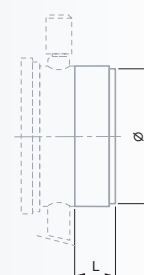
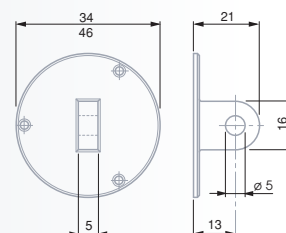
L mm

Central lug backs

01462004	40 mm	34 mm
01462005	58, 60, 80 mm	46 mm

Magnetic back with permanent magnets

01462001	58, 60, 80 mm	46 mm	46 mm	17 mm
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Backs for dial gauges

***TESA YR, TESA YE, MERCER, COMPAC,
40, 58 or 82 mm dial diameter***

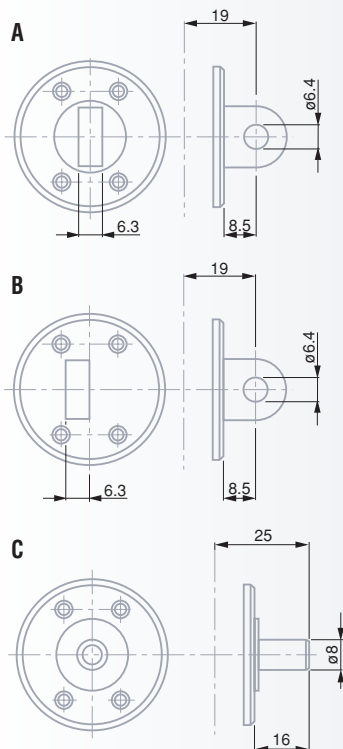
DIGICO 205-705, 58 mm dial diameter



Dull-chrome plated, except for models
No. 01460010,
01460011, 01460016 and
01460017



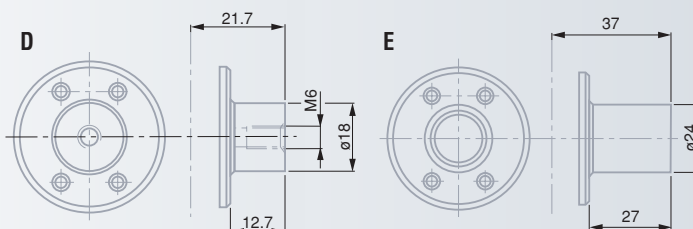
Holding force
= 150 N



Executions for dial gauges with a 40 mm dial diameter



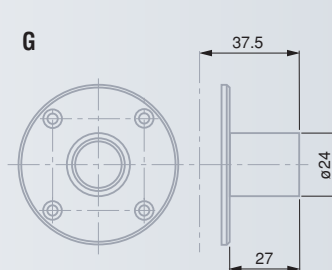
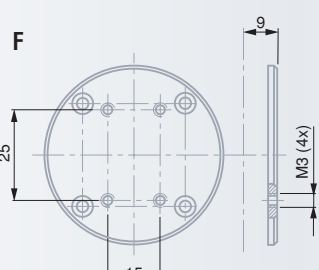
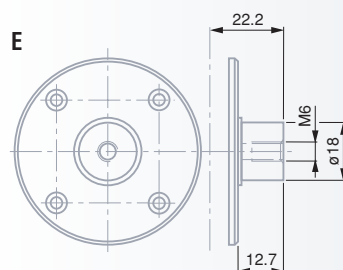
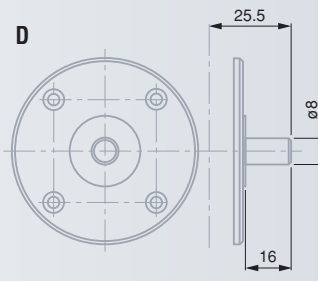
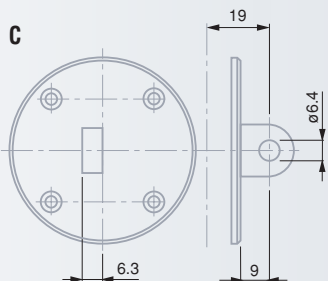
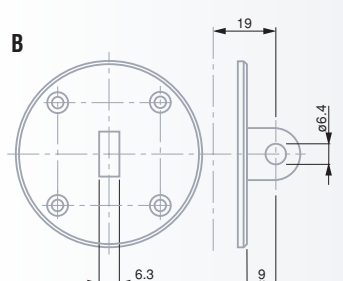
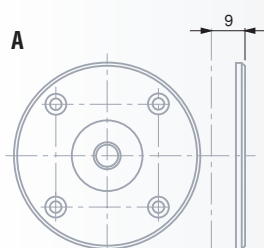
01460008	A	Back with central lug
01460009	B	Back with offset lug
01460010	C	Back with a 8 mm dia. fixing shank
01460011	D	Back with M6 inner thread
01460012	E	Back with permanent magnet



Executions for dial gauges with a 58 or 82 mm dial diameter



01460013	A	Flat back
01460014	B	Flat back with central lug
01460015	C	Flat back with offset lug
01460016	D	Back with a 8 mm dia. fixing shank
01460017	E	Back with a M6 inner thread
01460018	F	Back with 4 clamping bores as per CNOMO French standard
01460019	G	Back with permanent magnet



Dial Test Indicators (Lever-type)

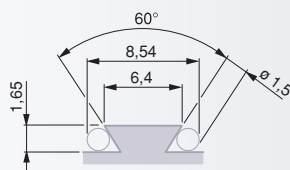
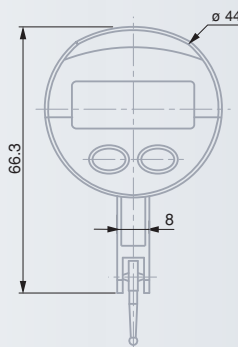
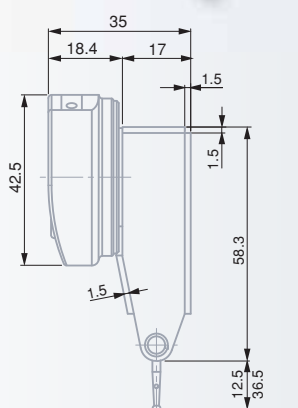


TESA IP65 Electronic Dial Test Indicators

Provide the advantages of mechanics combined with electronics – All in one.



- Inductive measuring system, patented.
- Analogue and numerical indication.
- Numerical interval to 0,01/0,001 mm.
- Selectable scale division: 10, 20, 50 μm /1, 2, 5 μm .
- Water and coolant resistant (IP65).
- Metric/inch conversion.
- RS 232 data output combined with external power supply.
- Displayed measuring modes (NOR/MIN/MAX/MAX-MIN).
- Automatic shut-down.
- Compatible with all TESATAST accessories.



					
	mm	in	mm	Insert mm	N ($\pm 15\%$)
01830001	0,01/0,001	0.0005/0.00005	0,8	12,5	0,13
01830002	0,01/0,001	0.0005/0.00005	0,5	36,5	0,07

Accessories

	
01961000	3V lithium battery, 190 mAh, type CR 2032
04761060	RS 232 connecting cable with external power supply

Compatible with all TESATAST measuring inserts and accessories



LCD,
5 digits + sign



Digit height
6 mm



Resolution to
0,01/0,001 mm;
.0005/.00005 in



Zero-setting



Max. perm. errors:
 $f_s = 10 \mu\text{m}$
 $f_{ps} = 13 \mu\text{m}$
Pre-span = 0,05 mm



Repeatability:
 $f_n = 1 \mu\text{m}$



Hysteresis:
 $f_h = 3 \mu\text{m}$



L = 12,5 mm;
max. 0,05 m/s
L = 36,5 mm;
max. 0,15 m/s



Number of
measurements
per second: 9



Operating
temperature range:
+5°C to +40°C



3 V lithium battery,
type CR 2032



> 4000 hours



RS 232



73 g (L = 12,5 mm)
75 g (L = 36,5 mm)



EN 61326-1



Degree of
protection
IP65 (IEC 529)



Supplied
in a plastic case
along with:

- 1 Insert with a 2 mm dia.
(No. 01860202)
- 1 Wrench (No. 01860307)
- 1 Mounting rod with a 8 mm
dia. (No. 01840105)



Identification
number



Declaration of
conformity



DIN 2270
NF E 11-053

TESATAST Dial Test Indicators

These lever-type dial test indicators are especially intended for use on the shop floor or in the inspection room – Ideally suited for comparative measurements on a surface plate, for instance – Determine form, shape and position deviations as well as axial and runout errors.

- Bidirectional measuring with automatic reversal inside the movement.
- Continuous clockwise pointer rotation providing error-free reading.
- Insensitive to magnetic fields.
- Jewelled movement with 7 rubies.
- Ball-bearing lever system with measuring insert swivelling through to 240°.
- Very low measuring force.
- Full-metal construction giving exceptional robustness.
- Monobloc housing with 3 countersunk dovetail attachments.

Standard Models

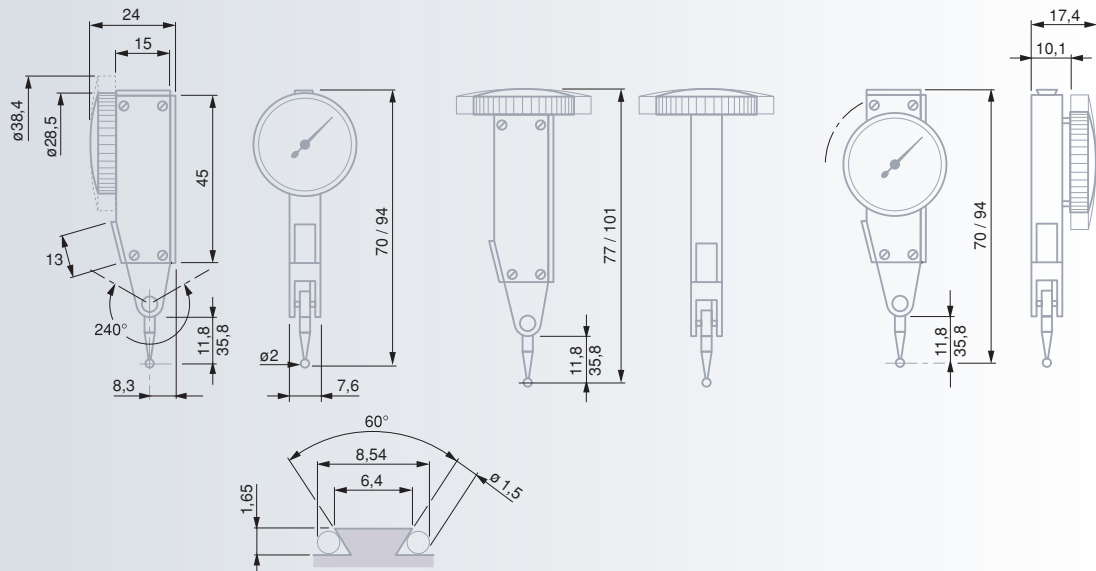
Well-proven dial test indicators with dial face mounted parallel to the insert's axis.

Perpendicular Models

Dial test indicators with dial face mounted at right angle to the insert's axis.

Lateral Models

Dial test indicators with dial face mounted parallel to the insert's axis, but on the flat side of the dial housing.



Permissible limits of a metrological characteristic (MPE/MPL)

		0,02 mm	0,01 mm	0,002 mm
	Deviation span, f_e	27 μ m	10 μ m	2 μ m
	Deviation span within the local measuring span, f_l	0,20 mm	12 μ m	
		0,10 mm	5 μ m	
		0,02 mm		1 μ m
	Total deviation span, f_{ges}	31 μ m	13 μ m	3,5 μ m
	Repeatability limit, f_w	4 μ m	3 μ m	1 μ m
	Max. hysteresis, f_h	4 μ m	3 μ m	1,5 μ m
	Measuring force with insert lengths			
	12,53 mm		0,15 N	0,15 N
	36,53 mm	0,06 N	0,06 N	

TESATAST Standard Models



mm

01810005	0,01	0,8	28	0 ÷ 0,4 ÷ 0	12,53
01810006	0,01	0,8	38	0 ÷ 0,4 ÷ 0	12,53
01810007	0,01	0,5	28	0 ÷ 0,25 ÷ 0	36,53
01810008	0,01	0,5	38	0 ÷ 0,25 ÷ 0	36,53
01810009	0,002	0,2	28	0 ÷ 100 ÷ 0	12,53
01810010	0,002	0,2	38	0 ÷ 100 ÷ 0	12,53
S18001695	0,001	0,2	38	0 ÷ 100 ÷ 0	12,53



in

01820006	0.0005	0.030	1.1	0 ÷ 15 ÷ 0	1/2
01820007	0.0005	0.030	1.5	0 ÷ 15 ÷ 0	1/2
01820008	0.0005	0.020	1.1	0 ÷ 10 ÷ 0	1 7/16
01820009	0.0005	0.020	1.5	0 ÷ 10 ÷ 0	1 7/16
01820010	0.001	0.030	1.1	0 ÷ 15 ÷ 0	1/2
01820011	0.0001	0.008	1.1	0 ÷ 4 ÷ 0	1/2
01820012	0.0001	0.008	1.5	0 ÷ 4 ÷ 0	1/2
01820013	0.00005	0.008	1.5	0 ÷ 4 ÷ 0	1/2

SWISSTAST Standard Models



mm

01811000	0,01	0,8	28	0 ÷ 0,4 ÷ 0	12,53
01811001	0,002	0,2	38	0 ÷ 100 ÷ 0	12,53

* Same technical data as standard models, but equipped with a 2 mm dia. ruby ball tip No. 01860302.

TESATAST Perpendicular Models



mm

01810204	0,01	0,8	28	0 ÷ 0,4 ÷ 0	12,53
01810205	0,01	0,5	28	0 ÷ 0,25 ÷ 0	36,53
01810304	0,002	0,2	38	0 ÷ 100 ÷ 0	12,53



in

01820204	0.0005	0.030	1.1	0 ÷ 15 ÷ 0	1/2
01820304	0.0001	0.008	1.5	0 ÷ 4 ÷ 0	1/2



DIN 2270
NFE 11-053



Rotating dial



Very low
measuring force
see table
on page G-3



Movement with
patented shock
proof system



Lever system
with friction
drive to prevent
overload



Accuracy:
see table on
page G-3



Supplied in
a plastic case
along with:
1 Insert with a 2 mm dia.
1 Wrench (No. 01860307)
1 Mounting rod with a 8 mm
dia. (No. 01840105)



Identification
number

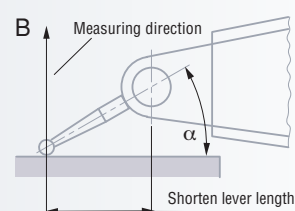
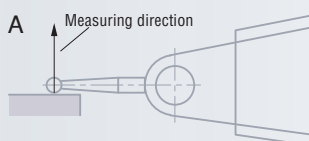


Declaration
of conformity

TESATAST Lateral Models



		mm				Insert
01810011	0,01	0,8	28	0 ÷ 0,4 ÷ 0	12,53	
01810012	0,02	2	38	0 ÷ 1,0 ÷ 0	36,53	
01810013	0,002	0,2	28	0 ÷ 100 ÷ 0	12,53	
		in				
01820014	0.0005	0.030	1.1	0 ÷ 15 ÷ 0	1/2	



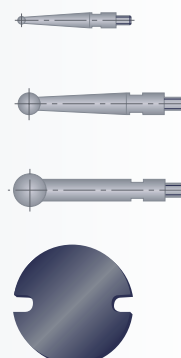
Note on the use of TESATAST dial test indicators

With the measuring insert lying parallel to the workpiece surface (Fig. A), these indicators give true reading due to the amplification factor to 1:1.

In another measuring position (angle α in Fig. B), the effective lever length changes so that the read value needs to be corrected. With respect to this, also refer to the instruction manual.

Measuring inserts

Carbide ball tips	Ruby ball tips		mm
01860201	01860301	1	12,53
01860202	01860302	2	12,53
01860203	01860303	3	12,53
01860211	01860304	1	36,53
01860212	01860305	2	36,53
01860213	01860309	3	36,53
01860307	Wrench for measuring inserts		



Note

The original measuring insert mounted on every TESATAST as well as any other insert with same nominal length but having a different ball tip diameter are fully interchangeable.

Indicator Sets with Small Support

01630003	Indicator sets with small support
consisting of:	
01810005	Dial test indicator (lever-type)
01810010	Dial test indicator (lever-type)
01860203	Measuring insert
01840104	Mounting rod
01840105	Mounting rod
01860307	Wrench for measuring inserts
01639007	INTERAPID small support UJ 15



Tungsten carbide or ruby ball tip



M1.4 coupling thread



DIN 2270
NF E 11-053



Technical data are listed under each single product



Plastic case

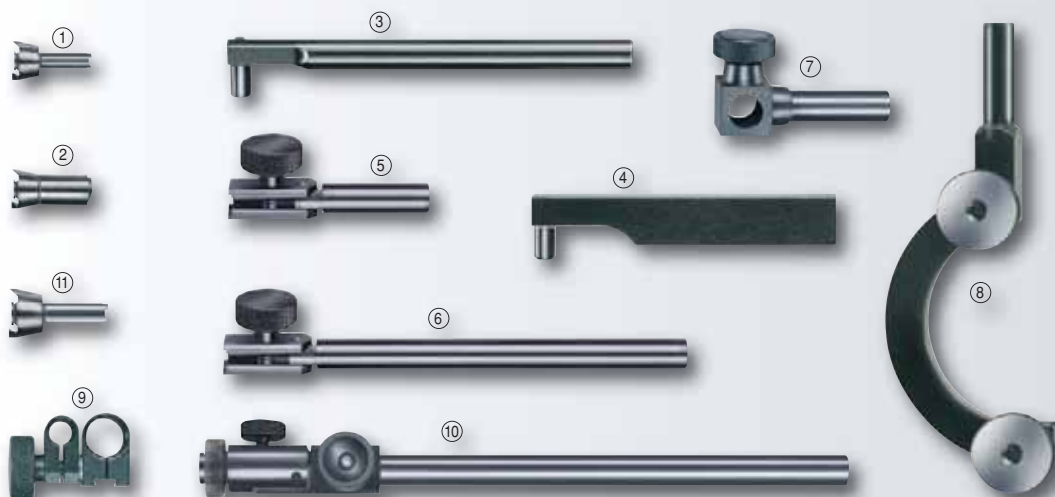


Identification number



Declaration of conformity

TESATAST Accessories



Nº	=		mm
01840104	①	Mounting rod with dovetail clamp	Ø 4
01840105	②	Mounting rod with dovetail clamp	Ø 8
01840202	③	Mounting rod with cylindrical body and clamping tenon	Ø 8 x 80 Ø 5,6
01840203	④	Mounting rod with right-angle body and clamping tenon	13 x 6 x 50 Ø 5,6
01840404	⑤	Short swivel holder with mounting rod and dovetail clamp	Ø 8 x 25
01840405	⑥	Long swivel holder with mounting rod and dovetail clamp	Ø 8 x 90
01840406	⑦	Angle holder with mounting rod Clamping bore	Ø 8 x 25 Ø 8
01840501	⑧	Centring shoulder for TESATAST Perpendicular with cylindrical rod Clamping point for mounting rod and dovetail clamp	Ø 8 x 25 Ø 4
01860401	⑨	Dovetail clamp with tightening point	Ø 5,6 Ø 9,5
01840407	⑩	Long swivel holder with cylindrical rod and dovetail clamp as well as fine setting device	Ø 8 x 125
01860008	⑪	Mounting rod with dovetail clamp	Ø 6

Sets of Accessories

Consisting of the following components:

Nº	mm	01840104	01840105	01840202	01840203	01840404	01840405	01840406	01840501	01860401
01840001*	Nº 1	●	●							
01840100**	Nº 2			●	●	●	●	●		●
01840703***	Nº 3			●	●	●	●	●	●	●

* Supplied with one single insert No. 01860201, 01860202 and 01860203, one wrench No. 01860307 as well as a suited case No. 01860308.

** Supplied in a suited case No. 01860608.

*** Supplied in a suited case No. 01860702.

INTERAPID 312 Dial Test Indicators

Very large measuring span – Ideal for inspecting all significant size variations, e.g. on the surface plate – Measure position, form and shape errors.

- Additional revolution counter for safe reading.
- Bidirectional measuring with automatic reversal inside the movement.
- Thereby pointer rotation is constant.
- Jewelled movement with rubies.
- Ball-bearing lever system with measuring insert swivelling through 210°.
- Full-metal construction giving outstanding robustness.
- Monobloc housing with mounted dovetail attachments as well as a 4 mm swivelling shank.

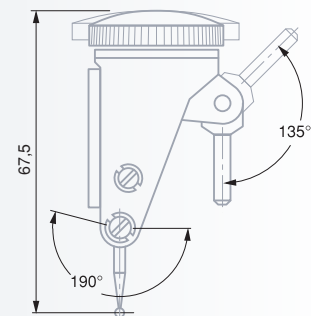
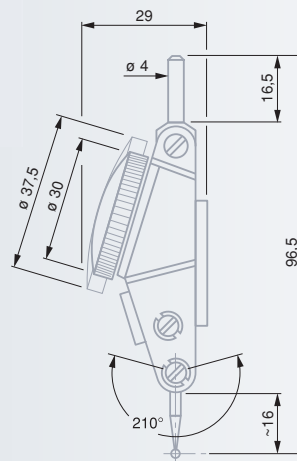


Regular Model

Time-tested dial test indicator with dial face mounted parallel to the insert's axis.

Perpendicular Model

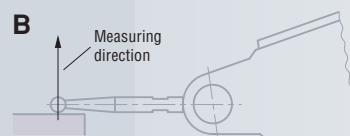
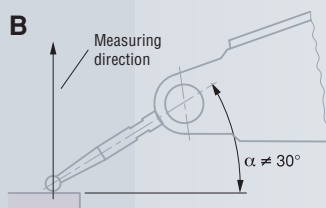
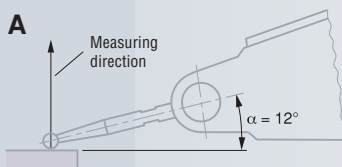
Dial test indicator with dial face mounted at right angle to insert's axis.



