

## ATORN® dial gauges



### Application:

**Ident. No. 010–020:** For measuring lengths and length differences, e.g. concentricity, flatness, positional measurements.

**Ident. No. 030–050:** For measuring lengths and differences in length, e.g. concentricity, flatness, position measurements.

### Execution:

#### Ident. No. 010–020:

- Measuring pin and clamping shaft made from durable stainless steel
- coloured tolerance labels for clear detection in the adjusted tolerance fields
- Convenient lifting sleeve with additional dust protection function

#### Ident. No. 030–050:

- Measuring pin and clamping shank are made from durable stainless steel
- Coloured tolerance labels for clear detection in the adjusted tolerance fields
- Comfortable lifting sleeve with additional dust protection function
- Concentric mm display for larger, clearer digits

### Advantage:

- Ident. No. 010–020:** Gauge slides with ceramic balls (low wear, not electrically conductive)

### Delivery:

**Ident. No. 010–020:** In a case



Ident. No. 010



Ident. No. 020



Ident. No. 030



Ident. No. 040



Ident. No. 050

		Length measuring range (mm)	Outer Ø (mm)	Scale value (mm)	Measurement travel of one pointer revolution (mm)	Shock protection	Ident. No.	
33000...	Round mm display	5	40	0.01	0.5	Yes	Ident. No. Price/unit, €	010
33000...	Round mm display	10	58	0.01	1.0	Yes	Ident. No. Price/unit, €	020
33000...	Concentric mm display	10	40	0.01	1.0	No	Ident. No. Price/unit, €	030
33000...	Concentric mm display	10	58	0.01	1.0	Yes	Ident. No. Price/unit, €	040
33000...	Concentric mm display	25	58	0.01	1.0	Yes	Ident. No. Price/unit, €	050

Prod. Gr. 3AE

## ORION® lightweight dial gauges with plastic housing (DIN 878)



### Application:

For measuring lengths and length differences, e.g. concentricity, flatness, positional measurements.

- Extra light so easy to handle

- The plastic housing is highly resistant to chemical influences

### Execution:

- Measuring pin and clamping shaft made from durable stainless steel

### Delivery:

In a case



No. 33011



No. 33037

	Length measuring range (mm)	Outer Ø (mm)	Scale value (mm)	Measurement travel of one pointer revolution (mm)	Outer ring material	Ident. No.	
33011...	3	40	0.01	0.5	Plastic	Ident. No. Price/unit, €	010
33037...	10	58	0.01	1.0	Plastic	Ident. No. Price/unit, €	010

Prod. Gr. 3BD

**ORION®** dial gauges (DIN 878)**Application:**

**Ident. No. 010-020:** For measuring lengths and length differences, e.g. concentricity, flatness, positional measurements.

**Ident. No. 100:** For measuring lengths and differences in length, e.g. concentricity, flatness, position measurements.

**Execution:**

- Particularly robust thanks to 5 mm reinforced measuring pins

- Housing made of zinc

- Ident. No. 010-020:** Measuring pin and clamping shaft made from durable stainless steel

- Ident. No. 100:**

- Measuring pin and clamping shank are made from durable stainless steel
- Safety dial gauge with 7 mm free stroke

**Delivery:**

**Ident. No. 010-020:** In a case

**Ident. No. 100:** in case



Ident. No. 010-020

	Length measuring range (mm)	Outer Ø (mm)	Scale value (mm)	Measurement travel of one pointer revolution (mm)	Shock protection	Ident. No.	
33020...	0.8	58	0.01		No	Ident. No. Price/unit, €	100
33020...	10	58	0.01	1.0	No	Ident. No. Price/unit, €	010
33020...	10	58	0.01	1.0	Yes	Ident. No. Price/unit, €	020

Prod. Gr. 3BD


**small dial gauges**  
 measuring range 1-80 mm
**Application:**

**No. 33001 010-33001 020, 33003 010, 33009 010, 33013 010-33085 010:** For measuring lengths and length differences, e.g. concentricity, flatness, positional measurements.

**No. 33002 010, 33004 010, 33010 010:** for measuring lengths and differences in length, e.g. concentricity, flatness, position measurements.

**Execution:**

- No. 33001 010-33001 020, 33003 010, 33009 010, 33013 010-33085 010:** Measuring pin and clamping shaft made from durable stainless steel

- No. 33002 010, 33004 010, 33010 010:**

- measuring pin and clamping shank are made from a durable stainless steel
- with long shaft for mounting in e.g. Subito, etc.

**Delivery:**

**No. 33001 010-33001 020, 33003 010, 33009 010, 33013 010-33085 010:** In a case

**No. 33002 010, 33004 010, 33010 010:** in case



No. 33001 010-33001 020, 33003 010-33004 010, 33010 010-33018 010, 33032 010



No. 33002



No. 33009



No. 33031



No. 33038 010, 33041 010-33042 010, 33046 010



No. 33040



No. 33044



No. 33085

	Length measuring range (mm)	Outer Ø (mm)	Scale value (mm)	Measurement travel of one pointer revolution (mm)	Shock protection	Ident. No.	
33009...	1	40	0.001	0.2	Yes	Ident. No. Price/unit, €	010
33010...	1	40	0.001	0.2	Yes	Ident. No. Price/unit, €	010
33044...	1	58	0.001	0.2	No	Ident. No. Price/unit, €	010
33013...	3	32	0.01	0.5	No	Ident. No. Price/unit, €	010
33001...	3	40	0.01	0.5	No	Ident. No. Price/unit, €	010
33002...	3	40	0.01	0.5	No	Ident. No. Price/unit, €	010
33003...	3	40	0.01	0.5	Yes	Ident. No. Price/unit, €	010
33004...	3	40	0.01	0.5	Yes	Ident. No. Price/unit, €	010

