

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:



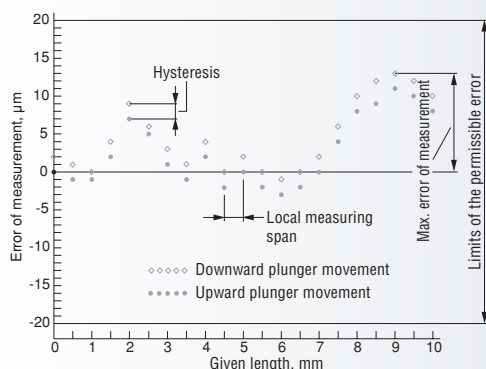
Max. perm. errors in one measuring direction over the whole measuring range within the local measuring range in both measuring directions



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

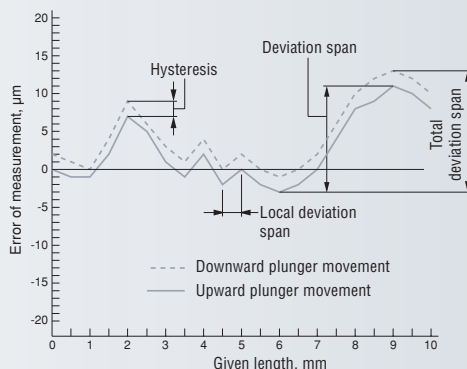
Total deviation span (Error of indication within the measuring range)



Repeatability limit of indication



Hysteresis of indication



DIAL GAUGES

INDICATORS				
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

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 205 and 305

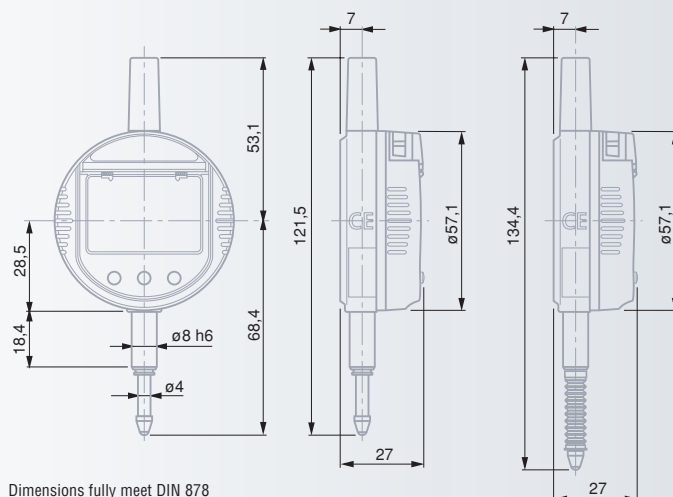
- Dual LC Display.
- Mechanical tolerance marks.
- Dimensions according to DIN 878.

Main functions

ON/Auto OFF – Data output – Counting sense reversal – Keypad lock.



No	=	mm / in	mm / in	μm	μm
TESA DIGICO 205					
01910230	DIGICO 205 M	12,5 / –	0,01 / –	20	10
01930230	DIGICO 205 MI	12,5 / 0.5	0,01 / 0.0005	20	10
TESA DIGICO 305					
01910231	DIGICO 305 M	12,5 / –	0,001 / –	8	2
01930231	DIGICO 305 MI	12,5 / 0.5	0,001 / 0.00005	8	2
TESA DIGICO 305 IP54					
01930232	DIGICO 305 MIE	12,5 / 0.5	0,001 / 0.00005	8	2



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: 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.



≤ 2N



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



150 g



Shipping case including a lithium battery 01961000



Identification number



Inspection report with a declaration of conformity

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

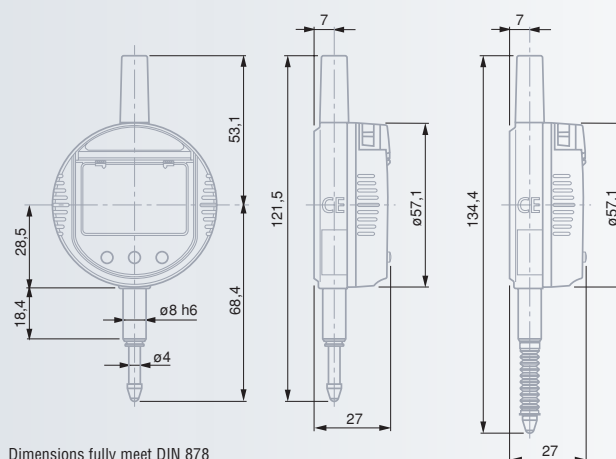
01930240	Digico 405 MI	12,5 / 0.5	0,01 / 0.0005	20	10	< 2	150
01930241	Digico 410 MI	25 / 1	0,01 / 0.0005	20	10	< 2	162

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



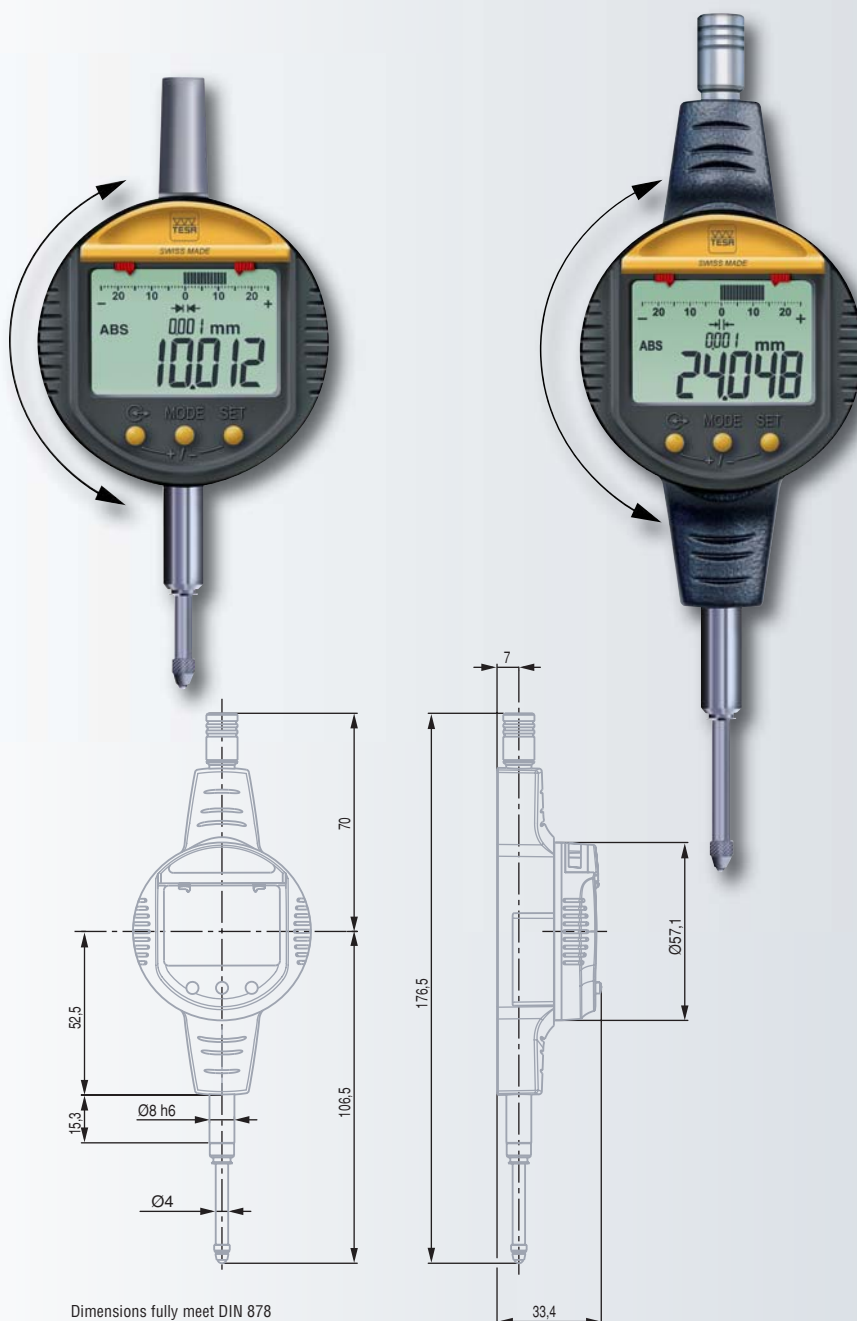
TESA DIGICO 600

- 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



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 600



mm / in



mm / in



µm



µm



N



g

		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.



