

Precision Dial Gauges

Käfer



Your partner for highest precision.

Käfer Messuhrenfabrik – since 1932 The specialist in Dial Gauges



We offer a broad manufacturing programme of more than 1000 standard versions of

- Dial Gauges
- Dial Test Indicators
- Comparator Gauges
- Thickness Gauges
- Depth Gauges
- Special Measuring Instruments

The most important European manufacturer of Dial Gauges. Our Headquarters and main plant is located at Villingen-Schwenningen, Germany. There is a branch at Shanghai, China.

Our long standing experience of more than 80 years makes us the right address for you whenever you need a Dial Gauge.



We have good production capabilities for Gauges and Contact points in special design to customers' drawings.

- Wide production range with main expertise in parts with gear teeth
- Use of up-to-date machines and equipment
- Use of accurate and high quality components and materials
- Own rmb design department
- Certified to DIN EN ISO 9001:2008

Käfer reserves the right to modify or change the design of products shown in this catalogue, without notice. The right includes also changes in specifications.

Edition 2018

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For a survey of icons please refer to the back flap!

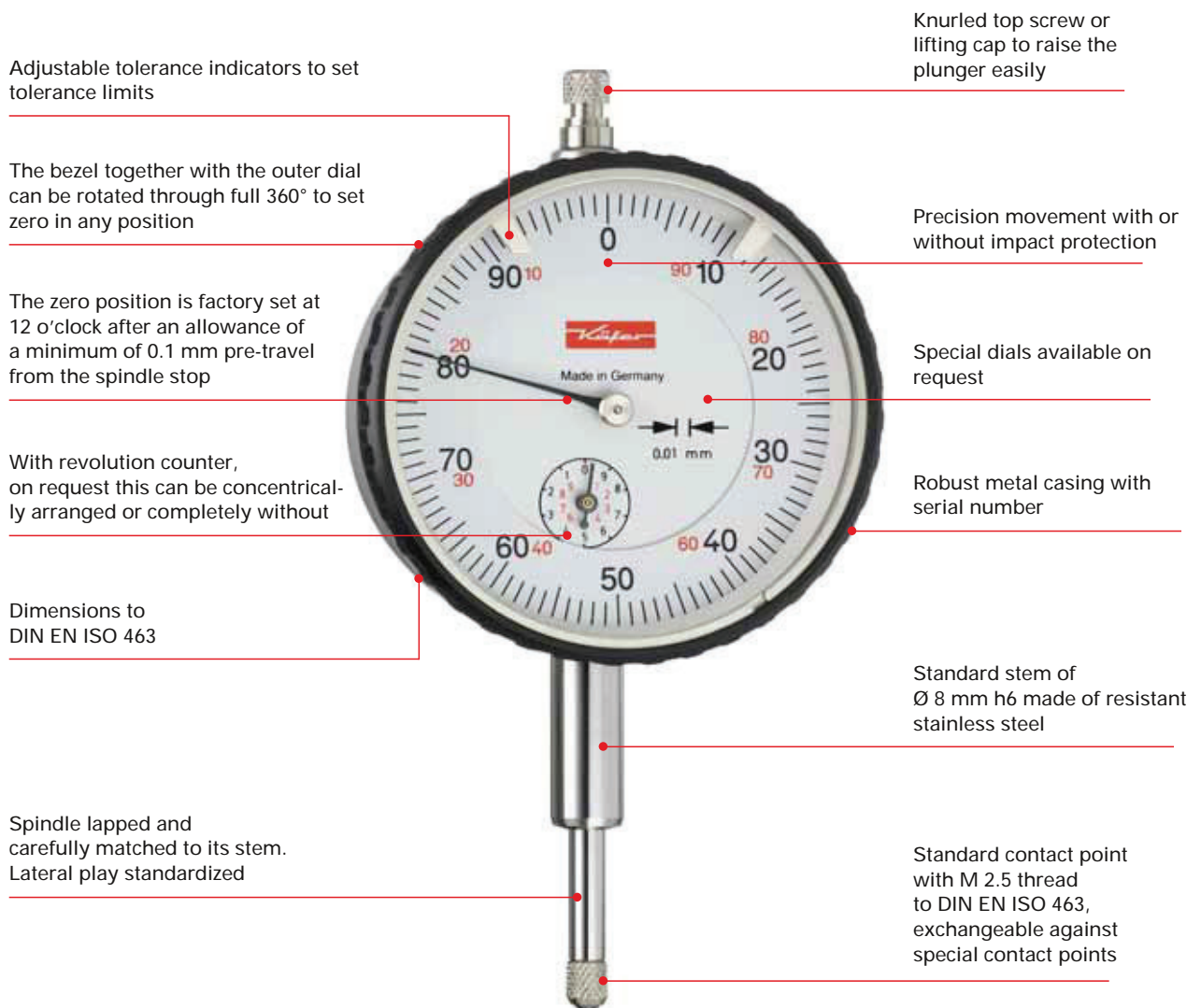


Precision Dial Gauges

The well thought-out design, accurate components and robust construction of our Precision Dial Gauge series offer reliability, durability and long working life. The standard features that enhance the quality across our entire product range are:

- Calibrations of all Dial Gauges are traceable to national and international standards.
- The final quality control for the whole series includes visual inspection and full mechanical functions' tests.
- Supplied with Declaration of Conformity and Confirmation of Traceability.
- Materials and components selected specifically to ensure a long working life.

Technical Benefits of our metric Precision Dial Gauges



Precision Dial Gauges



Specifications of the Technical Data of Metric Dial Gauges

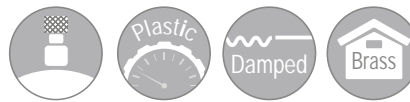
Page	Model	Reading	Range per revolution	Range	Bezel-Ø	Special Feature
42	KM 5 a	0.1 mm	5 mm	5 mm	40 mm	Back Plunger
42	KM 10 a	0.1 mm	10 mm	10 mm	40 mm	
–	KM 5 a R	0.1 mm	5 mm	5 mm	40 mm	
43	M 10 a	0.1 mm	10 mm	10 mm	58 mm	
43	M 10 b	0.1 mm	10 mm	20 mm	58 mm	
44	M 10 c	0.1 mm	10 mm	30 mm	58 mm	
44	M 10 d	0.1 mm	10 mm	50 mm	58 mm	
–	M 10/5 R	0.1 mm	5 mm	5 mm	58 mm	Back Plunger Error Free
–	SI-9/0.1	0.1 mm	–	8 mm	58 mm	
–	GM 10/80	0.1 mm	10 mm	20 mm	80 mm	
–	GM 10/100	0.1 mm	10 mm	10 mm	100 mm	
24	MU 28	0.01 mm	0.5 mm	3.5 mm	28 mm	
24	KM 6 T	0.01 mm	0.5 mm	3 mm	32 mm	
25	KM 4 T	0.01 mm	0.5 mm	3 mm	40 mm	Shockproof Shockproof Shockproof
–	KM 4 T – 100	0.01 mm	1.0 mm	3 mm	40 mm	
27	KM 4 TOP	0.01 mm	0.5 mm	3 mm	40 mm	
30	KM 4 S	0.01 mm	0.5 mm	3 mm	40 mm	
–	KM 4 S – 100	0.01 mm	1.0 mm	3 mm	40 mm	
–	KM 4 TOP ,S'	0.01 mm	0.5 mm	3 mm	40 mm	Concentric Hands
26	KM 4/5 T	0.01 mm	0.5 mm	5 mm	40 mm	
29	KM 4/5 T – 100	0.01 mm	1.0 mm	5 mm	40 mm	
28	KMU 4/5 TK – 100	0.01 mm	1.0 mm	5 mm	40 mm	
–	KM 4/5 TOP	0.01 mm	0.5 mm	5 mm	40 mm	
31	KM 4/5 S	0.01 mm	0.5 mm	5 mm	40 mm	Shockproof Shockproof Shockproof
–	KM 4/5 S – 100	0.01 mm	1.0 mm	5 mm	40 mm	
27	KM 4/5 TOP ,S'	0.01 mm	0.5 mm	5 mm	40 mm	
29	KM 4/10 TK – 100	0.01 mm	1.0 mm	10 mm	40 mm	Concentric Hands
45	KM 4 R	0.01 mm	0.5 mm	3 mm	40 mm	Back Plunger Back Plunger
45	KM 4/5 R	0.01 mm	0.5 mm	5 mm	40 mm	
48	SI-45	0.01 mm	–	0.4 mm	40 mm	Error Free
–	SI-45 W	0.01 mm	–	0.4 mm	44.5 mm	Error Free, Waterproof
48	SI-45/0.8	0.01 mm	–	0.8 mm	40 mm	Error Free
54	KM 4 SW	0.01 mm	0.5 mm	3 mm	44.5 mm	Waterproof
54	KM 4/5 SW	0.01 mm	0.5 mm	5 mm	44.5 mm	Waterproof
–	KM 4 S wa	0.01 mm	0.5 mm	3 mm	41 mm	Water Protected
104	KM 4 T Magnet	0.01 mm	0.5 mm	3 mm	40 mm	Magnetic Back
7	M 2 T	0.01 mm	1 mm	10 mm	58 mm	Concentric Hands Special Transmission Ratio, Two Stems
8	M 2 TK	0.01 mm	1 mm	10 mm	58 mm	
9	M 2 T with special fittings	0.01/0.02 mm	1/2 mm	10 mm	58 mm	
10	M 2 TOP	0.01 mm	1 mm	10 mm	58 mm	
11	M 2 X	0.01 mm	1 mm	10 mm	58 mm	
12	MU 52 T	0.01 mm	1 mm	10 mm	58 mm	Fine adjustment of the hand, Shockproof Shockproof Shockproof Shockproof Shockproof
14	M 2 S	0.01 mm	1 mm	10 mm	58 mm	
13	M 2 SN	0.01 mm	1 mm	10 mm	58 mm	
15	M 2 TOP ,S'	0.01 mm	1 mm	10 mm	58 mm	
15	M 2 XS	0.01 mm	1 mm	10 mm	58 mm	
12	MU 52 ST	0.01 mm	1 mm	10 mm	58 mm	
16	M 3 T	0.01 mm	0.5 mm	5 mm	58 mm	
16	M 3 S	0.01 mm	0.5 mm	5 mm	58 mm	Shockproof
17	M 2/20 T	0.01 mm	1 mm	20 mm	58 mm	Shockproof Compact Size Compact Size, Shockproof
17	M 2/20 S	0.01 mm	1 mm	20 mm	58 mm	
17	M 2/25 T	0.01 mm	1 mm	25 mm	58 mm	
17	M 2/25 S	0.01 mm	1 mm	25 mm	58 mm	Shockproof
18	M 2/30 T	0.01 mm	1 mm	30 mm	58 mm	
19	M 2/30 S	0.01 mm	1 mm	30 mm	58 mm	
20	MU 2/30 T	0.01 mm	1 mm	30 mm	58 mm	Shockproof
20	MU 2/30 S	0.01 mm	1 mm	30 mm	58 mm	
21	M 2/50 T	0.01 mm	1 mm	50 mm	58 mm	
21	M 2/50 S	0.01 mm	1 mm	50 mm	58 mm	Shockproof
22	M 2/80 T	0.01 mm	1 mm	80 mm	58 mm	
22	M 2/80 S	0.01 mm	1 mm	80 mm	58 mm	
–	M 2/100 T	0.01 mm	1 mm	100 mm	58 mm	Shockproof Stem dia. 10 mm