## Dial gauges \ Mechanical dial gauges

	Length measuring range (mm)	Outer Ø (mm)	Scale value (mm)	Measurement travel of one pointer revolution (mm)	Shock protection		
<b>33001...</b>	5	40	0.01	1.0	No	Ident. No. Price/unit, €	<b>020</b> ●
<b>33046...</b>	5	58	0.001	0.2	No	Ident. No. Price/unit, €	<b>010</b> ●
<b>33085...</b>	5	80	0.001	0.2	No	Ident. No. Price/unit, €	<b>010</b> ●
<b>33018...</b>	10	40	0.1	10.0	No	Ident. No. Price/unit, €	<b>010</b> ●
<b>33031...</b>	10	58	0.1	10.0	No	Ident. No. Price/unit, €	<b>010</b> ●
<b>33038...</b>	10	58	0.01	1.0	No	Ident. No. Price/unit, €	<b>010</b> ●
<b>33040...</b>	30	58	0.01	1.0	No	Ident. No. Price/unit, €	<b>010</b> ●
<b>33032...</b>	30	58	0.1	10.0	No	Ident. No. Price/unit, €	<b>010</b> ●
<b>33041...</b>	50	58	0.01	1.0	No	Ident. No. Price/unit, €	<b>010</b> ●
<b>33042...</b>	80	58	0.01	1.0	No	Ident. No. Price/unit, €	<b>010</b> ●

Prod. Gr. 331

### Dial gauges, shockproof and waterproof to IP53/IP67



#### Application:

**No. 33050:** For measuring lengths and length differences, e.g. concentricity, flatness, positional measurements.

**No. 33051–33053:** For measuring lengths and differences in length, e.g. concentricity, flatness, position measurements.

#### Execution:

##### ■ No. 33050:

- Measuring pin and clamping shaft made from durable stainless steel

- shadow-free display and mount (external ring and viewing window) made from one piece

##### ■ No. 33051–33053:

- Measuring pin and clamping shaft are made from durable stainless steel
- With bolted metal ring for maximum impermeability

#### Delivery:

**No. 33050:** In a case

**No. 33051–33053:** in case



No. 33050 010–33050 015, 33052 010–33053 010



No. 33051

	Length measuring range (mm)	Outer Ø (mm)	IP protection class	Scale value (mm)	Measurement travel of one pointer revolution (mm)		
<b>33050...</b>	3	32	IP 53	0.01	1.0	Ident. No. Price/unit, €	<b>015</b> ●
<b>33050...</b>	10	58	IP 53	0.01	1.0	Ident. No. Price/unit, €	<b>010</b> ●
<b>33051...</b>	3	44	IP 67	0.01	0.5	Ident. No. Price/unit, €	<b>010</b> ●
<b>33052...</b>	10	61	IP 67	0.01	1.0	Ident. No. Price/unit, €	<b>010</b> ●
<b>33053...</b>	30	61	IP 67	0.01	1.0	Ident. No. Price/unit, €	<b>010</b> ●

Prod. Gr. 331

### Shockproof dial gauges



#### Application:

**No. 33075:** For measuring lengths and differences in length, e.g. concentricity, flatness, position measurements.

**No. 33077–33078:** For measuring lengths and length differences, e.g. concentricity, flatness, positional measurements.

#### Execution:

##### ■ No. 33075:

- Measuring pin and clamping shaft are made from durable stainless steel

- Fine point adjustment by turning the knurl button

- No. 33077–33078:** Measuring pin and clamping shaft made from durable stainless steel

#### Advantage:

- Impacts against the gauge slide are not transferred to the measuring mechanism; in this way, display accuracy is maintained for a long time.

#### Delivery:

**No. 33075:** in case

**No. 33077–33078:** In a case



No. 33075 010, 33078 010–33078 020



No. 33077

	Length measuring range (mm)	Outer Ø (mm)	Scale value (mm)	Measurement travel of one pointer revolution (mm)	Shock protection	Ident. No. Price/unit, €	
<b>33075...</b>	10	58	0.01	1.0	Yes	Ident. No. Price/unit, €	<b>010</b> ●
<b>33077...</b>	10	58	0.01	1.0	Yes	Ident. No. Price/unit, €	<b>010</b> ●
<b>33078...</b>	30	58	0.01	1.0	Yes	Ident. No. Price/unit, €	<b>010</b> ●
<b>33078...</b>	50	58	0.01	1.0	Yes	Ident. No. Price/unit, €	<b>020</b> ●

Prod. Gr. 331

**dial gauge (DIN 878)**

With magnetic rear panel

**Application:**

For measuring lengths and length differences, e.g. concentricity, flatness, positional measurements.

**Execution:**

- Measuring pin and clamping shaft made from durable stainless steel

**Advantage:**

- Back wall is designed as magnetic clamp (detachable)
- Can be used without stand
- The magnet does not affect dial gauge function

**Delivery:**

In a case



	Length measuring range (mm)	Outer Ø (mm)	Scale value (mm)	Measurement travel of one pointer revolution (mm)	Outer ring material	Ident. No. Price/unit, €	
<b>33100...</b>	10	58	0.01	1.0	Plastic	Ident. No. Price/unit, €	<b>010</b> ●
<b>33100...</b>	3	40	0.01	0.5	Plastic	Ident. No. Price/unit, €	<b>020</b> ●

Prod. Gr. 331

**Safety dial gauges (DIN 878)**

With free stroke and shock protection

**Application:**

For measuring lengths and length differences, e.g. concentricity, flatness, positional measurements.

**Execution:**

- Measuring pin and clamping shaft made from durable stainless steel

**Delivery:**

In a case



	Length measuring range (mm)	Outer Ø (mm)	Scale value (mm)	Shock protection	Outer ring material	Ident. No. Price/unit, €	
<b>33114...</b>	0.8	58	0.01	Yes	Metal	Ident. No. Price/unit, €	<b>010</b> ●

Prod. Gr. 331

**Precision dial gauges with shock protection****Application:**

For measuring lengths and length differences, e.g. concentricity, flatness, positional measurements.

- Special stainless steel fine measuring mechanism
- Hole in housing for wire lifter

**Advantage:**

- Extremely high measurement accuracy

**Delivery:**

In a case



	Length measuring range (mm)	Outer Ø (mm)	Scale value (mm)	Measurement travel of one pointer revolution (mm)	Shock protection	Ident. No. Price/unit, €	
<b>33118...</b>	1	40	0.001	0.1	Yes	Ident. No. Price/unit, €	<b>010</b> ●
<b>33119...</b>	1	58	0.001	0.1	Yes	Ident. No. Price/unit, €	<b>010</b> ●

Prod. Gr. 331



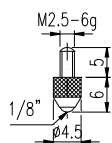
## gauge slides M2.5

### Application:

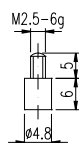
For use in measuring instruments with M 2.5 mm thread connection, e.g. dial gauges, vernier callipers etc.