No

=

mm / in

mm / in

μm

μm

N

g

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

No

=

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

01962002 External power supply

04761054 Mains adapter

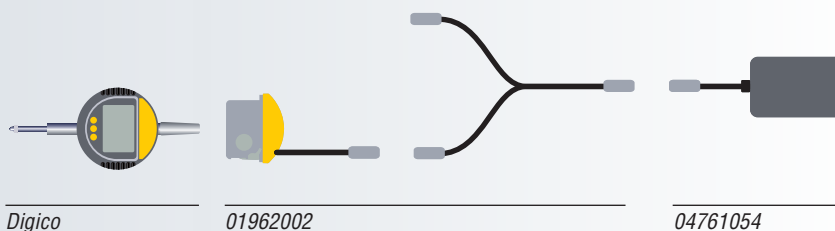
04761055 Cable EU for mains adapter

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

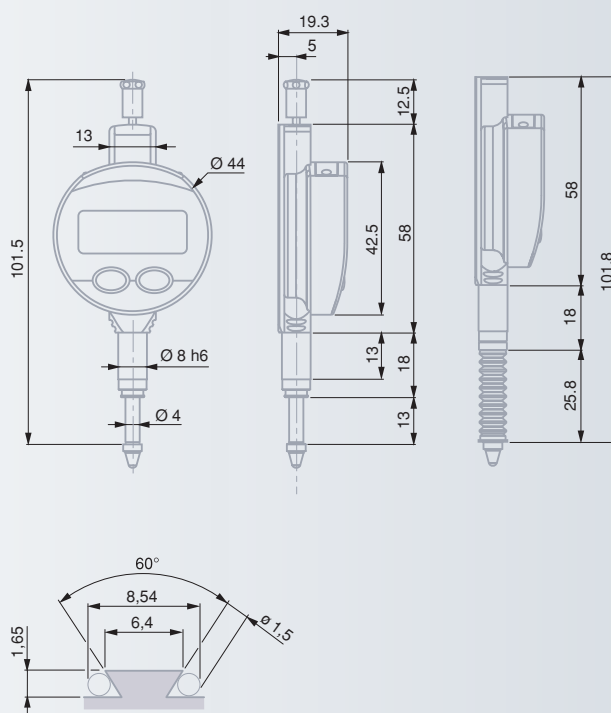
TESA DIGICO 12

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°C to +40°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

01930132 12,5/0.5 0,001 / 0,01 0.00005 / 0.0005 IP65

IP65 indicators with mechanics and electronics protected against the penetration of liquids

01930131 12,5/0.5 0,01 0.0005 IP65

01930133 12,5/0.5 0,001 / 0,01 0.00005 / 0.0005 IP65



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

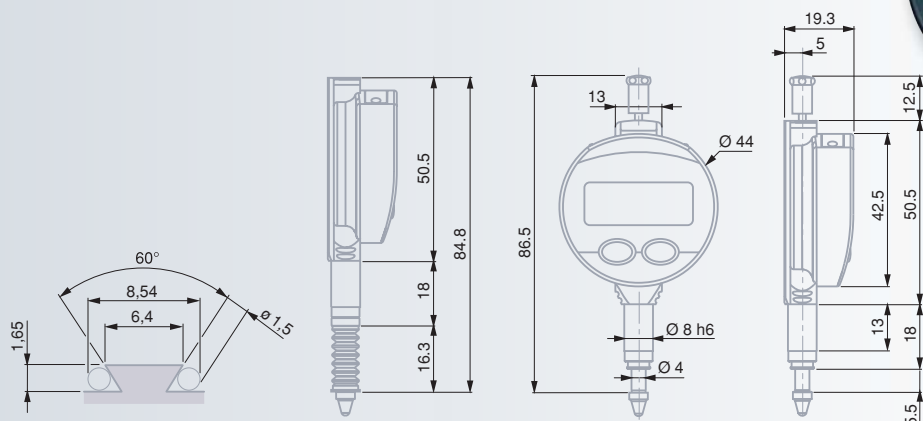
in

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

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



Accessories



03238013 Clamping lug

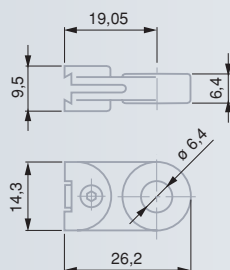
01961012 Upper lift lever

01960005 Lower lift lever

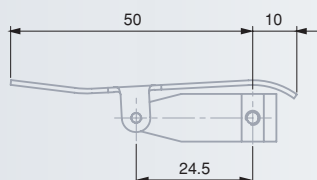
04761060 RS232 connecting cable along with external power supply

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

For information on connecting cables, refer to chapter A



03238013



01961012

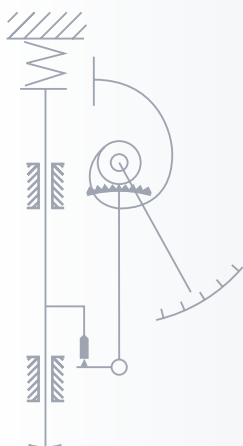


TESA CARY Microcomparators MCA-8

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

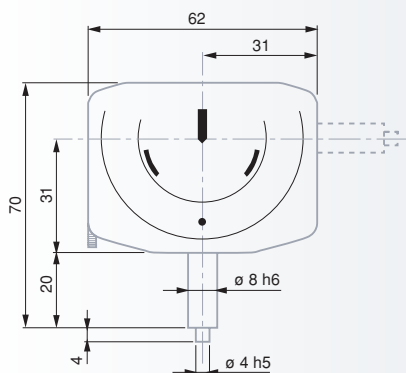
01410423	MCA8-2-500	0,001	0,1	3	500	50 ÷ 0 ÷ 50	± 0,006
01410425	MCA8-2-150	0,001	0,1	3	150	50 ÷ 0 ÷ 50	± 0,006
01410426	MCA8-2-300	0,001	0,1	3	300	50 ÷ 0 ÷ 50	± 0,006

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)



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_e

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



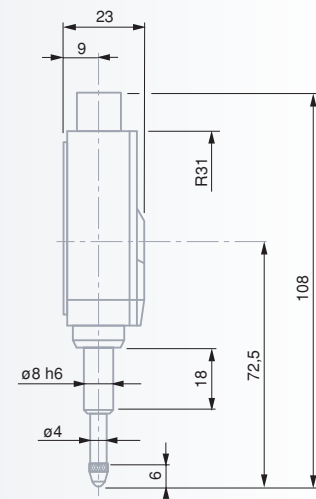
Repeatability limit, r_w

0,5 μ m



Max. hysteresis, f_u

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

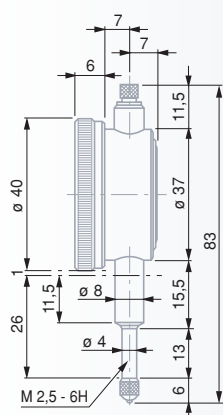


Identification
number

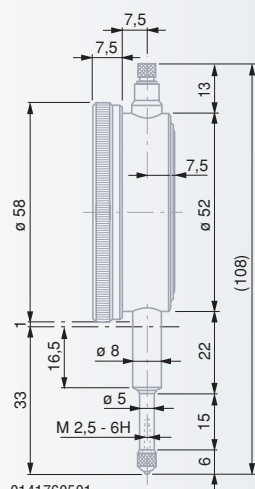


Declaration
of conformity

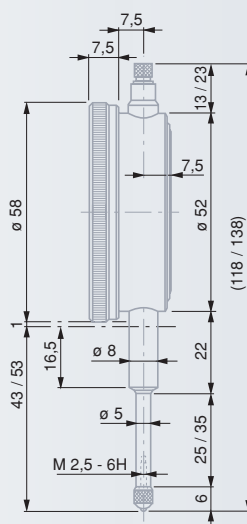
No	mm	mm	mm	mm	mm	mm	N
<i>ROCH dial gauges</i>							
0141760500	40	0,1	10	10,5	—	10	0 ÷ 5 ÷ 10 ≤ 1,0
0141760501	58	0,1	10	10,5	—	10	0 ÷ 5 ÷ 10 ≤ 1,0
0141760502	58	0,1	20	20,5	—	10	0 ÷ 5 ÷ 10 ≤ 1,0
0141760503	58	0,1	30	30,5	—	10	0 ÷ 5 ÷ 10 ≤ 1,5
0141760513	80	0,1	30	30,5	—	10	0 ÷ 5 ÷ 10 ≤ 2,0



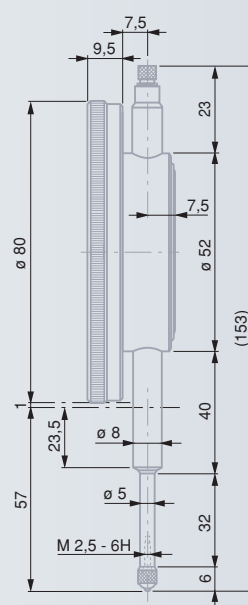
0141760500



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



EN ISO 463
Factory standard

0,01 mm

2,2 mm

Rotating dial.
Regular models
with or without dial lock.

Full-metal casing.
Fixing shank and
plunger in hardened stainless steel.