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Precision Dial Gauges

Specifications of the Technical Data of Metric Dial Gauges

Page	Model	Reading	Range per revolution	Range	Bezel-Ø	Special Feature
46	M 2 R	0.01 mm	1 mm	3 mm	58 mm	Back Plunger
46	M 2/5 R	0.01 mm	1 mm	5 mm	58 mm	Back Plunger
56	M 2 RW	0.01 mm	1 mm	3 mm	58 mm	Back Plunger, Waterproof
49	SI-90	0.01 mm	–	0.8 mm	58 mm	Error Free
–	SI-90 X	0.01 mm	–	0.8 mm	58 mm	Error Free
51	MU 52 ST – SI	0.01 mm	–	0.8 mm	58 mm	Error Free
–	SI-90 R	0.01 mm	–	0.8 mm	58 mm	Error Free, Back Plunger
57	SI-90 W	0.01 mm	–	0.8 mm	61.5 mm	Error Free, Waterproof
50	SI-100	0.01 mm	–	1 mm	58 mm	Error Free
49	SI-18	0.01 mm	–	1.6 mm	58 mm	Error Free
55	M 2 SW	0.01 mm	1 mm	10 mm	61.5 mm	Waterproof
56	M 2/30 SW	0.01 mm	1 mm	30 mm	61.5 mm	Waterproof
60	M 2 S wa	0.01 mm	1 mm	10 mm	58 mm	Water Protected
104	M 2 T Magnet	0.01 mm	1 mm	10 mm	58 mm	Magnetic Back
–	M 2 T Antimagnet	0.01 mm	1 mm	10 mm	58 mm	Antimagnetic
32	GM 80 T	0.01 mm	1 mm	10 mm	80 mm	Shockproof
32	GM 80 S	0.01 mm	1 mm	10 mm	80 mm	
–	GM 80/30 T	0.01 mm	1 mm	30 mm	80 mm	
–	GM 80/50 T	0.01 mm	1 mm	50 mm	80 mm	
23	GM 80/100 T	0.01 mm	1 mm	100 mm	80 mm	Stem dia. 10 mm Waterproof
58	GM 80 SW	0.01 mm	1 mm	10 mm	80 mm	
32	GM 100 T	0.01 mm	1 mm	10 mm	100 mm	Shockproof
32	GM 100 S	0.01 mm	1 mm	10 mm	100 mm	
–	GM 100/30 T	0.01 mm	1 mm	30 mm	100 mm	
–	GM 100/50 T	0.01 mm	1 mm	50 mm	100 mm	
16	M 3 a T	0.005 mm	0.5 mm	5 mm	58 mm	Shockproof Error Free
16	M 3 a S	0.005 mm	0.5 mm	5 mm	58 mm	
–	M 3 a SI	0.005 mm	–	0.4 mm	58 mm	
–	KM 500 T	0.002 mm	0.2 mm	1 mm	40 mm	Shockproof Shockproof Back Plunger Error Free Waterproof
34	KM 500 S	0.002 mm	0.2 mm	1 mm	40 mm	
–	KM 500/3 S	0.002 mm	0.2 mm	3 mm	40 mm	
–	KM 500 R	0.002 mm	0.2 mm	1 mm	40 mm	
–	KM 500 SI	0.002 mm	–	0.16 mm	40 mm	
–	KM 500 SW	0.002 mm	0.2 mm	1 mm	44.5 mm	
35	FM 500 T	0.002 mm	0.2 mm	1 mm	58 mm	Back Plunger Error Free
–	FM 500 R	0.002 mm	0.2 mm	1 mm	58 mm	
–	FM 500 SI	0.002 mm	–	0.16 mm	58 mm	
–	KM 1000 T	0.001 mm	0.2 mm	1 mm	40 mm	Shockproof Shockproof, extra accurate
–	KM 1000 S	0.001 mm	0.2 mm	1 mm	40 mm	
39	Feinika KM 1101	0.001 mm	0.1 mm	1 mm	40 mm	
–	KM 1000/3 T	0.001 mm	0.2 mm	3 mm	40 mm	Shockproof
–	KM 1000/3 S	0.001 mm	0.2 mm	3 mm	40 mm	
–	KM 1000/5 T	0.001 mm	0.2 mm	5 mm	40 mm	
–	KM 1000/5 S	0.001 mm	0.2 mm	5 mm	40 mm	Shockproof Back Plunger Error Free
–	KM 1000 R	0.001 mm	0.2 mm	1 mm	40 mm	
52	Feinika SI-914	0.001 mm	–	0.08 mm	40 mm	
–	Feinika SI-910	0.001 mm	–	0.10 mm	40 mm	Error Free Error Free Water Protected
–	KM 1000 SI	0.001 mm	–	0.16 mm	40 mm	
–	KM 1000 S wa	0.001 mm	0.2 mm	1 mm	40 mm	
–	Feinika KM 1101 W	0.001 mm	0.1 mm	1 mm	44.5 mm	Waterproof
35	FM 1000 T	0.001 mm	0.2 mm	1 mm	58 mm	Shockproof Shockproof, extra accurate
–	FM 1000 S	0.001 mm	0.2 mm	1 mm	58 mm	
40	Feinika FM 1101	0.001 mm	0.1 mm	1 mm	58 mm	
37	FM 1000/5 T	0.001 mm	0.2 mm	5 mm	58 mm	Shockproof Back Plunger Error Free
36	FM 1000/5 S	0.001 mm	0.2 mm	5 mm	58 mm	
–	FM 1000 R	0.001 mm	0.2 mm	1 mm	58 mm	
52	Feinika SI-915	0.001 mm	–	0.08 mm	58 mm	Error Free Error Free Error Free
–	Feinika SI-916	0.001 mm	–	0.10 mm	58 mm	
–	Feinika SI-918	0.001 mm	–	0.16 mm	58 mm	
–	SI-180	0.001 mm	–	0.16 mm	58 mm	Error Free Water Protected
–	FM 1000 S wa	0.001 mm	0.2 mm	1 mm	58 mm	
59	FM 1000 SW	0.001 mm	0.2 mm	1 mm	61.5 mm	
–	Feinika FM 1101 W	0.001 mm	0.1 mm	1 mm	61.5 mm	Waterproof Water Protected Waterproof
–	FM 1000/5 S wa	0.001 mm	0.2 mm	5 mm	58 mm	
59	FM 1000/5 SW	0.001 mm	0.2 mm	5 mm	61.5 mm	
–	FM 1000/80 T	0.001 mm	0.2 mm	1 mm	80 mm	Shockproof
–	FM 1000/80 S	0.001 mm	0.2 mm	1 mm	80 mm	
–	FM 1000/80-5 T	0.001 mm	0.2 mm	5 mm	80 mm	
–	FM 1000/80-5 S	0.001 mm	0.2 mm	5 mm	80 mm	Shockproof



Dial Gauge M 2 T

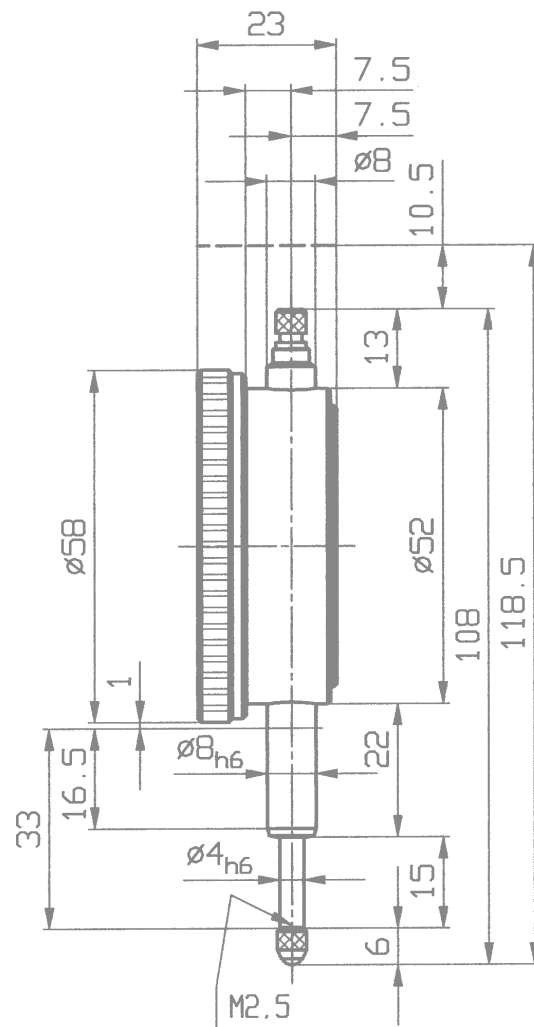
A well thought-out design, the use of high-quality components and materials as well as the precision engineered mechanism guarantee the outstanding quality of the Precision Dial Gauge M 2 T.

All details of this Dial Gauge conform to DIN 878 in conjunction with DIN EN ISO 463. This applies not only to the outside dimensions but also to allowed tolerances, the measuring force and the measuring force reversal range.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

Precision Dial Gauge M 2 T

Reading	0.01 mm
Range	10 mm
Range per revolution	1 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463 / DIN 878	
Initial measuring force	0.7 N ± 20%
Dimensioned drawing	page 7
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Model M 1 T is a Dial Gauge with the same technical data but with only one large hand and no revolution counter.

Special fittings:





Dial Gauge M 2 TK

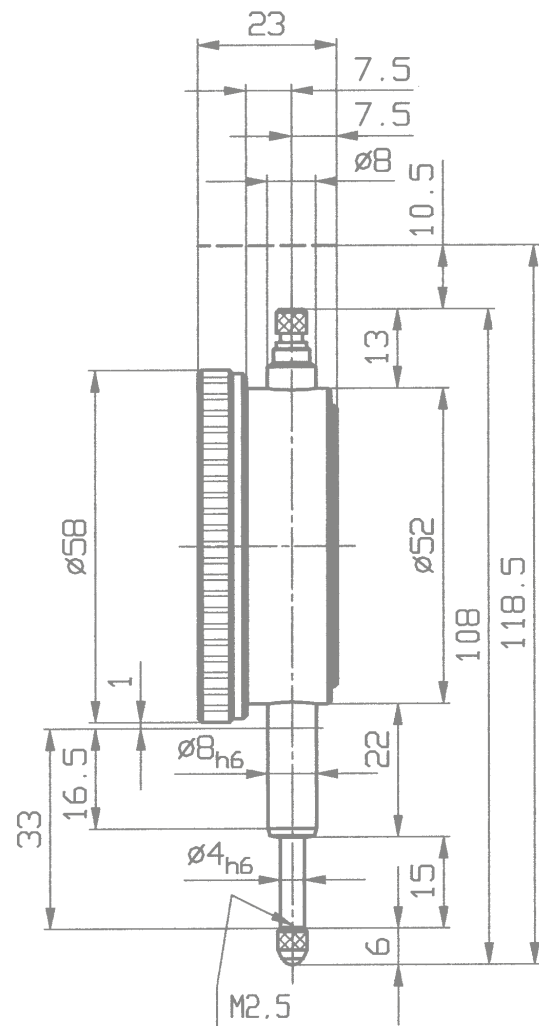
The technical features of Dial Gauge M 2 TK are the same as for model M 2 T.

Both pointers are concentrically arranged on the Dial Gauge M 2 TK. This allows particularly clear reading.

On request this Dial Gauge can also be supplied in a shockproof version.

Precision Dial Gauge M 2 TK

Reading	0.01 mm
Range	10 mm
Range per revolution	1 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463 / DIN 878	
Initial measuring force	0.7 N ± 20%
Dimensioned drawing	page 8
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Special fittings:





Dial Gauge M 2 T

with special fittings

Käfer

Precision Dial Gauge M 2 T with range per revolution = 2 mm	
Reading	0.02 mm
Range	10 mm
Range per revolution	2 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463/DIN 878	
Initial measuring force	0.7 N ± 20%
Dimensioned drawing	page 7

Precision Dial Gauge M 2 T with two stems: top and bottom	
Reading	0.01 mm
Range	10 mm
Range per revolution	1 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463 / DIN 878	
Initial measuring force	0.7 N ± 20%
Dimensioned drawing	on request



Model shown: M 2 T with two stems

On request other Dial Gauges from our manufacturing programme are available with special transmission ratio or with two stems. Please request our offers.

Special fittings:





Dial Gauge M 2 TOP

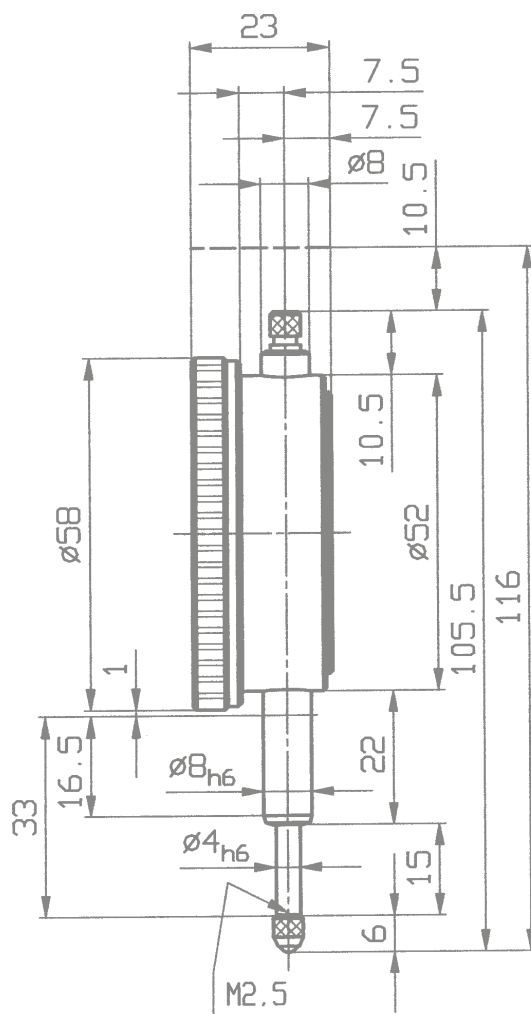
New technological production methods enable us to market it at an astonishingly low price.