Stylus insert with angular position of 12°

All models INTERAPID 312 are designed to give a true reading when the angle between the stylus and the workpiece surface is 12° (Fig. A).

In any other measuring position, including parallel position of the stylus against the workpiece surface, read values have to be corrected accordingly (Fig. B). With regard to this, also read in the instruction manual.



Permissible limits of a metrological characteristic (MPE/MPL)

	0,01 mm		0,002 mm	
	Pointer Rev 1	Pointer Rev 2	Pointer Rev 1	Pointer Rev 2
Deviation range, f_e	10 μm	20 μm	4 μm	8 μm
Total deviation range, f_{ges}	13 μm	23 μm	6 μm	10 μm
Repeatability limit, f_w	3 μm		1 μm	
Max. hysteresis, f_h	3 μm		2 μm	
Measuring force	0,12 N		0,25 N	

INTERAPID 312 Regular Models

						
				Ø		Insert
mm						
074111366	0,01	1,6	37,5	0 ÷ 40 ÷ 0	16,5	
074111367	0,01	1,6	30	0 ÷ 40 ÷ 0	16,5	
074111368	0,002	0,4	37,5	0 ÷ 10 ÷ 0	15,2	
074111369	0,002	0,4	30	0 ÷ 10 ÷ 0	15,2	
in						
074111370	0.0005	0.060	1.5	0 ÷ 15 ÷ 0	0.65	
074111371	0.0005	0.060	1.2	0 ÷ 15 ÷ 0	0.65	
074111965	0.0005	0.060	1.5	0 ÷ 15 ÷ 0	2.675	
074111374	0.001	0.060	1.2	0 ÷ 15 ÷ 0	0.65	
074111372	0.0001	0.016	1.5	0 ÷ 4 ÷ 0	0.65	
074111373	0.0001	0.016	1.2	0 ÷ 4 ÷ 0	0.65	



Rotating dial

Very low measuring force (see table on page G-7)

Lever system with friction drive to prevent overload

Accuracy: see table on page G-7

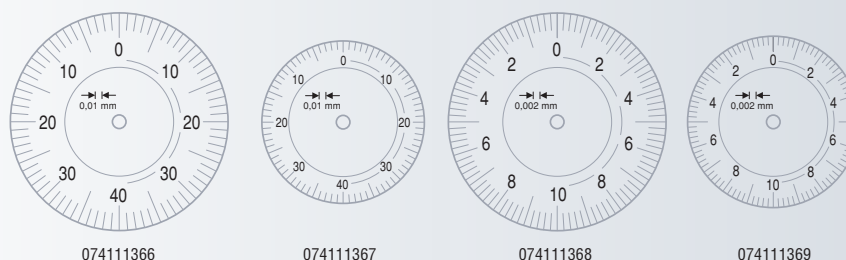
Supplied in a plastic case along with:
1 steel insert with a 2 mm diameter, hardened.
1 key No. 01860307

Declaration of conformity



INTERAPID 312 Perpendicular Models

						
				Ø		Insert
mm						
074111375	0,01	1,6	37,5	0 ÷ 40 ÷ 0	16,5	
074111376	0,01	1,6	30	0 ÷ 40 ÷ 0	16,5	
in						
074111377	0.0005	0.060	1.5	0 ÷ 15 ÷ 0	0.65	
074111378	0.0005	0.060	1.2	0 ÷ 15 ÷ 0	0.65	
074111958	0.0005	0.060	1.5	0 ÷ 15 ÷ 0	2.675	
074111379	0.001	0.060	1.2	0 ÷ 15 ÷ 0	0.65	
074111957	0.0001	0.016	1.5	0 ÷ 4 ÷ 0	0.65	





Technical data
as listed under:
each single
product

Plastic case

Declaration
of conformity

Dial Test Indicator Sets, Complete with Accessories

Each full set consists of:



INTERAPID 312 as listed
in the tables below

074106331	Rectangular attachment
074108942	Reducing sleeve, metric or
074108943	Reducing sleeve, inch
074106026	Swivel holder, metric or
074106931	Swivel holder, inch
074111474	Storage case for measuring inserts
01860307	Wrench for measuring inserts



INTERAPID 312 Regular Models



mm	074111366	074111367	074111368	074111369	074106331	074108942	074106026	074111474	01860307
074111502	●				●	●	●	●	●
074111503		●			●	●	●	●	●
074111504			●		●	●	●	●	●
074111505				●	●	●	●	●	●



in	074111370	074111371	074111372	074111373	074106331	074108943	074106931	074111474	01860307
074111508	●				●	●	●	●	●
074111509		●			●	●	●	●	●
074111510			●		●	●	●	●	●
074111511				●	●	●	●	●	●

INTERAPID 312 Perpendicular Models

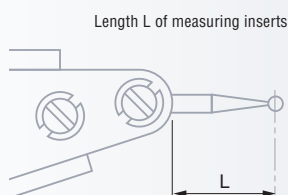


mm	074111375	074111376	074106331	074108942	074106026	074111474	01860307
074111506	●		●	●	●	●	●
074111507		●	●	●	●	●	●



in	074111377	074111378	074106331	074108943	074106931	074111474	01860307
074111513	●		●	●	●	●	●
074111514		●	●	●	●	●	●

Measuring Inserts for INTERAPID 312



- * The length of the used insert changes the amplification factor of the lever system. Therefore, each read value must be doubled.
- ** Except for both models No. 074111965 and 074111958.
- *** Model No. 074111965 only.
- **** Model No. 074111958 only.

Note

The original measuring insert mounted on every INTERAPID 312 as well as any other insert with same nominal length but having different ball tip diameters are fully interchangeable.

				
Steel ball tips	Carbide ball tips			L
 mm				
074107893	074105993	0,01	2	16,5
074107895	074105994	0,01	1,5	16,5
074107897	074105995	0,01	0,8	16,5
	074106358	0,01	2	36,6*
	074106360	0,01	0,8	36,6*
074110481	074110482	0,002	2	15,2
074110492	074110491	0,002	1,5	15,2
074110493	074110507	0,002	0,8	15,2
	074110494	0,002	2	34*
	074110508	0,002	0,8	34*
 in				
074107899	074105996	all**	0.080	0.650
074107901	074105997	all**	0.060	0.650
074107903	074105998	all**	0.031	0.650
	074106361	all**	0.080	1.375*
	074106363	all**	0.031	1.375*
	074111913***		0.080	2.675
	074111912****		0.100	2.675
 mm/in				
01860307	Wrench for measuring inserts			
074111474	Storage case for measuring inserts			

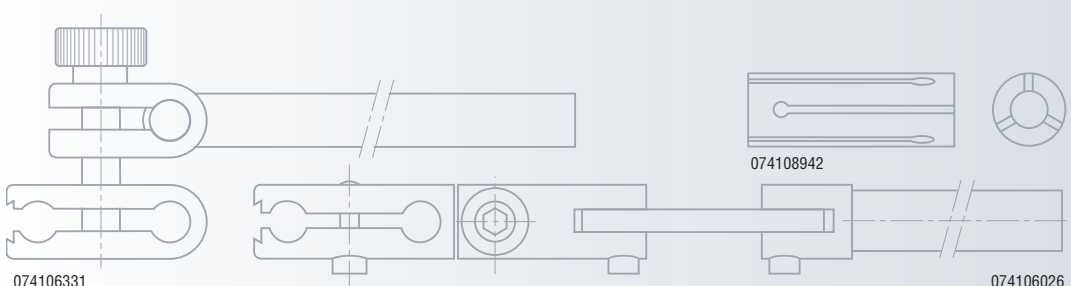


Ball tips in hardened steel or tungsten carbide



M1,7 coupling thread

Accessories for INTERAPID 312



		mm	
074106331	Rectangular clamping attachment, complete		
01840203	Rectangular attachment with clamp	13 x 6 x 50	Ø 5,6
074108603	Double attachment with clamping point and dovetail	Ø 4	
074106026	Swivel holder with clamping points and dovetail	Ø 8 x 133	Ø 4
074108942	Reducing sleeve	Ø 8 / Ø 4	

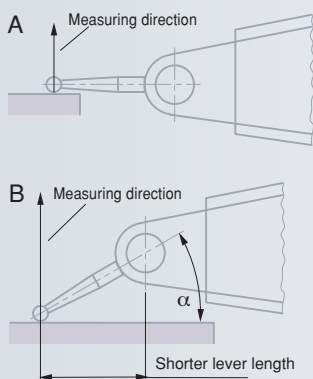


COMPAC Dial Test Indicators

Essential for the workshop, but also in the inspection room or measuring laboratory – Ideal for comparative measurement on a surface plate – Detect form and position errors – Measure axial and radial runouts, especially.

Technical features

- Long range up to 3 mm.
- Bidirectional measuring, without reversing lever.
- Continuous two-way clockwise rotation of the pointer.
- Swivelling probe through 180°.
- Main pivot on oversized, self-aligning angular bearings.
- Dovetail mounting machined in the indicator body.
- Dull-chrome plated bezel and housing.
- Rotating dial.
- Insensitive to magnetic fields generated in common precision mechanics.

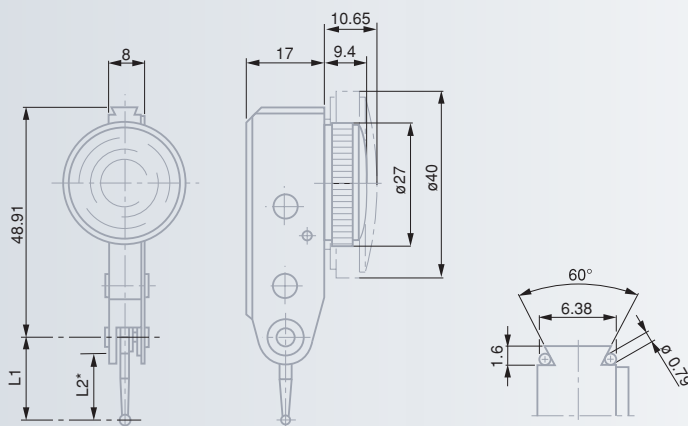


Note for use of COMPAC dial test indicators

With the measuring insert lying parallel to the workpiece surface (Fig. A), these dial test indicators give true reading due to the amplification factor to 1:1.

In any other measuring position (angle α in Fig. B), the effective lever length changes so that the read value need be corrected. With respect to this, also read in the instruction manual.

COMPAC Series 210 – Type Standard



*L2 see table page G-15



Metric Reading

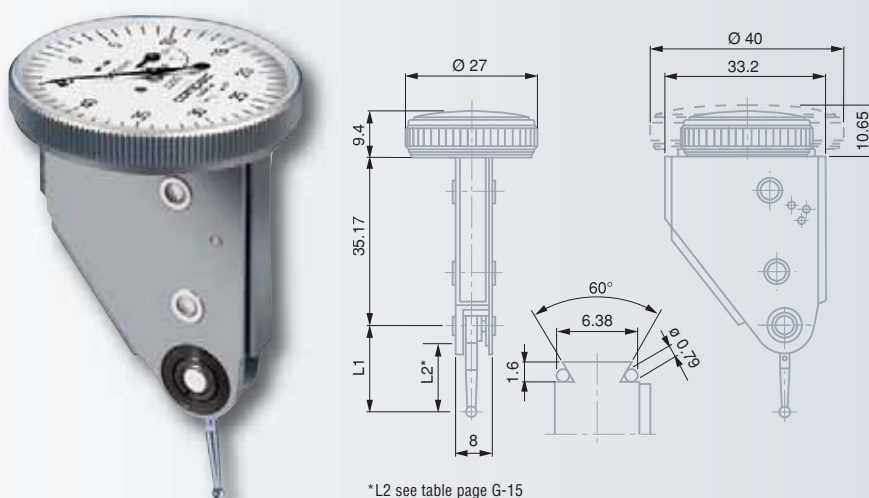
										
	mm	Whole travel mm	Travel/revolution mm	Ø mm		Contact point L1 mm	µm	µm	µm	N
213	0,01	1,5	0,5	27	0÷25÷ 50	18	13	3	3	≤ 0,35
213G	0,01	1,5	0,5	40	0÷25÷ 50	18	13	3	3	≤ 0,35
212L	0,01	3	1	27	0÷50÷100	36	26	3	6	≤ 0,20
212GL	0,01	3	1	40	0÷50÷100	36	26	3	6	≤ 0,20
215	0,002	0,6	0,1	27	0÷ 5÷ 10	18	13	1,5	2,5	≤ 0,30
215G	0,002	0,6	0,1	40	0÷ 5÷ 10	18	13	1,5	2,5	≤ 0,30
215GL	0,002	1,2	0,2	40	0÷10÷ 20	36	26	1,5	5	≤ 0,20
216G	0,001	0,6	0,1	40	0÷ 5÷ 10	18	13	1,5	2,5	≤ 0,30

DIAL TEST INDICATORS (LEVER-TYPE)

Inch Reading

											
		in	Whole travel in	Travel/ revolution in	Ø in		Contact point L 1 in	in	in	in	N
214A		0.0005	0.06	0.02	1.063	0÷10÷20	0.72	0.0005	0.00015	0.00015	≤ 0,35
214GA		0.0005	0.06	0.02	1.575	0÷10÷20	0.72	0.0005	0.00015	0.00015	≤ 0,35
213LA		0.0005	0.12	0.04	1.063	0÷20÷40	1.44	0.001	0.00015	0.00025	≤ 0,20
213GLA		0.0005	0.12	0.04	1.575	0÷20÷40	1.44	0.001	0.00015	0.00025	≤ 0,20
215A		0.0001	0.024	0.004	1.063	0÷20÷40	0.72	0.00005	0.00005	0.0001	≤ 0,30
215GA		0.0001	0.024	0.004	1.575	0÷20÷40	0.72	0.00005	0.00005	0.0001	≤ 0,30

COMPAC Series 220 – Type Perpendicular



Metric Reading

											
		mm	Whole travel mm	Travel/ revolution mm	Ø mm		Contact point L1 mm	µm	µm	µm	N
223		0,01	1,5	0,5	27	0÷25÷ 50	18	13	3	3	≤ 0,35
223G		0,01	1,5	0,5	40	0÷25÷ 50	18	13	3	3	≤ 0,35
222L		0,01	3	1	27	0÷50÷100	36	26	3	6	≤ 0,20
222GL		0,01	3	1	40	0÷50÷100	36	26	3	6	≤ 0,20
225		0,002	0,6	0,1	27	0÷ 5÷ 10	18	13	1,5	2,5	≤ 0,30
225G		0,002	0,6	0,1	40	0÷ 5÷ 10	18	13	1,5	2,5	≤ 0,30

Inch Reading

											
		in	Whole travel in	Travel/ revolution in	Ø in		Contact point L 1 in	in	in	in	N
224A		0.0005	0.06	0.02	1.063	0÷10÷20	0.72	0.0005	0.00015	0.00015	≤ 0,35
224GA		0.0005	0.06	0.02	1.575	0÷10÷20	0.72	0.0005	0.00015	0.00015	≤ 0,35
223GLA		0.0005	0.12	0.04	1.575	0÷20÷40	1.44	0.001	0.00015	0.00025	≤ 0,20
225GA		0.0001	0.024	0.004	1.575	0÷20÷40	0.72	0.0005	0.00005	0.0001	≤ 0,30

 Rotating dial

Friction lever system to preventing overload



Contact points
with tungsten
carbide ball tips

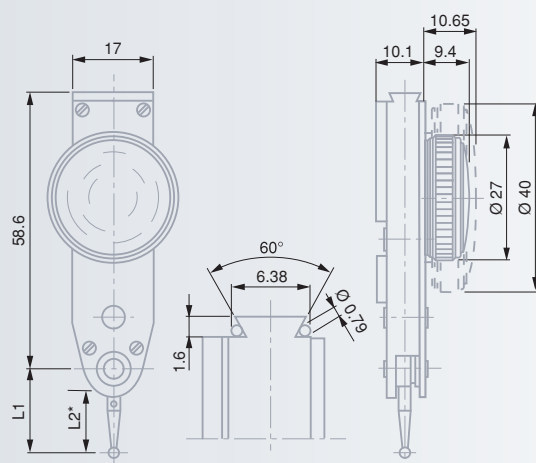


Delivery in a suited plastic case

including:
1 contact point, 2 mm dia.
1 rigid stem with 8 mm dia.,
L = 15 mm, No. 01840107
1 rigid stem with 4 mm dia.,
L = 15 mm, No. 01840109
(except for series 220).

 Serial number

 Inspection report with a declaration of conformity



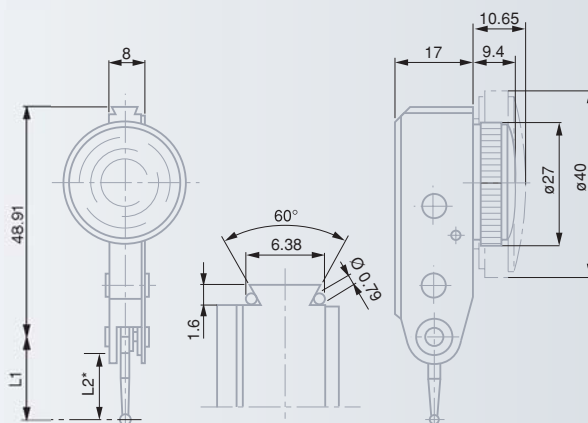
*L2 see table page G-15



											
	mm	Whole travel mm	Travel/ revolution mm	Ø mm		Contact point L1 mm	µm	µm	µm	N	
233	0,01	1,5	0,5	27	0÷25÷ 50	18	13	3	3	≤ 0,35	
233G	0,01	1,5	0,5	40	0÷25÷ 50	18	13	3	3	≤ 0,35	
232L	0,01	3	1	27	0÷50÷100	36	26	3	6	≤ 0,20	
232GL	0,01	3	1	40	0÷50÷100	36	26	3	6	≤ 0,20	
235G	0,002	0,6	0,1	40	0÷ 5÷ 10	18	13	1,5	2,5	≤ 0,30	

COMPAC Series 240 – Reduced Range

One-revolution models



* L2 see table page G-15



DIN 2270 and factory standard



Rotating dial



Friction lever system to preventing overload



Contact points with tungsten carbide ball tips



Delivery in a suited plastic case including:
1 contact point with a 2 mm diameter
1 rigid stem with 8 mm dia., L = 15 mm, No. 01840107
1 rigid stem with 4 mm dia., L = 15 mm, No. 01840109



Serial number



Inspection report with a declaration of conformity

Metric Reading

No		Whole travel			Contact point				
	mm	mm	Ø mm		L1 mm	µm	µm	µm	N
242	0,01	0,8	27	0÷40÷0	18	13	3	3	≤ 0,25
242G	0,01	0,8	40	0÷40÷0	18	13	3	3	≤ 0,25
243L	0,01	0,5	27	0÷25÷0	45	13	3	3,5	≤ 0,10
243GL	0,01	0,5	40	0÷25÷0	45	13	3	3,5	≤ 0,10
245	0,002	0,2	27	0÷10÷0	18	4	1,5	2	≤ 0,25
245G	0,002	0,2	40	0÷10÷0	18	4	1,5	2	≤ 0,25

Inch Reading

No		Whole travel			Contact point				
	in	in	Ø in		L1 in	in	in	in	N
244A	0.0005	0.030	1.063	0÷15÷0	0.6754	0.0005	0.0001	0.00015	≤ 0,25
245A	0.0001	0.008	1.063	0÷ 4÷0	0.7200	0.00015	0.00006	0.00008	≤ 0,25
245GA	0.0001	0.008	1.575	0÷ 4÷0	0.7200	0.00015	0.00006	0.00008	≤ 0,25

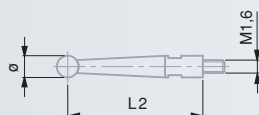


Stainless steel
with carbide
or ruby
contact points

M1.6 coupling
thread

Original inserts
mounted on every
indicators as well
as any other inserts with
same nominal length but hav-
ing different tip diameters are
fully interchangeable.