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

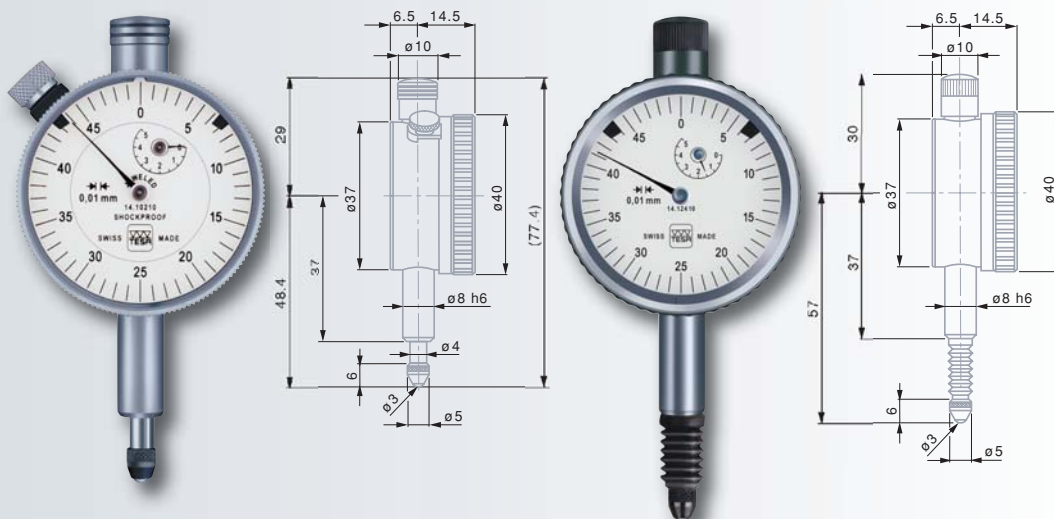
Inspection report with a declaration of conformity

Precision Dial Gauges

0,01 mm dial readout/ 40 mm dial diameter

These precision dial gauges combine excellent metrological properties with extra-long life.

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



TESA dial gauges

01410210	YR	0,01	5	5,4	●	0,5	0 ÷ 25 ÷ 50	●
01410211	YR	0,01	5	5,4	●	0,5	0 ÷ 25 ÷ 0	●
01410212	YR	0,01	5	5,4	●	0,5	0 ÷ 25 ÷ 50	—
01412010	YE	0,01	5	5,4	—	0,5	0 ÷ 25 ÷ 50	—

MERCER dial gauges

01416013	X185-1	0,01	5	5,4	—	0,5	0 ÷ 25 ÷ 0	●
01416014	186-1	0,01	5	5,4	—	0,5	0 ÷ 25 ÷ 50	●

TESA IP54 dial gauge, protected against the penetration of liquids

01412410	YE	0,01	5	5,4	—	0,5	0 ÷ 25 ÷ 50	—
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Permissible limits of a metrological characteristic (MPE/MPL)

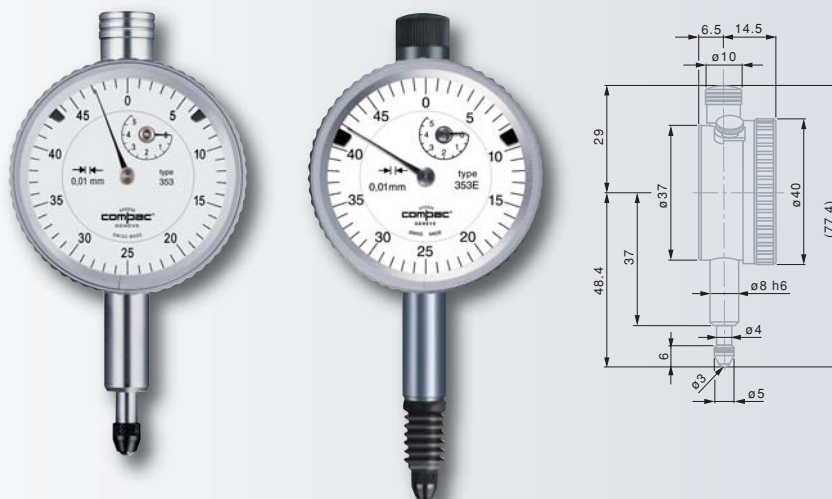
		0,01 mm
	Deviation span	12 µm
	Deviation span within the local measuring span 0,10 mm	6 µm
	Total deviation span	14 µm
	Repeatability limit	3 µm
	Max. hysteresis	3 µm
	Measuring force	≤ 1,4 N
	— Model IP54	≤ 2 N

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
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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)

Deviation span	± 0,2 mm	5 mm
Deviation span within the local measuring span 0,10 mm	7 µm	12 µm
Total deviation span	5 µm	6 µm
	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



0,01 mm dial readout / 40 mm dial diameter

The model 0141760560 is specially advantageous whilst the other model 0141760561 is particularly robust.



N

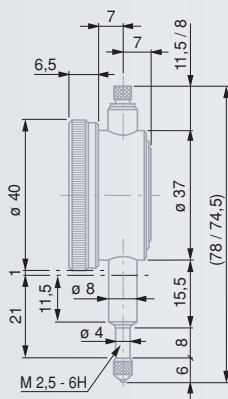
ROCH dial gauges

0141760560	0,01	3	3,4	—	0,5	0 ÷ 25 ÷ 50*	≤1,4
0141760561	0,01	3	3,4	—	0,5	0 ÷ 25 ÷ 50*	≤1,4

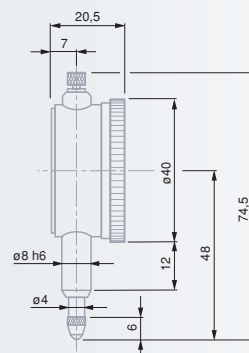
ETALON dial gauge

01419047	0,01	5	●	0,5	0 ÷ 25 ÷ 50	≈ 1
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* With extra red tinted reverse numbering.



0141760561



01419047

Maximum permissible errors for a metrological characteristic (MPE)

			
	0,01 mm	3 mm	5 mm
	Deviation span	10 µm	12 µm
	Deviation span within the local measuring span of 0,1 mm	5 µm	6 µm
	Total deviation span	12 µm	–
	Repeatability limit	3 µm	3 µm
	Max. hysteresis	3 µm	–

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



3 mm dia.
ball tip, already
mounted



Cardboard box



Identification
number

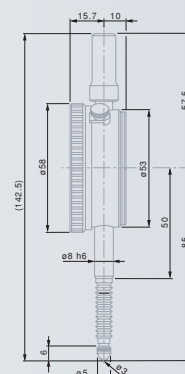


Inspection report
with a declaration
of conformity

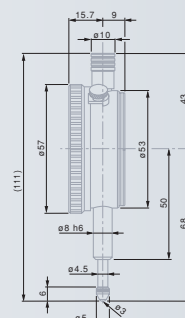
No		mm	mm	mm			mm	
<i>TESA dial gauges</i>								
01410610	YR	0,01	10	10,5	●	●	1	0 ÷ 50 ÷ 100
01410611	YR	0,01	10	10,5	●	●	1	0 ÷ 50 ÷ 0
01412310	YE	0,01	10	10,5	—	—	1	0 ÷ 50 ÷ 100
<i>MERCER dial gauges</i>								
01416020	250-1	0,01	10	10,5	—	●	1	0 ÷ 50 ÷ 0
01416021	251-1	0,01	10	10,5	—	●	1	0 ÷ 50 ÷ 100
<i>TESA IP54 dial gauges, protected against the penetration of liquids</i>								
01410721	YR	0,01	10	10,5	●	—	1	0 ÷ 50 ÷ 0
01412411	YE	0,01	10	10,5	—	—	1	0 ÷ 50 ÷ 100
<i>TESA dial gauge with limited reading range</i>								
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 – Models IP54	≤ 1 N	≤ 1,5 N ≤ 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.

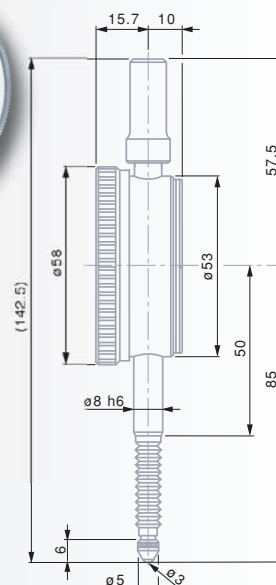
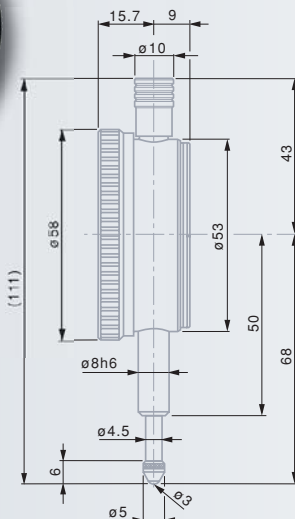
Adjustable toler-
ance marks. M2,5
mounting thread
for the measuring insert.