All details of this Dial Gauge conform to DIN 878 in conjunction with DIN EN ISO 463. This applies not only to the dimensions but also to allowed tolerances.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

Precision Dial Gauge M 2 TOP

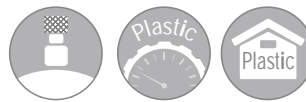
Reading	0.01 mm
Range	10 mm
Range per revolution	1 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463 / DIN 878	
Initial measuring force	0.7 N ± 20%
Dimensioned drawing	page 10
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Special fittings:

10





Dial Gauge M 2 X

Kaefer

Enabled by the use of a polyamide quality injection-moulded casing we can offer the Dial Gauge M 2 X having very low weight.

The successful design of the M 2 X Dial Gauge offers high precision at a low price.

All details of this Dial Gauge conform to DIN 878 in conjunction with DIN EN ISO 463. This applies not only to the dimensions but also to allowed tolerances.

Spindle and stem are made of stainless steel. The spindle is lapped.

Precision Dial Gauge M 2 X

Reading	0.01 mm
Range	10 mm
Range per revolution	1 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463 / DIN 878	
Initial measuring force	0.8 N ± 20%
Dimensioned drawing	page 15
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Thanks to an appropriate combination of quality injection-moulded parts and standard metal parts, we were able to create a new design of Dial Gauges.

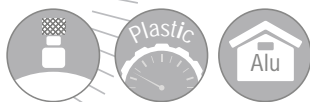
The metal gear elements are inserted by simple means into two injection moulded parts. This substitutes for the conventional mechanism.

This nearly 25 year old design, in the past protected by German Federal Patent, has proved itself on the market.

Despite several improvements the basic concept has remained unchanged. Series 'X' Dial Gauges have become a trademark of our competence in the manufacture of Dial Gauges.

Special fittings:





Dial Gauge MU 52 T



Dial Gauge MU 52 ST

shockproof

Our Dial Gauge Series MU 52 has been designed and manufactured by Käfer Dial Gauges Shanghai. The racks and pinions – the key parts for the accuracy of Dial Gauges – are however supplied by Käfer Germany. All Dial Gauges are checked for their accuracy on a Feinmess Suhl automatic Dial Gauge Measuring Machine.

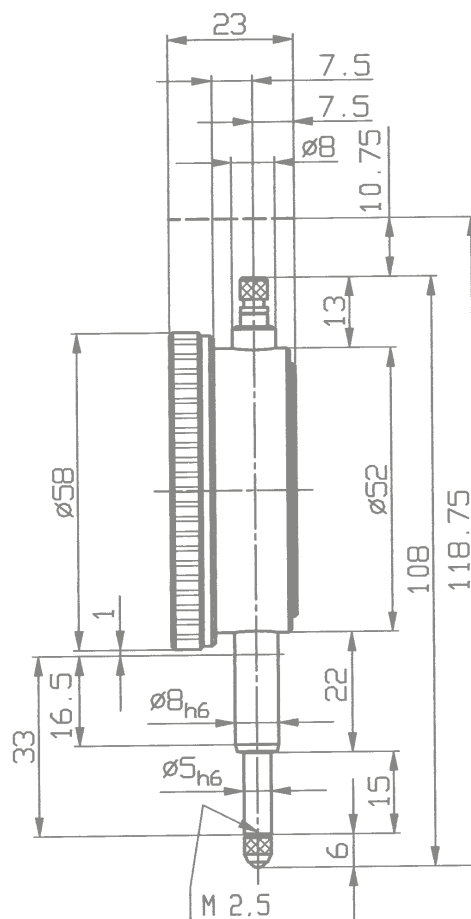
All details of these Dial Gauges conform to DIN EN ISO 463 / DIN 878. Except for the shockproof system all technical features of the Dial Gauge MU 52 ST are the same as for the MU 52 T Dial Gauge. Effective impact protection protects the Dial Gauge MU 52 ST even from hard impacts on the spindle, thereby reducing the risk of damage of the teeth.

Precision Dial Gauge MU 52 T	
Reading	0.01 mm
Range	10 mm
Range per revolution	1 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463 / DIN 878	
Initial measuring force	0.7 N ± 20%
Dimensioned drawing	page 12
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de

Precision Dial Gauge MU 52 ST shockproof	
Reading	0.01 mm
Range	10 mm
Range per revolution	1 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463 / DIN 878	
Initial measuring force	0.7 N ± 20%
Dimensioned drawing	page 12
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Model shown: MU 52 T



Special fittings:





Dial Gauge M 2 SN

shockproof

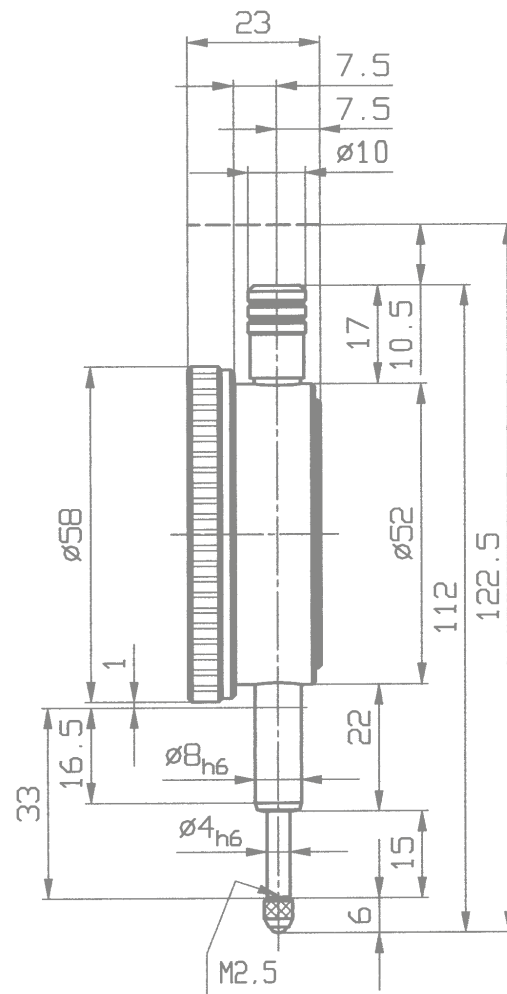
With this shockproof series, a product of our extensive design expertise, we offer an accurate, reliable and long-lasting Dial Gauge.

A gear rack sleeve covering the length of the spindle is arranged and sprung in such a way that the shocks against the measuring insert are not transferred to the gauge movement. The Dial Gauge is robust in operation. Its precision is maintained with practically no limitations.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

Precision Dial Gauge M 2 SN shockproof

Reading	0.01 mm
Range	10 mm
Range per revolution	1 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / DIN 878
Initial measuring force	on request
Dimensioned drawing	page 13
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Special fittings:





Dial Gauge M 2 S

with fine adjustment of the pointer, shockproof

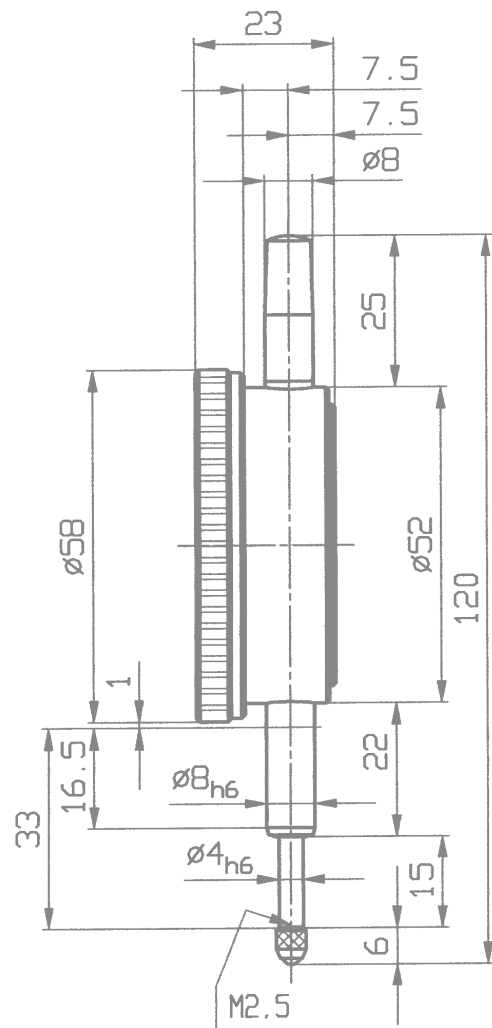
The technical features of Dial Gauge M 2 S are the same as for model M 2 SN.

As additional feature this Dial Gauge offers fine adjustment of the pointer. By simply moving the knurled screw at the top of the Dial Gauge the large hand can be set to the required position and without turning the bezel and the outer dial the Dial Gauge can be easily zeroed.

Removal of the black protective sleeve allows access to the knurled screw.

Precision Dial Gauge M 2 S shockproof

Reading	0.01 mm
Range	10 mm
Range per revolution	1 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463 / DIN 878	
Initial measuring force	on request
Dimensioned drawing	page 14
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Special fittings:

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Dial Gauge M 2 TOP ,S'

shockproof

Except for the additional shockproof system all technical features of the Dial Gauge M 2 TOP ,S' are the same as for the M 2 TOP Dial Gauge on page 10 of this catalogue. Effective impact protection protects the Dial Gauge M 2 TOP ,S' even from hard impacts on the spindle, thereby reducing the risk of damage to the teeth.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

Precision Dial Gauge M 2 TOP ,S' shockproof	
Reading	0.01 mm
Range	10 mm
Range per revolution	1 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463 / DIN 878	
Initial measuring force	0.8 N ± 20%
Dimensioned drawing	page 10
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Special fittings:



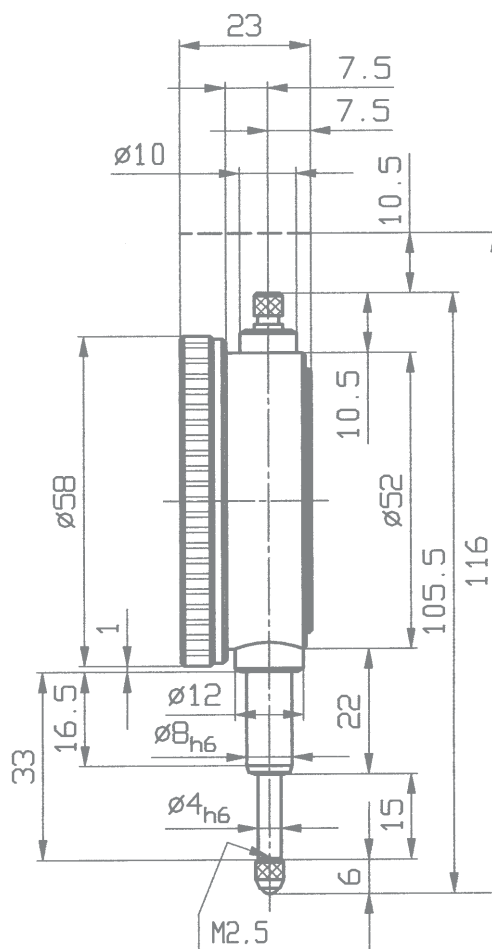
Dial Gauge M 2 XS

shockproof

The Dial Gauge M 2 XS is another shockproof version. Its additional technical data are the same as for model M 2 X on page 11 of this catalogue.

All details of this Dial Gauge conform to DIN 878 in conjunction with DIN EN ISO 463. This applies not only to the dimensions but also to allowed tolerances. Spindle and stem are made of resistant stainless steel. The spindle is lapped.

Precision Dial Gauge M 2 XS shockproof	
Reading	0.01 mm
Range	10 mm
Range per revolution	1 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463 / DIN 878	
Initial measuring force	0.8 N ± 20%
Dimensioned drawing	page 15
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de





Dial Gauge M 3 S

shockproof

Due to their effective shockproof system these Dial Gauges have an exceptionally long service life. A gear rack sleeve covering the length of the spindle is arranged and sprung in such a way that shocks against the measuring insert are not transferred to the movement. The Dial Gauges are robust in operation. Their precision is maintained with practically no limitations.