### Technical data:

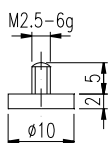
- Connection thread: M2.5



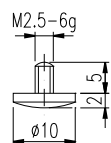
Ident. No. 090-098



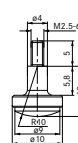
Ident. No. 100-103



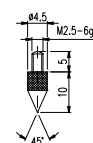
Ident. No. 110



Ident. No. 120



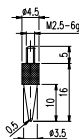
Ident. No. 125



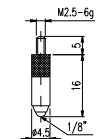
Ident. No. 130



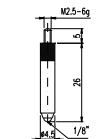
Ident. No. 140-142



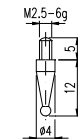
Ident. No. 150



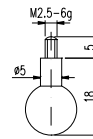
Ident. No. 160



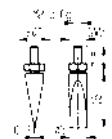
Ident. No. 170



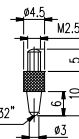
Ident. No. 178-189



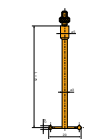
Ident. No. 194-198



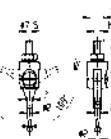
Ident. No. 201



Ident. No. 210



Ident. No. 300



Ident. No. 310

Type		9	9 CC	9 R	9K	10	10	11	12
Material		Steel	Tungsten Carbide	Rubin	Ceramic	Steel	Tungsten Carbide	Steel	Steel
33 149...	Ident. No. Price/unit, €	090 ●	093 ●	096 ●	098 ●	100 ●	103 ●	110 ●	120 ●
Type		12	13	14/11	14/20	14/30	15	16	17
Material		Tungsten Carbide	Steel	Steel	Steel	Steel	Steel	Steel	Steel
33 149...	Ident. No. Price/unit, €	125 ●	130 ●	140 ●	141 ●	142 ●	150 ●	160 ●	170 ●
Type		18/1	18/1	18/2	18/2	18/3	18/3	18/4	18/4
Material		Steel	Tungsten Carbide	Steel	Tungsten Carbide	Steel	Tungsten Carbide	Steel	Tungsten Carbide
33 149...	Ident. No. Price/unit, €	178 ●	179 ●	180 ●	181 ●	182 ●	183 ●	184 ●	185 ●
Type		18/5	18/5	18/6	18/6	19/7	19/8	19/9	19/10
Material		Steel	Tungsten Carbide	Steel	Tungsten Carbide	Steel	Steel	Steel	Steel
33 149...	Ident. No. Price/unit, €	186 ●	187 ●	188 ●	189 ●	194 ●	195 ●	196 ●	197 ●
Type		19/11	20	21	T-probe	33			
Material		Steel	Steel	Steel	Rubin	Tungsten Carbide			
33 149...	Ident. No. Price/unit. €	198 ●	201 ●	210 ●	300 ○	310 ●			

Prod. Gr. 331

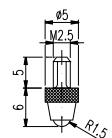
## TESA gauge slides M2.5

### Application:

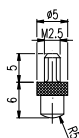
For use in measuring instruments with M 2.5 mm thread connection, e.g. dial gauges, vernier callipers etc.

### Technical data:

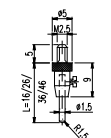
- Connection thread: M2.5



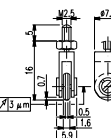
Ident. No. 010-020



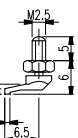
Ident. No. 030-040



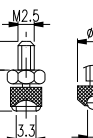
Ident. No. 050



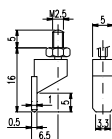
Ident. No. 060



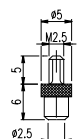
Ident. No. 070



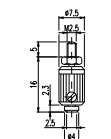
Ident. No. 080



Ident. No. 090



Ident. No. 120



Ident. No. 130

Type	Material	33150... Ident. No.	
TN 10	Steel	010	●
TN 10 W	Tungsten Carbide	020	●
TN 11	Steel	030	●
TN 11 W	Tungsten Carbide	040	●
TN 12	Steel	050	●
TN 13	Steel	060	●
TN 20	Steel	070	●
TN 30 W	Tungsten Carbide	080	●
TN 40 W	Tungsten Carbide	090	●
TN 70 W	Tungsten Carbide	120	●
TN 80 W	Tungsten Carbide	130	○
		Price/unit, €	

Prod. Gr. 362

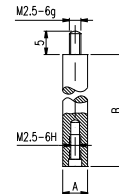
## Extension piece

### Application:

For bolting to gauge slides with M2.5 mm threads.

### Technical data:

- Diameter: 4 mm
- Connection thread: M2.5



Length (mm)	Ident. No.	10	20	30	40	50	60	70	80	90	100
33154...	Price/unit, €	010	020	030	040	050	060	070	080	090	100
		●	●	●	●	●	●	●	●	●	●

Prod. Gr. 331

## ATORN® Electronic dial gauge

with large high-contrast display, designed for production as well as for laboratory



### Application:

For static measurements of lengths and length differences

### Execution:

- Zero setting at any position
- Large LCD display (12 mm)
- Keyptron System
- mm/inch switch-over

### Advantage:

- LOCK function (key lock)
- Switched on by the ON button or automatically switched on by calliper movement

- Particularly energy-saving electronics (battery lifetime up to 3 years)

### Delivery:

Battery (1 x 3 V lithium type CR 2032)

### Technical data:

- Data transmission type: multiCOM
- Min./max. measurement force: 0.5-1.0 N
- Absolute function: Yes
- Automatic switch-off: Yes
- Preset function: Yes
- IP protection class: IP 52
- Reversible counting direction: Yes



Length measuring range (mm)	12.5	12.5
Digit increment (mm)	0.01	0.001
Error limit (μm)	20	5
Repeat accuracy (μm)	10	2
33167...	Ident. No.	110
	Price/unit, €	210
		●

Prod. Gr. 303

## ATORN® Small electronic dial gauge

IP65 degree of protection



### Application:

For measuring lengths and length differences, e.g. concentricity, flatness, positional measurements.