3 mm dia.
ball tip, already
mounted.

Cardboard box

Identification
number

Inspection report
with a declaration
of conformity



mm



mm



mm



mm



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

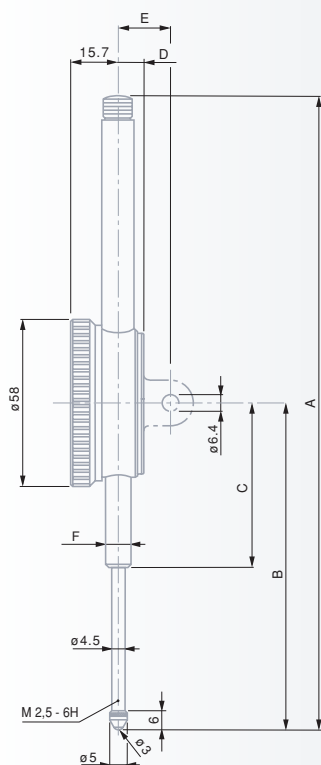
532S	0,01	± 0,4	4	●	●	1,27	40 ÷ 0 ÷ 40
533S	0,01	± 0,5	4	●	—	1,27	50 ÷ 0 ÷ 50

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	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

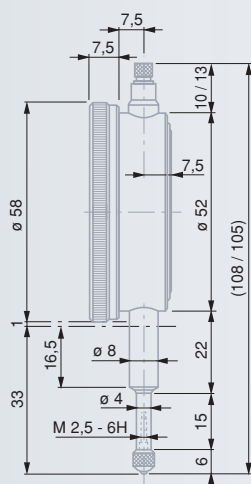
0141760624	0,01	10	10,5	●	1	0 ÷ 50 ÷ 100* ≤ 2
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* With extra red tinted reverse numbering.

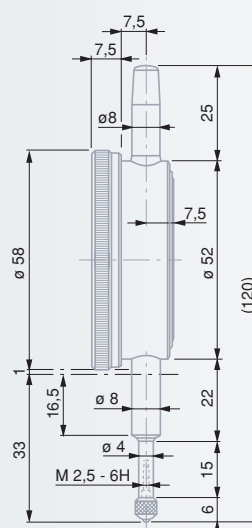
** Counterclockwise numbering.

*** 60,4 mm dial diameter.

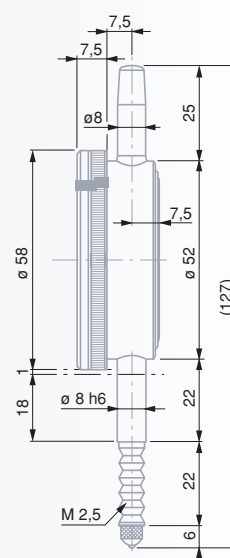
**** With mounted central lug back.



0141760631
0141760635
0141760636

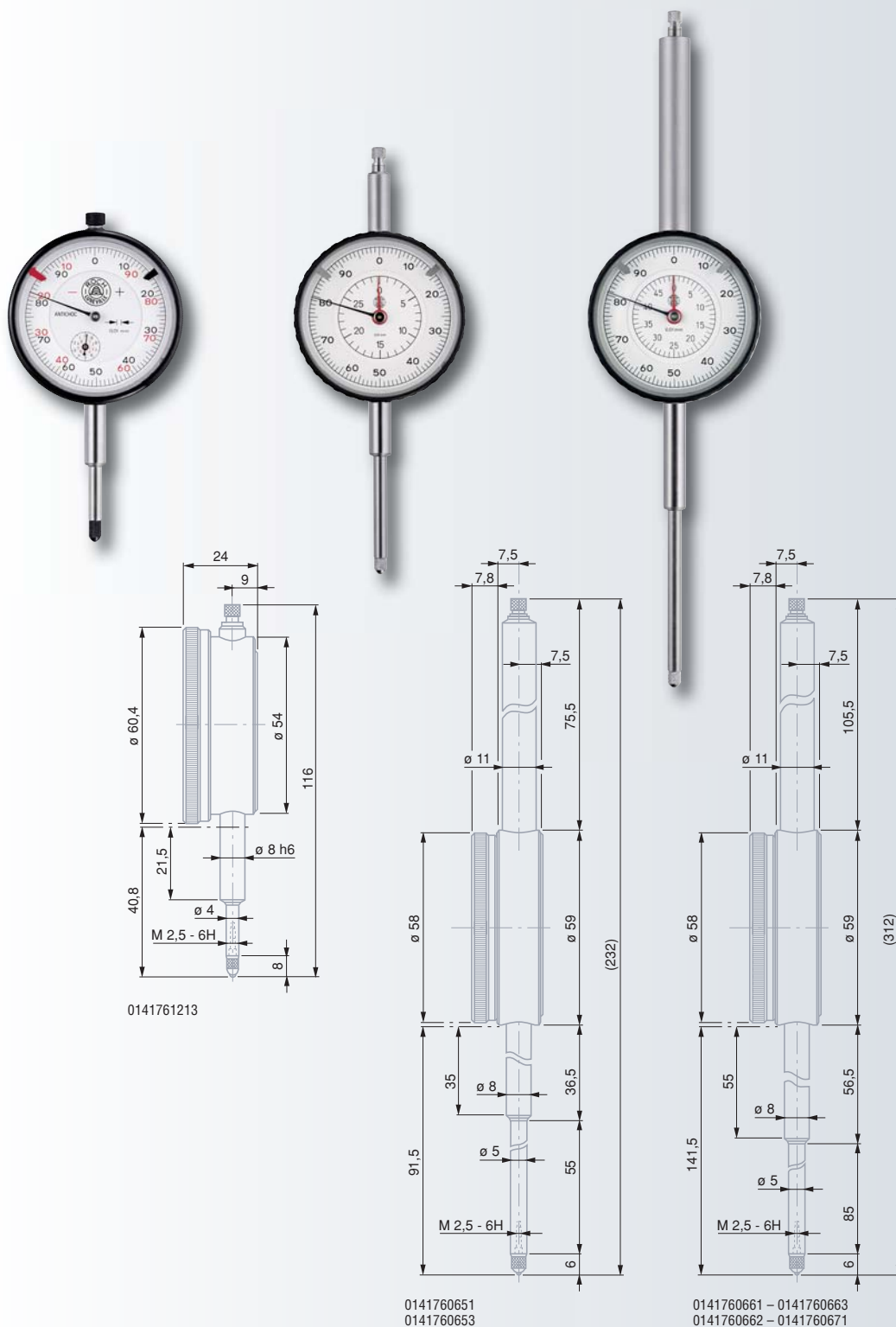


0141760640



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 toler-
ance 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



Deviation span

μm 15 20 25

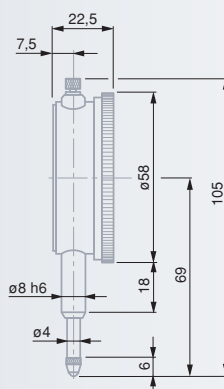
Deviation span within the local
measuring span of 0,1 mm

μm 8 9 12

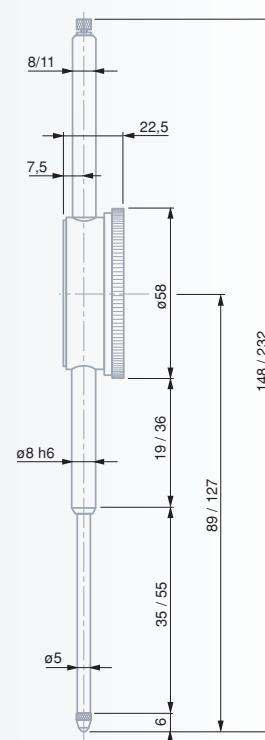


Repeatability limit

μm 3 3 3



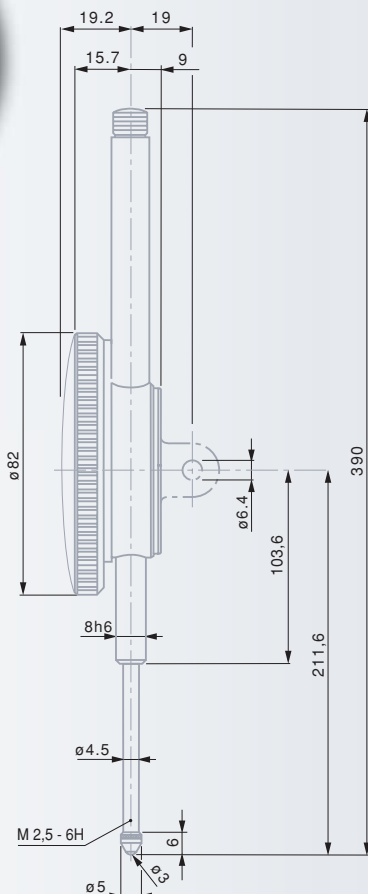
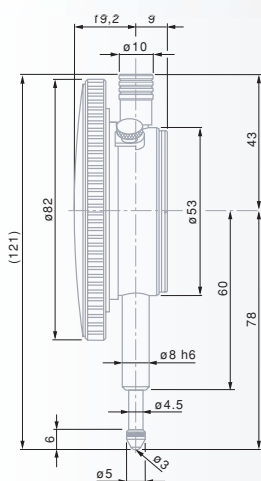
01419048



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 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

m

TESA dial gauge with dial lock

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

		
 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	$\leq 1,4 \text{ N}$	$\leq 3,2 \text{ N}$



EN ISO 463
Factory
standard



0,01 mm



2,2 mm



Rotating dial
with or without
dial lock



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



M2,5 thread
for the
measuring insert



3 mm dia.
ball tip, already
mounted.