Our models M 3 T and M 3 a T have exactly the same technical data, but are not shockproof.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

Precision Dial Gauge M 3 S shockproof	
Reading	0.01 mm
Range	5 mm
Range per revolution	0.5 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463 / DIN 878	
Initial measuring force	on request
Dimensioned drawing	same as FM 1000/5 S on page 36
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Dial Gauge M 3 a S

shockproof

Precision Dial Gauge M 3 a S shockproof	
Reading	0.005 mm
Range	5 mm
Range per revolution	0.5 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463 / DIN 878	
Initial measuring force	on request
Dimensioned drawing	same as FM 1000/5 S on page 36
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de

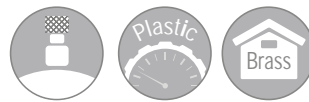


Special fittings:

16



Same fittings for
M 3 S | M 3 a S



Dial Gauge M 2/20 T

Dial Gauge M 2/25 T



The concentric millimetre pointer allows easy and safe reading of these Dial Gauges.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

Our models M 2/20 S and M 2/25 S have exactly the same technical data, but are shockproof.

Precision Dial Gauge M 2/20 T	
Reading	0.01 mm
Range	20 mm
Range per revolution	1 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 1.0200.9.0014
Initial measuring force	0.8 N ± 20%
Dimensioned drawing	on request
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de

Precision Dial Gauge M 2/25 T	
Reading	0.01 mm
Range	25 mm
Range per revolution	1 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 1.0200.9.0014
Initial measuring force	0.8 N ± 20%
Dimensioned drawing	on request
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Special fittings:



Same fittings for
M 2/20 T | M 2/25 T



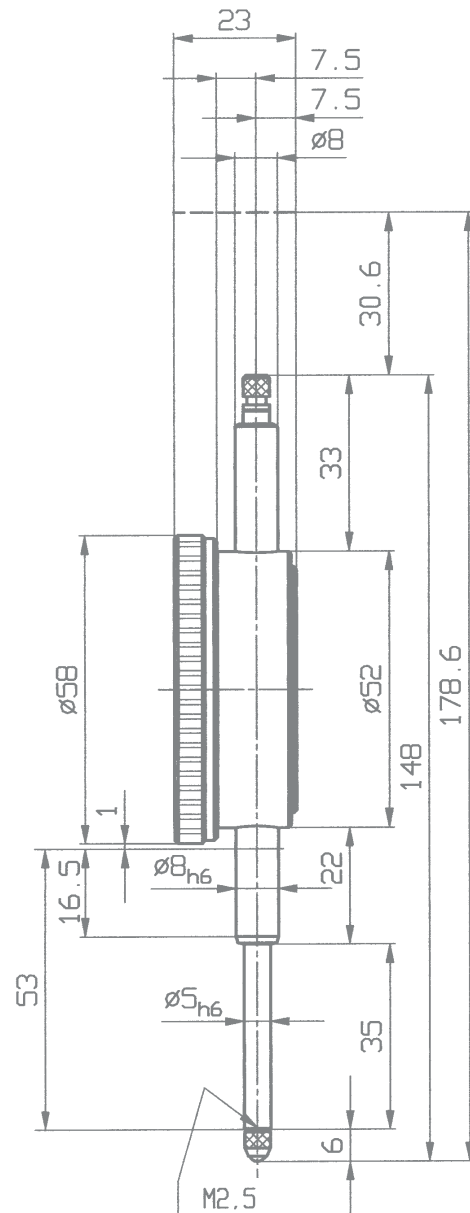
Dial Gauge M 2/30 T

The concentric millimetre pointer allows easy and safe reading of this Dial Gauge. The carefully thought-out design, the use of selected components and materials as well as the movement perfected by precision engineering guarantee reliable measuring results and a long service life of the Precision Dial Gauge M 2/30 T. The essential parts of the movement are jewelled.

Spindle and stem are made of resistant stainless steel.

Precision Dial Gauge M 2/30 T

Reading	0.01 mm
Range	30 mm
Range per revolution	1 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 1.0200.9.0014
Initial measuring force	0.8 N ± 20%
Dimensioned drawing	page 18
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Special fittings:





Dial Gauge M 2/30 S

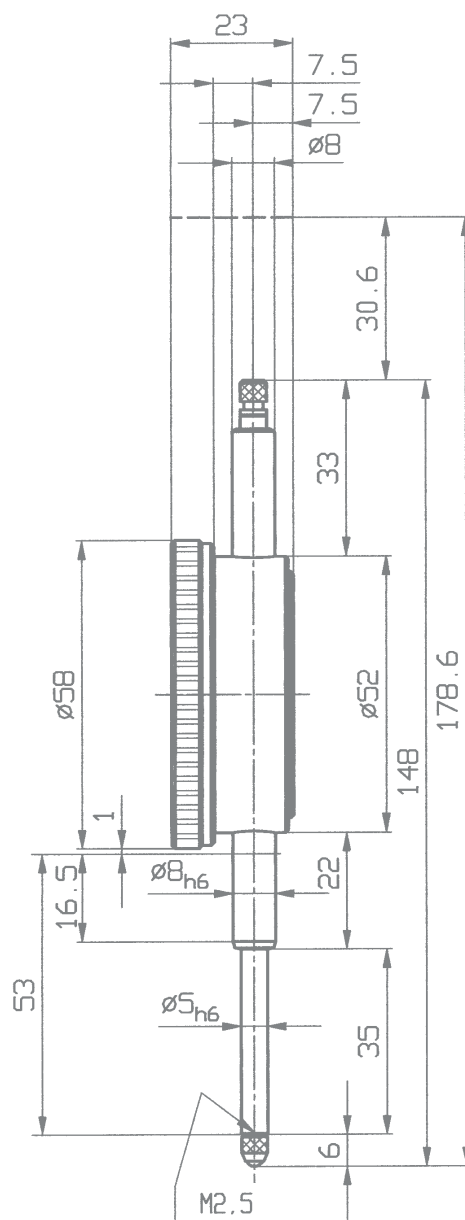
shockproof

Except for the additional shockproof system all technical features of the Dial Gauge M 2/30 S are the same as for the M 2/30 T Dial Gauge on page 18 of this catalogue. Effective impact protection protects the Dial Gauge M 2/30 S even from hard impacts on the spindle, thereby reducing the risk of damage to the teeth.

Spindle and stem are made of resistant stainless steel.

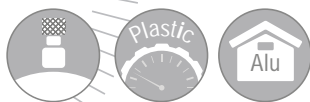
Precision Dial Gauge M 2/30 S shockproof

Reading	0.01 mm
Range	30 mm
Range per revolution	1 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 1.0200.9.0014
Initial measuring force	0.8 N ± 20%
Dimensioned drawing	page 19
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Special fittings:





Dial Gauge MU 52/30 T



Dial Gauge MU 52/30 ST

shockproof

Our Dial Gauge Series MU 52 has been designed and manufactured by Käfer Dial Gauges Shanghai. The racks and pinions – the key parts for the accuracy of Dial Gauges – are however supplied by Käfer Germany. All Dial Gauges are checked for their accuracy on a Feinmess Suhl automatic Dial Gauge Measuring Machine.

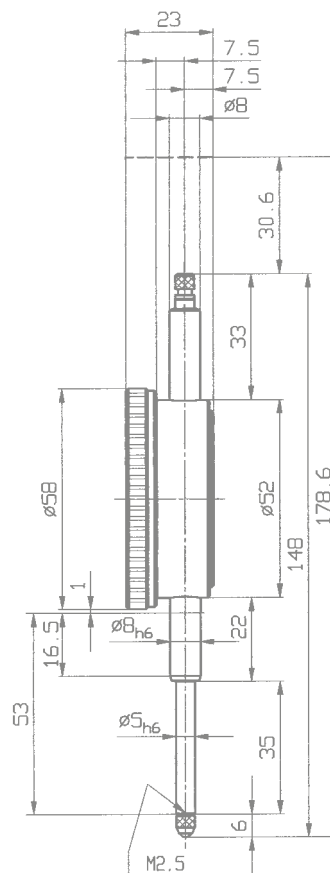
All details of these Dial Gauges conform to DIN EN ISO 463 / manufacturing standard 1.0200.9.0014. Except for the shockproof system all technical features of the Dial Gauge MU 52/30 ST are the same as for the MU 52/30 T Dial Gauge. Effective impact protection protects the Dial Gauge MU 52/30 ST even from hard impacts on the spindle, thereby reducing the risk of damage of the teeth.

Precision Dial Gauge MU 52/30 T	
Reading	0.01 mm
Range	30 mm
Range per revolution	1 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 1.0200.9.0014
Initial measuring force	0.8 N ± 20%
Dimensioned drawing	page 20
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de

Precision Dial Gauge MU 52/30 ST shockproof	
Reading	0.01 mm
Range	30 mm
Range per revolution	1 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 1.0200.9.0014
Initial measuring force	0.8 N ± 20%
Dimensioned drawing	page 20
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Model shown: MU 52/30 ST



Special fittings:





Dial Gauge M 2/50 T

The concentric millimetre pointer allows easy and safe reading of these Dial Gauges. The essential parts of the movement are jewelled.

An effective shockproof gear protects the Dial Gauge M 2/50 S even from hard shocks on the spindle, therefore reducing the risk of damage to its teeth.

Spindle and stem are made of resistant stainless steel.

Precision Dial Gauge M 2/50 T	
Reading	0.01 mm
Range	50 mm
Range per revolution	1 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463
manufacturing standard 1.0200.9.0002	
Initial measuring force	1.0 N ± 20%
Dimensioned drawing	page 21
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Dial Gauge M 2/50 S

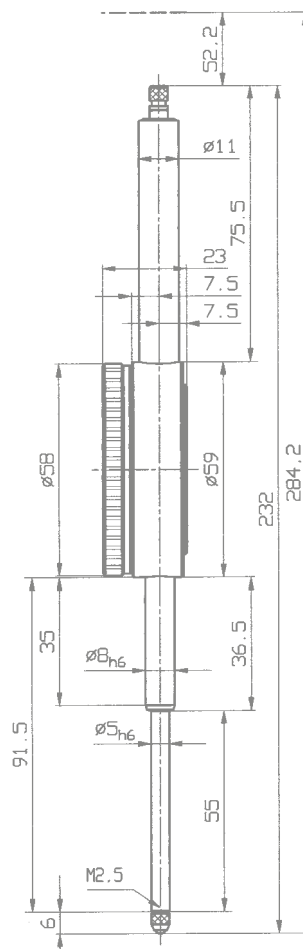
shockproof



Precision Dial Gauge M 2/50 S shockproof	
Reading	0.01 mm
Range	50 mm
Range per revolution	1 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463
manufacturing standard 1.0200.9.0002	
Initial measuring force	1.0 N ± 20%
Dimensioned drawing	page 21
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Model shown: M 2/50 S



Special fittings:



reverse force
only M 2/50 T



Dial Gauge M 2/80 T



Dial Gauge M 2/80 S

shockproof

The concentric millimetre pointer allows easy and safe reading of these Dial Gauges. The essential parts of the movement are jewelled.

An effective shockproofed gear protects the Dial Gauge M 2/80 S even from hard shocks on the spindle, therefore reducing the risk of damage to its teeth.

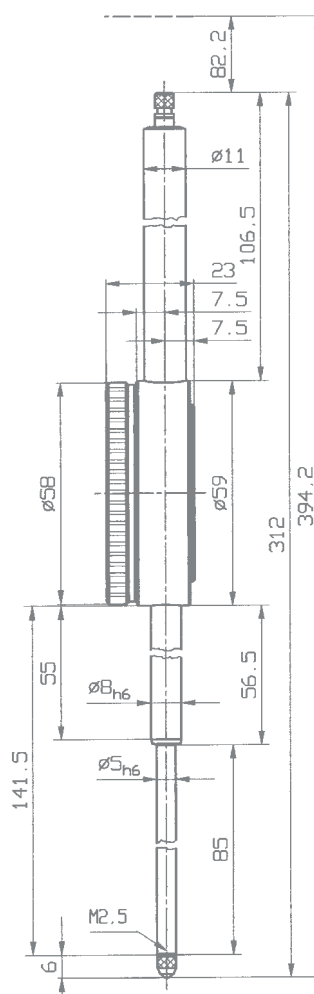
Spindle and stem are made of resistant stainless steel.