Contact Points for COMPAC Dial Test Indicators



Metric Models

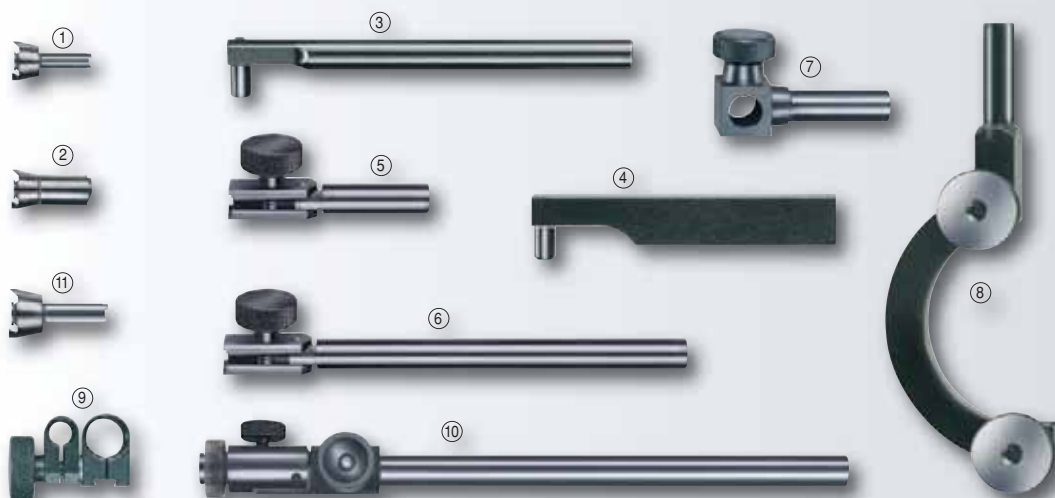
Carbide ball tips		Ruby ball tips			
				mm	L1 mm L2 mm
01866014				0,8	18 14,26
01866003	01866026			2	18 14,26
01866021				3	18 14,26
01866016				0,8	36 32,26
01866004	01866027			2	36 32,26
01866023				3	36 32,26
01866015				0,8	45 41,26
01866006	01866028			2	45 41,26
01866022				3	45 41,26

Inch Models

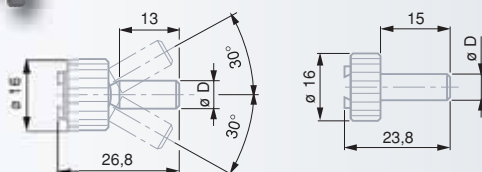
Ruby ball tips					
		mm	L1 in	L2 in	
01866010		0,8	0.6754	0.5278	
01866007		2	0.6754	0.5278	
01866011		0,8	0.72	0.5724	
01866005		2	0.72	0.5724	
01866024		0,8	1.44	1.2924	
01866009		2	1.44	1.2924	
01866025		3	1.44	1.2924	
01866008		2	1.8	1.6527	



Accessories for COMPAC Dial Test Indicators



			
01840104	①	Fixing shank with dovetail clamp	Ø 4
01840105	②	Fixing shank with dovetail clamp	Ø 8
01840202	③	Cylindrical fixing shank with tightening tenon	Ø 8 x 80 Ø 5,6
01840203	④	Rectangular fixing shank with tightening tenon	13 x Ø 5,6
01840404	⑤	Short swivel holder with cylindrical shank and dovetail grip	Ø 8 x
01840405	⑥	Long swivel holder with cylindrical shank and dovetail grip	Ø 8 x 90
01840406	⑦	Angle holder with cylindrical shank Clamping bore	Ø 8 x 25 Ø 8
01840501	⑧	Centring holder for perpendicular model with cylindrical shank Clamping point for fixing shank and dovetail clamp	Ø 8 x 25 Ø 4
01860401	⑨	Double fixing clamp with clamping point and dovetail clamp	Ø 5,6
01840407	⑩	Long swivel holder, cylindrical shank with dovetail grip. Also with fine setting.	Ø 8 x 125
01860008	⑪	Fixing shank with dovetail clamp	Ø 6



			
SPT	Rotating holder	8 mm	25 mm
SPTA	Rotating holder	1/4 in	1 in
SPTA-3/16	Rotating holder	3/16 in	1 in
SPTA-3/8	Rotating holder	3/8 in	1 in
SPTA-5/16	Rotating holder	5/16 in	1 in



Mounting rods with dovetail grip

01850106	Fixing shank swivelling through ± 30°	Ø 1/4 in
01850107	Rigid fixing shank	Ø 1/4 in
01840106	Fixing shank swivelling through ± 30°	Ø 8 mm
01840107	Rigid fixing shank	Ø 8 mm
01840108	Fixing shank swivelling through ± 30°	Ø 4 mm
01840109	Rigid fixing shank	Ø 4 mm

Comparative Measurement



TESA TPS 300 / 500 / 1000 Motorised Setting Benches

These motorised benches are specially made for display setting as well as for calibrating 2-point shop tools used to measure both internal and external dimensions up to 1000 mm.



Benefit

A single bench can replace a wide number of setting standards such as gauge blocks or setting rings.

-  ✓
-  0,001 mm
-  Linear
1,5 + L (mm)/
300 µm
-  1 µm
-  Holding
force
240 N
-  100/240 AC – 1,5 A
50/60 Hz
-  RS 232
-  +10 to +40°C
-  -10 to +40°C
-  ✓
-  Shipping
packaging
-  Identification
number
-  Inspection
report
-  Declaration
of conformity

Technical Data

					
		Internal mm/in	External mm/in	mm	kg
02130001	TPS 300	0,1 ÷ 305 (0.04 ÷ 12)	40 ÷ 345 (1.6 ÷ 13.5)	610 x 300 x 270	75
02130002	TPS 500	0,1 ÷ 508 (0.04 ÷ 20)	40 ÷ 548 (1.6 ÷ 21.5)	820 x 300 x 300	90
02130003	TPS 1000	0,1 ÷ 1016 (0.04 ÷ 40)	40 ÷ 1056 (1.6 ÷ 41.5)	1330 x 340 x 340	240
On request	TPS 1500 mm, 2000 mm, 3000 mm				
Provided with the following accessories:					
02160038	Power supply 80 – 240 V, 50 – 60 Hz				
	Rubber feet (3) acting as vibration inhibitors				
02160027	AL300003 adapter mounted on the mobile stop				

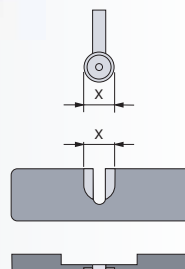
All given maximum permissible errors for a metrological characteristic (MPE) are valid for a temperature of 20° ± 0,5° C and relative humidity of 50 ± 5%.

Optional Accessories For Bore Gauges – TESA Veribor

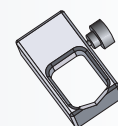
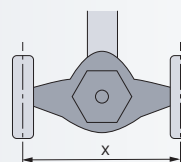
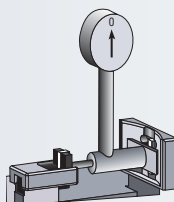
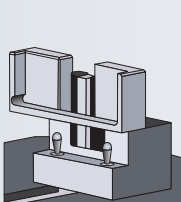


Application range 4,5 ÷ 50 mm

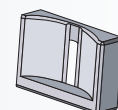
		 mm	 x
02160020	A7547	4,5 ÷ 6	Ø 4,5
02160021	A7548	6 ÷ 12,5	Ø 5,8
S21050003	A7527	12 ÷ 25	Ø 9,5
02160023	A7559	25 ÷ 50	Ø 17,5



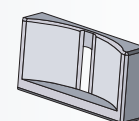
Application range 50 ÷ 550 mm



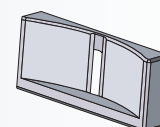
AL300003



AL30055



AL5590



AL90125

		 mm	 x
02160024	AL30055	50 ÷ 150	30 ÷ 55
02160025	AL5590	150 ÷ 300	55 ÷ 90
02160026	AL90125	240 ÷ 550	90 ÷ 125
02160043	AL120-170		120 ÷ 170
02160044	AL170-220		170 ÷ 220

Each bench is supplied with AL300003 adapter.

– TESA YA

		 mm
02160028	A7750-A7751-A7752	6 ÷ 12,5



For IRA 2 and ETALON Caliper Gauges

Internal measuring



02160030

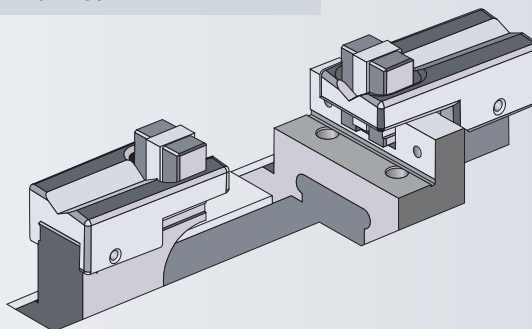


A300005



10 ÷ 150

Requires 2 items.



For ETALON Caliper Gauges

External measuring



02160029

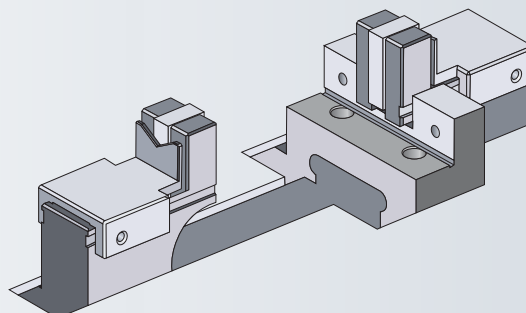


A300000



40 ÷ 60

Requires 2 items.



For TESA INOTEST

Comparator gauges with 2-point contact for internal and external measuring



02160031

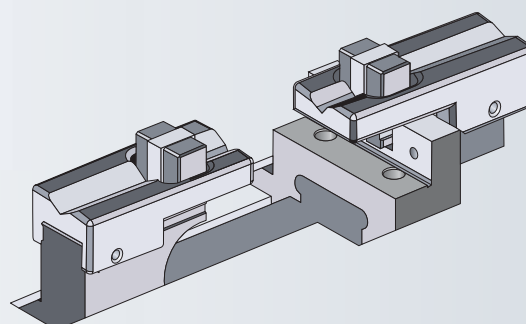


A300004



50 ÷ 1500

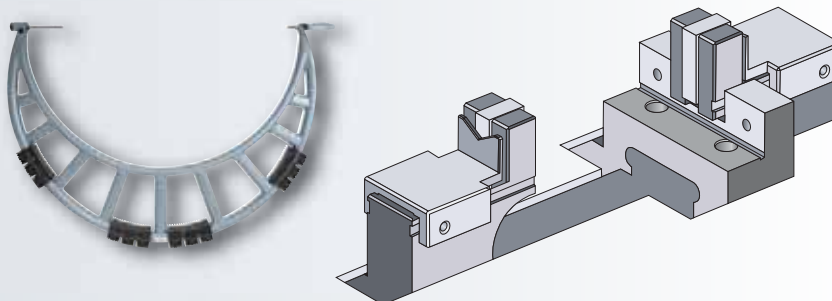
Requires 2 items



For External Micrometers

		 mm
02160029	A300000	40 ÷ 1500

TPS 300 requires 1 item, TPS 500 and 1000 need 2 items.



For Lever-Type Dial Test Indicators

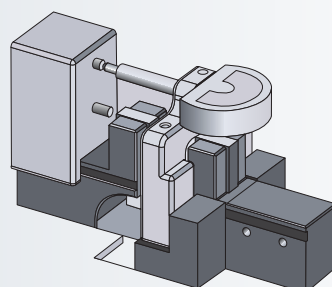
		
01639007	Measuring support with articulated arm	

For any other shop tool, please ask your local TESA sales representative.



For Dial Gauges

		 mm
02160035	A300001-A300002	10 ÷ 150

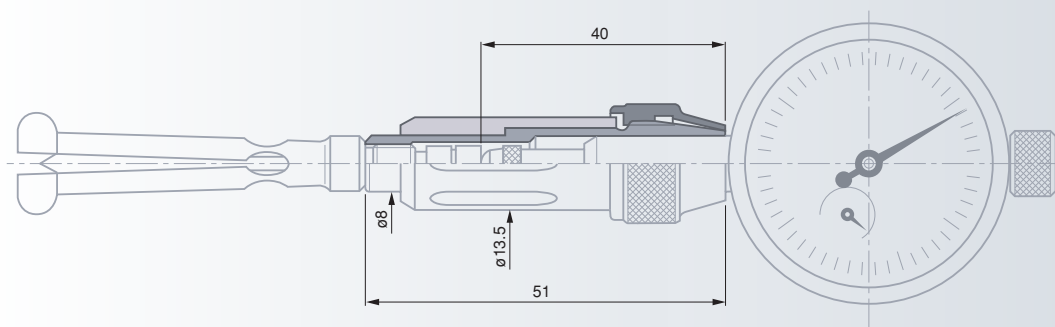
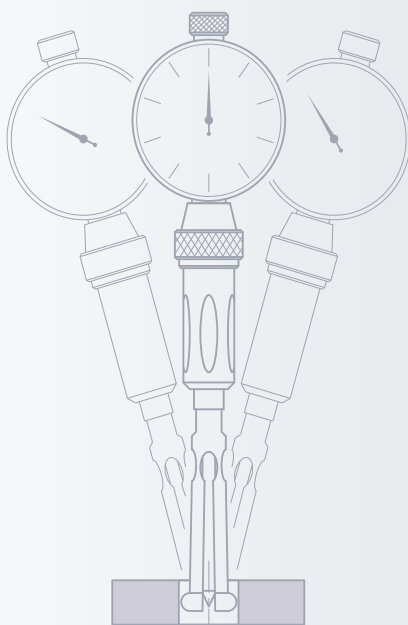


TESA YA Bore Gauges

Specially designed for small bores from 0,47 up to 12,20 mm – Check bore sizes as well as form and shape errors through 2-point measurements – Excellent repeatability.

These bore gauges have an interchangeable measuring head housing a needle as well as a clamping shank with a 8 mm diameter fixing bore for a dial gauge or any other sensor.

- Probing heads with spherical faces for through bores.
- Probing heads with faces forming a rounded edge on their front face. Used to check blind bores or short centring shoulder.
- Probing heads for deeper bores.



Handgrip



With mount for shop tools with a 8 h6 dia. clamping shank

Measuring heads



See tables



See tables



Dull-chrome plated steel, hardened to ≈ 1000 HV 25

Measuring needles



See tables



Steel hardened to ≈ 800 HV 25

Setting rings



Nominal diameter $\leq 1,5$ mm: with inserted ring in synthetic sapphire, $>1,5$ mm: steel, hardened to ≈ 780 HV 25



Reliability of the engraved size: $\pm 2s = 1 \mu m$



1 μm

Complete Sets for Through Holes Measurement



Technical data: see page H-6



Complete set includes: 1 handle

No. 01540201.

Measuring heads, needles and setting rings as shown in the table below.

1 TESA YR dial gauge

No. 01410212 (reading to 0,01 mm, 40 mm dial dia.).

1 Extension for a 10 mm measuring insert with order No. 03540501.



Suited plastic case



Declaration of conformity



mm

01510000	0,47 ÷ 0,97
01510100	0,95 ÷ 2,45
01510200	2,30 ÷ 6,20
01510300	6,00 ÷ 12,20



mm



Measuring depth
max. mm min. mm



mm

Measuring heads

Needles

Setting rings

Set compositions:

Set 01510000	01540401	0,47 ÷ 0,53	1,5	0,25	01540001	01540601	0,50
	01540402	0,52 ÷ 0,58	1,8	0,27	01540001	01540602	0,55
	01540403	0,57 ÷ 0,67	2,0	0,29	01540002	01540603	0,60
	01540404	0,65 ÷ 0,77	2,5	0,31	01540002	01540604	0,70
	01540405	0,75 ÷ 0,87	2,8	0,33	01540002	01540605	0,80
	01540406	0,85 ÷ 0,97	3,0	0,35	01540002	01540606	0,90
Set 01510100	01540407	0,95 ÷ 1,15	11	0,6	01540003	01540607	1,00
	01540408	1,07 ÷ 1,25	11	0,6	01540003	01540608	1,10
	01540409	1,17 ÷ 1,35	11	0,6	01540003	01540609	1,20
	01540410	1,27 ÷ 1,45	11	0,6	01540003	01540610	1,30
	01540411	1,37 ÷ 1,55	11	0,6	01540003	01540611	1,40
						01540612	1,50
Set 01510200	01540412	1,50 ÷ 1,90	17	0,9	01540004	01540613	1,7
	01540413	1,70 ÷ 2,15	17	0,9	01540004	01540614	2,00
	01540414	2,05 ÷ 2,45	17	0,9	01540004	01540615	2,25
	01540415	2,30 ÷ 2,75	22	1,2	01540005	01540616	2,50
	01540416	2,65 ÷ 3,20	22	1,2	01540005	01540617	3,00
	01540417	3,05 ÷ 3,50	22	1,2	01540005	01540618	3,25
Set 01510300	01540418	3,35 ÷ 3,85	22	1,2	01540005	01540619	3,50
	01540419	3,80 ÷ 4,30	22	1,2	01540005	01540620	4,00
	01540420	4,20 ÷ 5,00	40	2,0	01540006	01540621	4,50
	01540421	4,70 ÷ 5,50	40	2,0	01540006	01540622	5,00
	01540422	5,30 ÷ 6,20	40	2,0	01540006	01540623	5,75
	01540423	6,00 ÷ 6,80	40	2,0	01540006	01540624	6,50
	01540424	6,60 ÷ 7,50	40	2,0	01540006	01540625	7,00
	01540425	7,30 ÷ 8,15	40	2,0	01540006	01540626	7,75
	01540426	8,00 ÷ 8,80	40	2,0	01540006	01540627	8,50
	01540427	8,50 ÷ 9,40	50	2,0	01540006	01540628	9,00
	01540428	9,15 ÷ 10,00	50	2,0	01540006	01540629	9,50
	01540429	9,60 ÷ 10,80	50	3,3	01540007	01540630	10,00
	01540430	10,65 ÷ 12,20	50	3,3	01540007	01540631	11,50



Complete Sets for Measuring Blind Bores and Short Centring Shoulders



mm

01510400 1,50 ÷ 2,45

01510500 2,30 ÷ 6,20

01510600 6,00 ÷ 12,20



Technical data: see page H-6



Complete set includes:
1 handle

No. 01540201.

Measuring heads, needles and setting rings as shown in the table below.

1 TESA YR dial gauge

No. 01410212 (reading to 0,01 mm, 40 mm dial dia.).

1 Extension for a 10 mm measuring insert with order No. 03540501.



Suited plastic case



Declaration of conformity



mm



Measuring depth
max.
min.
mm mm



mm

Measuring heads

Needles

Setting rings

Set compositions:

Set 01510400	01540501	1,50 ÷ 1,90	17	0,3	01540009	01540613	1,75
	01540502	1,70 ÷ 2,15	17	0,3	01540009	01540614	2,00
	01540503	2,05 ÷ 2,45	17	0,3	01540009	01540615	2,25
Set 01510500	01540504	2,30 ÷ 2,75	22	0,3	01540010	01540616	2,50
	01540505	2,65 ÷ 3,20	22	0,3	01540010	01540617	3,00
	01540506	3,05 ÷ 3,50	22	0,3	01540010	01540618	3,25
	01540507	3,35 ÷ 3,85	22	0,2	01540010	01540619	3,50
	01540508	3,80 ÷ 4,30	22	0,2	01540010	01540620	4,00
	01540509	4,20 ÷ 5,00	40	0,5	01540011	01540621	4,50
	01540510	4,70 ÷ 5,50	40	0,5	01540011	01540622	5,00
	01540511	5,30 ÷ 6,20	40	0,5	01540011	01540623	5,7
Set 01510600	01540512	6,00 ÷ 6,80	40	0,5	01540011	01540624	6,50
	01540513	6,60 ÷ 7,50	40	0,5	01540011	01540625	7,00
	01540514	7,30 ÷ 8,15	40	0,5	01540011	01540626	7,75
	01540515	8,00 ÷ 8,80	40	0,5	01540011	01540627	8,50
	01540516	8,50 ÷ 9,40	50	0,5	01540011	01540628	9,00
	01540517	9,15 ÷ 10,00	50	0,5	01540011	01540629	9,50
	01540518	9,60 ÷ 10,80	50	1,0	01540012	01540630	10,00
	01540519	10,65 ÷ 12,20	50	1,0	01540012	01540631	11,50

Special Executions

Available upon request:

- Measuring heads with tungsten carbide tipped measuring faces.
- Measuring heads for uncommon inspection job.
- Measuring heads for through holes and deeper bores covering other application ranges.
- Tungsten carbide measuring needles.
- 125, 250, 500, 750 and 1000 mm depth extensions.



Technical
data: see
page I-8



Declaration
of conformity

Optional Accessories for TESA YA Bore Gauges

Measuring stand for stationary use.



01639009

INTERAPID UA 30 measuring stand

Must be equipped with:

01610201

UK 25 sliding arm

01640000

UAZ 10 depth stop



TESA VERIBOR Light Bore Gauge

Two-point contact gauge made to measure bores and form errors – Self-centring – Can equally be used with a dial gauge, precision indicator or any other sensor type having a 8 h6 dia. clamping shaft.



Measuring bolts and anvils in steel, hardened to 60 HRC ± 2 and 63 HRC ± 3 , respectively.



Mount for a sensor having a 8h6 dia. clamping shaft



2 μ m



4 μ m



Set including 1 single TESA VERIBOR Light plus 1 set of interchangeable fixed inserts covering the whole application range.



Wooden case



Declaration of conformity



mm



Bolt travel, mm



Measuring depth, mm

		mm	Bolt travel, mm	Measuring depth, mm
05710090	TESA Veribor Light	18 ÷ 35	1,30	176
05710091	TESA Veribor Light	35 ÷ 60	1,40	178
05710092	TESA Veribor Light	50 ÷ 150	1,40	178
05710093	TESA Veribor Light	18 ÷ 150	1,30 / 1,40	176 / 178

Dial gauge not included.



See tables



Measuring bolts and anvils fitted with tungsten carbide ball tips



Mount for a sensor having a 8 h6 dia. clamping shaft



2 μ m (VERIBOR alone)



$\pm 2s = 0,5 \mu$ m (VERIBOR alone)

TESA VERIBOR Bore Gauges

Proven construction and high reliability over decades – Able to take 2-point measurements on bores from 4,5 up to 550 mm – Detect form and shape errors – Gauge body with a 8 mm diameter clamping bore for a dial gauge, precision indicator or any other sensor.

- High repeatability through the circular reversing element inside the gauge, virtually free from clearance.
- Gauge body made of invar steel to prevent the measurement results from being affected by hand warmth transfer.
- Centring shoe ensuring a correct alignment of the gauge into the bore to be checked.
- Tungsten carbide ball tips for high resistance to wear.



Set including 1 single TESA VERIBOR Light plus 1 set of interchangeable fixed inserts covering the whole application range.