Cardboard box



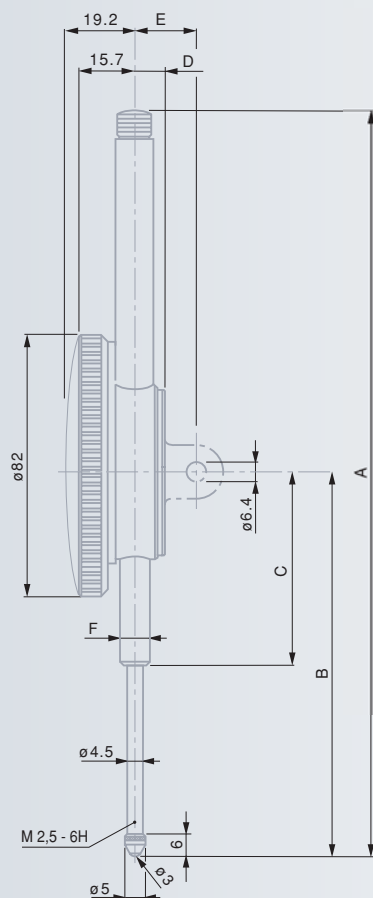
Identification
number



Inspection report
with a declaration
of conformity

Precision Dial Gauges

0,01 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



COMPAC dial gauges with a long range

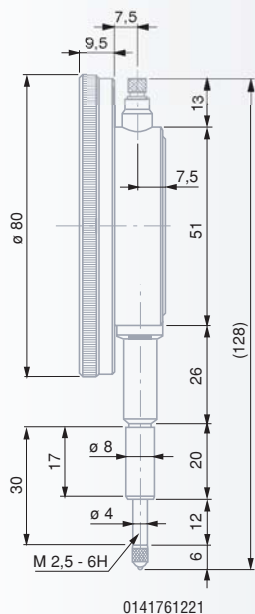
712G	0,01	30	30,5	●	—	1	0 ÷ 50 ÷ 100
722G	0,01	50	50,5	●	—	1	0 ÷ 50 ÷ 100
732G	0,01	100	100,5	●	—	1	0 ÷ 50 ÷ 100
732GB	0,01	100	100,5	●	●	1	0 ÷ 50 ÷ 100

Permissible limits of a metrological characteristic (MPE/MPL)

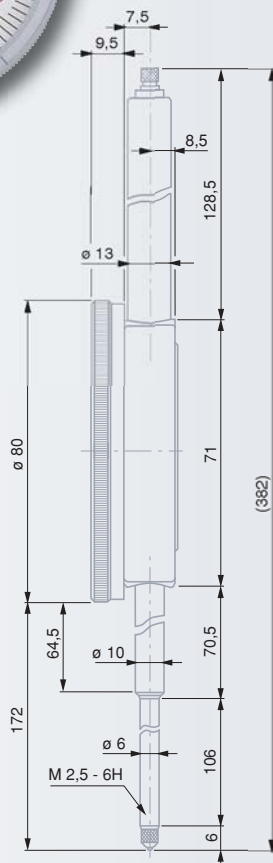
	30 mm	50 mm	100 mm
Deviation span	20 µm	25 µm	30 µm
Total deviation span	25 µm	30 µm	35 µm
Repeatability limit	3 µm	3 µm	3 µm
Max. hysteresis	5 µm	5 µm	8 µm
Measuring force	≤ 2,2 N	≤ 2,5 N	≤ 3,2 N

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



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

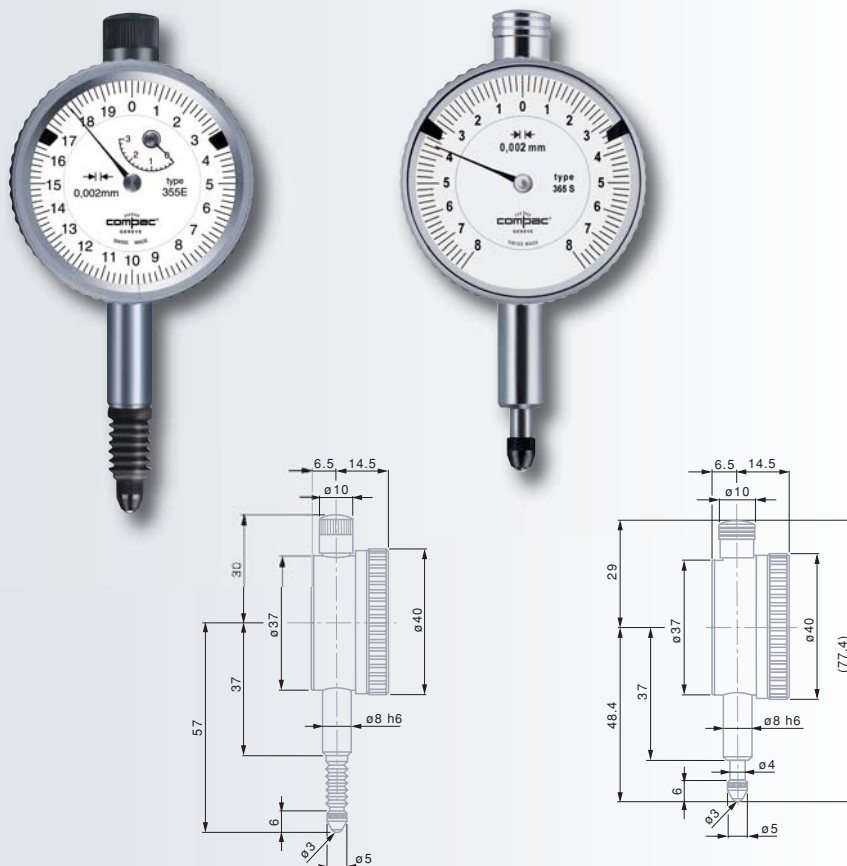
* With extra red tinted reverse numbering.

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

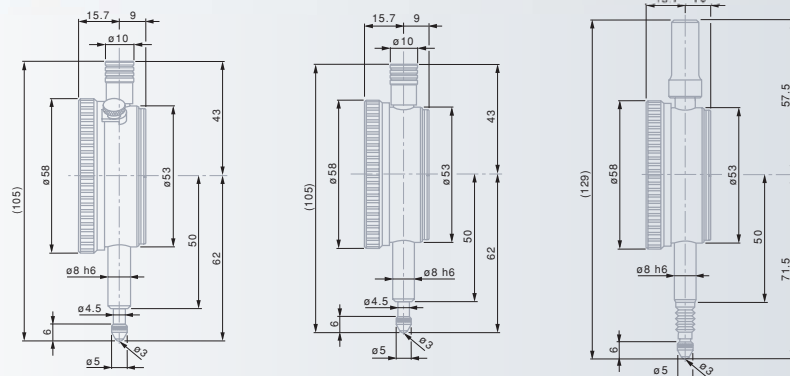
365S 0,002 ±0,08 1,5 ● — 0,2 8 ÷ 0 ÷ 8

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	≤ 1,4 N	≤ 1,4 N
– Model IP54	–	≤ 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

Precision Dial Gauges

0,001 mm dial readout / 40 mm dial diameter



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



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

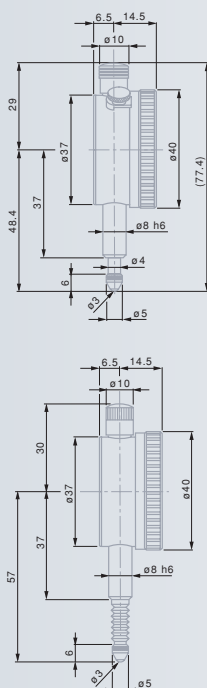
367		0,001	1	1,5	●	—	0,1	0 ÷ 5 ÷ 10
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COMPAC dial gauge IP54, protected against the penetration of liquids

367E		0,001	1	1,5	●	—	0,1	0 ÷ 5 ÷ 10
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COMPAC dial gauge with limited reading range