Precision Dial Gauge M 2/80 T	
Reading	0.01 mm
Range	80 mm
Range per revolution	1 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463
manufacturing standard 1.0200.9.0002	
Initial measuring force	1.5 N ± 20%
Dimensioned drawing	page 22
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de

Precision Dial Gauge M 2/80 S shockproof	
Reading	0.01 mm
Range	80 mm
Range per revolution	1 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463
manufacturing standard 1.0200.9.0002	
Initial measuring force	1.5 N ± 20%
Dimensioned drawing	page 22
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Model shown: M 2/80 S



Special fittings:





Dial Gauge GM 80/100 T

Käfer

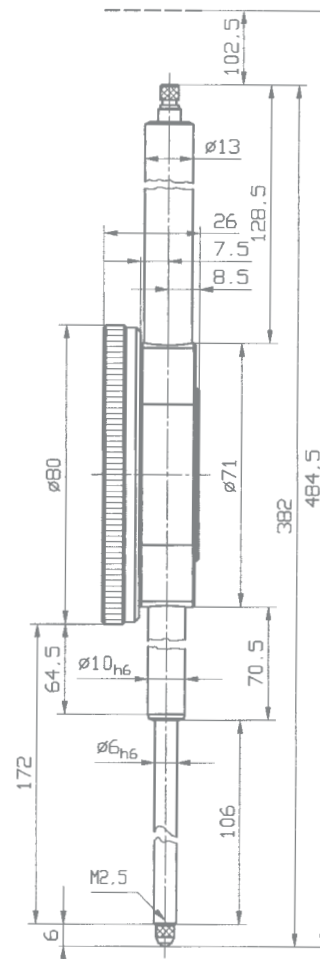
The concentric millimetre pointer allows easy and safe reading of the Dial Gauge.
In comparison with Dial Gauges having smaller measuring ranges the model GM 80/100 T has a measuring spindle Ø of 6 mm and a stem Ø of 10 mm. These features increase the stability and durability of the Dial Gauge.

Dial Gauges with 100 mm measuring range are also available in the following versions:

- bezel-Ø 58 mm (model M 2/100 T)
- bezel-Ø 100 mm (model GM 100/100 T)
- shockproof (model GM 80/100 S)
- with reading of 0.1 mm (model GM 10/100 f)

Precision Dial Gauge GM 80/100 T

Reading	0.01 mm
Range	100 mm
Range per revolution	1 mm
Bezel-Ø	80 mm
Stem-Ø	10 h 6
Dimensions and accuracy according to	DIN EN ISO 463
	manufacturing standard 1.0200.9.0002
Initial measuring force	1.3 N ± 20%
Dimensioned drawing	page 23



Special fittings:





Small Dial Gauge MU 28

The Dial Gauge MU 28 is the smallest model of our broad manufacturing programme. Its extremely small overall dimensions require a special adjustment procedure according to manufacturing standards.

Spindles and stems of the Small Dial Gauges MU 28 and KM 6 T are made of resistant stainless steel.

Small Dial Gauge MU 28	
Reading	0.01 mm
Range	3.5 mm
Range per revolution	0.5 mm
Bezel-Ø	28 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 4.0000.9.0012
Initial measuring force	0.8 N ± 20%
Dimensioned drawing	page 24
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de

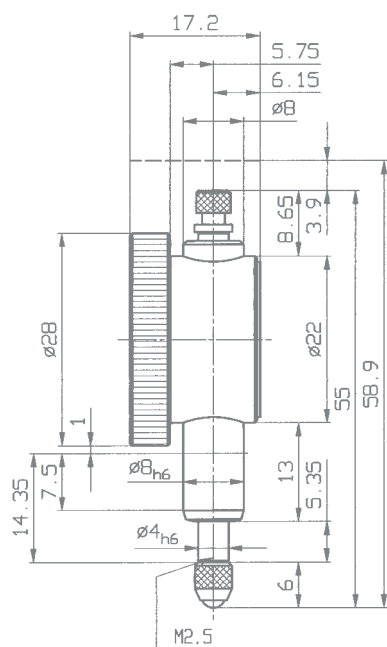


Small Dial Gauge KM 6 T

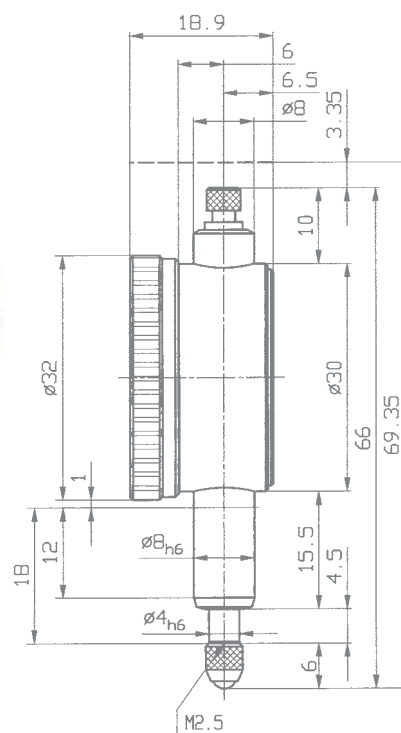
All allowed tolerances of the Small Dial Gauge KM 6 T conform to DIN 878.

On request the Small Dial Gauges KM 6 T and MU 28 are also available with coloured tolerance segments. Please request our respective offer.

Small Dial Gauge KM 6 T	
Reading	0.01 mm
Range	3 mm
Range per revolution	0.5 mm
Bezel-Ø	32 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / DIN 878
Initial measuring force	0.8 N ± 20%
Dimensioned drawing	page 24
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Model shown: KM 6 T



Special fittings:





Small Dial Gauge KM 4 T

Käfer

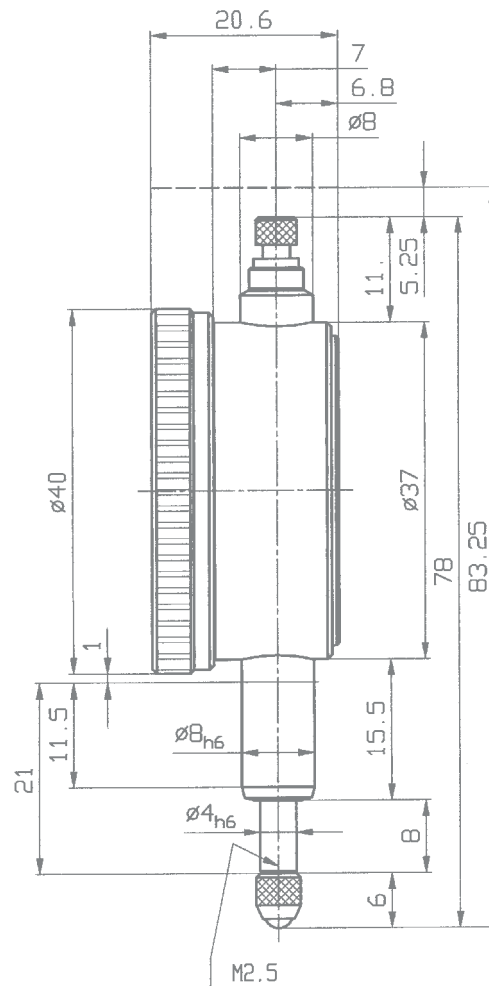
Our Small Dial Gauges have 40 mm Ø bezel. As standard they have 0.5 mm travel range per revolution and 50 graduations on the dial. This offers the advantage of a clear and easily readable Dial Gauge.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

On request the Dial Gauge KM 4 T is also available with lifting device and with special transmission ratio, range per revolution = 1 mm.

Small Dial Gauge KM 4 T

Reading	0.01 mm
Range	3 mm
Range per revolution	0.5 mm
Bezel-Ø	40 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463 / DIN 878	
Initial measuring force	0.8 N ± 20%
Dimensioned drawing	page 25
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Special fittings:





Small Dial Gauge KM 4/5 T

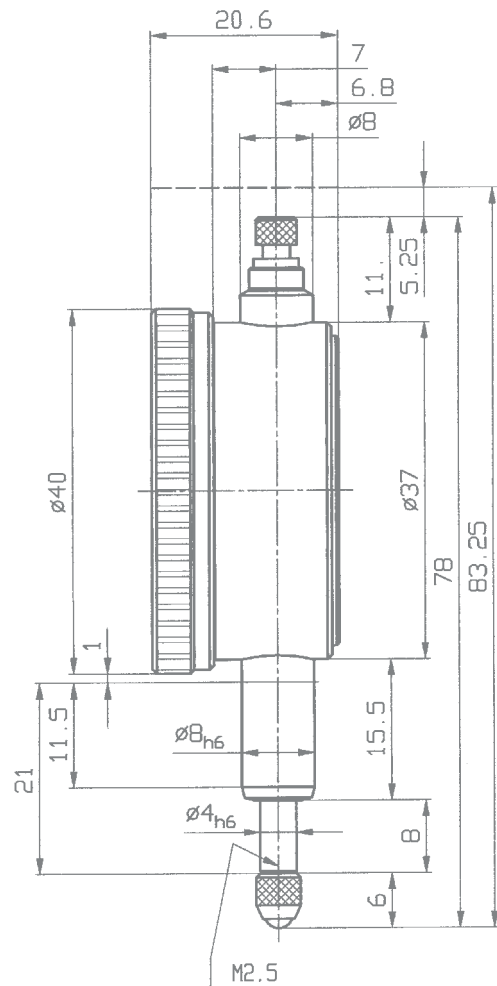
Except for the longer measuring range all technical features of Small Dial Gauge KM 4/5 T are the same as for model KM 4 T.

All details of this Small Dial Gauge conform to DIN EN ISO 463 / DIN 878. This applies not only to the outside dimensions but also to allowed tolerances.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

Small Dial Gauge KM 4/5 T

Reading	0.01 mm
Range	5 mm
Range per revolution	0.5 mm
Bezel-Ø	40 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463 / DIN 878	
Initial measuring force	0.9 N ± 20%
Dimensioned drawing	page 26
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Special fittings:





Small Dial Gauges KM 4 TOP and KM 4/5 TOP S



New technological production methods enable us to market them at an astonishingly low price. All details of these Dial Gauges conform to DIN EN ISO 463 / DIN 878. This applies not only to the dimensions but also to allowed tolerances.

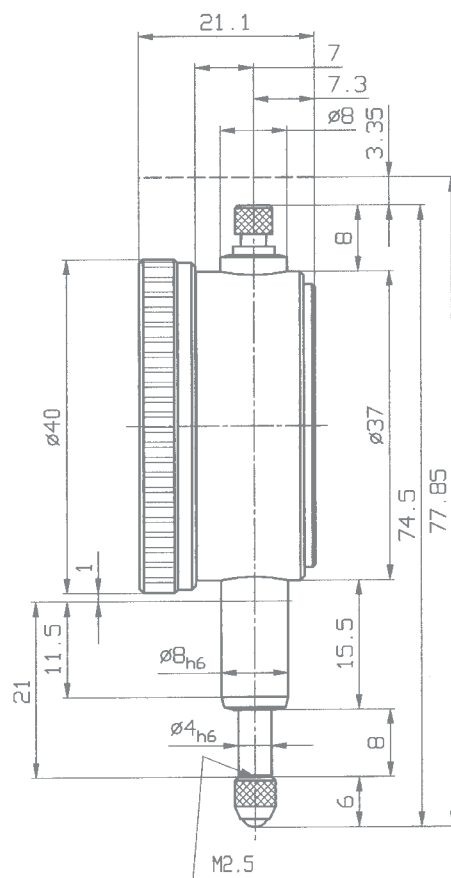
Spindle and stem are made of resistant stainless steel. The spindle is lapped.

Small Dial Gauge KM 4 TOP	
Reading	0.01 mm
Range	3 mm
Range per revolution	0.5 mm
Bezel-Ø	40 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463 / DIN 878	
Initial measuring force	0.7 N \pm 20%
Dimensioned drawing	page 27
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de

Small Dial Gauge KM 4/5 TOP S shockproof	
Reading	0.01 mm
Range	5 mm
Range per revolution	0.5 mm
Bezel-Ø	40 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463 / DIN 878	
Initial measuring force	0.7 N \pm 10%
Dimensioned drawing	page 27
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Model shown: KM 4 TOP



On the Small Dial Gauge KM 4/5 TOP S the dimensions of 77.85 and 3.35 have to be increased to 79.85 and 5.35.