Wooden case



Declaration of conformity

TESA VERIBOR without dial gauge



mm

05710012	4,5 ÷ 6
05710013	6 ÷ 12,5
05710014	12 ÷ 25
05710015	25 ÷ 50
05710016	50 ÷ 150
05710018	50 ÷ 300
05710017	240 ÷ 550



TESA VERIBOR with dial gauge

				
05710054	05710061			4,5 ÷ 6
05710055	05710062			6 ÷ 12,5
05710056	05710063			12 ÷ 25
		05710057	05710064	25 ÷ 50
		05710058	05710065	50 ÷ 150
		05710059	05710066	50 ÷ 300
		05710060	05710067	240 ÷ 550

Provided with a TESA dial gauge

	01412010	01412510	01412310	01412511
	40	40	58	58
	0,01	0,001	0,01	0,001



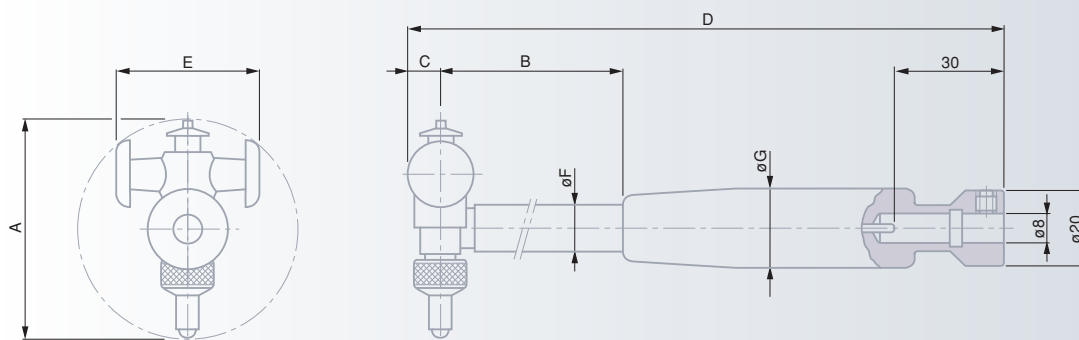
Full set including 1 single
TESA VERIBOR
Light plus
1 set of interchangeable
fixed inserts covering
the whole application range,
1 dial gauge
as shown in
the table opposite,
1 dial gauge guard.



Wooden case



Declaration of conformity



			A mm	B mm	C mm	D mm	E mm	F mm	G mm
4,5 ÷ 6	0,35	74	2	138	3,3	3,8	16		
6 ÷ 12,5	0,5	93	2,6	156	4,3	4,9	16		
12 ÷ 25	0,9	106	4,5	194	7,8	7,9	19		
25 ÷ 50	1,3	140	6	228	16	8	19		
50 ÷ 150	1,4	173	10	279	36	12	23		
50 ÷ 300	1,4	173	10	279	36/66	12	23		
240 ÷ 550	1,6	227	14	347	112	18	28		

Special Versions

Available on request:

- TESA VERIBOR for blind bores and centring shoulders.
- TESA VERIBOR elbow-shaped for hard-to-reach bores.
- Handtools for measuring the distance between two plan-parallel surfaces.
- Handtools for inspecting gear pitch diameters.



Optional Accessories for TESA VERIBOR Bore Gauges

Set of extensions

For extending the application range of VERIBOR No. 05710016, 05710058 and 05710065 up to 300 mm dia.



mm

05740001

Consisting of:

1 Centring shoe

3 Extensions 50 mm



Depth extensions (not pictured)

To be mounted on each tool shaft from diameters ≥ 25 to ≤ 550 mm for depth increase (Size B – Drawing on page H-12).



mm

05760026 250

05760027 500

05760028 750

05760029 1000

Dial gauge guard

Protects the dial gauge against shocks. Also prevents the dial from being inadvertently rotated.



mm

05760012 Ø 40

05760013 Ø 58



Cable holder

Used for the probe cable. To be mounted at the end of the gauge shaft.



05760014



INTERAPID IRA 2

The finest precision gauge for measuring by comparison – Performs two- or three-point measurement depending on the used accessory – Suitable for verifying through holes, blind bores, grooves, undercuts or slots with plan-parallel faces, among others.

- Wide application range from 10 up to 150 mm.
- Ideal in design, light in weight, easy to handle.
- Built-in indicator to 0,01 mm with fine setting.
- Centring arm for 2-point measurement.



0,01 mm or
0.0005 in



10 ÷ 150 mm
0.375 ÷ 6 in



± 0,20 mm or
± 0.008 in



10 mm
arm clearance



Hardened steel
or tungsten
carbide tipped
measuring faces as listed
in the table



3,5 N



Suited
plastic case



Declaration
of conformity



mm



in

079105704

INTERAPID IRA 2

079108640

Supplied with the following standard accessories:

079105667 3 Steel inserts, hardened (order number for 1 item) 079105697

079105668 3 Short steel inserts, hardened (order number for 1 item) 079105698

079105669 3 Long steel inserts, hardened (order number for 1 item) 079105699

079112126 2 Adjustable contact arms for bores ≥ 6 mm 079112126

079110111 1 Small insert holder for 3-point measurement 079110113

079110110 1 Large insert holder for 3-point measurement 079110112

079108502 1 Centring arm for bores 15 ÷ 30 mm 079108504

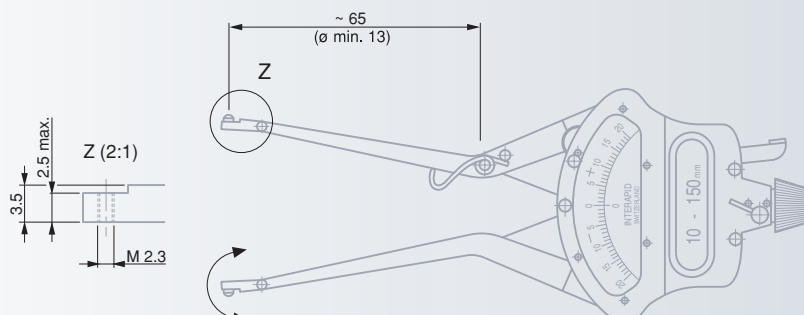
079108503 1 Centring arm for bores 30 ÷ 150 mm 079108505

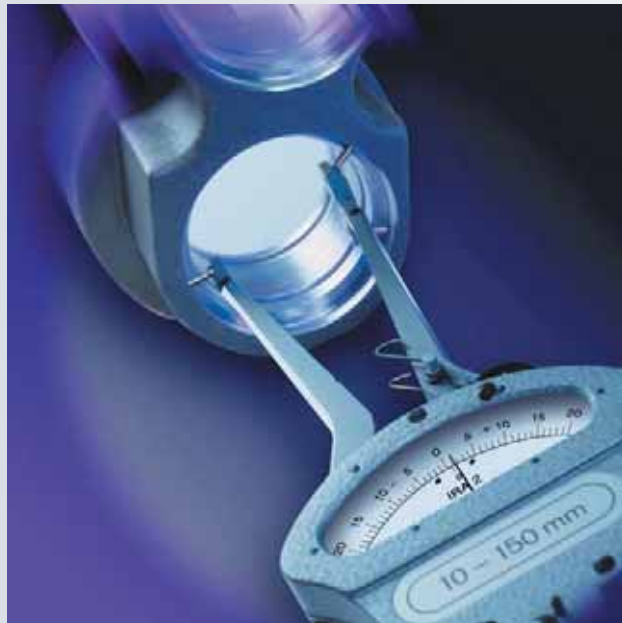
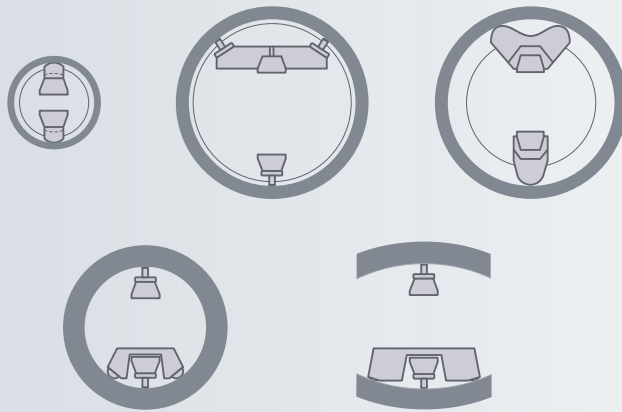
079105694 1 Screwdriver with special design 079105694

079111401 INTERAPID IRA 2 md 079111402

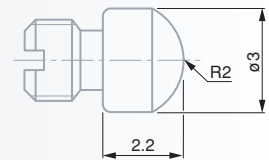
Same as INTERAPID IRA 2, but furnished with the measuring inserts listed below instead of those in steel with order No. 079105667 or 079105697.

079105756 3 Tungsten carbide inserts (order number for 1 item) 079105759

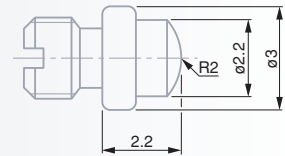




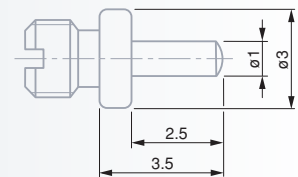
079105667



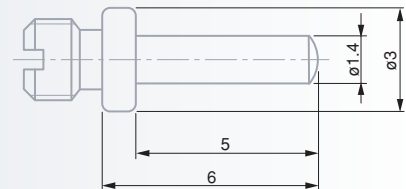
079105756



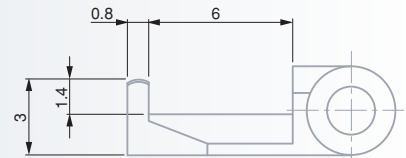
079105668



079105669



079112126



Chrome plated,
hardened steel

Optional Accessories

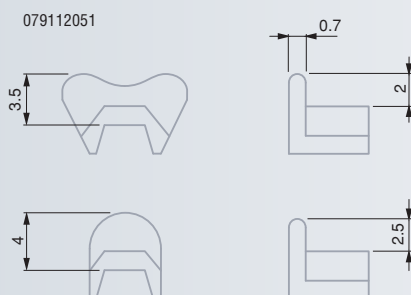


079112051 Set = 2 small inserts (1-point contact)
1 small insert (2-point contact)

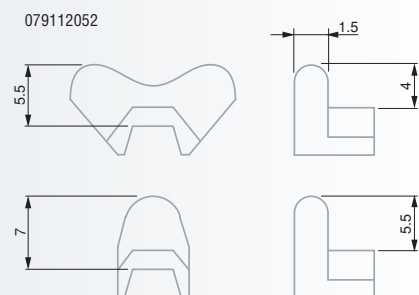
079112052 Set = 2 large inserts (1-point contact)
1 large insert (2-point contact)

079108830 Handle

079112051



079112052



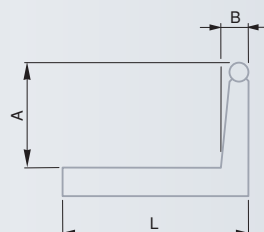
ETALON Caliper Gauges

**for Internal or External Dimensions –
Reading to 0,01 or 0,02 mm**

Long-lasting precision movement – No gear transmission – Tungsten carbide measuring faces for high wear-resistance – Concentric pointer for sure reading of the millimetres – Lifting lever for the gauge legs.

External Short Leg Caliper Gauges

Nº	mm	mm	A mm	B mm	L mm
07919000	0 ÷ 10	0,01	9,3	3,0	39,7



External Long Leg Caliper Gauges

Nº	mm	mm	A mm	B mm	L mm
07919009	0 ÷ 20	0,02	9,3	3,0	87



Internal Short Leg Caliper Gauges

Nº	mm	mm	A mm	B mm	L mm
07919015	5 ÷ 15	0,01	1,1	1,5	39,7
07919016	10 ÷ 20	0,01	3,3	1,5	39,7
07919017	15 ÷ 25	0,01	4,0	1,8	39,7



Internal Long Leg Caliper Gauges

Nº	mm	mm	A mm	B mm	L mm
07919023	10 ÷ 30	0,02	3,3	1,8	87
07919024	20 ÷ 40	0,02	7,0	2,5	87
07919025	30 ÷ 50	0,02	9,75	2,8	87
07919026	40 ÷ 60	0,02	9,75	2,8	87



0,01 mm or
0,02 mm



Tungsten carbide
measuring faces



Models with
reading to
0,01 mm = 30 µm
0,02 mm = 60 µm



Models with
reading to
0,01 mm = 20 µm
0,02 mm = 40 µm



Suited
plastic case



Identification
number



Inspection report
with a declaration
of conformity

INTERAPID Thickness Gauges

These gauges with a frame are specially made to measure the thickness of plastic parts as well as hard and soft materials such as glass, wood, paper, rubber, metal sheets etc. – All models have a dial that can be rotated for zero setting.



Small-size models, reading to 0,1 mm

With open inserts when not in use

				
	mm	mm	flat	mm
074115586	0 ÷ 10	0,1	flat	Ø 6,35
074115587	0 ÷ 10	0,1	flat	Ø 10

Small-size models, reading to 0,01 mm



							
	mm		mm	mm	mm	flat	mm
074115629	18	074115633	45	0 ÷ 10	0,01	flat	Ø 6,35
074115630	18	074115634	45	0 ÷ 10	0,01	flat	Ø 10

Models with roller-type measuring inserts, reading to 0,01 mm



					
	mm	mm	Ø mm	Length mm	Side discs
<i>Roller-type inserts</i>					
074115647	0 ÷ 5	0,01	8,4	8,7	●
074115648	0 ÷ 5	0,01	8,4	8,7	—



15 mm
throat depth

37 mm
dial diameter

10 mm

Non-interchangeable inserts

40 µm
(dial gauge)

Suited plastic case

Declaration of conformity



40 mm
dial diameter

1 mm

Non-interchangeable, retractable measuring inserts.

0,7 N

15 µm
(dial gauge)

Suited plastic case

Declaration of conformity



50 mm
throat depth

57 mm
dial diameter

1 mm

Non-interchangeable, retractable measuring inserts.

≈ 1,2 N

15 µm
(dial gauge)

Cardboard box

Declaration of conformity

Regular Models, reading to 0,01 mm



57 mm
dial diameter



1 mm



Interchangeable,
retractable
measuring
inserts



≈ 1 N



40 µm
(dial gauge)



Cardboard box



Declaration
of conformity



mm
50



mm
100



074115642



074115649



mm

0 ÷ 10



mm

0,01



flat



mm

Ø 30

074115643

074115650

0 ÷ 10

0,01

flat

Ø 20

074115644

074115651

0 ÷ 10

0,01

flat

Ø 10

Measuring insert available upon request.



57 mm
dial diameter

1 mm

Interchangeable,
retractable
measuring
inserts

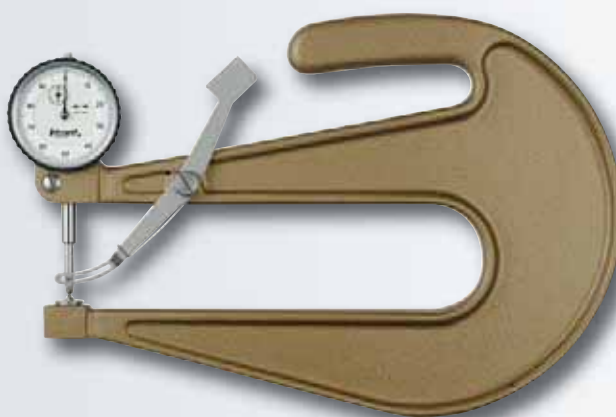
≈ 2 N

15 µm
(dial gauge)

Cardboard box

Declaration
of conformity

Models with deep throat, reading to 0,01 mm



mm
0 ÷ 10



mm
0 ÷ 30



074115654



074115659



mm



mm



flat



mm

Ø 30



Paired
inserts

074115734

074115655

074115660

0,01

200

flat

Ø 20

074115735



57 mm
dial diameter

10 mm

With foot
for stationary
use

Interchangeable,
retractable
measuring
inserts

≈ 2 N

40 µm
(dial gauge)

Cardboard box

Declaration
of conformity

Models with deeper throat, reading to 0,1 mm



mm
400



074115624



mm



mm



flat



mm

Ø 30



Paired
inserts

074115734

074115625

0 ÷ 30

0,1

flat

Ø 20

074115735

074115626

0 ÷ 30

0,1

flat

Ø 10

074115731

074115628

0 ÷ 30

0,1

spherical

Ø 5

074115733



Model for laminated plies, reading to 0,001 mm



				
074115664	0 ÷ 1	0,001	flat	Ø 6,35



30 mm throat depth. Highly stable frame with heat insulating handle.



57 mm dial diameter



0,2 mm



Non-interchangeable, retractable measuring inserts.



≈ 2 N



5 µm (dial gauge)



Cardboard box



Declaration of conformity

Models with reading to 0,1 mm

With open inserts when not in use



57 mm dial diameter



10 mm



Interchangeable measuring inserts



40 µm (dial gauge)



Cardboard box



Declaration of conformity



mm
0 ÷ 20



mm
0 ÷ 30



mm



mm



flat



mm

Ø 30



Paired inserts

074115599

074115604

0,1

50

flat

Ø 30

074115686

074115600

074115605

0,1

50

flat

Ø 20

074115687

074115601

074115606

0,1

50

flat

Ø 10

074115726

074115602

074115607

0,1

50

convex

Ø 10

074115727

074115603

074115608

0,1

50

spherical

Ø 5

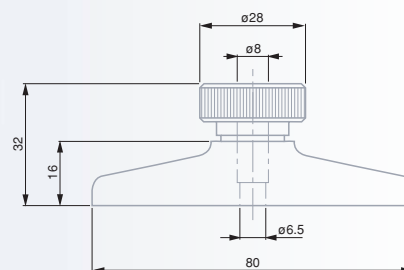
074115728



Mount with clamp for a dial gauge or a probe.



Dial Depth Gauges, Type PF1



01639046

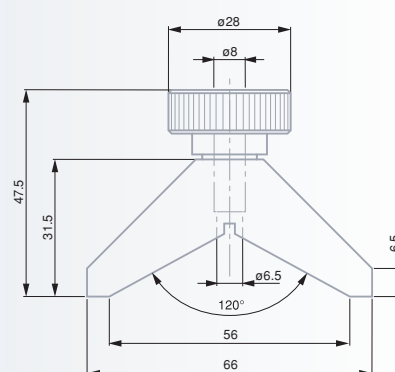
Flat base

mm

80 x 16

Mount
mm

Ø 8



01639047

V-base

mm

10 ÷ 100

Width
mm

120° 16

Mount
mm

Ø 8

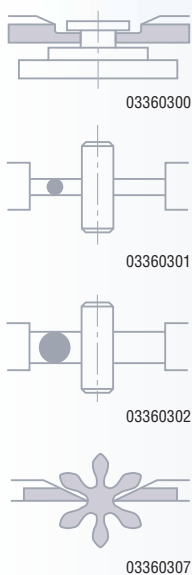


INTERAPID Small Bench SHE.30 or SHE.35

The ideal solution for precise inspection of small part series dedicated to watchmaking and precision mechanics – Fast in measuring and easily adaptable to changes from a workpiece-type to another – Wide choice of measuring inserts specially designed for the broadest variety of metrology applications.



**INTERAPID SHE.30
for External Dimensions**

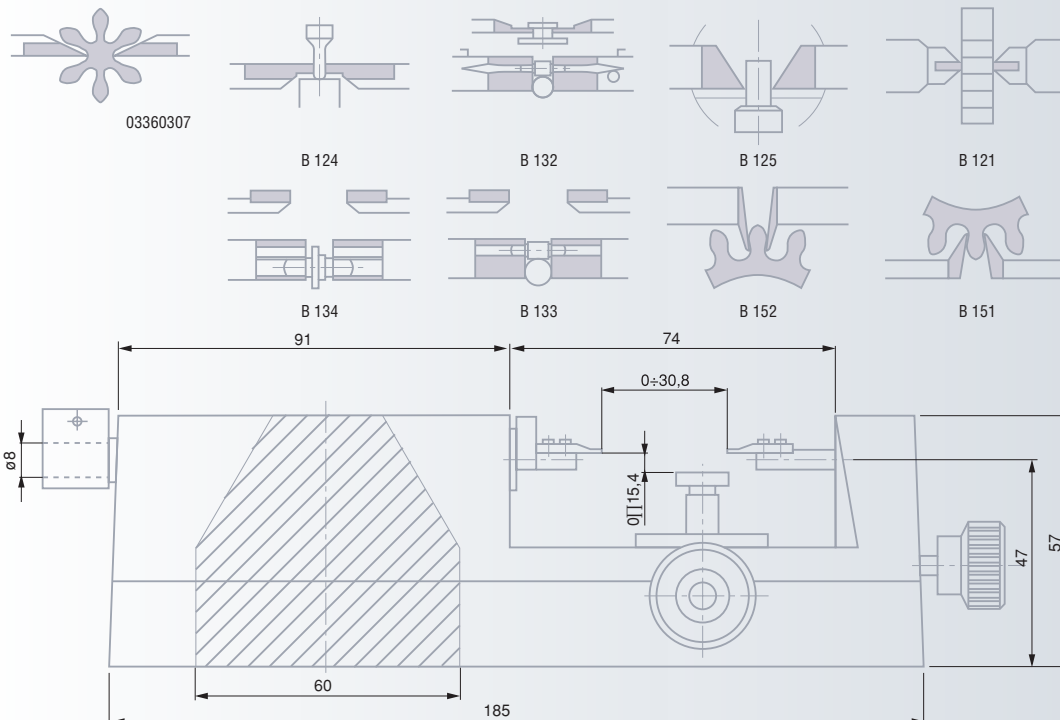


03360004 INTERAPID small measuring bench SHE.30 for external dimensions, without measuring inserts

Tungsten carbide tipped measuring inserts available in pairs

- 03360300** Flat measuring face, 3,5 mm long, 0,4 mm thick
- 03360301** Cylindrical insert with a flat measuring face, 1,2 mm diameter
- 03360302** Cylindrical insert with a flat measuring face, 2 mm diameter
- 03360307** Knife-edged measuring face, 3,5 mm long, 0,05 mm thick, 40°

Inserts with special design available upon request.



0 to 30 mm



Mobile measuring bolt mounted on a plain bearing, also fitted with a semi-circular releasing disc plate.

Measuring inserts supplied in pairs. One is tighten on the measuring bolt, the other on the fixed anvil using one indexing pin with 1 mm dia. and two M1,4 clamping screws.

Resting table with vertical and lengthwise adjustment facility
Table surface area: 24 x 9,5 mm.
Setting range: 15 mm upright, 14 mm lengthwise.
With tightening screws.

Sensor (must be ordered separately), e.g. dial gauge, electronic or precision indicator, analogue or digital probe with a 8 mm dia. shaft.



Main body in cast iron. Other parts in hardened and ground steel.



Produced by used sensor. The SH.30 model has no spring-loaded measuring force.



Accuracy is usually influenced by the measuring instrument as well as both flatness and parallelism of the measuring faces of used inserts.