### Execution:

- Inductive measuring system
- LCD digital display (height 6 mm)
- Plastic housing diameter 44 mm

- mm/inch switch-over

### Delivery:

Battery (1 x 3 V lithium type CR 2032), in a case

### Technical data:

- Data transmission type: Power RS
- Automatic switch-off: Yes



p. 1048

p. 1050

## Dial gauges \ Electronic dial gauges

Length measuring range (mm)	12.5	12.5	12.5	12.5	5.0	5.0
Digit increment (mm)	0.01	0.001	0.01	0.001	0.001	0.001
Error limit (µm)	20	5	20	5	4	4
Repeat accuracy (µm)	5	2	5	2	2	2
Min./max. measurement force	0.5-0.9 N	0.5-0.9 N	0.6-1.3 N	0.6-1.3 N	0.5-0.65 N	0.6-1.2 N
Absolute function	Yes	Yes	Yes	Yes	No	No
Dynamic measurement	No	No	No	No	Yes	Yes
Combined indicator for figure/scale reading	No	No	No	No	Yes	Yes
Preset function	Yes	Yes	Yes	Yes	No	No
IP protection class	IP 40	IP 40	IP 65	IP 65	IP 40	IP 65
33174...	Ident. No. Price/unit, €	010 ●	020 ●	030 ●	040 ●	050 ●

Prod. Gr. 303

### ATORN® Electronic dial gauge



#### Application:

For measuring lengths and length differences, e.g. concentricity, flatness, positional measurements.

#### Execution:

- Large LCD display (11 mm)
- Read display value
- Factor adjustable
- mm/inch switch-over

#### Advantage:

- Measured value classification: Display uses coloured LEDs to indicate when tolerance limits are exceeded

#### Delivery:

Battery (1 x 3 V lithium type CR 2032)

#### Technical data:

- Data transmission type: Proximity
- Absolute function: Yes
- Automatic switch-off: Yes
- Dynamic measurement: Yes
- Colour reading classification: Yes
- Rotating housing: Yes
- Preset function: Yes
- IP protection class: IP 54
- Tolerance value entry: Yes
- Reversible counting direction: Yes



p. 1050

Length measuring range (mm)	12.5	25	50	100	12.5	25	50	100
Digit increment (mm)	0.01	0.01	0.01	0.01	0.001	0.001	0.001	0.001
Error limit (µm)	10	10	20	20	3	4	5	6
Repeat accuracy (µm)	2	2	2	2	2	2	2	3
Min./max. measurement force	0.65-0.9 N	0.65-1.15 N	1.4-2.9 N	1.8-3.8 N	0.65-0.9 N	0.65-1.15 N	1.4-2.9 N	1.8-3.8 N
33172...	Ident. No. Price/unit, €	001 ●	011 ●	021 ●	031 ●	101 ●	111 ●	121 ●

Prod. Gr. 303

### ORION® Electronic dial gauge



#### Application:

For measuring lengths and length differences, e.g. concentricity, flatness, positional measurements.

#### Execution:

- Aluminium housing with sturdy plastic cover
- Large LCD display (12 mm)
- mm/inch switch-over

#### Delivery:

Calibration certificate, additional back of dial with clamping lug, battery type SR44, in case

#### Technical data:

- Digit increment: 0.01 mm
- Data transmission type: No
- Error limit: 30 µm
- Repeat accuracy: 10 µm
- Absolute function: Yes
- Dynamic measurement: No
- Colour reading classification: No
- Rotating housing: No
- Combined indicator for figure/scale reading: No
- Manual tolerance markers: No
- Preset function: No
- IP protection class: IP 40
- Tolerance value entry: Yes
- Reversible counting direction: No



Length measuring range (mm)	12.5
33168...	Ident. No. Price/unit, €
	010 ●

Prod. Gr. 3BK

# ORION® Electronic dial gauge

with combined scale and digital display

**Application:**

For measuring lengths and length differences, e.g. concentricity, flatness, positional measurements.

**Execution:**

- mm/inch switch-over

**Delivery:**

In a case

**Technical data:**

- Data transmission type: No
- Absolute function: Yes
- Automatic switch-off: Yes
- Dynamic measurement: Yes
- Combined indicator for figure/scale reading: Yes
- Preset function: Yes
- IP protection class: IP 52
- Tolerance value entry: Yes



Ident. No. 013



Ident. No. 023

Length measuring range (mm)		12.5	12.5
Digit increment (mm)		0.01	0.001
Error limit (µm)		30	10
Repeat accuracy (µm)		10	4
	Ident. No.	<b>013</b>	<b>023</b>
<b>33 168...</b>	Price/unit, €	●	●

Prod. Gr. 3BK

## Mahr electronic dial gauges

### MarCator 1086 with data output / wireless transmission (Integrated Wireless)

**Application:**

For static measurements of lengths and length differences

**Execution:**

- Factor adjustable
- Large LCD display (11 mm)
- **Ident. No. 110–140, 520–825:**
  - mm/inch switch-over
  - LOCK function (key lock)
- **Ident. No. 510, 830–860:**
  - mm/inch changeover
  - With integrated wireless transmission

**Advantage:**

- **Ident. No. 510, 830–860:** LOCK function (key lock)

**Delivery:**

In case with CR 2450 battery

**Technical data:**

- Absolute function: Yes
- Automatic switch-off: Yes
- Rotating housing: Yes
- Preset function: Yes
- IP protection class: IP 42
- Tolerance value entry: Yes
- Reversible counting direction: Yes



Ident. No. 110



Ident. No. 130



Ident. No. 510

Length measuring range (mm)	12.5	12.5	25	25	50	50	100	100
Digit increment (mm)	0.01	0.0005	0.01	0.0005	0.01	0.0005	0.01	0.0005
Data transmission type	multiCOM	multiCOM	multiCOM	multiCOM	multiCOM	multiCOM	multiCOM	multiCOM
Error limit (µm)	20	4	20	4	20	8	20	8
Repeat accuracy (µm)	10	2	10	2	10	2	10	2
Min./max. measurement force	0.65-0.9 N	0.65-0.9 N	0.65-1.15 N	0.65-1.15 N	1.25-2.7 N	1.25-2.7 N	1.6-3.5 N	1.6-3.5 N
	Ident. No.	<b>110</b>	<b>810</b>	<b>120</b>	<b>820</b>	<b>130</b>	<b>822</b>	<b>140</b>
<b>33 166...</b>	Price/unit, €	●	●	●	●	●	○	○