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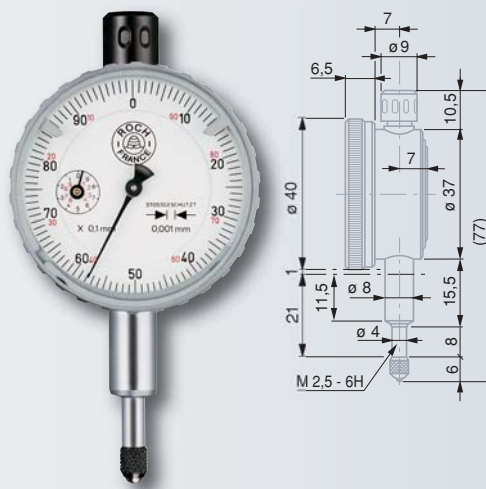
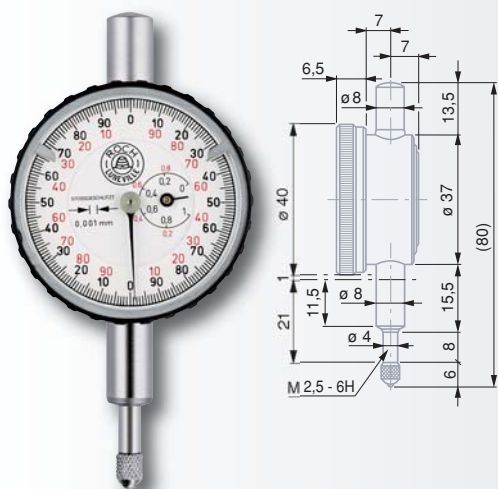


Permissible limits of a metrological characteristic (MPE/MPL)

	±0,04 mm	1 mm
	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
	1 µm	1 µm
Repeatability limit	1 µm	1 µm
	1 µm	1 µm
Max. hysteresis	1 µm	1 µm
	≤ 1,4 N	≤ 1,7 N
Measuring force – Models IP54	—	≤ 2 N

Precision Dial Gauges

0,001 mm dial reading / 40 mm dial diameter



EN ISO 463
Factory
standard



0,001 mm



1,1 mm
(0141761261)
2,2 mm
(0141761262)



Rotating dial



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



With shockproof
mechanism



Adjustable
tolerance marks.
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

0141761261	0,001	1	1,1	●	0,2	0 ÷ 100/0 ÷ 100*	≤ 1,5
0141761262	0,001	1	1,1	●	0,1	0 ÷ 50 ÷ 100*	≤ 1,2

* With extra red tinted reverse numbering.

Maximum permissible errors for a metrological characteristic (MPE)



0,001 mm



1 mm



Deviation span

5 μm



Deviation span within the local
measuring span of 0,01 mm

3 μm

Total deviation span

7 μm



Repeatability limit

3 μm



Max. hysteresis max.

3 μm

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



TESA dial gauges

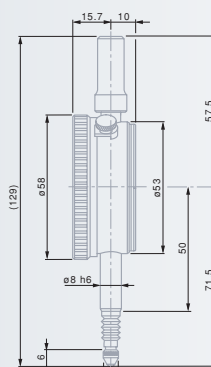
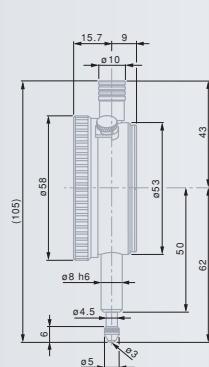
01412511	YE	0,001	1	1,5	●	—	0,1	0 ÷ 50 ÷ 100
01410410	YR	0,001	1	3,3	●	—	0,1	0 ÷ 50 ÷ 100
01410411	YR	0,001	1	3,3	●	—	0,1	0 ÷ 50 ÷ 0
01412611	YE	0,001	5	5,3	●	—	0,2	0 ÷ 100 ÷ 200

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

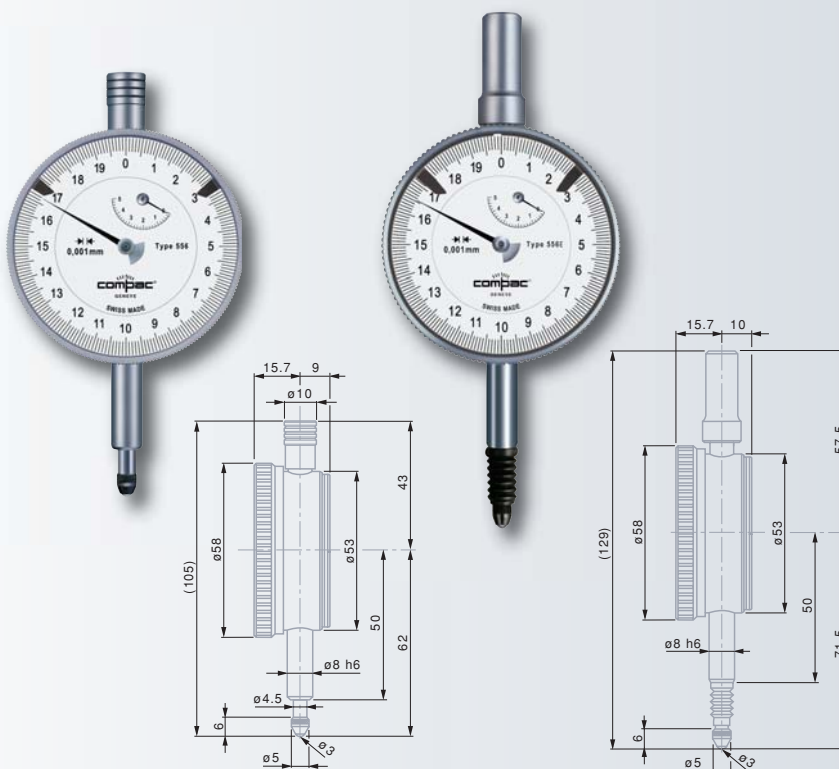
Permissible limits of a metrological characteristic (MPE/MPL)

	1 mm	5 mm
	4 µm	12 µm
Deviation span within the local measuring span 0,10 mm	4 µm	
Total deviation span	5 µm	14 µm
	1 µm	2 µm
	1 µm	2 µm
	≤ 1,7 N	≤ 1,5 N
— Models IP54	—	≤ 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 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

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)

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 – Models IP54	≤ 1,5 N ≤ 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

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



mm

mm

mm

mm

mm

N

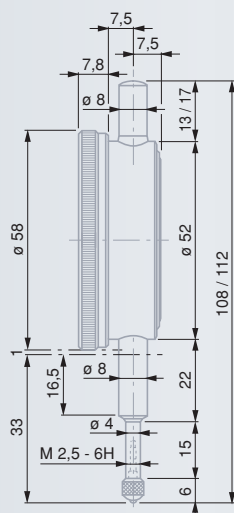
ROCH dial gauges

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

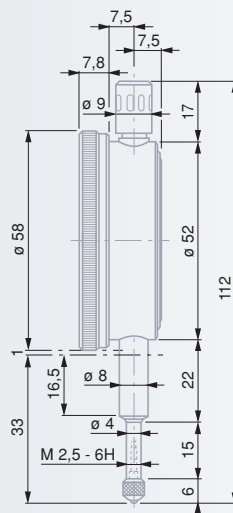
ROCH dial gauge IP54, protected against the penetration of liquids

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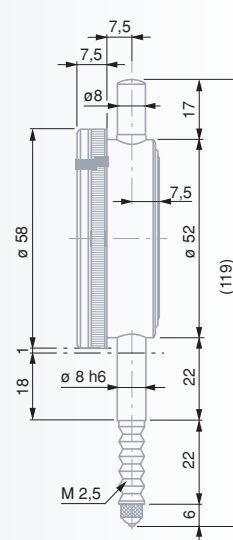
* With extra red tinted reverse numbering.