Special fittings:





Small Dial Gauge KMU 4/5 TK-100

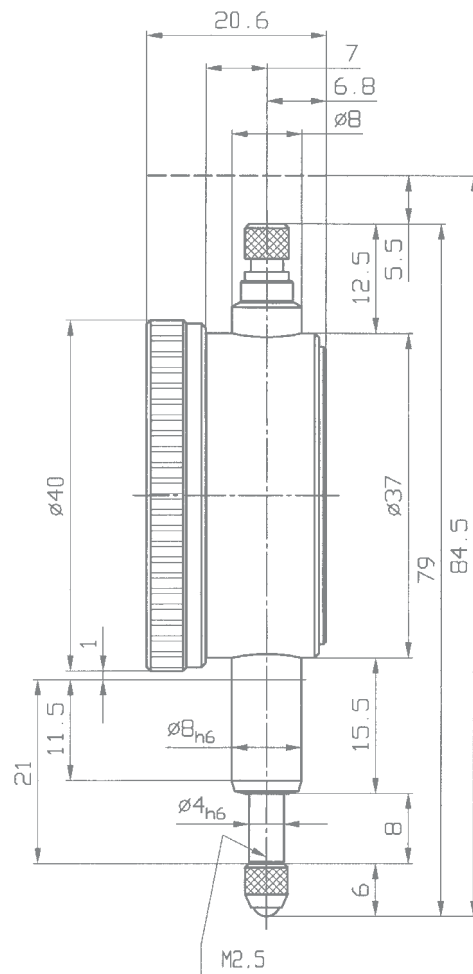
Dial Gauge model KMU 4/5 TK-100 has been designed and manufactured by Käfer Dial Gauges Shanghai. The racks and pinions – the key parts for the accuracy of Dial Gauges – are however supplied by Käfer Germany. All Dial Gauges are checked for their accuracy on a Feinmess Suhl automatic Dial Gauge Measuring Machine.

All details of this Dial Gauge conform to DIN EN ISO 463 / DIN 878.

Spindle and stem are made of stainless steel. The spindle is lapped.

Small Dial Gauge KMU 4/5 TK-100

Reading	0.01 mm
Range	5 mm
Range per revolution	1 mm
Bezel-Ø	40 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463 / DIN 878	
Initial measuring force	0.8 N ± 20%
Dimensioned drawing	page 28
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Special fittings:





Small Dial Gauges KM 4/5 T-100 and KM 4/10 TK-100

1 pointer revolution = 1 mm



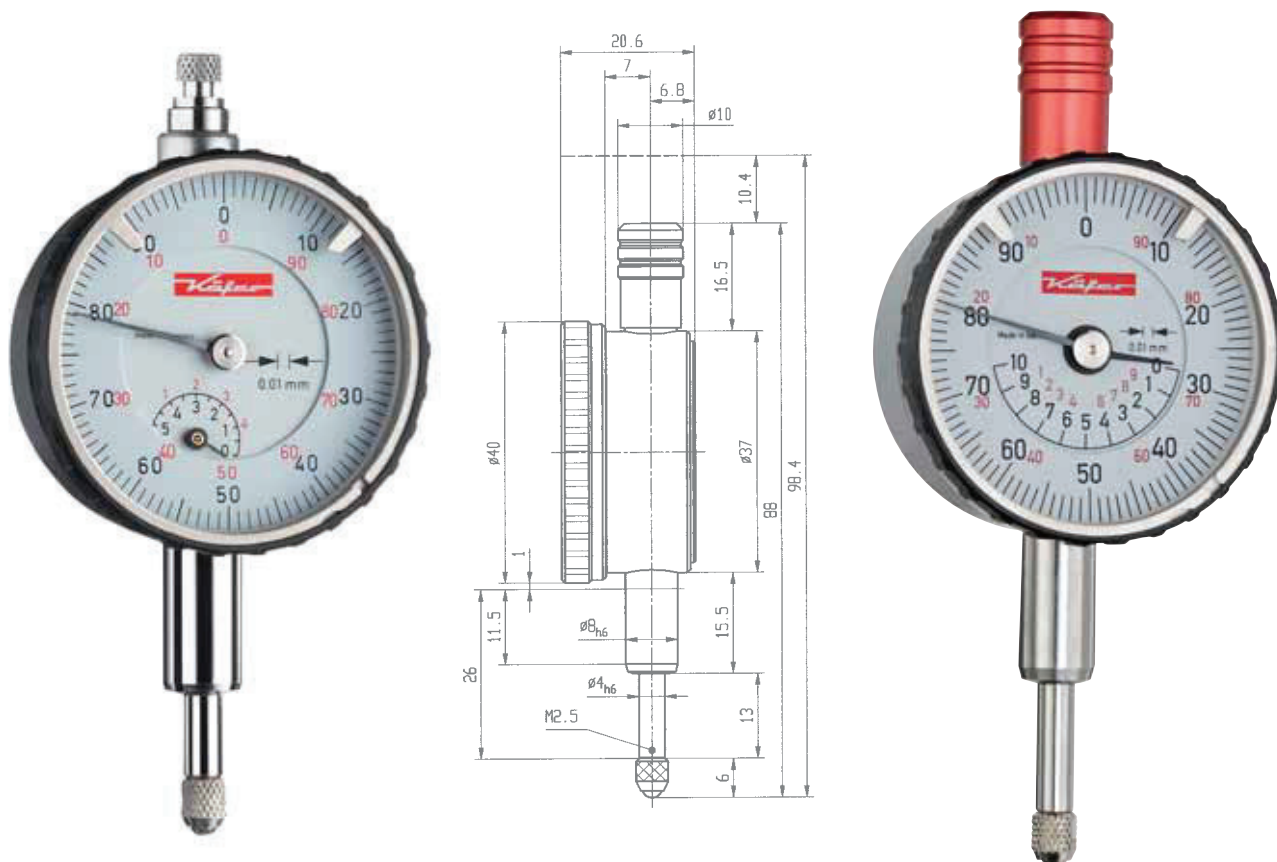
Apart from our standard Small Dial Gauges, which have a pointer revolution of 0.5 mm, the models illustrated on this page have 1 mm per revolution and 100 graduations on the dial.

Model KM 4/10 TK – 100 offers with 10 mm the longest range of our broad manufacturing programme of Small Dial Gauges. The concentric millimetre pointer allows easy and safe reading of this Small Dial Gauge.

All details of these Dial Gauges conform to DIN EN ISO 463 / DIN 878. This applies not only to the dimensions but also to allowed tolerances

Small Dial Gauge KM 4/5 T-100	
Reading	0.01 mm
Range	5 mm
Range per revolution	1 mm
Bezel-Ø	40 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463 / DIN 878	
Initial measuring force	0.9 N ± 20%
Dimensioned drawing	page 26
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de

Small Dial Gauge KM 4/10 TK-100	
Reading	0.01 mm
Range	10 mm
Range per revolution	1 mm
Bezel-Ø	40 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463 / DIN 878	
Initial measuring force	0.7 N ± 20%
Dimensioned drawing	page 29
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Special fittings:





Small Dial Gauge KM 4 S

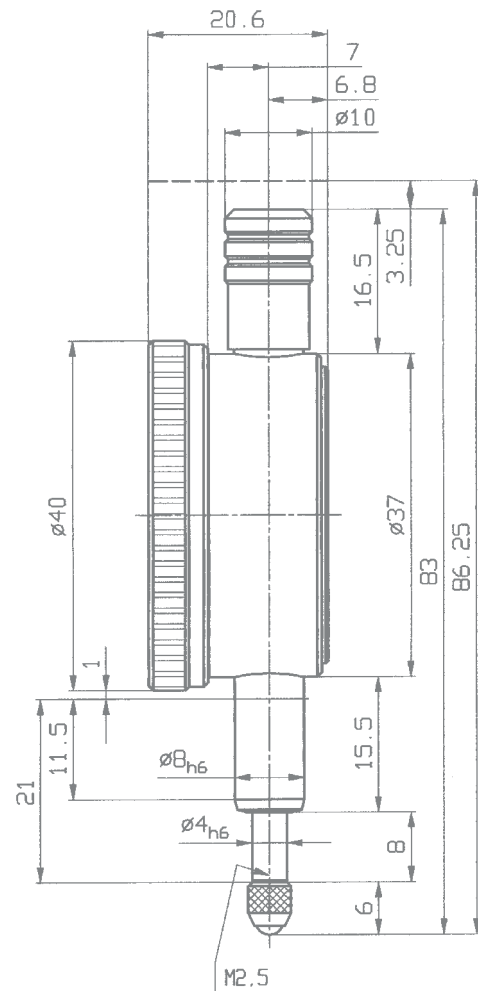
shockproof

The high-class impact protection of the Small Dial Gauge KM 4 S results in an exceptionally long service life. A gear rack sleeve covering the length of the spindle is arranged and sprung in such a way that the shocks against the measuring insert are not transferred to the measuring gear. The Small Dial Gauge is robust in operation. Its precision is maintained with practically no limitations.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

Small Dial Gauge KM 4 S shockproof

Reading	0.01 mm
Range	3 mm
Range per revolution	0.5 mm
Bezel-Ø	40 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463 / DIN 878	
Initial measuring force	0.9 N ± 20%
Dimensioned drawing	page 30
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



On request we can supply Dial Gauge KM 4 S with threaded protective sleeve and with special transmission ratio range per revolution = 1 mm.

Special fittings:

30





Small Dial Gauge KM 4/5 S

shockproof

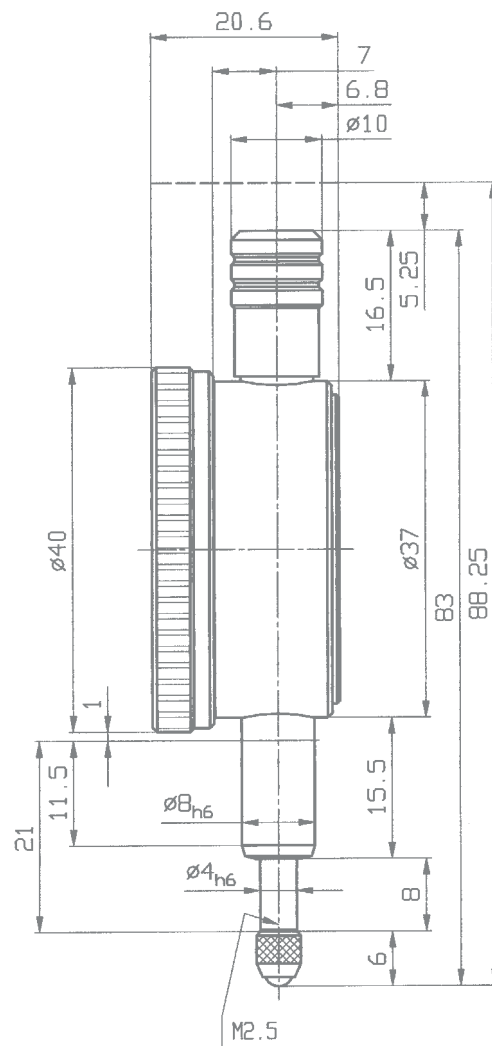
Except for the longer measuring range all technical features of the Small Dial Gauge KM 4/5 S are the same as for model KM 4 S.

All details of this Small Dial Gauge conform to DIN EN ISO 463 / DIN 878. This applies not only to the outside dimensions but also to allowed tolerances.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

Small Dial Gauge KM 4/5 S shockproof

Reading	0.01 mm
Range	5 mm
Range per revolution	0.5 mm
Bezel-Ø	40 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463 / DIN 878	
Initial measuring force	0.9 N ± 20%
Dimensioned drawing	page 31
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Special fittings:

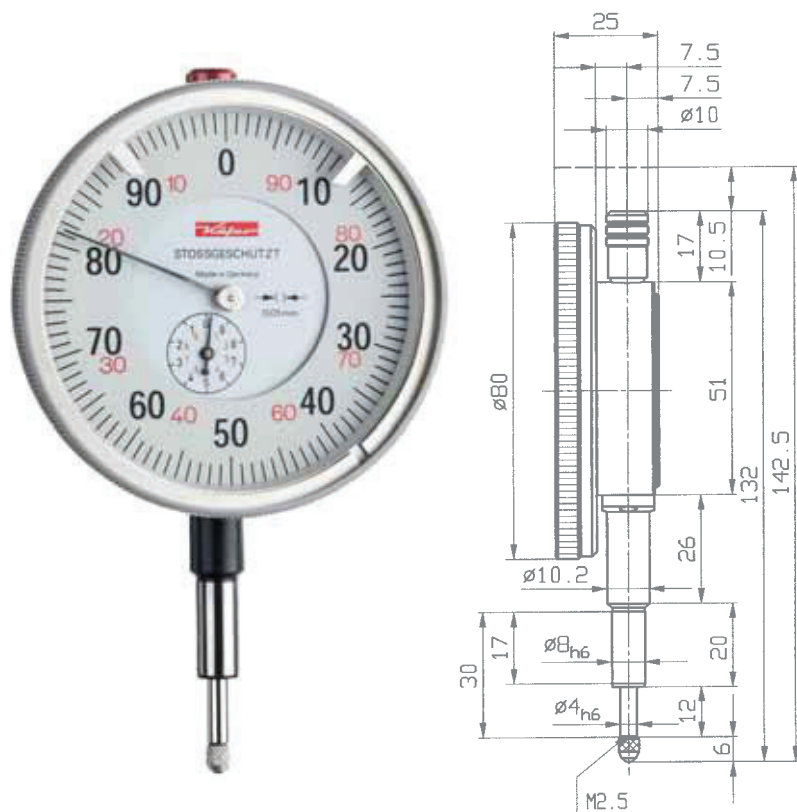


Dial Gauge GM 80 S

shockproof

The high-class impact protection of the Dial Gauge GM 80 S results in an exceptionally long service life. A gear rack sleeve covering the length of the spindle is arranged and sprung in such a way that the shocks against the measuring insert are not transferred to the measuring gear. The Dial Gauge is robust in operation. Its precision is maintained with practically no limitations.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.