Clamping precision
Tolerance in flatness of both clamping faces: 0,05 mm.
Tolerance for the axial position of both indexing pins against bolt axis: 0,05 mm.
Tolerance for the parallel position of the table surface against bolt axis: 0,05 mm.

Also see drawing



2,1 kg



Shipping packaging



Declaration of conformity

INTERAPID SHE.35 for Internal Dimensions



30 mm



8 up to 38 mm
(standard accessory)



Mobile measuring bolt
mounted on
a plain bearing, also
fitted with a retracting
ball-shaped handle.

Measuring inserts
supplied in pairs. Can be
exchanged. Provided with
a 4 mm dia. fixing shaft.

Height adjustable resting table

Table surface area:
40 x 70 mm.
Setting range: 8 mm.
1 tightening screw.
Sensor (must be ordered
separately), e.g. dial gauge,
electronic or precision
indicator, analogue or
digital probe with a 8 mm
dia. clamping shaft.



Main body
in cast iron.
Other parts in
hardened and ground
steel.

Inserts with carbide
measuring
faces.



Produced by
used sensor.
The bench has
no spring-loaded measuring
force.



Accuracy
is usually
influenced
by the measuring
instrument as well as
the type of used
inserts.



2,3 kg



Shipping
packaging



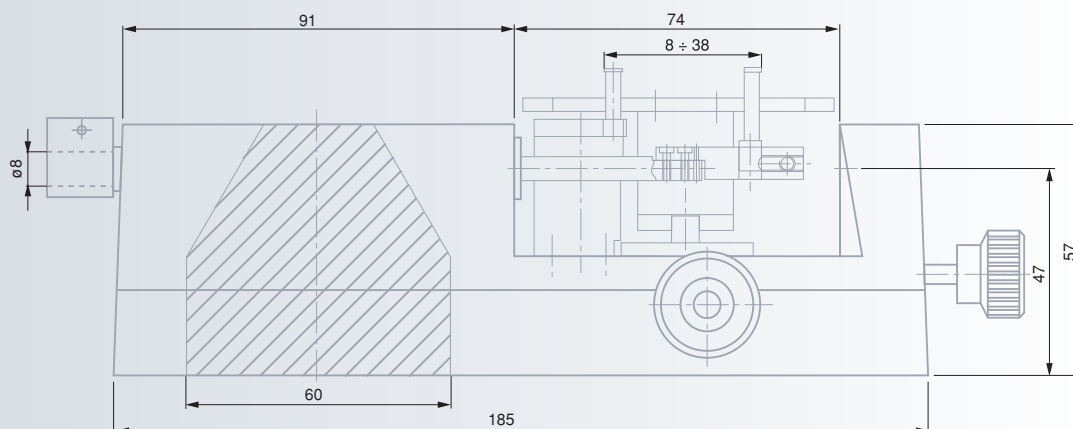
Declaration
of conformity



03330006 INTERAPID small bench SHE.35 for internal dimensions,
with measuring inserts included.

8 ÷ 38 mm

Inserts with special design also available on request



TESA QUICK-CONTROL C2 for Stationary Use

This versatile shop tool allows 2-point measurement of part series using one mobile insert coupled with the sensor plus another fixed one fitted with a clamp for mounting any dial gauge, precision indicator or axial probe having a 8 mm dia. clamping shaft.

- Quick, easy, dependable and precise measurement (repeatability to 2 µm without the use of the sensor).
- Robust construction, easy to mount and to use.
- Adjustable measuring force.
- Measures workpieces with plan-parallel, cone-shaped or cylindrical surfaces, grooves, through holes and blind bores, short centring shoulders and wall thickness. Also serves to check diameters on gear teeth.
- Detects form and positional errors, i.e. roundness, concentricity and coaxiality.



Hardened steel inserts



Lapped measuring faces



2 µm (QUICK-CONTROL alone)



Adjustable from 0 up to 10 N.

Can be reversed from «neutral» to internal or external measuring



Suited plastic case



Identification number



Declaration of conformity

TESA QUICK-CONTROL 160 C2

Main tool version within the C2 range. Measures mean to small or even very small dimensions (see below for details).



No		Internal dimensions		External dimensions	
		mm	in	mm	in
03330024	QUICK-CONTROL 160 C2	30 ÷ 120	1.19 ÷ 4.72	0 ÷ 90	0 ÷ 3.54
<i>Provided with the following accessories:</i>					
03360022	1 Steady insert holder, short.				
03360027	1 Pair of long inserts for internal/external diameters, through holes, blind bores, grooves and slots with max. depth to 3,7 mm, max. height to 25 mm.				
03360026	1 additional insert, as above but short. For use instead of the long one when measuring at low height.				
Option 1 – For small dimensions					
03360065	1 Pair of long inserts with a 8 mm dia. clamping shaft, 6 mm dia. probing head.	22 ÷ 120	0.87 ÷ 4.72	0 ÷ 90	0 ÷ 3.54
Option 2 – For smaller dimensions					
03360031	1 Pair of inserts for checking very small bores.	11.5 ÷ 60	0.46 ÷ 2.36	0 ÷ 90	0 ÷ 3.54
03360024	1 Pair of adapters for 5 mm dia. inserts. For use at probing points with a 8 mm dia.				
03360032	1 Pair of raising blocks used to scale down the width of the slot lying in the middle of the upper tool table.				



Hardened steel inserts

Lapped measuring faces

2 μ m
(QUICK-CONTROL alone)

Adjustable from
from 0 up to 10 N.
Can be reversed from «neu-
tral» to internal or external
measuring

Suited
plastic case

Identification
number

Declaration
of conformity

TESA QUICK-CONTROL C3 for Stationary Use

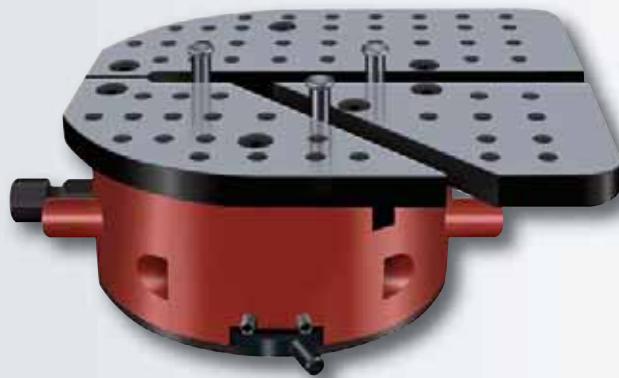
Having the same features and capabilities as TESA QUICK-CONTROL C2, this model also provides an extra transverse insert.

Both mobile and fitted inserts are used for 2-point measurements. The third one moves transversally, thus enabling a correct positioning of the workpiece, without the need for locating the culmination point. This insert also allows workpiece diameter and form errors to be measured at the same time.

TESA QUICK-CONTROL 160 C3 AL

Main version within the C3 tool range for mean to small dimensions.

With a mounted stop-like insert that can be moved in the 45° V-slot.

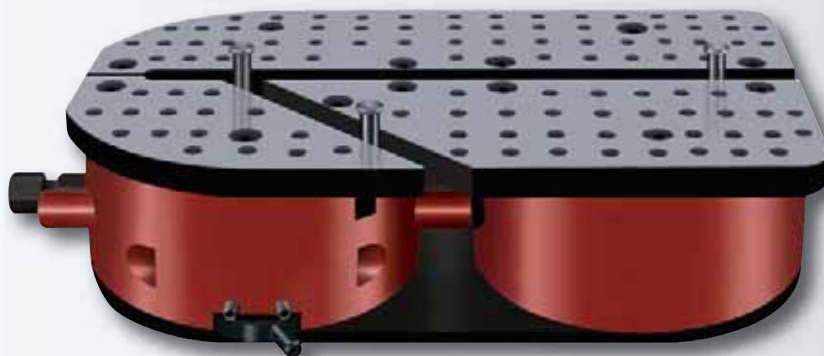


№		mm		in	
		Internal dimensions		External dimensions	
03330026	QUICK-CONTROL C3 AL	32 ÷ 120	1.26 ÷ 4.72	0 ÷ 90	0 ÷ 3.54
<i>Provided with the following accessories:</i>					
03360067	1 Mobile standard insert, 10 mm dia. spherical probing head				
03360068	Pair of standard inserts for fixed holder, 10 mm dia. spherical probing head, L = 36 mm				
03360069	1 Fixed insert holder				
03360070	1 Fixed stop holder				
Option 1 – For small dimensions					
03360066	3 long inserts with a 8 mm clamping shaft, 6 mm dia. probing head.	25 ÷ 120	0.99 ÷ 4.72	0 ÷ 90	0 ÷ 3.54



TESA QUICK-CONTROL 160 C3 JS

Identical to TESA QUICK-CONTROL 160 C3 AI, but with extended application range.



Hardened steel inserts



Lapped measuring faces



2 µm (QUICK-CONTROL alone)



Adjustable from 0 up to 10 N. Can be reversed from «neutral» to internal or external measuring



Suited plastic case



Identification number



Declaration of conformity



mm



in

Internal dimensions



mm



in

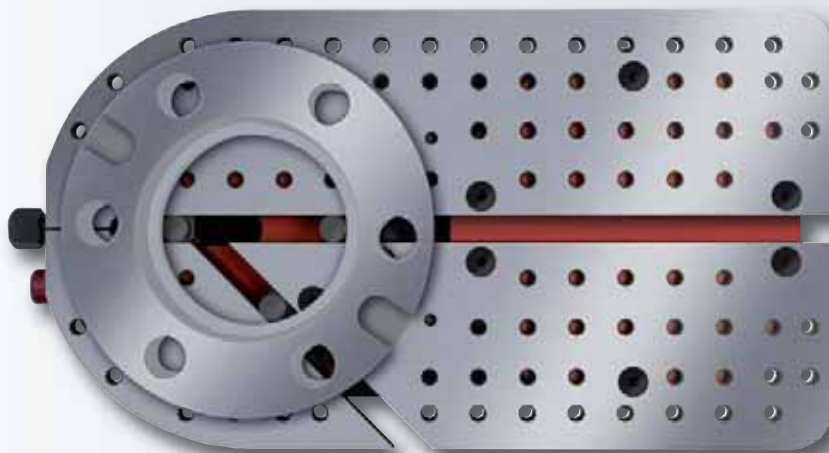
External dimensions

03330027 QUICK-CONTROL 160 C3 JS

Provided with the following standard accessories:

03360067	1 Mobile standard insert, long, 10 mm dia. spherical probing head	32 ÷ 190 (3 points)	1.26 ÷ 7.48 (3 points)	0 ÷ 170 (3 points)	0 ÷ 6.69 (3 points)
		32 ÷ 275 (2 points)	1.26 ÷ 10.8 (2 points)	0 ÷ 245 (2 points)	0 ÷ 9.65 (2 points)
03360068	Pair of standard inserts for fixed stop and support, 10 mm dia. spherical probing head, L = 36 mm				
03360069	1 Fixed insert holder				
03360070	1 Fixed stop holder				

The option 1 for small dimensions can also be used on the model 160 C3 JS.





Hardened steel inserts

Lapped measuring faces

2 µm (QUICK-CONTROL alone)

Adjustable from 0 up to 10 N.
Can be reversed from «neutral» to internal or external measuring

Suited plastic case

Identification number

Declaration of conformity



TESA QUICK-CONTROL 160 C3 90 ST2

Special model for small and very small dimensions. Features a mounted stop-like insert fitted in the 90° V-slot. Also adjustable.



mm



in



mm



in

Internal dimensions

External dimensions

03330028

QUICK-CONTROL 160 C3 90 ST2

10 ÷ 80

0.4 ÷ 3.14

0 ÷ 55

0 ÷ 2.16

Provided with the following standard accessories:

03360072 1 Fixed insert holder for adapter

03360073 1 Fixed insert holder for the third point and adapter

03360074 3 Adapters

03360075 3 Long inserts with as 5 mm dia. shaft

03360067 1 Mobile standard insert, 10 mm dia. probing head

03360068 1 Pair of standard inserts for fixed holder, 10 mm dia. spherical probing head, L = 36 mm



Hardened steel inserts

Lapped measuring faces

2 µm (QUICK-CONTROL alone)

Adjustable from 0 up to 10 N.
Can be reversed from «neutral» to internal or external measuring

Suited plastic case

Identification number

Declaration of conformity



TESA QUICK-CONTROL 160 C3 120

Measures internal and external dimensions with 2-point contact. Features one mobile and two fixed inserts lying 120° apart. Specially designed for bore measurement. Uses 2 setting rings matching both upper and lower limit values of the tolerated size for display setting and calibration. Recommended sensor: DIGICO 1 precision indicator with order No. 01930000.



Various pairs of inserts and accessories available upon request.



mm



in



mm



in

Internal dimensions

External dimensions

03330029

QUICK-CONTROL 160 C3 120

≥ 25

≥ 0.99

≤ 80

≤ 3.15

Provided with the following standard accessories:

03360067 1 Mobile standard insert, Ø 10 mm dia. spherical probing head

03360068 1 Pair of standard inserts for fixed holder, 10 mm dia. spherical probing head, L = 36 mm

03360022 2 Fixed insert holders, short



TESADIA Plug Gauge

Easy-to-handle plug gauge for 2-point or 3-point measurement on cylindrical bores – Ideal for blind bores and short centring shoulders with diameters ranging from 2,98 up to 250 mm.

- Features a built-in probe that can be connected to a TESA's electronic unit, e.g. TESATRONIC or TESA Interface Box BP 880.
- Specially suited for recurrent dimensional inspection of medium and large-sized batches of parts in the shop floor as well as for receiving and final inspection.
- Equipped with a guiding cylinder that renders unnecessary swinging the plug gauge to find the culmination point. Self-centring and self-aligning.



05560221 Handle with built-in GT21 axial probe
05560228 Handle alone

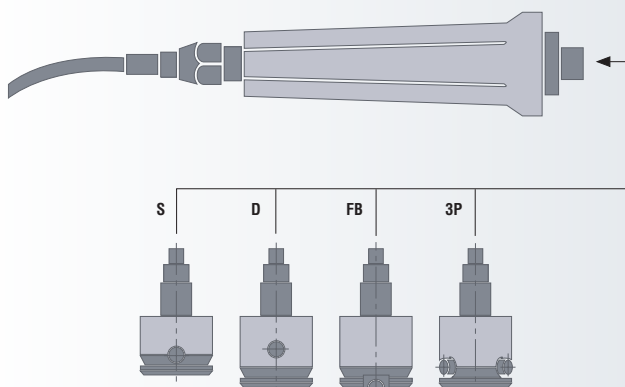


You may ask for a quotation for plug gauges with their own setting rings as well as for the electronic unit.

Specify nominal dimension along with both upper and lower limits of size as well as workpiece material.

Handle

- With built-in TESA GT 21 axial probe.
- Mechanical device for fine adjustment, stress-relieved probe cable.
- Possible connection of a TESA GT 21 compatible probe from another source.



- S** 2-point plug gauge in standard execution for through holes
D 2-point plug gauge with longer guiding cylinder for through holes
FB Plug gauge for blind bores
3P 3-point plug gauge for through holes

Plug Gauge

- Equipped with both a measuring head and guiding cylinder.
- Uses the measuring needle with reversal wedge at one end to transfer the sweeping movement of the measuring insert to the axial probe.
- Houses a guiding cylinder having a special profile for unrestrained introduction of the plug gauge into the bore to be measured. No locking, no tilting.
- Choice of gauging contacts offering optimum adaptation to the parts to be checked, i.e.:
 - tungsten carbide tipped (not suited for non-ferrous metal alloy);
 - hard-chrome plated (partially suited for non-ferrous metal alloy);
 - ruby contacts (suited for non-ferrous metal alloy);
 - diamond contacts (suited for soft light alloy);
 - synthetic contacts (suited for polished surfaces).



Measuring faces: see opposite



Plug gauges with built-in probe.

- 2-point model: 1%
 - 3-point model: 3%
- These percentages refer to the measuring span of each plug gauge



Plug gauges with built-in probe.

- 2-point model: $\leq 1 \mu\text{m}$
- 3-point model: $\leq 2 \mu\text{m}$



Plug gauges with built-in probe: $\leq 0,4 \mu\text{m}$



0,3 to 1,2 N according to relevant model



10° C to 35° C



-25° C to 55° C



Declaration of conformity

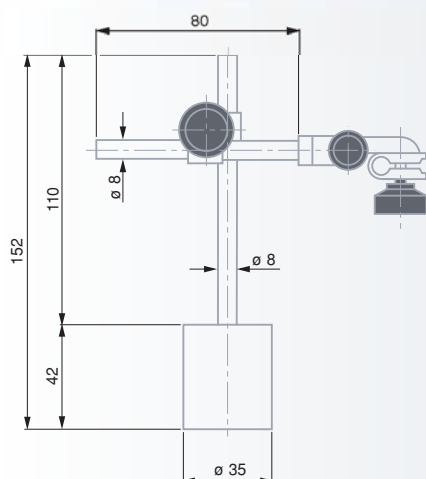
Measuring Stands and Auxiliary Fixtures



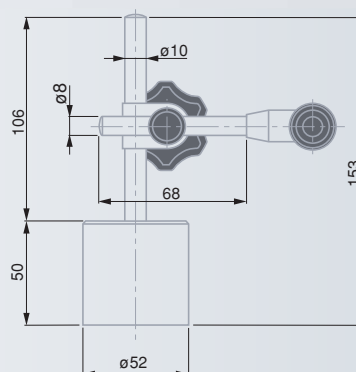
INTERAPID Small Magnetic Supports

Ideal for dial test indicators (lever-type) or dial gauges having a 40 mm dial diameter – Versatile due to 2 rigid joints and fine adjust option.

UJ 15 Model



UJ 15G Model



Rounded base with permanent magnet



Holding force on a flat surface:
≈ 220 N for UJ 15
≥ 350 N for UJ 15G



0,47 kg for UJ 15
0,93 kg for UJ 15G



Supplied without indicator



Suited carrying case



Declaration of conformity

Steel Base Plate



50 x 80 x 20 mm



0,60 kg



01639007

INTERAPID small magnetic support UJ15 with a 8 mm diameter clamping bore and dovetail clamp

01639016

INTERAPID small magnetic support UJ15G with both a 8 mm and 4 mm diameter clamping bore and dovetail clamp

Accessory

01640501

Steel base plate for use of UJ 15 as mobile support



Base has a vee recess and one magnetic flat face with disengageable magnet. Articulations made from duralumin.



Holding force on a flat surface ≈ 170 N



Dovetail clamp with a 8 mm diameter clamping bore



0,4 kg



Supplied without indicator



Suited carrying case



Declaration of conformity

Model with Articulated Arm



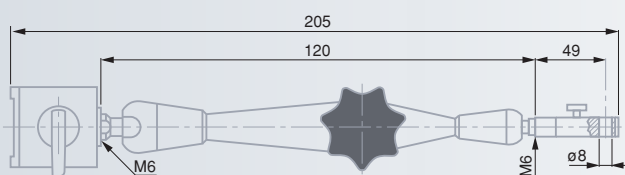
mm

01639025 INTERAPID small magnetic support with articulated arm

Full length 205

Consisting of:

1 Articulated arm	Length	120
1 Dovetail clamp with fine adjustment		
1 Magnetic base	L x W x H	30 x 30 x 30



Model with a flat base has 2 rounded permanent magnets



72 x 38 x 11 mm for model with a flat base or 72 x 38 x 26 mm for model with a V-base



Holding force: ≈ 180 N for the flat base or ≈ 260 N for the V-base



Clamp with a 8 mm diameter clamping bore



Supplied without indicator



Suited carrying case



Declaration of conformity

Magnetic Supports with Flat or V-Base



01639011 INTERAPID magnetic support with a flat base

01639012 INTERAPID magnetic support with a V-base



INTERAPID Magnetic Supports

Standard Model and Models with Powerful Holding Force

				
		N	Fine adjust	V-Base for
01639017	Standard model	≈ 600	●	70 ÷ 220
01639018	Powerful holding force	≈ 1000	—	70 ÷ 220
01639019	Powerful holding force	≈ 1000	●	70 ÷ 220



Disengageable magnet. Clamp with a 8 mm dia. clamping bore.



Supplied without indicator



Suited carrying case



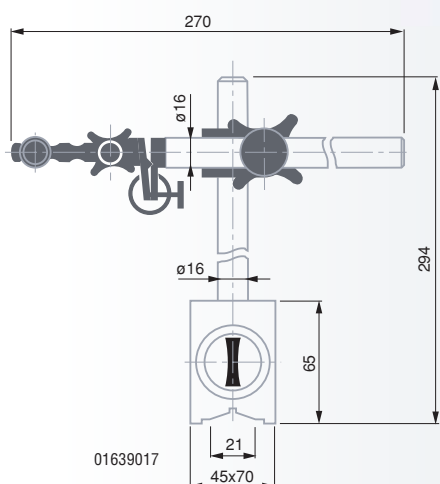
Declaration of conformity



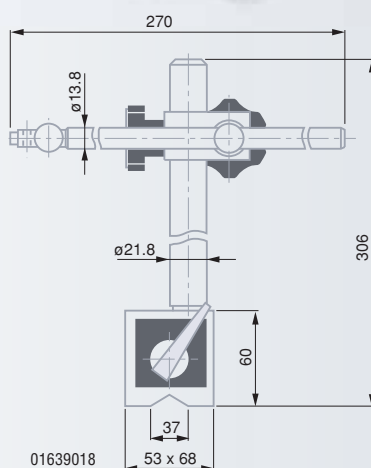
01639017



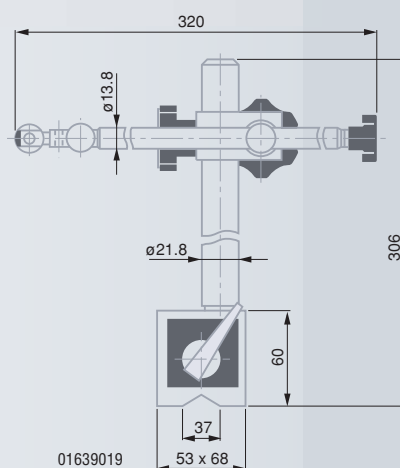
01639019



01639017



01639018



01639019



✓
Magnetic base has 2 flat faces plus 1 prismatic one. Articulations made from duralumin. Disengageable permanent magnet. Dovetail clamp with a 8 mm diameter clamping bore.