0141761282
0141761283



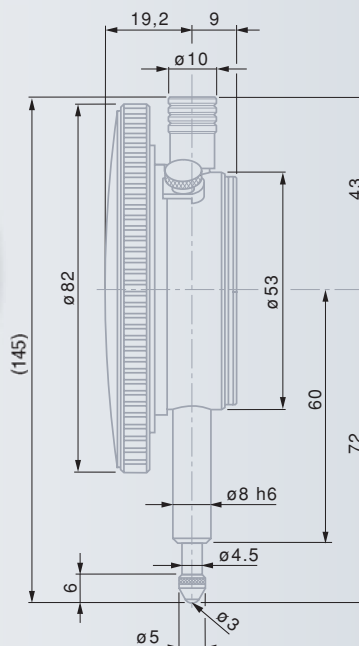
0141761284



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 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

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

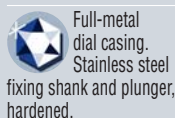
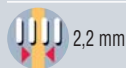
556G		0,001	5	5,3	●	—	0,2	0 ÷ 10 ÷ 20
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Permissible limits of a metrological characteristic (MPE/MPL)

	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

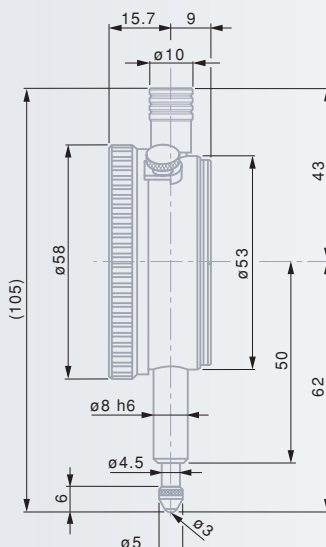
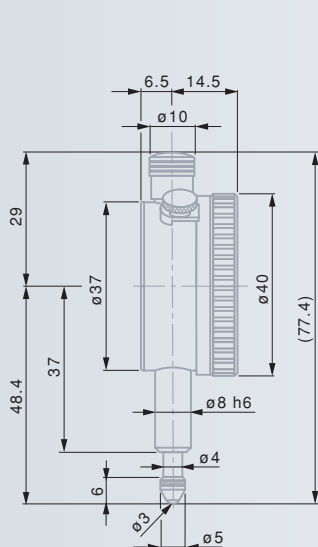


MERCER dial gauges

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



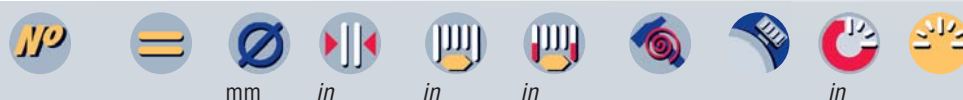
Cardboard box



Identification number



Inspection report with a declaration of conformity



MERCER dial gauges

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

COMPAC dial gauge

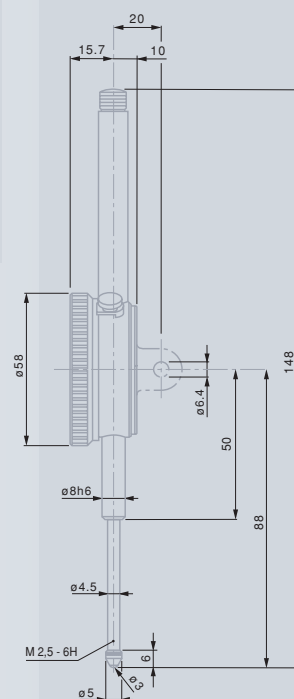
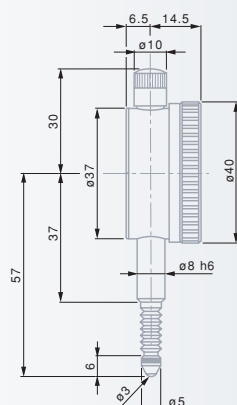
354A		40	0.0005	0.200	0.212	●	—	0.02	0 ÷ 10 ÷ 20
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COMPAC dial gauge IP54, protected against the penetration of liquids

354AE		40	0.0005	0.200	0.212	●	—	0.02	0 ÷ 10 ÷ 20
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Permissible limits of a metrological characteristic (MPE/MPL)

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



Factory standard

0.0001 in

1,1 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



mm



in



in



in



in

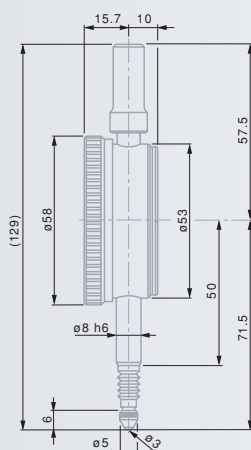


COMPAC dial gauge IP54, protected against the penetration of liquids

355AE	40	0.0001	0.120	0.130	●	—	0.01	0 ÷ 5 ÷ 10
<i>MERCER dial gauges</i>								
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

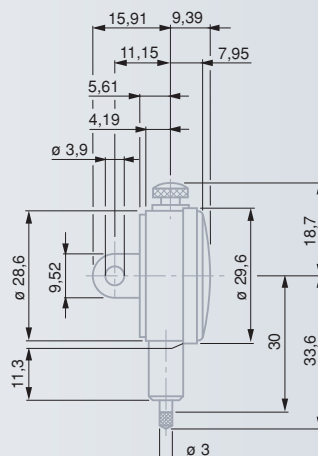
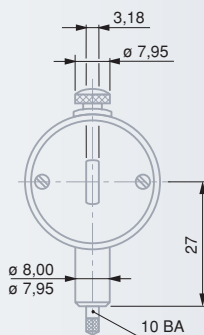
Maximum permissible errors for a metrological characteristic (MPE)

	0.12 in	0.2 in
Deviation span	0.0004	0.0005
Total deviation span	0.0005	0.00055
Repeatability limit	0.00006	0.00006
Max. hysteresis	0.00008	0.00008
Measuring force	≤ 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

No	=	in	in	in	in	in	in	N
Standard models								
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

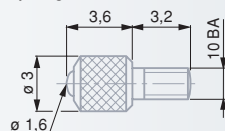
No	=	mm	mm	mm	mm	mm	mm	N
Standard models								
01416050	72	0,01	1	1,2	—	1	0 ÷ 50 ÷ 0	≤ 1,5
01416051	74	0,002	0,2	1,2	—	0,2	0 ÷ 10 ÷ 0	≤ 1,5

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

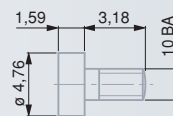
Accessories for MERCER dial gauges, series 70

10BA coupling thread



Standard insert with spherical measuring faces.

No		mm
03560072	Steel	1,6
03560073	Carbide	1,6



Measuring insert with a flat measuring face.

No		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.

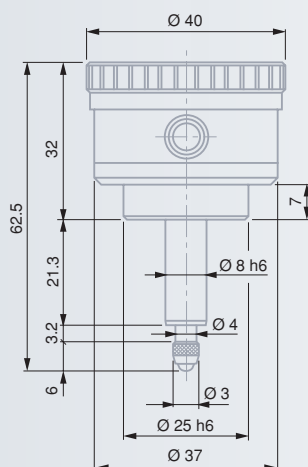
Cardboard box

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

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

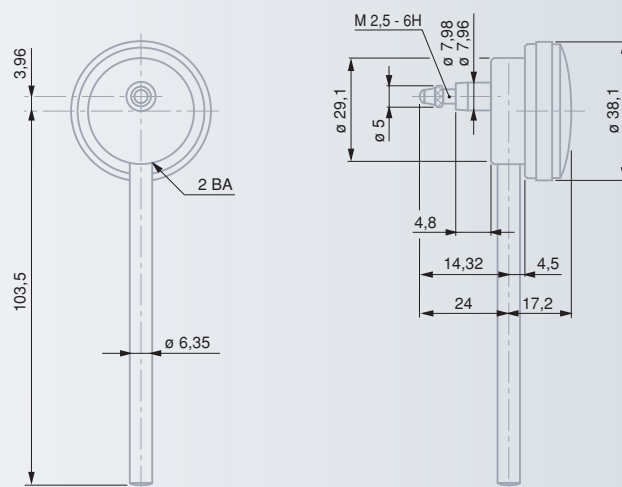
CP 352S	0,01	± 0,4	3,2	(1)	40 ÷ 0 ÷ 40	9	3	3	0,9
CP 355S	0,002	± 0,08	3,2	(0,2)	8 ÷ 0 ÷ 8	9	2	2,5	0,9

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



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

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

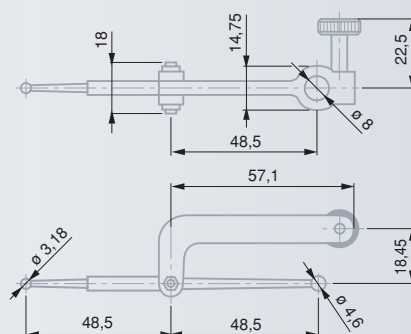
Swivelling arm



Amplification

03560078

1:1



Dial Gauges with Back Mounted Plunger

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



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

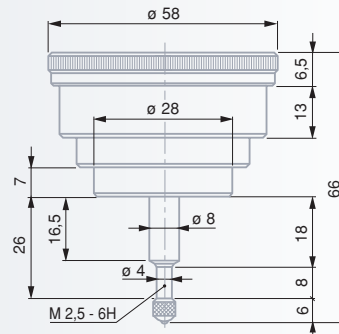
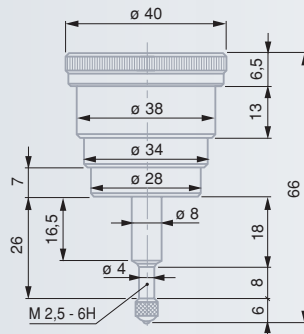
Declaration
of conformity



ROCH dial gauges

	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.