Length measuring range (mm)	12.5	12.5	25	25	50	100
Digit increment (mm)	0.01	0.0005	0.01	0.0005	0.0005	0.0005
Data transmission type	multiCOM/ MarConnect	multiCOM/ MarConnect	multiCOM/ MarConnect	multiCOM/ MarConnect	multiCOM/ MarConnect	multiCOM/ MarConnect
Error limit (µm)	20	4	20	4	8	8
Repeat accuracy (µm)	10	2	10	2	2	2
Min./max. measurement force	0.65-0.9 N	0.65-0.9 N	0.65-1.15 N	0.65-1.15 N	1.25-2.7 N	1.6-3.5 N
	Ident. No.	<b>510</b>	<b>830</b>	<b>520</b>	<b>840</b>	<b>850</b>
<b>33 166...</b>	Price/unit, €	○	●	○	○	○

Prod. Gr. 305

Mahr

## electronic dial gauges

MarCator 1087 with data output/wireless transmission



### Application:

For static and dynamic measurements of lengths and length differences, e.g. concentricity, flatness, position measurements.

### Execution:

- Factor adjustable
- LOCK function (key lock)
- Ident. No. 630-645, 695:** mm/inch switch-over
- Ident. No. 670-690:**
  - mm/inch changeover
  - With integrated wireless transmission
- Ident. No. 690:** Ideal for use in 2-point internal measuring instruments. Reversal point can be determined automatically during oscillation.

### Delivery:

In case with CR 2450 battery

### Technical data:

- Digit increment: 0.0005 mm
- Repeat accuracy: 2 µm
- Absolute function: Yes
- Automatic switch-off: Yes
- Dynamic measurement: Yes
- Rotating housing: Yes
- Combined indicator for figure/scale reading: Yes
- Preset function: Yes
- IP protection class: IP 42
- Tolerance value entry: Yes
- Reversible counting direction: Yes



Ident. No. 630-645, 695

Length measuring range (mm)	12.5	12.5	25	25	50	50
Data transmission type	multiCOM	multiCOM/ MarConnect	multiCOM	multiCOM/ MarConnect	multiCOM	multiCOM/ MarConnect
Error limit (µm)	4	4	4	4	8	8
Min./max. measurement force	0.65-0.9 N	0.65-1.1 N	0.65-1.15 N	0.65-1.1 N	0.65-1.1 N	0.65-1.1 N
Ident. No.	630	670	640	690	645	695
Price/unit, €	●	●	●	○	○	○

Prod. Gr. 305

Mahr

## Electronic dial gauge

1087R-HR



### Application:

For static and dynamic measurements of lengths and length differences, e.g. concentricity, flatness, position measurements.

### Execution:

- Factor adjustable
- mm/inch changeover
- LOCK function (key lock)

### Advantage:

- Extra high accuracy

### Delivery:

In case with CR 2450 battery

### Technical data:

- Digit increment: 0.0001 mm
- Data transmission type: multiCOM
- Repeat accuracy: 0.5 µm
- Absolute function: Yes
- Automatic switch-off: Yes
- Dynamic measurement: Yes
- Rotating housing: Yes
- Combined indicator for figure/scale reading: Yes
- Preset function: Yes
- IP protection class: IP 42
- Tolerance value entry: Yes
- Reversible counting direction: Yes



Ident. No. 611

Length measuring range (mm)	12.5	25
Error limit (µm)	1.8	2.2
Min./max. measurement force	0.65-0.9 N	0.65-1.15 N
Ident. No.	611	612
Price/unit, €	○	○

Prod. Gr. 305

Mahr

## Electronic dial gauge

1086R-HR



### Application:

For static measurements of lengths and length differences

### Execution:

- Factor adjustable
- Large LCD display (11 mm)
- mm/inch changeover
- LOCK function (key lock)

### Advantage:

- Extra high accuracy

### Delivery:

In case with CR 2450 battery

### Technical data:

- Digit increment: 0.0001 mm
- Data transmission type: multiCOM
- Repeat accuracy: 0.5 µm
- Absolute function: Yes
- Automatic switch-off: Yes
- Rotating housing: Yes
- Preset function: Yes
- IP protection class: IP 42
- Tolerance value entry: Yes
- Reversible counting direction: Yes



Ident. No. 613

Length measuring range (mm)	12.5	25
Error limit (µm)	1.8	2.2
Min./max. measurement force	0.65-0.9 N	0.65-1.15 N
<b>33166...</b>	Ident. No. <b>613</b>	Ident. No. <b>614</b>
	Price/unit, €	Price/unit, €

Prod. Gr. 305

## ATORN® precision pointers (DIN 879)



### Application:

For measuring lengths. Ideal for measuring instruments and flatness and straightness measurements

### Execution:

- Shock resistant
- Precision-guided measuring pin
- Connection for wire lifter
- Pointer fine adjustment
- Adjustable tolerance marks

- Measuring mechanism on ruby bearings
- suitable for internal precision measuring instruments

### Delivery:

in case

### Technical data:

- With free stroke: Yes
- Measurement force: 1 N
- Shaft diameter: 8 mm



Length measuring range (mm)	0.1	0.5	0.1	0.5
Scale value (mm)	0.001	0.01	0.001	0.01
IP protection class	IP 40	IP 40	IP 53	IP 53
<b>33163...</b>	Ident. No. <b>010</b>	Ident. No. <b>015</b>	Ident. No. <b>020</b>	Ident. No. <b>025</b>
	Price/unit, €	Price/unit, €	Price/unit, €	Price/unit, €

Prod. Gr. 3AE



## precision pointers (DIN 879)

### MYTAST

### Application:

For measuring lengths. Ideal for measuring instruments and flatness and straightness measurements

### Execution:

- Shock resistant
- Ball-guided measuring pin
- Connection for wire lifter
- Pointer fine adjustment
- Adjustable tolerance marks