Dial Gauge GM 80 S shockproof

Reading	0.01 mm
Range	10 mm
Range per revolution	1 mm
Bezel-Ø	80 mm
Stem-Ø	8 h 6

Dimensions and accuracy according to
DIN EN ISO 463 /
manufacturing standard 0.0200.9.0016

Initial measuring force on request

Dimensioned drawing page 32

Data sheet to DIN EN ISO 463

www.kaefer-messuhren.de

Other Dial Gauges with large bezel diameter from our production range:



Dial Gauge GM 80 T

Reading	0.01 mm
Range	10 mm
Range per revolution	1 mm
Bezel-Ø	80 mm
Stem-Ø	8 h 6

Dimensions and accuracy according to
DIN EN ISO 463 /
manufacturing standard 0.0200.9.0016

Initial measuring force 1 N ± 20%

Dimensioned drawing on request



Dial Gauge GM 100 T

Reading	0.01 mm
Range	10 mm
Range per revolution	1 mm
Bezel-Ø	100 mm
Stem-Ø	8 h 6

Dimensions and accuracy according to
DIN EN ISO 463 /
manufacturing standard 0.0200.9.0016

Initial measuring force 1 N ± 20%

Dimensioned drawing on request



Dial Gauge GM 100 S shockproof

Reading	0.01 mm
Range	10 mm
Range per revolution	1 mm
Bezel-Ø	100 mm
Stem-Ø	8 h 6

Dimensions and accuracy according to
DIN EN ISO 463 /
manufacturing standard 0.0200.9.0016

Initial measuring force on request

Dimensioned drawing on request

Special fittings:

32



reverse force only for
models without shockproof

High Precision Dial Gauge

Our High Precision Dial Gauges are high-resolution gauges with 0.001 mm or 0.002 mm graduations and 0.2 mm measuring distance per pointer revolution. The high magnification gear train and high-resolution dials allow a very precise reading of the measured value.

The well thought-out design as well as the extremely precise, while robust in operation, execution of our High Precision Dial Gauges with precision gear movement guarantee for their reliability and long service life. The following quality features apply to our entire manufacturing programme:

- Highly responsive movements.
- Precisely matched measuring spindles and stems to minimise lateral play.
- All gear pivots run in high-class ruby bearings.
- Lifting cap to raise the plunger easily and to prevent ingress of contaminants.
- All waterproof and water protected models have a threaded protection sleeve to prevent ingress of contaminants.

- All shockproof models contain an effective impact protection sleeve.
- Dimensions according to DIN EN ISO 463 (except waterproof and waterprotected models)

As standard High Precision Dial Gauges are manufactured with measuring ranges up to 5 mm. However the gear movements can accommodate ranges up to 12 mm. Please contact us if you require longer measuring ranges.

DIN 878 does not include these High Precision Dial Gauges. They are subject to a strict manufacturing standard.

For the High Precision Dial Gauges with precision gear movements listed in the following table our works standard 0.0500.9.0001 applies.

Please see pages 38 – 40 for our series 'FEINIKA' High Precision Dial Gauges.

Technical data for Metric High Precision Dial Gauges with gear movement

Model	Reading	Range per revolution	Range	Overtravel	Bezel-Ø	Special Feature
KM 500 T	0.002 mm	0.2 mm	1 mm	–	40 mm	
KM 500 S	0.002 mm	0.2 mm	1 mm	–	40 mm	Shockproof
KM 500/3 S	0.002 mm	0.2 mm	3 mm	–	40 mm	Shockproof
KM 500 SI	0.002 mm	–	0.16 mm	5 mm	40 mm	Error Free
KM 500 SW	0.002 mm	0.2 mm	1 mm	–	44.5 mm	Waterproof
FM 500 T	0.002 mm	0.2 mm	1 mm	–	58 mm	
FM 500 SI	0.002 mm	–	0.16 mm	5 mm	58 mm	Error Free
KM 1000 T	0.001 mm	0.2 mm	1 mm	–	40 mm	
KM 1000 S	0.001 mm	0.2 mm	1 mm	–	40 mm	Shockproof
KM 1000/3 T	0.001 mm	0.2 mm	3 mm	–	40 mm	
KM 1000/3 S	0.001 mm	0.2 mm	3 mm	–	40 mm	Shockproof
KM 1000/5 T	0.001 mm	0.2 mm	5 mm	–	40 mm	
KM 1000/5 S	0.001 mm	0.2 mm	5 mm	–	40 mm	Shockproof
KM 1000 S wa	0.001 mm	0.2 mm	1 mm	–	40 mm	Water Protected
KM 1000 SI	0.001 mm	–	0.16 mm	5 mm	40 mm	Error Free
FM 1000 T	0.001 mm	0.2 mm	1 mm	–	58 mm	
FM 1000 S	0.001 mm	0.2 mm	1 mm	4 mm	58 mm	Shockproof
FM 1000/5 T	0.001 mm	0.2 mm	5 mm	–	58 mm	
FM 1000/5 S	0.001 mm	0.2 mm	5 mm	–	58 mm	Shockproof
SI-180	0.001 mm	–	0.16 mm	5 mm	58 mm	Error Free
FM 1000 S wa	0.001 mm	0.2 mm	1 mm	4 mm	58 mm	Water Protected
FM 1000 SW	0.001 mm	0.2 mm	1 mm	4 mm	61.5 mm	Waterproof
FM 1000/5 SW	0.001 mm	0.2 mm	5 mm	–	61.5 mm	Waterproof
FM 1000/80 T	0.001 mm	0.2 mm	1 mm	–	80 mm	
FM 1000/80 S	0.001 mm	0.2 mm	1 mm	4 mm	80 mm	Shockproof
FM 1000/80-5 T	0.001 mm	0.2 mm	5 mm	–	80 mm	
FM 1000/80-5 S	0.001 mm	0.2 mm	5 mm	–	80 mm	Shockproof



Small Dial Gauge KM 500 S

shockproof

The High Precision Small Dial Gauges KM 500 S and KM 1000 S equipped with a high-class impact protection have an extremely long service life. A gear rack sleeve covering the length of the spindle is arranged and sprung in such a way that the shocks against the measuring insert are not transferred to the measuring gear. The Small Dial Gauges are robust in operation. Their precision is maintained with practically no limitations.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

High Precision Dial Gauge KM 500 S shockproof	
Reading	0.002 mm
Range	1 mm
Range per revolution	0.2 mm
Bezel-Ø	40 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 0.0500.9.0001
Initial measuring force	1 N ± 20%
Dimensioned drawing	page 34
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



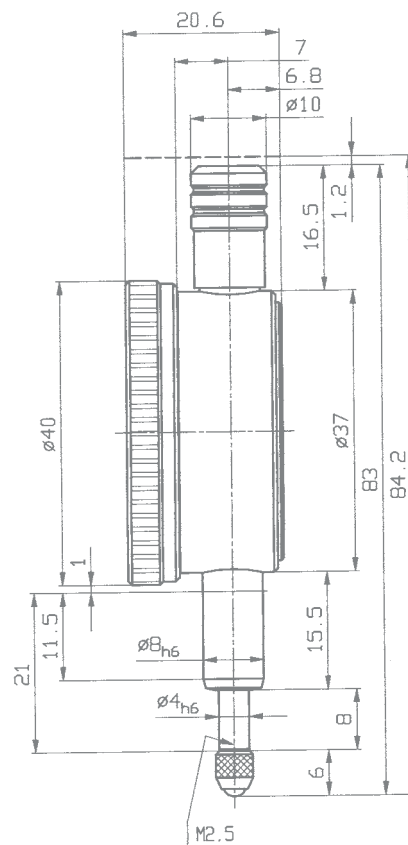
Small Dial Gauge KM 1000 S

shockproof

High Precision Dial Gauge KM 1000 S shockproof	
Reading	0.001 mm
Range	1 mm
Range per revolution	0.2 mm
Bezel-Ø	40 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 0.0500.9.0001
Initial measuring force	1 N ± 20%
Dimensioned drawing	page 34
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Model shown: KM 500 S



Special fittings:





Dial Gauge FM 1000 T

Dial Gauge FM 500 T

Kafer

The only difference between FM 1000 T and FM 500 T is the number of graduations on the dial face. FM 1000 T has 200 graduations, each of 0.001 mm, whereas FM 500 T has 100 graduations of 0.002 mm.

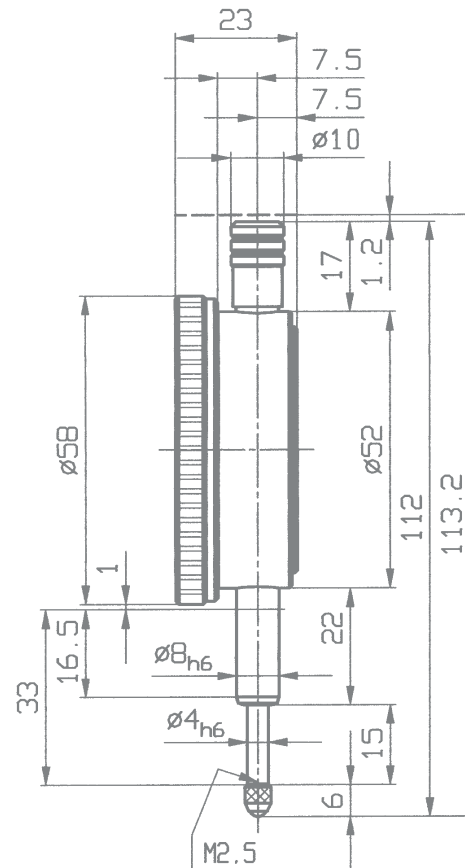
Spindle and stem are made of resistant stainless steel. The spindle is lapped.

High Precision Dial Gauge FM 1000 T	
Reading	0.001 mm
Range	1 mm
Range per revolution	0.2 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 0.0500.9.0001
Initial measuring force	1.5 N ± 20%
Dimensioned drawing	page 35
Data sheet to DIN EN ISO 463	www.kafer-messuhren.de

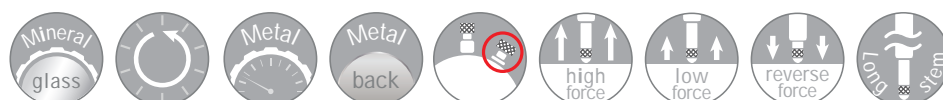
High Precision Dial Gauge FM 500 T	
Reading	0.002 mm
Range	1 mm
Range per revolution	0.2 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 0.0500.9.0001
Initial measuring force	1.5 N ± 20%
Dimensioned drawing	page 35
Data sheet to DIN EN ISO 463	www.kafer-messuhren.de



Model shown: FM 1000 T



Special fittings:





Dial Gauge FM 1000/5 S

shockproof

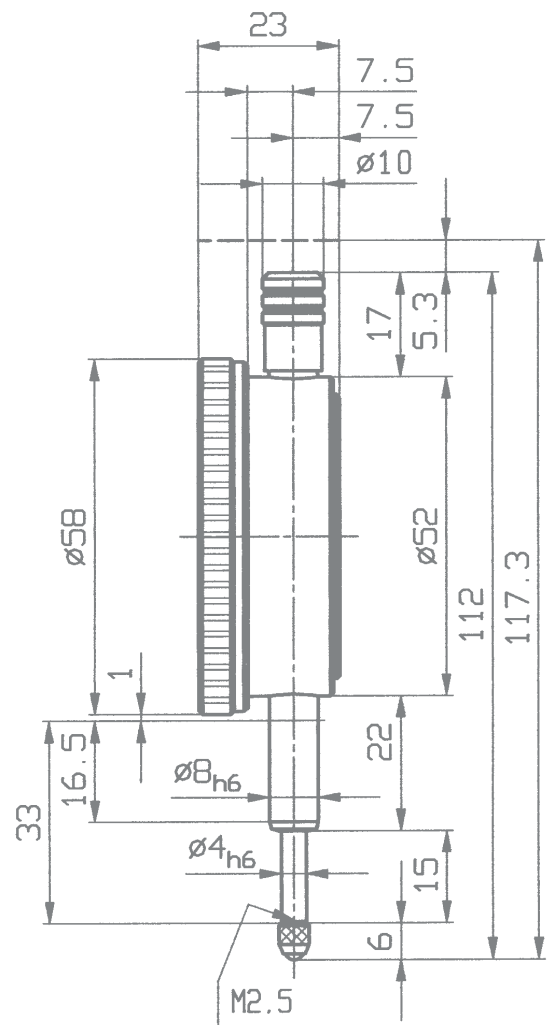
Except for the longer measuring range and the bezel diameter of 58 mm all technical features of Dial Gauge FM 1000/5 S are the same as for model KM 1000 S.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

We manufacture also High Precision Dial Gauges with a bezel Ø of 80 mm. The model FM 1000/80-5 S has the same technical data as the model FM 1000/5 S, but a bezel diameter of 80 mm.