Magnetic base (L x W x H) 60 x 50 x 55 mm

1,45 kg or 1,85 kg

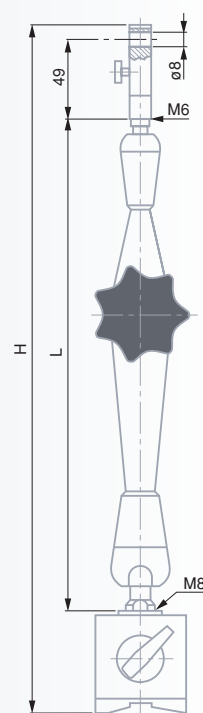
Supplied without indicator

Suited carrying case

Declaration of conformity

Models with Articulated Arm

Attach simply and securely using a single lobe knob – Solid arm with highly rigid articulations.



Nº

=

H mm

L mm

N

Fine adjust

V-Base for

01639022 Magnetic support

310

≈ 700

●

30 ÷ 150

01639023 Magnetic support

390

≈ 700

●

30 ÷ 150

Consisting of:

Articulated arm

200

Articulated arm

280

Clamp

Magnetic base

≈ 700

●

30 ÷ 150



✓
Magnetic base has 2 flat faces plus 1 prismatic one. Disengageable permanent magnet. Full length 350 mm. Dovetail clamp with a 8 mm diameter clamping bore.

Holding force on a flat surface ≈ 1000 N

Supplied without indicator

Suited carrying case

Declaration of conformity

Model with Flexible Arm

For hard-to-reach locations – Lever controlled arm that holds securely on any surface.



Nº

=

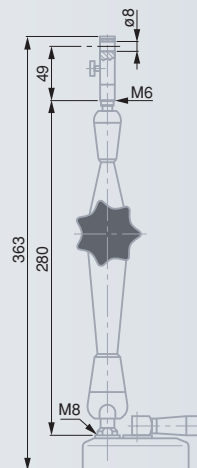
01639020

INTERAPID magnetic support with flexible arm



INTERAPID Measuring Support with Suction Base

Holds firmly on any plain, flat surface – Clamps easily and reliably over the lobe knob – Provides high rigidity – Free from magnetic fields.



Round suction base in duralumin (88 mm in diameter and 28 mm in height) with a flat face. Articulations in duralumin. Disengageable suction effect using the lever. Dovetail clamp with a 8 mm diameter clamping bore.



1,1 kg



Supplied without indicator



Suited carrying case



Declaration of conformity



H mm



N



Fine adjust

01639024	Support with suction base	363	280	≈ 400	●
consisting of:					
	Articulated arm		280		
	Clamp				●
	Round suction base			≈ 400	

INTERAPID Measuring Supports



Base with resting front face. Clamp for a 8 mm diameter mounting rod or a dial gauge with lug. Model No. 01639003 with added dovetail clamp



Cast iron base



1,3 kg or 4,35 kg



Supplied without indicator



Suited carrying case

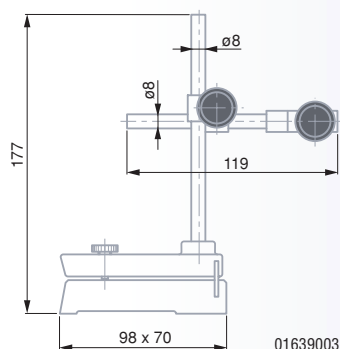


Declaration of conformity

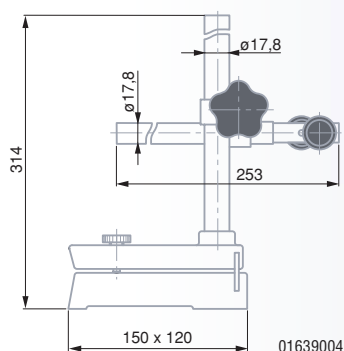


Used in conjunction with

01639003	INTERAPID small support	Dial test indicators, small dial gauges
01639004	INTERAPID small support	Dial test indicators, dial gauges, precision indicators, electronic probes etc.



01639003



01639004



Stand with lateral guiding faces. Vertical column that can be moved along the T-slot. Provided with 2 rigid articulations.

Cast iron base

3,3 kg

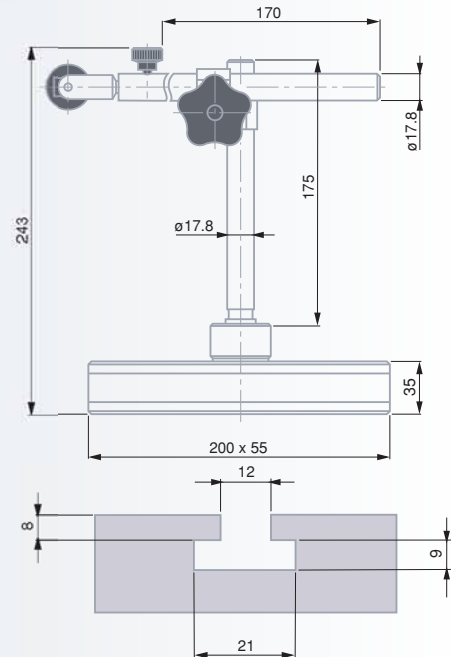
Supplied without indicator

Suited carrying case

Declaration of conformity

INTERAPID UD 12 Universal Stand

Medium-sized sliding support for dial test indicators (lever-type), dial gauges, electronic probes etc. – With fine adjust option.



No

=

01639000 INTERAPID UD 12 universal stand

Furnished with:

01640100 Clamp with a 8 mm dia. tightening

01840105 Clamping rod, 8 mm dia., with dovetail recess



Measuring table with ground measuring face. Dismountable column. Measuring arm with a 8 mm dia. tightening.

Cast iron table. Chrome-plated steel column. Spherical graphite cast iron arm.

3 kg

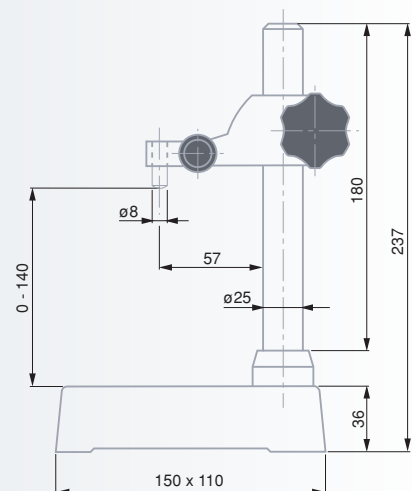
Supplied without indicator

Suited carrying case

Declaration of conformity

INTERAPID UA 1

Measuring stand without fine adjustment



No

=

01639008 INTERAPID UA 1 measuring stand

mm

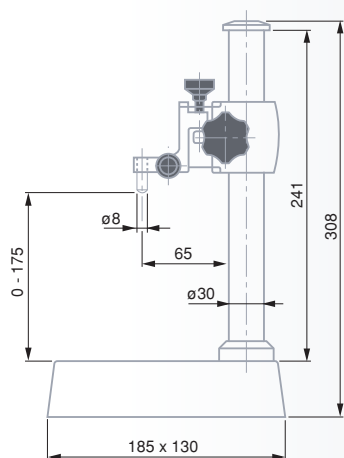
0 ÷ 140

mm

100 x 100

INTERAPID UA 30

Basic component for mounting specific workpiece attachments for series inspection.



Basic stand

Ground measuring face.
2 T-slots.
Dismountable column



Cast iron table.
Chrome-plated steel column

Measuring arm

Fine adjustment within a range of 1 mm.
8 mm dia. clamping bore.

Sliding arm

Floating holder for TESA YA.
Adjustable swinging movement. 13 mm dia. clamping bore. 35, 57 or 80 mm travel length.

Measuring span 60 mm.

Depth stop plate

Dimensions: 115 x 35 x 3,5 mm.
120° vee recess for diameters ≤ 120 mm.
Two tightening screws.

Additional data

4,85 kg (basic stand).
0,85 kg (measuring arm).
1,75 kg (sliding arm).



Supplied without indicator



Suited carrying case



Declaration of conformity



Measuring arm with a 8 mm dia. clamping bore, without fine adjustment. Measuring span 48 mm



Measuring table and column in hardened steel



2,7 kg



Supplied without indicator



Suited carrying case



Declaration of conformity



mm



mm

01639009 INTERAPID UA 30 basic stand (without measuring arm)

0 ÷ 175

125 x 115

Accessories

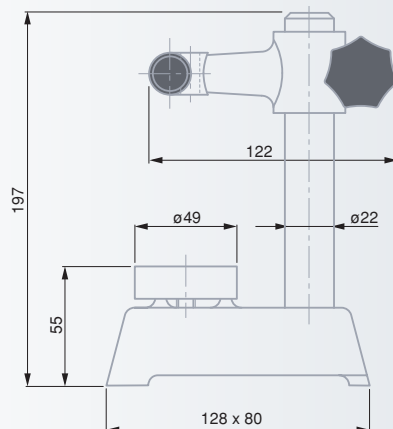
01610200 UK 20 measuring arm with fine adjustment

01610201 UK 25 sliding arm used in conjunction with TESA YA for stationary bore measurement (also see page H-6)

01640000 UAZ 10 depth stop plate

INTERAPID Small Measuring Stand

With round steel measuring table.



mm
0 ÷ 100



mm
Ø 49

01639006 INTERAPID small measuring stand



Supports



N° 01639035
black burnished
steel column with
a 8 mm dia. clamping bore.

N° 01639029

Chrome-plated column with
thread and setting ring for
height adjustable measuring
arm. 8 mm dia. clamping
bore. Measuring face with
dust grooves.

N° 01639030

Chrome-plated steel column.
Tilting measuring arm with
articulation.
4 or 8 mm dia. bore for a
dovetail clamp or lug.

N° 01639033

Chrome-plated steel
column. Sliding measuring
arm, horizontally.
4 or 8 mm dia. bore for a
dovetail clamp or lug.



3 µm as per
DIN 876 T1,
grade 00.



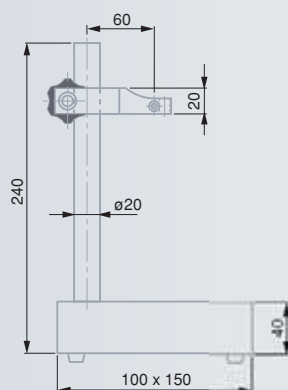
Supplied
without
indicator



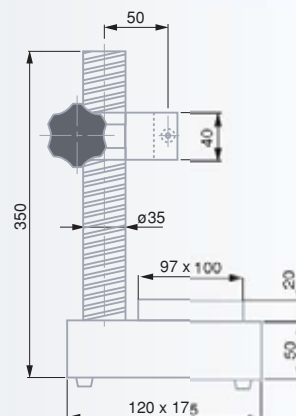
Suited
carrying case



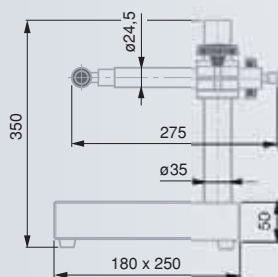
Declaration
of conformity



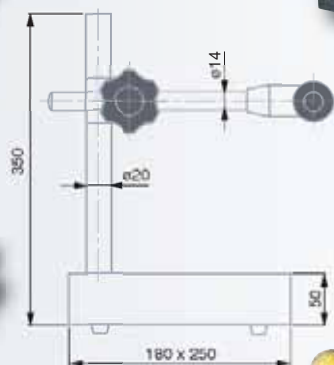
01639035



01639029



01639030



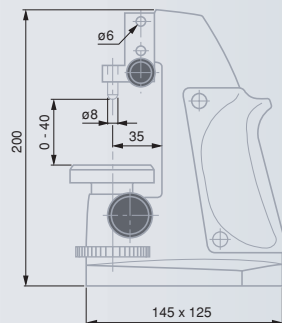
01639033



No	Measuring face	Measuring face mm	mm	Fine adjustment	Span mm
01639035	Granite	100 x 115	0 ÷ 170	—	50
01639029	Steel, hardened	100 x 100	0 ÷ 225	●	68,5
01639030	Granite	180 x 205	0 ÷ 240	●	adjustable
01639033	Granite	180 x 200	0 ÷ 260	●	adjustable
	Measuring table	Measuring table mm	Column mm	Column mm	kg
01639035	Granite	100 x 150 x 40	20	200	2,6
01639029	Granite	120 x 175 x 50	35	300	8,1
01639030	Granite	180 x 250 x 50	20	300	8,4
01639033	Granite	180 x 250 x 50	35	300	10,5

INTERAPID UM 20

Stable stand for measuring small parts accurately.



With a 8 mm dia. tightening plus two 6 mm dia. clamping bores for the UPZ 6 probe-holder. Measuring span 35 mm.



3 kg
(measuring stand alone)



Supplied without indicator



Suited carrying case



Declaration of conformity

INTERAPID UM 20 measuring stand (without measuring table)

Height adjustable table mount with thread and fine adjustment.
Clamping groove for UMZ 12 depth stop (No. 01640300)



mm

Fine adjustment
mm

01639002

0 ÷ 40

15

UMZ 40 meas. table with dust grooves
Hardened steel, lapped measuring face.



mm

01640302

Ø 66 x 12



UMZ 41 plain measuring table
Hardened steel, finish ground measuring face.



mm

01640303

Ø 66 x 12



UPZ 6 double probe-holder
8 mm dia. mounting bore for 2 probes.
Clamped on the measuring stand with
2 shafts having a 6 mm dia.



Sideways
mm

01640401

13 ÷ 80



UMZ 12 depth stop

Clamp to be mounted in the T-slot of the
basic stand. Hardened and ground stop
plate.



Resting face
mm

01640300

55 x 11



UMZ 13 side stop

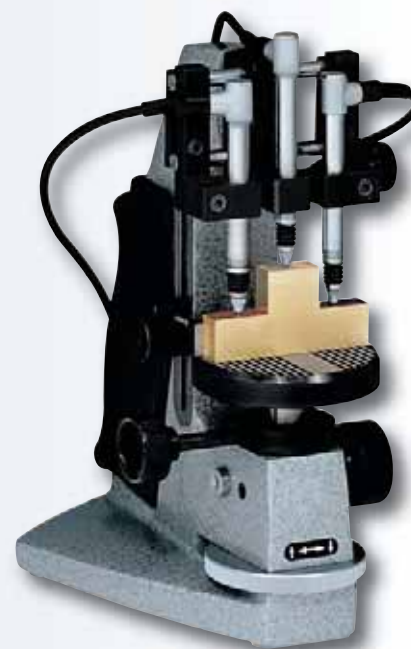
Hardened and ground. For use along
with UMZ 12.



Resting shoulder
mm

01640301

31,5 x 10 x 3



INTERAPID Universal Stands UP

These two universal stands provide different height levels along with a wide range of accessories that serve for setting up a variety of measuring configurations – High-precision components, also highly stable and extremely wear-resistant – Guaranteed lowest measurement uncertainty for the skilled manufacturing shop floor.

Besides dial gauges, precision indicators and dial test indicators (lever-type), both stands enable electronic probes to be mounted, especially to carry out direct, sum or comparative measurement (see section O).



Heavy cast iron base with mounted ground steel column (50 mm dia.). Measuring arm with a 8 mm dia. tightening and 2 mounting bores having a 6 mm dia. for UPZ 6. Fine adjust control using the protected knob. 1 mm travel length.



Base and measuring arm in cast iron. Dull-chrome plated steel column.



Supplied without indicator



Suited carrying case



Declaration of conformity



INTERAPID universal stands UP (without measuring table)

Heavy cast iron models. Measuring arm with locking device and brake stop. For additional technical data, see opposite.



mm



kg

01639041

UP 160 measuring stand

0 ÷ 155

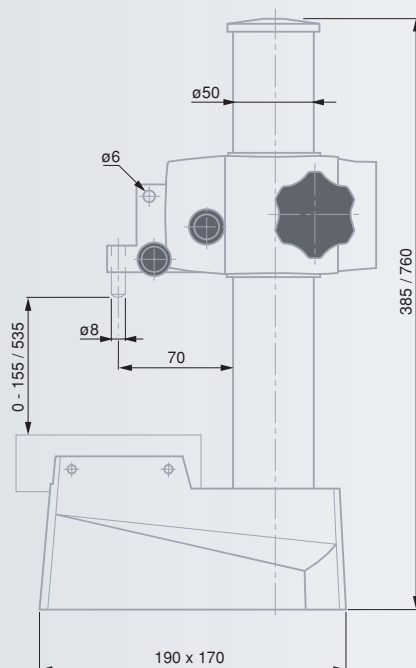
13,5

01639042

UP 200 measuring stand

0 ÷ 535

19



UPZ 40 standard measuring table

Hardened steel. Two measuring faces with dust grooves, lapped. One face has a 13 mm wide strip along the centre.



mm

µm

01640405

45 x 95

1



UPZ 46 A measuring table along with probe-holder

Feature a 8 mm dia. clamping bore for axial probes. Hardened and lapped measuring face with dust grooves as well as a 13 mm wide strip along the centre.



mm

µm

01640410

45 x 95

1



UPZ 20 side plates

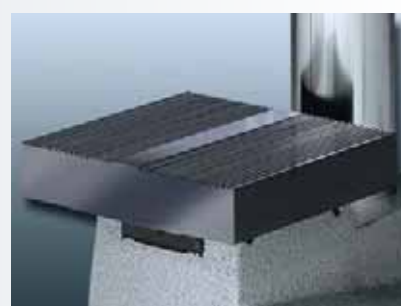
To be mounted sideways on both UPZ 40 and UPZ 46 A measuring tables. Made of black plastic. Supplied in pairs.



Resting face
mm

01640404

55 x 95



UPZ 47 large measuring table along with probe-holder

8 mm dia. clamping bore for axial probes. Hardened and lapped measuring face with dust grooves as well as a 18 mm wide strip along the centre.



mm

µm

01640411

120 x 120

1,5





UPZ 53 cross beam

For centre and vee supports. Made from cast iron and ground.



Length
mm

01640416

300



UPZ 51 centre supports

For axial and radial run-out inspection. Max. distance between points: 155 mm. Feature solid and spring-loaded hollow points, movable lengthwise but also lockable. Used with cross beam UPZ 53. Supplied in pairs.



Height of points
mm

01640414

50



UPZ 54 length stop

For use on the cross beam UPZ 53 with UPZ 52 resting blocks. A probe can be mounted instead of the stop rod.



01640417



UPZ 52 resting blocks

For cylindrical or conical components. Resting plates with tungsten carbide pins, adjustable to the part diameter. Distance between plates matches ≤ 300 mm. Used with cross beam UPZ 53. Supplied in pairs.



mm

01640415

≤ 30



UPZ 60 rack and pinion slide

For vertical adjustment of the measuring arm.



Travel length
mm

01640419

185



UPZ 15 limit stop

Mounted with clamp on the column. Hardened, dull-chrome plated.



Stop face
mm

01640403

68 x 20

UPZ 14 stop plate

For use with limit stop UPZ 15. Hardened, dull-chrome plated.



Vee angle

01640402

120°



UPZ 6 double probe-holder

Tightening collar, 8 mm dia., for 2 electronic probes. Mounted on the stand by means of 2 shafts having a 6 mm dia.



Lateral
mm

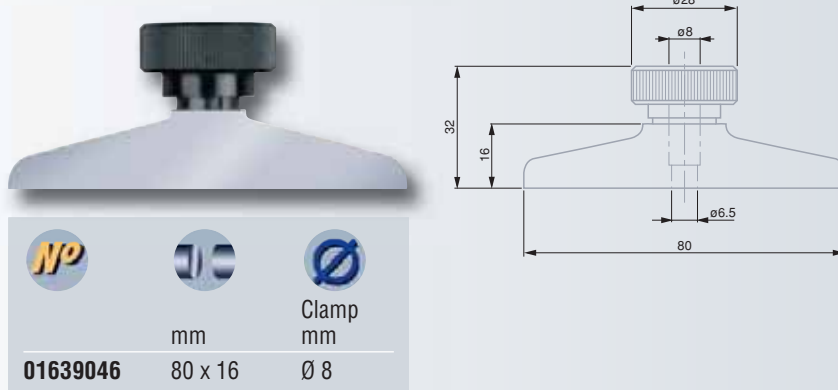
01640401

13 ÷ 80



INTERAPID Depth Feet

Model with a flat measuring face



Hardened steel



Finish lapped measuring faces. Clamp with lock for mounting a dial gauge or an electronic probe



Supplied without indicator



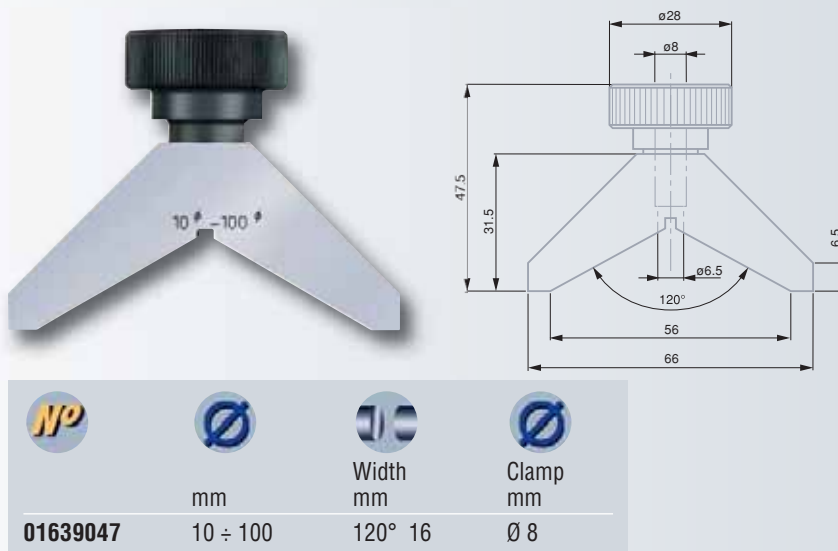
Suitable carrying case



Declaration of conformity

Model with a prismatic measuring face

For measuring groove depth on cylindrical shafts. Also for establishing circularity errors etc.