- suitable for internal precision measuring instruments

### Delivery:

in case

### Technical data:

- With free stroke: Yes
- Measurement force: 1 N
- IP protection class: IP 40
- Shaft diameter: 8 mm



No. 33160

Length measuring range (mm)	0.1	0.5
Scale value (mm)	0.001	0.01
<b>33160...</b>	Ident. No. <b>010</b>	-
	Price/unit, €	Price/unit, €
<b>33161...</b>	Ident. No. -	Ident. No. <b>010</b>
	Price/unit, €	Price/unit, €

Prod. Gr. 3EB



## precision pointers (DIN 879)

### Millimes



### Application:

For measuring lengths. Ideal for measuring instruments and flatness and straightness measurements

### Execution:

- Shock resistant
- Ball-guided measuring pin
- Connection for wire lifter
- Pointer fine adjustment
- Adjustable tolerance marks
- Measuring mechanism on ruby bearings

### Delivery:

In a case

### Notes:

Item 33149160 is also required for use in internal precision measuring instruments.

### Technical data:

- With free stroke: Yes
- Measurement force: 1 N
- Shaft diameter: 8 mm



Ident. No. 130



Ident. No. 140



Ident. No. 150

## Dial gauges \ Precision pointers

Length measuring range (mm)		0.1	0.26	0.05
Scale value (mm)		0.001	0.002	0.0005
33163...	Ident. No. Price/unit, €	130	140	150

Prod. Gr. 305

## ATORN® lever gauge probe (DIN 2270)



### Application:

For measuring deviations in concentricity, axial run-out, parallelism and flatness.  
For centring shafts of boreholes and aligning workpieces.

### Execution:

- Metallic outer ring
- Anti-magnetic components
- Automatic switching of callipers direction
- Measuring mechanism on ruby bearings
- 3 dovetail mounting surfaces

### Delivery:

Lever gauge probe, measuring probe with 2 mm diameter cemented carbide ball, 8 mm diameter clamping shaft for mounting on measuring stands, measuring probe wrench with case

### Technical data:

- Connection thread: M1.6
- Ball diameter: 2 mm
- Pivot range of measuring sensor: 240 Degree



Ident. No. 010-020, 050-060



Ident. No. 030-040



Ident. No. 080

	Length measuring range (mm)	Ø (mm)	Scale value (mm)	Length of measuring sensor from centre of ball (mm)	Measurement force (N)	Ident. No. Price/unit, €	
33310...	0.2	32	0.002	12.8	0.15	Ident. No. Price/unit, €	050
33310...	0.2	40	0.002	12.8	0.15	Ident. No. Price/unit, €	060
33310...	0.2	40	0.001	12.8	0.15	Ident. No. Price/unit, €	070
33310...	0.2	58	0.001	12.8	0.15	Ident. No. Price/unit, €	080
33310...	0.5	32	0.01	35.7	0.15	Ident. No. Price/unit, €	030
33310...	0.5	40	0.01	35.7	0.15	Ident. No. Price/unit, €	040
33310...	1	32	0.01	16.6	0.15	Ident. No. Price/unit, €	010
33310...	1	40	0.01	16.6	0.15	Ident. No. Price/unit, €	020

Prod. Gr. 3AE

## ATORN® accessories for lever gauge probes no. 33310

### Application:

**Ident. No. 120-325:** Measuring probe for lever gauge probe no. 33310

**Ident. No. 400:** For changing measuring probes.

**Ident. No. 500:** For clamping in a measuring stand or other holders with 8 mm

diameter.

### Notes:

**Ident. No. 120-325:** Only use replacement measuring probes of the length for which the lever gauge probe is designed.



Ident. No. 120



Ident. No. 125, 225



Ident. No. 220



Ident. No. 320



Ident. No. 325



Ident. No. 400



Ident. No. 500

		Connection thread	Ball Ø (mm)	Length of measuring sensor from centre of ball (mm)	Material	Ident. No. Price/unit, €	
33311...		M1.6	2	12.8	Tungsten Carbide	Ident. No. Price/unit, €	120
33311...		M1.6	2	12.8	Rubin	Ident. No. Price/unit, €	125
33311...		M1.6	2	16.6	Tungsten Carbide	Ident. No. Price/unit, €	220
33311...		M1.6	2	16.6	Rubin	Ident. No. Price/unit, €	225

		Connection thread	Ball Ø (mm)	Length of measuring sensor from centre of ball (mm)	Material		
33311...		M1.6	2	35.7	Tungsten Carbide	Ident. No. Price/unit, €	320 ●
33311...		M1.6	2	35.7	Rubin	Ident. No. Price/unit, €	325 ●
33311...	Gauge slide wrench					Ident. No. Price/unit, €	400 ●
33311...	Clamping shaft Ø 8 mm h6					Ident. No. Price/unit, €	500 ●

Prod. Gr. 3AE

## Mahr lever gauge probe (DIN 2270)

MarTest



### Application:

For measuring deviations in concentricity, axial run-out, parallelism and flatness.  
For centring shafts of boreholes and aligning workpieces.

### Execution:

- Impact-resistant movement
- Dial sealed with O-ring
- Measuring element supported in 8 precious stones
- 3 dovetail mounting surfaces
- Ident. No. 010–120, 310, 320:**
  - Anti-magnetic components
  - Automatic switching of callipers direction

### Ident. No. 305, 315–317:

- anti-magnetic components
- automatic switching of callipers direction
- Measuring probe with ruby ball

### Advantage:

- Resistant to solvents

### Technical data:

- Connection thread: M2
- Ball diameter: 2 mm
- Pivot range of measuring sensor: 220 Degree