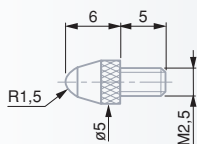


Maximum permissible errors for a metrological characteristic (MPE)

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

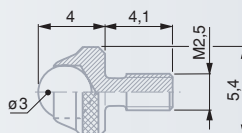
Measuring Inserts for Dial Gauges, Axial Probes and other Handtools

Executions with a M2,5 coupling thread



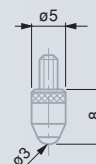
Standard spherical measuring inserts.

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



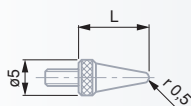
Short spherical measuring insert.

No		L mm
03560007	Carbide	4



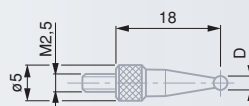
Long spherical measuring inserts.

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



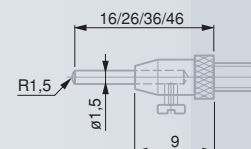
Spherical measuring inserts,
R = 0,5 mm.

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



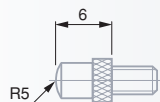
Spherical measuring inserts.

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



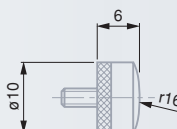
Spherical measuring insert with
4 interchangeable pins, R = 1,5 mm.

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



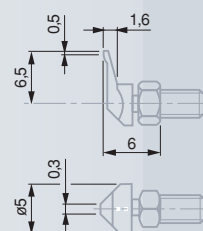
Spherical measuring inserts.

No		R mm
03510101	Steel	5
03510102	Carbide	5



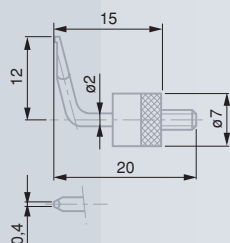
Spherical measuring inserts

No		R mm
03560017	Steel	16
03560018	Carbide	16



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

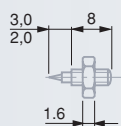
No		A mm
03510401	Steel	6,5



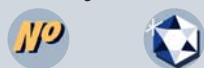
Measuring insert with offset (A) contact point and lock nut for radial alignment.



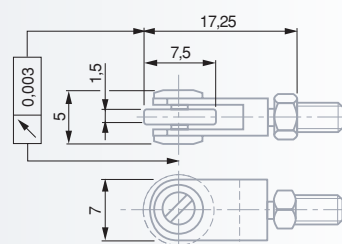
03560063 Steel 12



Measuring insert with needle contact point.



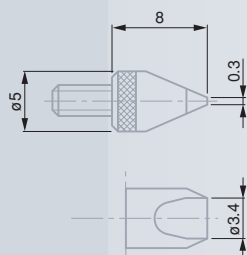
03560030 Steel



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



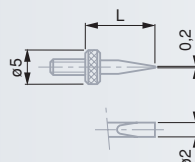
03560010 Steel cylindrical
03560011 Steel ball-shaped



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



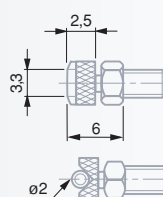
03560024 Steel 0,3
03560025 Carbide 0,3



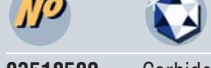
Inserts with a blade-shaped steel face. Lock nut for radial alignment.



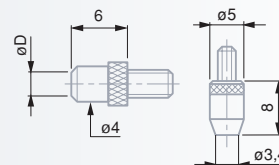
03560031 5 0,2
03560032 10 0,2
03560033 15 0,2
03560034 20 0,2



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



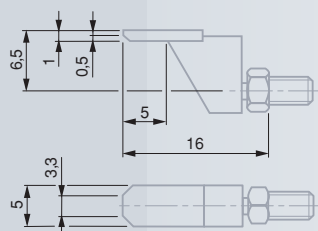
03510502 Carbide



Inserts with a flat measuring face.



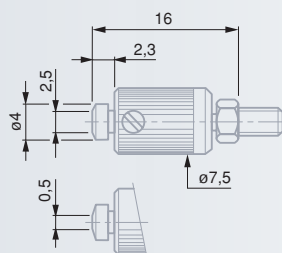
03510801 Steel 2,5
03510802 Carbide 2,5
03560022 Steel 3,4
03560023 Carbide 3,4



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



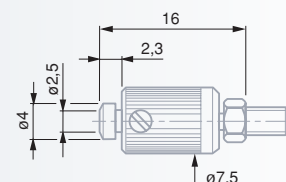
03510602 Carbide 0,5



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



03510702 Carbide 0,5

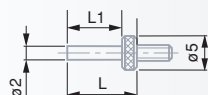


Insert with a flat, parallel measuring face., adjustable. Lock nut for radial alignment.



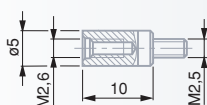
03510902 Carbide 2,5





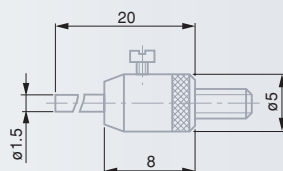
Steel inserts with a flat measuring face.

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



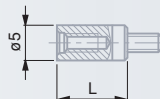
Connectors for measuring inserts.

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



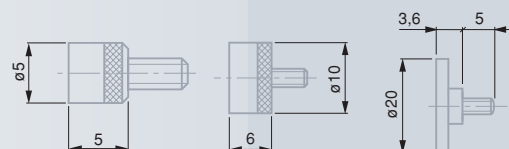
Inserts with a flat measuring face as well as interchangeable pin.

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



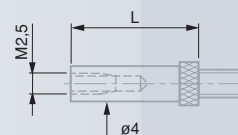
Extensions for measuring inserts.

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.

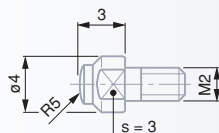
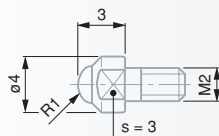
Nº	Material	mm
03560012	Steel	5
03560013	Carbide	5
03560014	Steel	10
03560015	Carbide	10
03560016	Steel	20



Extensions for measuring inserts.

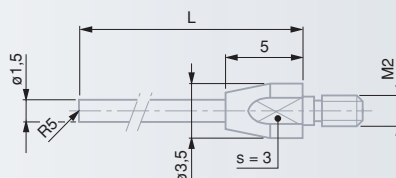
Nº	L mm
03540501	10
03540502	15
03540503	20
03540504	40

Executions with a M2 Coupling Thread



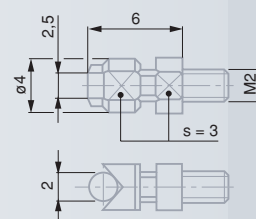
Spherical measuring inserts. M2 thread.

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

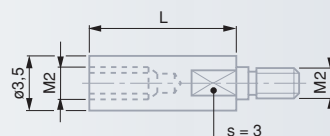


Measuring insert with cylindrical measuring face. Lock nut for radial alignment. M2 thread.

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
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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
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Backs for ROCH or ETALON Dial Gauges



Bezel diameter

Back diameter

Magnetic face

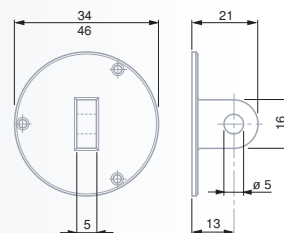
L mm

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**

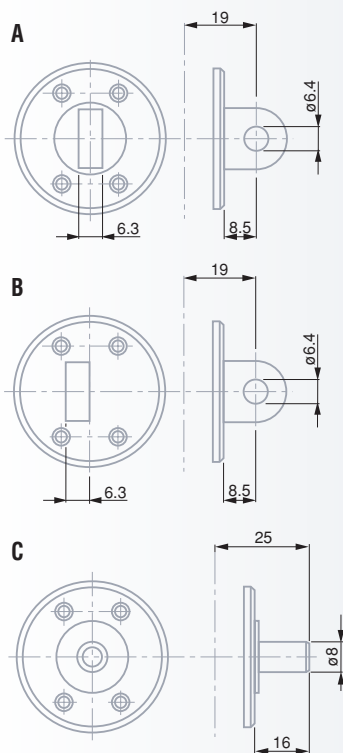
DIGICO 205-705, 58 mm dial diameter



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



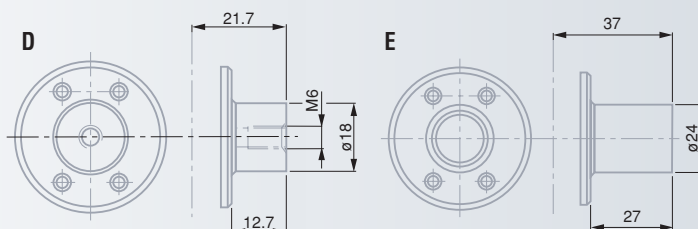
Holding force
= 150 N



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