Brown & Sharpe CENTER FINDER

Practical auxiliary support that helps Users to quickly align the centre of the bores against the spindle axis on a machine tool – Used without clamping shaft can also serve as small magnetic support – Designed for clamping a dial test indicator whether standard or perpendicular.



06769006



Brown & Sharpe CENTER FINDER



Center Finder includes the following components:

- cylindrical shank that can be clamped on the chuck of a machine tool.
- powerful permanent magnets.
- swivel joint along with a dovetail collar for clamping a lever-type dial test indicator.



Wooden case



Hardened steel



Ground for both resting and vee faces



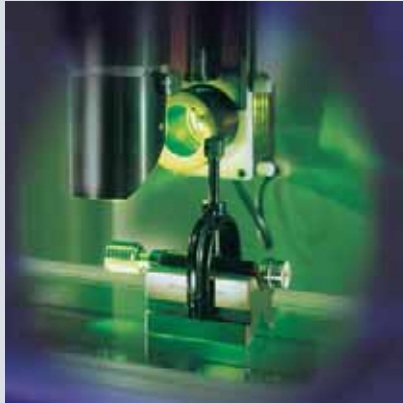
Not available as single components



Suited plastic case

Brown & Sharpe V-Blocks and Clamps

V-blocks have a frame for clamping cylindrical parts with diameters ranging from 0,7 to 40 mm – To be used for workpiece inspection or machining.



Clamping range
mm

06769007

Brown & Sharpe V-blocks and clamps

0,7 ÷ 40

Consisting of:

1 Pair of V-blocks

5 ÷ 40

1 Extra V-block

3 ÷ 8

1 Extra V-block

1,5 ÷ 5

5 Extra V-blocks

0,7 ÷ 3,5

2 In-between bridges

2 Large frames

1 Small frame



Each block has 18 through bores with a 9,53 mm dia. as well as 5 M10 threaded bores



Hardened steel, 55 to 60 HRC



7 µm for each pair



2,5 µm for all faces



Supplied with five M10 socket head screws as well as one 8 mm socket wrench



Suited plastic case

Brown & Sharpe Positioning Block Set

Pair of matched blocks convenient for positioning and holding workpieces or for use as stops on surface plates, metrology set-ups, machine-tools and the like – Blocks are precision ground.



mm

06769004

Brown & Sharpe positioning block set

75 x 50 x 25

Brown & Sharpe Adjustable Parallels

Available in a set including 6 adjustable parallels – Frequently used as parallel pads, setting standards for handheld tools or plug gauges for checking internal dimensions on parallel surfaces.

Each parallel consists of two tapered parts dovetailed together – Two tightening screws lock parallels to size.



Hardened steel



Supplied along with a PH 1 screwdriver



Plastic bag



Height
mm



Length
mm

Width
mm

06769010 Set of Brown & Sharpe Engineer's parallels, adjustable

Consisting of:

1 Parallel	10 ÷ 13	44	7
1 Parallel	13 ÷ 17	54	7
1 Parallel	17 ÷ 24	68	7
1 Parallel	24 ÷ 33	90	7
1 Parallel	33 ÷ 44	106	7
1 Parallel	44 ÷ 57	129	7

ROCH Flexible Steel Rules

Made from stainless steel – Scale divisions to 1 and 0,5 mm.



mm



Width
mm

Thickness
mm

0951750181	200	13	0,5
0951750182	300	13	0,5
0951750184	500	18	0,5
0951750187	1000	18	0,5
0951750188	1500	18	0,5
0951750189	2000	18	0,5



EG class II



Stainless spring-loaded steel



Suitable carrying case



Declaration of conformity

ROCH Thickness Gauges

Nº	Number of blades	Thickness mm	Stepping mm
0951753013	6	0,05 ÷ 0,3	0,05
	7	0,4 ÷ 1,0	0,1
0951753014	20	0,05 ÷ 1,0	0,05
0951753015	21	0,1 ÷ 2,0	0,1+1 x 0,05



ROCH Radius Gauges

Radius gauges with both concave and convex blades – Designed for visual assessment of radii.

Nº	Number of blades	Radii mm	Stepping mm	Radii mm
0951753001	2 x 17	1,0 ÷ 2,75	0,25	0,1
		3,0 ÷ 7,0	0,5	0,1
0951753002	2 x 16	7,5 ÷ 15,0	0,5	0,15
0951753003	2 x 15	15,5 ÷ 19,5	0,5	0,2
		20,0 ÷ 25,0	1,0	0,2



ROCH Screw Pitch Gauges

60° or 55° flank angles for ISO metric threads or Whitworth threads.

Nº		mm					
0951753045	ISO 60°	0,25	0,3	0,35	0,4	0,45	0,5
		0,6	0,7	0,75	0,8	0,9	1,0
		1,25	1,5	1,75	2,0	2,5	3,0
		3,5	4,0	4,5	5,0	5,5	6,0
Nº		Threads per inch					
0951753046	Whitworth 55°	62	60	48	40	36	32
		28	26	25	24	22	20
		18	16	14	13	12	11
		8	7	6	5	4,5	4



Alloyed steel

100 mm long blades with max. width of 13 mm

Blades are not supplied individually

Plastic bag

Declaration of conformity



Stainless steel

Blades are not supplied individually

Plastic bag

Declaration of conformity



Alloyed steel

Blades are not supplied individually

Plastic bag

Declaration of conformity

ROCH Hand-Held Magnifier

Folding handle with added small magnifier – Retractable support.



		Large model	Small model	
mm	mm	mm	mm	mm
0951754511	80 x 45	3x	13	10x



Solid plastic



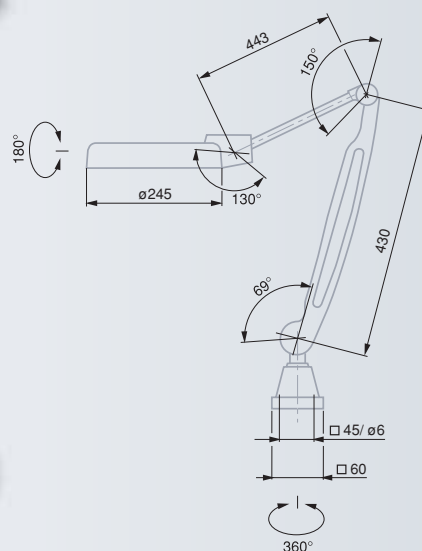
Cardboard box



Declaration of conformity

ROCH Magnifier with Ring Light

Table model ideal for sampling inspection, small part assembly etc. – Main plus extra magnifier with no distortion – Perfect illumination – Tilting magnifier head to any position – Easy and safe positioning through spring-loaded articulations.



0951754531	Magnifier with ring light	Large model 2x	Small model 4x
Accessory			
0951654531	Spare lamp, 22 W		



120 mm dia. magnifying glass



Materials: glass with solid plastic for the magnifier head. Sturdy cast iron base.



230 Vac, 50 Hz



Supplied with ring light (22 W)



Suited carrying case



Declaration of conformity

Straightness, Angle and Inclination Measurement



LEVELS BASED ON A NATURAL REFERENCE

Irrespective of their type, all precision levels are based on long-time stabilisation and reliability, but also on a free measuring base – the centre of the earth. Due to the gravitation, the liquid with embedded bubble of gas or the gravity pendulum indicates the horizontal or vertical level based on this natural reference. Electronic inclinometers or spirit levels measure the position of the pendulum compared to the measuring faces fitted on the tool body.

From these perfect conditions, each level offers a wide number of possibilities for accurately measuring to the nearest degree.

The measuring faces lying horizontally and vertically enable any deviation of the geometrical elements being measured on the workpiece to be detected.

These deviations often result from straightness or flatness errors, but also from position errors like those from parallelism or squareness.

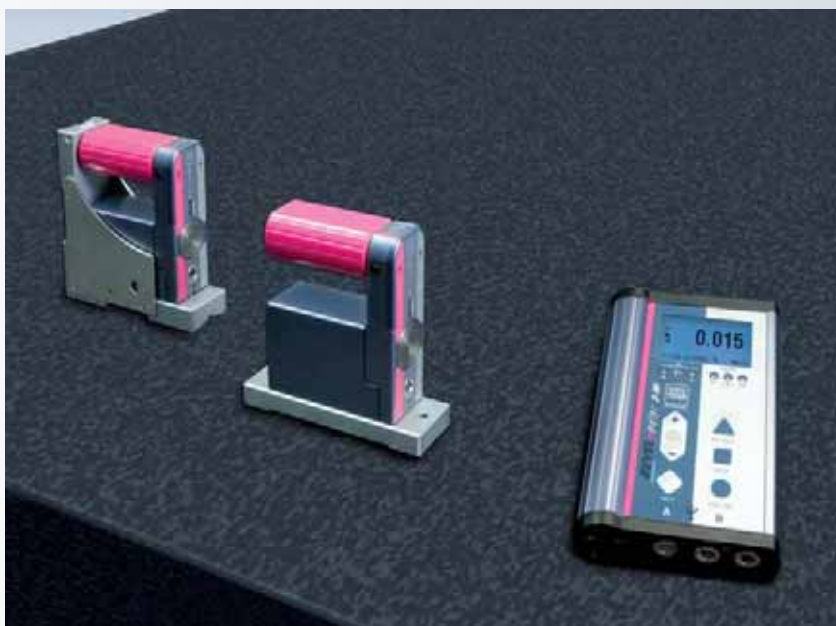
Value reading may vary, depending on the used level-type. Typical value outputs are:

- inclination in mm/m or in/10 in
- radian in mrad
- decimal angle, e.g. 12.37°
- sexagesimal angle in degrees (°), minutes (') and seconds (") – e.g. 15° 30' 45"



Calibration of a try square using ETALON RA.

Electronic dual-function clinometer that uses the difference mode for establishing flatness errors of a granite plate (example).





DIN 874 T2
NF E 11-104

Hardened steel to
≥ 650 HV 10

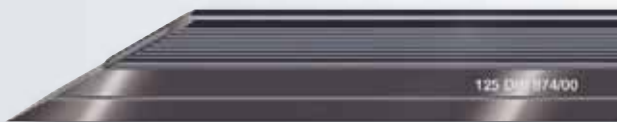
Models with length
up to 200 mm in a
plastic bag.
Models from 300 mm in a
wooden case.

Declaration
of conformity

ROCH Bevelled Straight Edges

Provided with 1 bevelled edge – Also with Heat insulating handle.

		
0951750002	75	2
0951750003	100	2
0951750004	125	3
0951750005	150	3
0951750006	200	3
0951750007	300	3
0951750008	400	4
0951750009	500	4
0951750010	600	5
0951750011	750	5



Factory
standard

Stainless steel
to 200 HRB
(not tempered)
or ≥ 550 HV 30 (tempered)

Accuracy class
0 or 1

Suited
carrying case

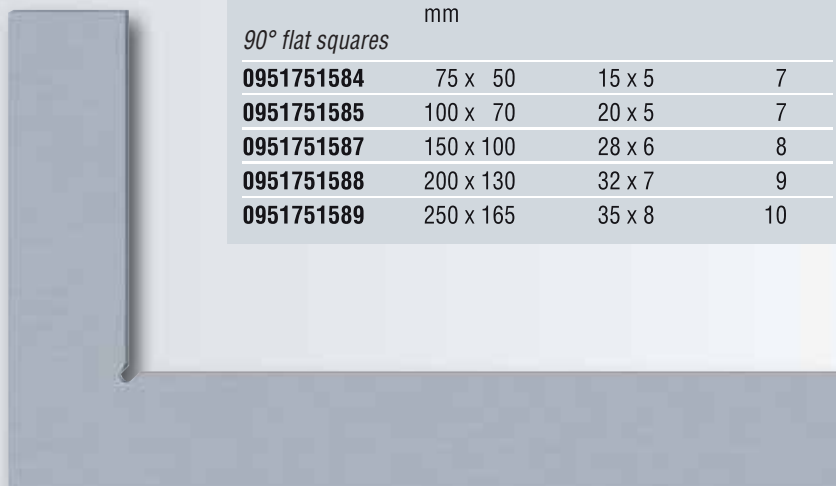
Declaration
of conformity

ROCH Flat and Try Squares

Made from stainless steel

Accuracy class 0, not tempered

			
<i>90° flat squares</i>			
0951751584	75 x 50	15 x 5	7
0951751585	100 x 70	20 x 5	7
0951751587	150 x 100	28 x 6	8
0951751588	200 x 130	32 x 7	9
0951751589	250 x 165	35 x 8	10



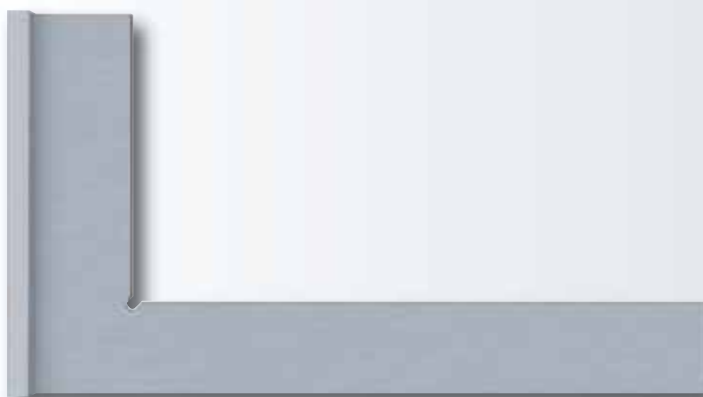
Accuracy class 0, tempered

						
		Length of beams mm	Flat squares section of beams mm	Try squares section long beam mm	short beam mm	
90° flat squares	90° try squares					
0951751523	0951751543	50 x 40	15 x 4	16 x 2	14 x 10	7
0951751524	0951751544	75 x 50	15 x 4	18 x 2	14 x 10	7
0951751525	0951751545	100 x 70	20 x 5	18 x 2	16 x 10	7
0951751527	0951751547	150 x 100	30 x 6	22 x 2	20 x 12	8
0951751528	0951751548	200 x 130	30 x 7	26 x 3	24 x 14	9
0951751530	0951751550	300 x 200	40 x 8	32 x 3	30 x 18	11



Accuracy class 1, not tempered

			
90° flat squares	90° try squares	Length of beams mm	Section mm
0951751564	0951751604	75 x 50	15 x 5
0951751565	0951751605	100 x 70	20 x 5
0951751567	0951751607	150 x 100	28 x 6
0951751568	0951751608	200 x 130	32 x 7
0951751569	0951751609	250 x 165	35 x 8
0951751570	0951751610	300 x 200	40 x 8
0951751572	0951751612	500 x 330	50 x 10
0951751574	0951751614	750 x 500	60 x 12
0951751575	0951751615	1000 x 660	70 x 14





Factory standard

Hardened steel

Suited plastic case

Brown & Sharpe Try Square Set



06739001

Brown & Sharpe Try Square Set



mm

μm

Consisting of:

1 Try square	68 x 45	16
1 Try square	120 x 70	16
1 Try square	175 x 95	16



DIN 875
NF E 11-103

Stainless steel
hardened to
≥ 550 HV 30



Accuracy
class 00



Suited
carrying case



Declaration
of conformity



ROCH Bevelled Edge Squares

Made from stainless steel, hardened



Length
of beams
mm

Section
of beams
mm

μm

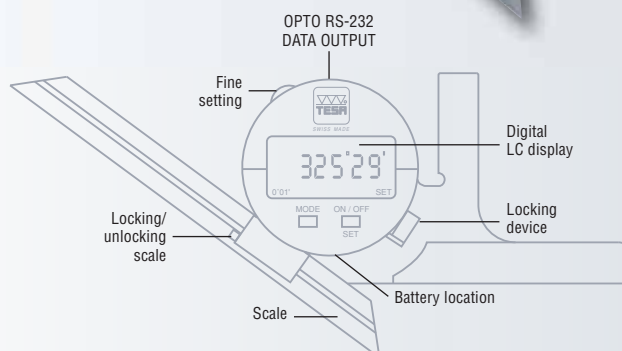
90° flat squares

0951751533	50 x 40	14 x 4,5	3
0951751534	75 x 50	16 x 4	3
0951751535	100 x 70	20 x 5	3
0951751537	150 x 100	28 x 6	4
0951751538	200 x 130	30 x 7	4



TESA Angle Protractor with Numerical Indication

- Decimal or sexagesimal large LC display
- 2 measuring directions
- Fine setting
- Locking device
- Scales - 200 300 or 500 mm



00630010

TESA angle protractor with numerical indication.
Provided with a regular scale, 200 mm long.

Accessories

00660004	Scale, 200 mm
00660005	Scale, 300 mm
00660006	Scale, 500 mm
00660007	Extra base with one flat plus one prismatic measuring faces for small angles
00660008	Edge square for sharp angles
01961000	3V lithium battery, type CR 2032, 190 mAh

For information on connecting cables etc., see section A.



00660007



00660008



LCD,
5 digits + sign



Measuring
ranges: 1 x 360°,
2 x 180°, 4 x 90°



Digit height:
8,5 mm



Resolution:
0,01° or 1 minute
of arc (0°01')



Preset
to 0° or 180°



Max. perm. error:
4 minutes of arc



Max. perm.
rotation speed:
1080°/s



IP51
(IEC 529)



+5 °C to +40 °C



3V lithium battery,
type CR 2032



Battery life
> 3000 hours



RS 232,
opto-coupled



Stainless
steel body,
hardened



410 g



Wooden case



Serial number



Declaration of con-
formity

TESA EAC Angle Protractors with Dial

Circular scale with pointer – Easy, reliable readout of both the main and auxiliary scales – Very low hysteresis – Precision movement mechanism with compensation of play.



No		Scale length mm
00630001	4 x 90°	200
00630002	4 x 90°	300

Optional accessories

No		mm
00660002	Scale	200
00660003	Scale	300
00610101	Auxiliary scale for acute angles up to 15°	
00610102	Cast iron base with steel bottom surface, hardened	

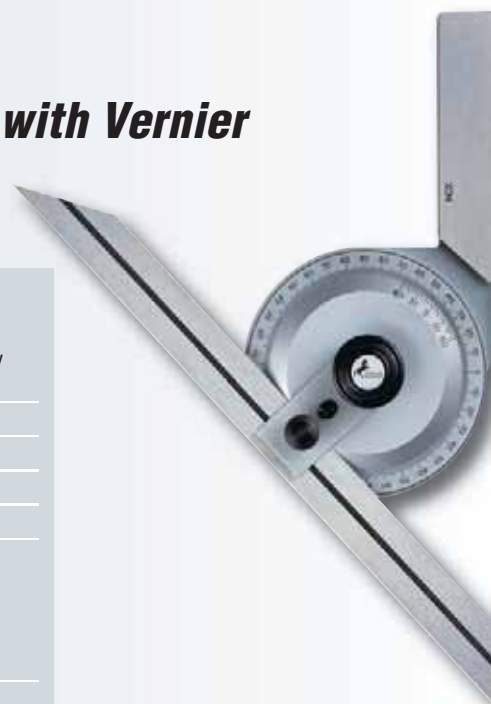


00610102



00610101

ETALON 436 Angle Protractor with Vernier



No		Scale mm	Auxiliary scale
076115566	4 x 90°	200	–
076115567	4 x 90°	300	–
076116009	4 x 90°	200	●
076116010	4 x 90°	300	●

Optional Accessories (as shown above)

No		mm
00660002	Scale	200
00660003	Scale	300
00610101	Auxiliary scale for acute angles up to 15°	
00610102	Cast iron base with steel bottom surface, hardened	
00610103	Magnifying glass	



2 circular scales



5' on main scale.
Clockwise or
counter clockwise
reading.



10° on the
auxiliary scale



Stainless steel,
hardened



Max. perm.
error: 5' (without
accessory)



Plastic case



Declaration
of conformity



5'



Stainless steel,
hardened



Max. perm.
error: 5' (without
accessory)



Plastic case



Declaration
of conformity



Brown & Sharpe Angle Protractor Combination

Commonly used as bevelled protractor, ruler, scale, try square, depth and centre gauge as well as spirit level.



Nº

=

06719000 Brown & Sharpe Angle Protractor Combination

Consisting of:

- 1 Ruler graduated in millimetres, 300 mm long
- 1 Protractor head with 2 x 90° graduations
- 1 Centre head
- 1 Square head with hardened steel scriber



Hardened steel,
wear protected
measuring faces



Suited plastic case

Brown & Sharpe Sine Bar

Suited for setting ranges from 0 to 60° – Sine function for establishing the angle that needs to be set on the basis of the length dimensions obtained from parallel gauge blocks.



Nº

Centre distance

mm

06769005

127 ± 0,004

123 x 25



5 µm



Hardened steel



Removable
front stop



Cardboard box



Declaration
of conformity



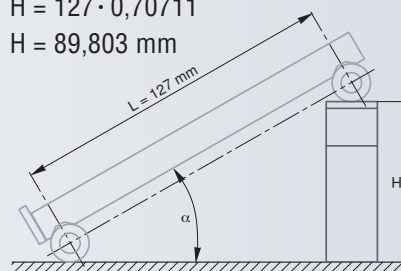
Calculating a 45° setting angle (example)

Gauge block combination H

$$H = l \cdot \sin \alpha$$

$$H = 127 \cdot 0,70711$$

$$H = 89,803 \text{ mm}$$





Angle standard made of fine-grained granite

Max. perm. error for squareness and straightness applies to the whole measuring range (carriage travel).

Valid for a theoretical line drawn symmetrically to the lateral guiding faces, at a distance of about 60 mm from the one in front of the angle standard.

ETALON RA only (without value sensor): 0,2 µm

Temperature stabilisation at < 0,1°C

Needed pressure: > 5 bar
Air consumption: < 20 l / min

Dimensions (L x W x H):
ETALON RA 500
250 x 80 x 634 mm
ETALON RA 700
250 x 80 x 884 mm

Suited carrying case

SCS calibration certificate

ETALON RA for Squareness Measurement

High-precision measuring instruments for determining squareness, straightness and parallelism errors – Perfect for use in the inspection laboratory as on the shop floor.