Ident. No. 010, 060, 320



Ident. No. 020



Ident. No. 050



Ident. No. 070



Ident. No. 080



Ident. No. 100



Ident. No. 110



Ident. No. 305



Ident. No. 310



Ident. No. 315

	Length measuring range (mm)	Ø (mm)	Scale value (mm)	Length of measuring sensor from centre of ball (mm)	Measurement force (N)		
33303...	0.14	38	0.001	9.15	0.2	Ident. No. Price/unit, €	120 ●
33303...	0.2	28	0.002	14.5	0.15	Ident. No. Price/unit, €	090 ●
33303...	0.2	38	0.002	14.5	0.15	Ident. No. Price/unit, €	100 ●
33303...	0.2	38	0.002	14.5	0.25	Ident. No. Price/unit, €	310 ●
33303...	0.4	38	0.002	14.5	0.15	Ident. No. Price/unit, €	110 ●
33303...	0.5	38	0.01	14.5	0.1	Ident. No. Price/unit, €	050 ○
33303...	0.5	28	0.01	41.3	0.07	Ident. No. Price/unit, €	070 ●
33303...	0.5	38	0.01	41.3	0.07	Ident. No. Price/unit, €	080 ●
33303...	0.8	28	0.01	14.5	0.25	Ident. No. Price/unit, €	320 ●
33303...	0.8	28	0.01	14.5	0.15	Ident. No. Price/unit, €	010 ●
33303...	0.8	38	0.01	14.5	0.15	Ident. No. Price/unit, €	305 ●
33303...	0.8	38	0.01	14.5	0.15	Ident. No. Price/unit, €	020 ●
33303...	0.8	38	0.01	14.5	0.15	Ident. No. Price/unit, €	315 ●
33303...	1	38	0.01	32.3	0.07	Ident. No. Price/unit, €	060 ●
33303...	0.8	38	0.002	14.5	0.15	Ident. No. Price/unit, €	317 ○

Prod. Gr. 305



**TESA** TESAST/SWISSTAST lever gauge probes (DIN 2270)**Application:**

For measuring deviations in concentricity, axial run-out, parallelism and flatness.  
For centring shafts of boreholes and aligning workpieces.

**Execution:**

- Rotating dial
- Anti-magnetic components
- Automatic switching of callipers direction
- Measuring mechanism on ruby bearings
- Housing made from one piece, brushed chromium-plated
- **No. 33346:** Lateral
- **No. 33347-33348:** Perpendicular

**Advantage:**

- 3 dovetail mounting surfaces

**Delivery:**

TESASTAST measuring probe with 2 mm ball diameter, clamping shaft diameter 8 mm, key disc, in plastic case

**Technical data:**

- Connection thread: M1.4
- Ball diameter: 2 mm
- Pivot range of measuring sensor: 240 Degree



No. 33340 100, 33345 100  
With ruby ball



No. 33346  
Lateral



No. 33347-33348  
Perpendicular with centring holder

		Length measuring range (mm)	Ø (mm)	Scale value (mm)	Length of measuring sensor from centre of ball (mm)	Measurement force (N)		
33344...	Chrome-plated ball	0.2	28	0.002	12.5	0.15	Ident. No.	010
33345...	Chrome-plated ball	0.2	38	0.002	12.5	0.15	Price/unit, €	●
33345...	Ruby ball	0.2	38	0.002	12.5	0.15	Ident. No.	010
33345...	Chrome-plated ball	0.2	38	0.001	12.5	0.15	Price/unit, €	●
33346...	chrome-plated ball	0.2	28	0.002	12.5	0.15	Ident. No.	020
33346...	Chrome-plated ball	0.2	38	0.002	12.5	0.15	Price/unit, €	●
33342...	Chrome-plated ball	0.5	28	0.01	36.5	0.15	Ident. No.	010
33342...	Chrome-plated ball	0.5	38	0.01	36.5	0.15	Price/unit, €	●
33343...	Chrome-plated ball	0.5	28	0.01	36.5	0.15	Ident. No.	010
33343...	Chrome-plated ball	0.5	38	0.01	36.5	0.15	Price/unit, €	●
33340...	Chrome-plated ball	0.8	28	0.01	12.5	0.15	Ident. No.	010
33340...	Ruby ball	0.8	28	0.01	12.5	0.15	Price/unit, €	●
33341...	Chrome-plated ball	0.8	38	0.01	12.5	0.15	Ident. No.	100
33341...	chrome-plated ball	0.8	28	0.01	12.5	0.15	Price/unit, €	●
33347...	Chrome-plated ball	0.8	28	0.01	12.5	0.15	Ident. No.	010
33347...	chrome-plated ball	2	38	0.02	36.5	0.15	Price/unit, €	●
33346...	chrome-plated ball	2	38	0.02	36.5	0.15	Ident. No.	050
33346...	chrome-plated ball	2	38	0.02	36.5	0.15	Price/unit, €	●

Prod. Gr. 362

**TESA** Measuring probe  
For TESA TESAST/SWISSTAST lever gauge probes**Application:**

Measuring probes for lever gauge probe TESASTAST and no. 33296.

**Notes:**

Only use replacement measuring probes of the length for which the lever gauge probe is designed.

	Connection thread	Ball Ø (mm)	Length of measuring sensor from centre of ball (mm)	Material		
33350...	M1.4	1	12.5	Tungsten Carbide	Ident. No.	040
33350...	M1.4	2	12.5	Tungsten Carbide	Price/unit, €	●
33350...	M1.4	3	12.5	Tungsten Carbide	Ident. No.	050
33350...	M1.4	2	12.5	Rubin	Price/unit, €	●
33355...	M1.4	1	36.5	Tungsten Carbide	Ident. No.	060
33355...	M1.4	2	36.5	Tungsten Carbide	Price/unit, €	●
33355...	M1.4	3	36.5	Tungsten Carbide	Ident. No.	100
33355...	M1.4	3	36.5	Tungsten Carbide	Price/unit, €	●



Measuring probe

	Connection thread	Ball Ø (mm)	Length of measuring sensor from centre of ball (mm)	Material	Ident. No.	Price/unit, €
33355...	M1.4	2	36.5	Rubin		100

Prod. Gr. 362

## TESA lever gauge probes



### Application:

For measuring deviations in concentricity, axial run-out, parallelism and flatness.  
For centring shafts of boreholes and aligning workpieces.

### Execution:

- Housing with hardened, bolted-on dovetail fixtures
- High sensitivity, low measuring force
- Automatic switching of callipers direction
- Measuring mechanism on ruby bearings

### Advantage:

- Art. no. 33300: Angled dial face, simplified reading
- Mounted using dovetail or shaft Ø 4 mm

### Delivery:

With measuring probe made from hardened steel ball diameter 2 mm, in a case.