- Angle and straightness standards are made of natural granite with finely lapped measuring faces.
- Patented, hand moved carriage that attaches by vacuum on the guiding face of the angular standard. The grid potential thus obtained enables the carriage to be guided free of play.
- Base face on air bearing for easy displacement of the reference angle on the surface plate, practically without wear and tear.
- Helpful optional accessories to make measuring easy.



No	=	mm	Frontal µm	Lateral µm	µm	kg
05319201	ETALON RA 500	500	1,2	5	1,2	26
05319202	ETALON RA 700	700	1,5	7	1,5	37
Optional Accessories						
05360007	Auxiliary vacuum square for mounting either a flat or a try square at right angle on the ETALON RA front face.					
05360008	Probe holder with a 8 mm dia. clamp for inspecting the angle lying inside a flat or a try square and the like.					
05360009	Air filter unit (oil and water collector)					
05360011	Wooden case for safe storage of ETALON RA 500					
05360012	Wooden case for safe storage of ETALON RA 700					

TESA ClinoBEVEL 1 Electronic Inclinometer

User-friendly, versatile inclinometer made to measure the amount of tilt using either of both direct and differential modes – Measuring range $\pm 45^\circ$ with clear display of any measured angles or slopes – Reinforced aluminium housing and latest electronics – Large LC display for error free read-out.



05330203

TESA ClinoBEVEL 1 USB

$\pm 45^\circ$

mm/m

mm

100 x 75 x 35

Supplied with:

ClinoSOFT Software plus USB cable to host computer

Optional Accessories

04768002

4 Batteries, type LRC 6, AA, 1,5 V)

05360006

Cable with switch for value acquisition (2 m long)

05360014

Remote switch for value acquisition (range 10 to 15 m)

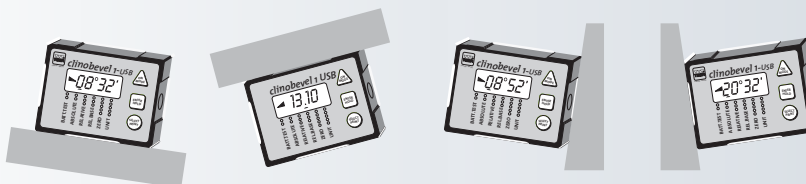
Numerous measuring applications, including comparative measurement of two parallel surfaces by means of two inclinometers. Inspection reports are also automatically generated under Microsoft EXCEL.



Measuring functions available: A ; B ; A+B ; A-B



ClinoBEVEL 1 USB can be used on any of its four faces.



DIN 2276
Part 2
(Form D)



LC display

Angle

Decimal or sexagesimal

Inclination

mm/m, in/10 or 12 in, mm
or in/basis length, radian
(mrad) and the like



Capacitive meas-
uring system with
gravity pendulum



Anodised light alloy



Flat face
4 x 90°



2' + 1 numerical
interval



21 storable
correction values
(high accuracy)



Response
time ≈ 1 s



Display lock



RS 485,
asynchronous,
7 bits, 2 stop bits,
no parity, 9600 bauds



1,5 V battery,
type LRC 6, AA



≈ 150 hours



Automatic
shut down
after 8 min



0 to 40 °C



-20 to 70 °C



IP65
(IEC 60529)



EN 50081-1 / -2
EN 50082-1 / -2



100 x 75 x 35 mm



0,52 kg



Plastic case



Identification
number



Inspection report
with a declaration
of conformity



DIN 2276
Part 2
(Form D)



LC display

Angle

Decimal or sexagesimal

Inclination

mm/m, in/10 or 12 in, mm
or in/basis length, radian
(mrad) and the like



Capacitive meas-
uring system with
gravity pendulum



Rust inhibiting
housing



2 flat measuring
faces with V-slot
for diameters
from 17 to 94 mm



5" +0,07% based
on measured value



Response
time: < 5 s



RS 232



2 batteries 1,5 V,
type LRC 6, AA



40 to 60 hours



150x150x35 mm



3 kg



Automatic
shut down
after 8 min



0 to 40 °C



-20 to 70 °C



IP65
(IEC 60529)



EN 50081-1 / -2
EN 50082-1 / -2



Plastic case



Identification
number



Declaration
of conformity

TESA ClinoBEVEL 2 Electronic Inclinometer

World-class model – Tilting range $\pm 45^\circ$ with inclination or angle units clearly displayed – Integrated temperature compensation – Microprocessor-based auxiliaries allowing both display and tool setting – Dual data output for comparative measurements etc.



mm

05330202

TESA ClinoBEVEL 2

$\pm 45^\circ$

$\geq 5''$

100 x 150 x 35

Optional Accessories

04768002

4 Batteries, type LRC 6, AA, 1,5 V

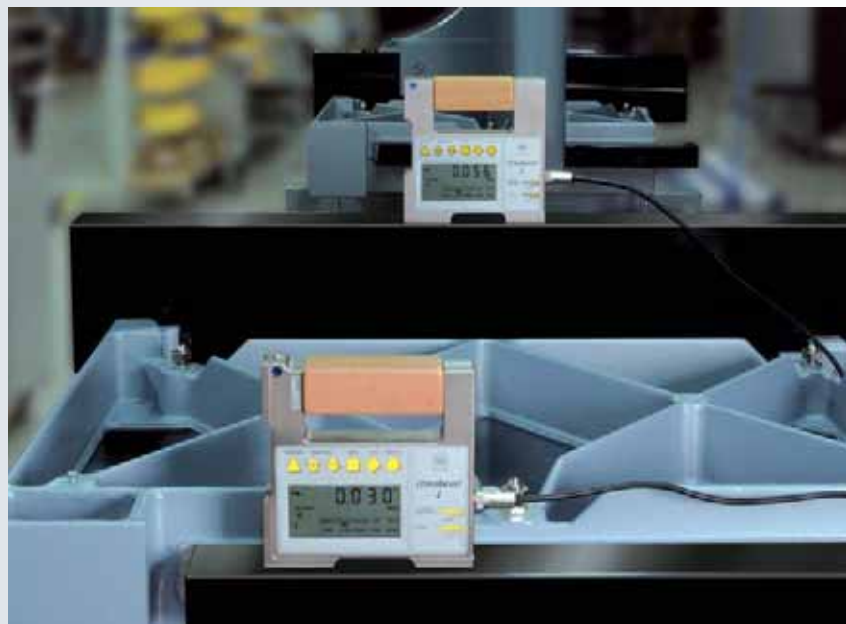
05360004

Cable for connecting two Clinobevel 2, length 2,50 m

S53070174

RS885 connecting cable Sub-D 9p/f to PC

ClinobEVEL 2 can be used on either of its both reference faces, but also linked to a second inclinometer. Use of a PC is unnecessary.



TESA MICROBEVEL 1

These electronic inclinometers measure slightly inclined surfaces, precisely – e.g. when inspecting flatness of a surface plate or the geometry of a machine – Specially suited for use in rough surrounding conditions.

			Basis length mm	Width mm		mm/m		kg
05330003	Horizontal model	110	45	0,01 or 0,001	1,8			
05330004	Horizontal model	150	45	0,01 or 0,001	2,1			
05330005	Square model	150	45	0,01 or 0,001	3,1			
Models with numerical interval to 0,05 or 0,005 mm/m available on request								
Optional Accessories								
04768002	4 Batteries, type LRC 6, AA, 1,5 V							



					
Range	mm/m	mm/m	mm	G = mm/m	G = mm/m
1	± 20	± 5	0,01	≤ 5 mm/m G = 1% of measured value plus at least 0,01 mm/m	> 5 mm/m G = 0,01 mm/m
Range	mm/m	mm/m	mm	≤ 1 mm/m	> 1 mm/m
2	± 2	± 2	0,001	G = 1% of measured value plus at least 0,001 mm/m	G = 1% of (2x measured value - 1)



DIN 2276
Part 2
(Style D)



LCD
(see table)



See table



Fully encapsulated
measuring
system with gravity
pendulum



Cast iron base,
chromium plated
side faces,
varnished light alloy
housing



2 flat measuring
faces with V-slot
for diameters
from 20 to 120 mm



See table below



Response
time < 3 s



1 mV per unit
(100 kΩ)



1,5 V battery,
type LRC 6, AA



100 to 140 hours



Automatic
shut down
after 55 min



0 to 40°C



-20 to 70°C



≤ 0,1%/°C
based on the
measuring range
at 20 ± 5°C



As in above table,
incl. suited case



EN 50081-1 / -2
EN 50082-1 / -2



Plastic case



Identification
number



Declaration
of conformity



BEVELtronic 2

1 flat measuring face and 1 perpendicular face with a V-slot for diameters from 20 to 120 mm

BEVELmeter 2

LCD

Response time ≤ 3 s

RS232

33 à 40h

Automatic shut down after 8 min

SERVICE SET 2

0°C to 40°C

-20°C to 70°C

< 95%

EN 50081-1 / EN 50082-1

Plastic case

Identification number

Declaration of conformity

Inclinometer Sets for TESA SERVICE SET 2

Two distinct sets are available : TESA SERVICE SET 2-C operating with cables only, and TESA SERVICE SET 2-W allowing for data transfer either through cables or using the wireless operating mode.

Possible connection of a separate BEVELmeter 2 display unit to each BEVELtronic 2 for comparative measurement.



TESA SERVICE SET 2-W

TESA SERVICE SET 2-C

						
05330304	TESA SERVICE SET 2-C	± 10	1	0,2	*	**
05330305	TESA SERVICE SET 2-C	± 50	5	1	*	**
05330310	TESA SERVICE SET 2-W	± 10	1	0,2	*	**
05330311	TESA SERVICE SET 2-W	± 50	5	1	*	**

Each kit consists of the following:

- 1 BEVELtronic 2 – Horizontal model
- 1 BEVELtronic 2 – Square model
- 1 BEVELmeter 2, numerical interval to 0,001 or 0,005 mm/m
- 2 Single cables BEVELtronic 2 to BEVELmeter (2,5 m in length for each)
- 1 Infrared remote control
- 7 Alkaline batteries, type LR14 1,5V, C
- 2 Alkaline batteries, type LR03 1,5V, AA

* Maximum 1% of measured value + minimum 1 digit

** Maximum 1% of (2x measured value less 0,5x full scale value)

Additional Data

			
	Basis length mm	Width mm	kg
BEVELtronic 2 – Horizontal model	150	45	1,6
BEVELtronic 2 – Square model	150	45	1,7

Made for highly accurate difference measurements taken, for example, on granite plates or guiding rails or for checking the straightness.



TESA BEVELSOFT for SERVICE SET 2

The software that allows for geometry and flatness measurements.

TESA BEVELSOFT is specially designed for checking surfaces, but also for viewing any changes that need be made. Icon-driven menus besides a wide choice of languages available make it simple for the operator to quickly create full inspection reports.



Standards:
DIN 876, JIS,
GGG-P-463c,
BS 817, ISO 8512



Minimum requirements
for the computer:

- Microsoft Windows 98 / NT / 2000 / XP / 7
- Pentium III
- 128 MB RAM
- Graphics card, 800 x 600 pixels
- CD-Rom
- 50 MB free space on hard disk



05360015 TESA BEVELSOFT

Consisting of:

CD containing instructions for installation and TESA BEVELsoft programme
USB dongle

Connecting cable BEVELmeter 2/PC along with 2 extra outlets
and connector RS485 Sub-D 9-pin/f connector, length 2,5 m

Power supply, 24 V

Hand switch with cable for value acquisition, length 2,5 m

Measuring functions



Straight line

Twisted line



Parallelism

2 or 3 lines

Twisted parallelism

2 ou 3 lines



Perpendicularity

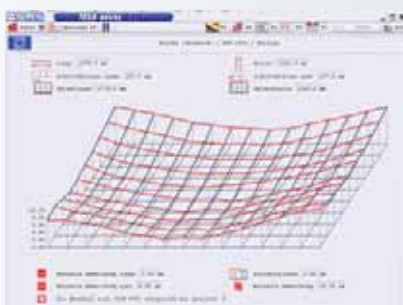
Various references



Flatness

Standard and U-Jack

Partial flatness



Measurement of a large granite plate



Measurement of a granite plate according to U-Jack



DIN 2276
Part 2
(Style D)



See table



See table



Inductive measuring system with gravity pendulum



Cast iron body.
Horizontal model with granite base.



Horizontal model with a flat measuring face. Square model with 2 flat faces having a V-slot for diameters from 20 to 120 mm



0,005 mm / m
+ 1% of the measured value



0,001 mm / m



$\approx \pm 0,2$ V
Impedance
4,5 k Ω



10 to 30°C



-20 to 60°C



EN 50081-1 / -2
EN 50082-1 / -2



Wooden case



Identification number



Declaration of conformity

TESA NIVELTRONIC Electronic Levels

Most popular electronic levels with a solid cast iron body used for checking and levelling horizontal and vertical surfaces – Also suitable for accurate measurement of small angles, especially while inspecting surface flatness of granite plates.



Basis length
mm

Width
mm



mm/m



kg

03130063	Horizontal model	150	45	0,05 / 0,01	6,0**
03130060	Square model	200	45	0,05 / 0,01	6,5**

Optional Accessories

03160007	Granite base*	200	50		1,0
03160008	Granite base*	250	50		1,5
03160009	Granite base*	500	50		6,0
03160048	Holder with built-in voltage regulator (4,65 V) plus 1 battery-set as below				
04761059	1 Set = 4 spare batteries, type LR 03, AAA, 1,5 V				

* For horizontal model ** Along with a wooden case



Range



mm/m



"



mm/m

"

1	$\pm 0,75$	$\pm 150''$	0,05	10''
2	$\pm 0,15$	$\pm 30''$	0,01	2''



TESA Spirit Levels



DIN 877



See table



DIN 2276
Part 1



No. 05331350 to
No. 05331352
in a wooden
case, others models in
cardboard boxes



Declaration
of conformity



mm/m



mm



For shafts
mm

Model A Spirit levels with a prismatic measuring face, Ω-shaped

05331650	1,0	100 x 30 x 35	17 ÷ 80
05331651	0,3	100 x 30 x 35	17 ÷ 80

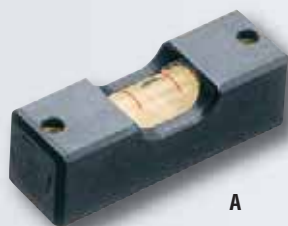
Model B Tubular spirit levels with a flat measuring face

05331250	0,1	80 x 9, Ø 16	
05331251	0,3	80 x 9, Ø 16	
05331252	0,1	100 x 10, Ø 20	
05331254	0,05	150 x 11, Ø 22	
05331255	0,1	150 x 11, Ø 22	
05331256	0,3	150 x 11, Ø 22	
05331257	0,05	200 x 12, Ø 22	
05331258	0,1	200 x 12, Ø 22	

Model C Spirit levels for transmission shafts with side viewing slots

05331350	0,05	100 x 30 x 35	17 ÷ 80
05331351	0,3	100 x 30 x 35	17 ÷ 80
05331352	0,1	200 x 30 x 35	17 ÷ 80

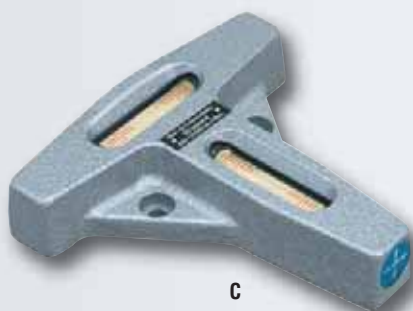
TESA Screw-On Spirit Levels



A



B



C

					
		mm/m	I x L mm	mm	H mm
Model A	<i>Screw-on spirit levels with a longitudinal vial</i>				
05331400		2 ÷ 5	30 x 10		10
05331401		2 ÷ 5	40 x 10		11
05331402		1,0	50 x 10		12
05331404		1,0	60 x 12		14
05331406		0,3	60 x 12		14
05331407		2 ÷ 5	80 x 15		18
05331408		0,1	80 x 15		18
05331410		1,0	100 x 18		22
05331411		0,1	100 x 18		22
Model B	<i>Circular screw-on spirit levels with both a longitudinal and cross vials</i>				
05331500		2 ÷ 5		40	11
05331502		0,3		60	13
Model C	<i>T-shaped screw-on spirit levels with both a longitudinal and cross vials</i>				
05331550		0,1	80 x 65		17
05331551		0,3	80 x 65		17
05331552		0,02	150 x 147		30

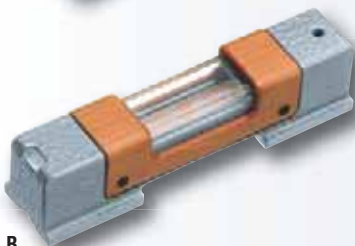


TESA Precision Spirit Levels

Used for checking and aligning flat or cylindrical surfaces in the horizontal position.



A



B



C



mm/m

mm

For shafts
mm

Precision spirit level with insulating pad

No.	mm/m	mm	For shafts mm	
05331600	0,05	100 x 45 x 35	19 ÷ 120	A

Precision spirit levels with insulating grip and vial protection, side viewing slots

05331050	0,02	100 x 32 x 35	17 ÷ 84	B
05331051	0,1	100 x 32 x 35	17 ÷ 84	B
05331052	0,3	100 x 32 x 35	17 ÷ 84	B
05331054	0,02	150 x 35 x 38	17 ÷ 94	C
05331056	0,05	150 x 35 x 38	17 ÷ 94	C
05331057	0,1	150 x 35 x 38	17 ÷ 94	C
05331058	0,02	200 x 40 x 42	19 ÷ 108	C
05331059	0,04	200 x 40 x 42	19 ÷ 108	C
05331061	0,1	200 x 40 x 42	19 ÷ 108	C
05331063	0,02	250 x 45 x 42	19 ÷ 120	C
05331065	0,05	300 x 50 x 42	22 ÷ 135	C



DIN 877



Longitudinal and
cross level vials



Flat and prismatic
measuring faces



See table



DIN 2276
Part 1



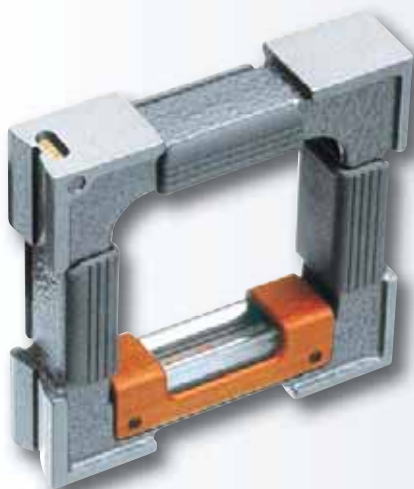
Wooden case



Declaration
of conformity

TESA Precision Spirit Levels with a Frame

For checking and levelling flat or cylindrical surfaces in both horizontal and vertical positions – Insulating grips and vial protection – Side viewing slots.



mm/m

mm

For shafts
mm

05331201	0,05	100 x 100 x 32	17 ÷ 84
05331202	0,1	100 x 100 x 32	17 ÷ 84
05331204	0,05	150 x 150 x 35	17 ÷ 94
05331206	0,02	200 x 200 x 40	19 ÷ 108
05331208	0,05	200 x 200 x 40	19 ÷ 108
05331210	0,05	250 x 250 x 45	19 ÷ 120



DIN 877



Longitudinal and
cross level vials



4 x 90° flat
measuring
faces, machined
to one another.
Two of them have
a V-shape



See table



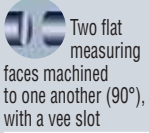
DIN 2276
Part 1



Wooden case



Declaration
of conformity



TESA Precision Spirit Levels Magnetic Square Models

For inspecting and levelling flat or cylindrical surfaces in both horizontal and vertical positions – Attach magnetically on such surfaces – Fitted with insulating handle.

No	mm/m	mm	For shafts mm
05331000	0,02	150 x 150 x 40	19 ÷ 108
05331001	0,04	150 x 150 x 40	19 ÷ 108
05331002	0,05	150 x 150 x 40	19 ÷ 108



TESA Precision Spirit Level with Micrometer Element

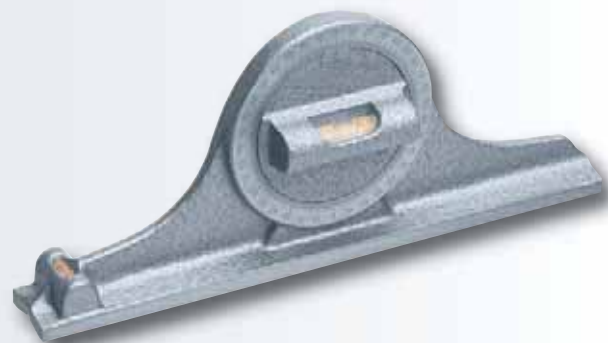
For checking surface flatness and slopes – With insulating pads.

No	mm/m	mm	For shafts mm
05331450	0,02	150 x 45 x 45	19 ÷ 120



TESA Protractor Spirit Inclinator

No	Angle	Vial	mm	For shafts mm
05331300	4 x 90°	1°	7 ÷ 17'	180 x 75 x 22



TESA Protractor Spirit Inclinometers



Factory standard



Longitudinal and cross level vials

Square model



90° flat measuring faces with added V-slot, machined to one another.

Model with a frame

Four 90° measuring faces, machined to one another. Two of them have a V-slot.



Wooden case



Declaration of conformity



Vernier



Vial



mm



For shafts mm

Square model with fine setting for the pivoting vial

05331150	90°	10'	1'	150 x 150 x 40	19 ÷ 108
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Model with frame and fine setting for the rotating vial

05331700	2 x 180°	3'	1'	150 x 150 x 40	19 ÷ 108
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TESA Spirit Clinometer with Micrometer Element



DIN 877



Longitudinal and cross level vials



Hardened and ground base



Flat and prismatic measuring faces



DIN 2276 part 1



Wooden case



Declaration of conformity



Micrometer element



Vial



mm



For shafts mm

05331750	2 x 180°	1'	1'	150 x 35 x 116	17 ÷ 80
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