### Technical data:

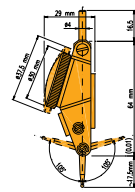
- Connection thread: M1.7
- Ball diameter: 2 mm
- Pivot range of measuring sensor: 210 Degree



No. 33300 010-33301 010  
Standard model



No. 33301 020  
Vertical model



No. 33300 020

	Length measuring range (mm)	Ø (mm)	Scale value (mm)	Length of measuring sensor from centre of ball (mm)	Measurement force (N)	Ident. No.	Price/unit, €
33300...	1.6	37.5	0.01	16.5	0.12	010	•
33300...	1.6	30	0.01	16.5	0.12	020	•
33300...	0.4	37.5	0.002	15.2	0.25	030	•
33300...	0.4	30	0.002	15.2	0.25	040	•
33301...	1.6	37.5	0.01	16.5	0.12	010	•
33301...	1.6	30	0.01	16.5	0.12	020	•

Prod. Gr. 362

## ATORN® electronic lever gauge probe



### Application:

For measuring deviations in concentricity, axial run-out, parallelism and flatness.  
For centring shafts of boreholes and aligning workpieces.

### Execution:

- Combined scale and digital display
- Rotating display unit
- Auto off
- Compatible with all TESATAST accessories
- Zero setting at any position
- mm/inch switch-over

- Digit increment reversible (0.001/0.01 mm)

### Advantage:

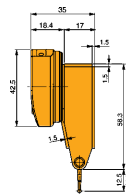
- 3 dovetail mounting surfaces

### Delivery:

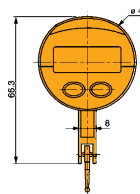
Clamping shank 8 mm diameter and key disc for measuring probe, in plastic case.

### Technical data:

- Ball diameter: 2 mm
- Pivot range of measuring sensor: 270 Degree



Ident. No. 010



Ident. No. 010



p. 1050

	Length measuring range (mm)	Ø (mm)	Scale value (mm)	Length of measuring sensor from centre of ball (mm)	Measurement force (N)	Ident. No.	Price/unit, €
33296...	0.8	44	0.001	12.5	0.13	010	•

## Dial gauges \ Lever gauge probes

	Length measuring range (mm)	Ø (mm)	Scale value (mm)	Length of measuring sensor from centre of ball (mm)	Measurement force (N)	Ident. No. Price/unit, €	
<b>33296...</b>	0.5	44	0.001	36.5	0.07		<b>020</b>

Prod. Gr. 303

### accessories for lever gauge probes for TESA TESAST/SWISSTAST lever gauges



No. 33349



No. 33351  
Clamping shafts



No. 33363



No. 33364



No. 33366



No. 33367



No. 33368

<b>ORION</b>	<b>33349...</b>	Centring bracket for lever gauge probe	Ident. No. Price/unit, €	<b>010</b>
<b>TESA</b>	<b>33351...</b>	Cylindrical clamping shaft Ø 4 mm	Ident. No. Price/unit, €	<b>010</b>
<b>TESA</b>	<b>33351...</b>	Cylindrical clamping shaft Ø 8 mm	Ident. No. Price/unit, €	<b>020</b>
<b>TESA</b>	<b>33352...</b>	Plexiglas containers for probes	Ident. No. Price/unit, €	<b>010</b>
<b>TESA</b>	<b>33353...</b>	Key disc	Ident. No. Price/unit, €	<b>010</b>
<b>TESA</b>	<b>33363...</b>	Clamp holder, Ø 5.6 and 9.5 mm	Ident. No. Price/unit, €	<b>010</b>
<b>TESA</b>	<b>33364...</b>	Cylindrical clamping shaft	Ident. No. Price/unit, €	<b>010</b>
<b>TESA</b>	<b>33366...</b>	Holder, small, swivelling, with cyl. clamping shaft, length 25 mm	Ident. No. Price/unit, €	<b>010</b>
<b>TESA</b>	<b>33367...</b>	Holder, large, swivelling, with cyl. clamping shaft, length 90 mm	Ident. No. Price/unit, €	<b>010</b>
<b>TESA</b>	<b>33368...</b>	Angle bracket with cyl. shaft, length 25 mm	Ident. No. Price/unit, €	<b>010</b>

ORION = Prod. Gr. 3BK

TESA = Prod. Gr. 362

### Depth measuring instruments with specialist dial gauge

#### Application:

For measuring hole depths, clearances etc.

#### Delivery:

In a case

#### Execution:

- Brushed chromium-plated measuring bridge
- Hardened and lapped support surface
- Flatness tolerance 0.004 mm
- Replaceable gauge slide with collet chuck for perfect clamping of special dial gauge

#### Technical data:

- Scale value: 0.01 mm
- Outer diameter: 58 mm
- Bridge length: 80 mm
- Bridge width: 16 mm
- Measurement force: 1 N

Length measuring range (mm)		10	30
<b>33601...</b>	Ident. No. Price/unit, €	<b>015</b>	-
<b>33602...</b>	Ident. No. Price/unit, €	-	<b>015</b>

Prod. Gr. 331



No. 33601

### Depth measuring bridge For dial gauges with diameter 8 h6

#### Application:

For placing on the workpiece being measured as a base for a dial gauge.

#### Execution:

- Brushed chromium-plated
- Support surface hardened, ground and lapped
- For dial gauges with shaft diameter 8 h6

Length (mm)	50	80	100	150
Width (mm)	16	16	16	20
Flatness tolerance (mm)	0.004	0.004	0.004	0.006
<b>33600...</b>	Ident. No. Price/unit, €	<b>080</b>	<b>100</b>	<b>150</b>

Prod. Gr. 331



Depth measuring bridge  
With prismatic 120° support for diameter 8 h6

**Application:**  
For measuring the depths of keyways in cylindrical shafts, for determining roundness deviations using dial gauges.

**Execution:**  
▪ Brushed chromium-plated

- For shaft diameters 10–100 mm
- Support surface hardened, ground and lapped
- For dial gauges with shaft diameter 8 h6

**Technical data:**  
▪ Length: 66 mm



33607...

Ident. No.	020
Price/unit, €	●

Prod. Gr. 331