High Precision Dial Gauge FM 1000/5 S shockproof

Reading	0.001 mm
Range	5 mm
Range per revolution	0.2 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 0.0500.9.0001
Initial measuring force	on request
Dimensioned drawing	page 36
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Special fittings:





Dial Gauge FM 1000/5 T

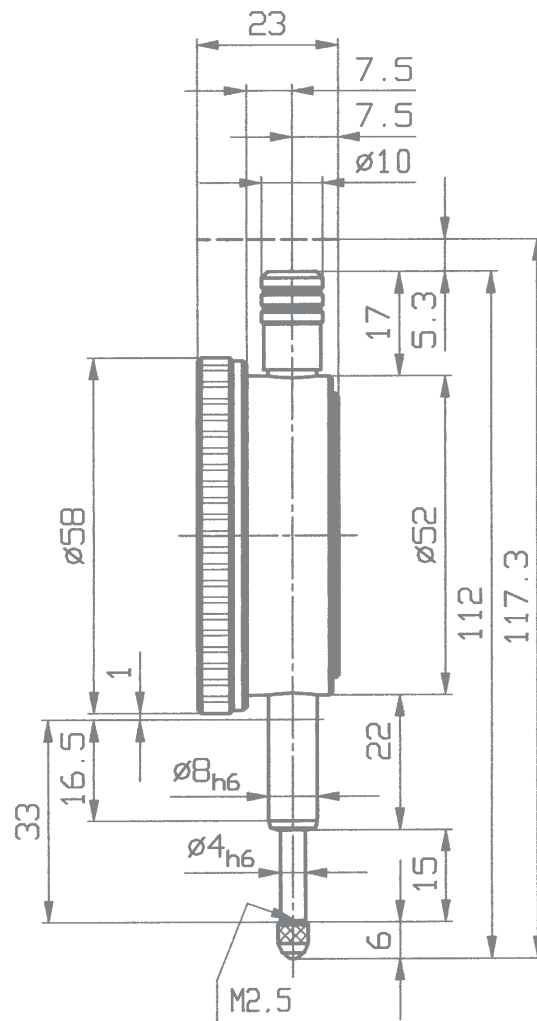
Kaefer

The carefully thought-out design, the use of selected components and materials as well as the movement perfected by precision engineering guarantee reliable measuring results and a long service life of our Precision Dial Gauges.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

High Precision Dial Gauge FM 1000/5 T

Reading	0.001 mm
Range	5 mm
Range per revolution	0.2 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 0.0500.9.0001
Initial measuring force	1.5 N ± 20%
Dimensioned drawing	on request
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Special fittings:





High Precision Dial Gauges with the movement of Comparator Gauges

The FEINIKA High Precision Dial Gauges have similar movements to those of our range of COMPIKA Comparator Gauges. The travel of the plunger is transmitted and magnified by means of a lever device to the hand. This lever transmission has two advantages. It provides extremely high accuracy, as well as an effective shockproof system.

The following quality features apply to our entire manufacturing programme of FEINIKA High Precision Dial Gauges:

- Effective shockproof system.
- With metal bezel.
- Lifting cap to raise the plunger easily.
- All waterproof models have a threaded protection sleeve to prevent ingress of contaminants.

- Dimensions according to DIN EN ISO 463 (except waterproof models).
- Hardened plunger to protect against damage.
- Additional over-travel for easy insertion of test pieces under the measuring tip.
- Highly responsive movements.
- Precisely matched plunger and stem to minimise lateral play.
- All gear pivots run in high-class ruby bearings.
- A lifting cap to prevent ingress of contaminants.

DIN 878 does not include these High Precision Dial Gauges. So we subject these gauges to more stringent standards as laid down in the table 0.0500.9.0010 of our manufacturing standard.

Technical data for Metric High Precision Dial Gauges of the series Feinika

Model	Reading	Range per revolution	Range	Overtravel	Bezel-Ø	Special Feature
Feinika KM 1102	0.002 mm	0.1 mm	1 mm	2.5 mm	40 mm	Shockproof
Feinika FM 1102	0.002 mm	0.1 mm	1 mm	4 mm	58 mm	Shockproof
Feinika KM 1101	0.001 mm	0.1 mm	1 mm	2.5 mm	40 mm	Shockproof
Feinika KM 1101 W	0.001 mm	0.1 mm	1 mm	2.5 mm	44.5 mm	Waterproof
Feinika SI-914	0.001 mm	–	0.08 mm	3 mm	40 mm	Error Free
Feinika SI-910	0.001 mm	–	0.1 mm	3 mm	40 mm	Error Free
Feinika FM 1101	0.001 mm	0.1 mm	1 mm	4 mm	58 mm	Shockproof
Feinika FM 1101 W	0.001 mm	0.1 mm	1 mm	4 mm	61.5 mm	Waterproof
Feinika SI-915	0.001 mm	–	0.08 mm	5 mm	58 mm	Error Free
Feinika SI-916	0.001 mm	–	0.1 mm	5 mm	58 mm	Error Free
Feinika SI-918	0.001 mm	–	0.16 mm	4.5 mm	58 mm	Error Free



Small Dial Gauge Feinika KM 1101

shockproof

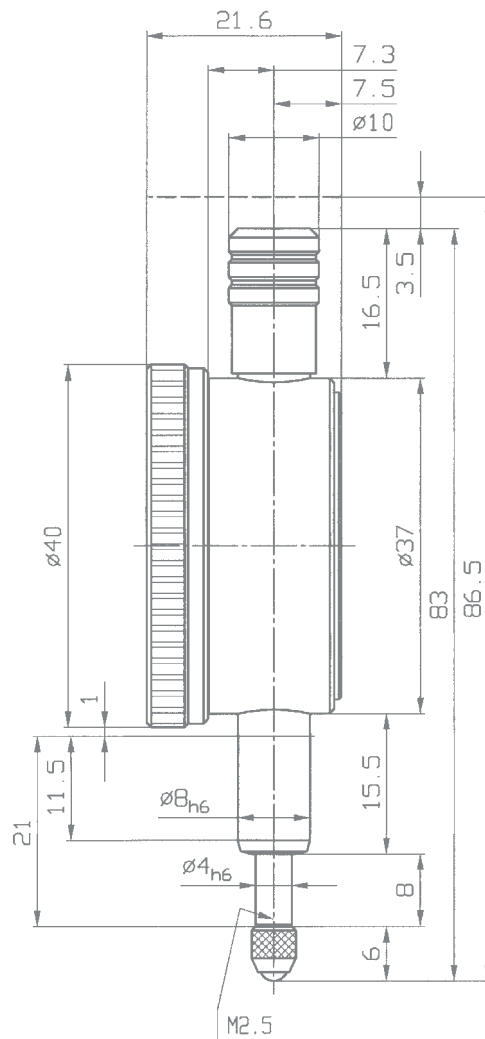
High Precision Dial Gauges Feinika have a scale with 100 graduations for one pointer revolution of 0.1 mm. This enables very precise read-off results.

The travel of the plunger is transmitted by means of a lever device to the hand. This lever transmission of the movement has two advantages. It provides extremely high accuracy, as well as an effective shock-proof system.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

Small Dial Gauge Feinika KM 1101 shockproof

Reading	0.001 mm
Range	1 mm
Range per revolution	0.1 mm
Bezel-Ø	40 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 0.0500.9.0010
Initial measuring force	0.7 N ± 20%
Dimensioned drawing	page 39
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Special fittings:





Dial Gauge Feinika FM 1101

shockproof

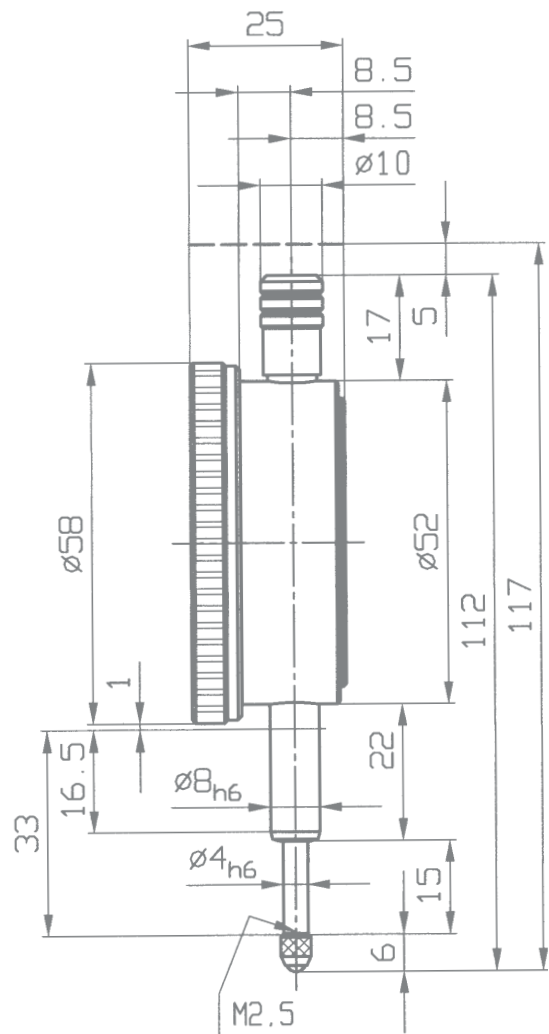
The travel of the plunger is transmitted by means of a lever device to the hand. This lever transmission of the movement has two advantages. It provides extremely high accuracy, as well as an effective shockproof system.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

High Precision Dial Gauges of the Feinika series are also available in waterproof version and also as Error Free Dial Gauges.

Dial Gauge Feinika FM 1101 shockproof

Reading	0.001 mm
Range	1 mm
Range per revolution	0.1 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 0.0500.9.0010
Initial measuring force	1.3 N ± 20%
Dimensioned drawing	page 40
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Special fittings:

40



Dial Gauges with 0.1 mm reading

Dial Gauges with 0.1 mm graduations are supplied without tolerance pointers as standard. On request they can be supplied with tolerance pointers at no extra charge.

Because of the rather course transmission ratio effective on Dial Gauges with a reading of 0.1 mm the danger of damage to the gearing through shocks received by the spindle is considerably minimised. In this range we only offer Standard Dial Gauges without impact protection. Offers for Dial Gauges with a reading of 0.1 mm and shockproof are available on request.

These 0.1 mm reading Gauges are also available in waterproof and back-plunger versions. Please contact us for price and availability.

On Dial Gauges KM 5 a, KM 10 a and M 10 a one revolution of the pointer corresponds to the entire measuring range. For this reason they are specially suitable for applications benefiting from a slave pointer. A functional description of Dial Gauges with slave pointers is given on page 75 of the catalogue.

The carefully thought-out design as well as the operationally robust execution of our Dial Gauges with a reading of 0.1 mm guarantee reliable measuring results and a long service life.

Dial Gauges with a reading of 0.1 mm are not included in DIN 878. They are subject to a strict manufacturing standard. For the models listed in the following table our manufacturing standard 0.0500.9.0004 applies. Their dimensions are according to DIN EN ISO 463 (exception: Length L_2 with model M 10 d).

Technical data for Dial Gauges with 0.1 mm reading

Model	Reading	Range per revolution	Range	Bezel-Ø	Initial measuring force	Special Feature
KM 5 a	0.1 mm	5 mm	5 mm	40 mm	0.7 N ± 20%	
KM 10 a	0.1 mm	10 mm	10 mm	40 mm	1.0 N ± 20%	
KM 5 a R	0.1 mm	5 mm	5 mm	40 mm	1.5 N ± 20%	Back Plunger
M 10 a	0.1 mm	10 mm	10 mm	58 mm	0.7 N ± 20%	
M 10 b	0.1 mm	10 mm	20 mm	58 mm	0.8 N ± 20%	
M 10 c	0.1 mm	10 mm	30 mm	58 mm	0.8 N ± 20%	Linear display to indicate revolution
M 10 d	0.1 mm	10 mm	50 mm	58 mm	1.2 N ± 20%	
SI-9/0.1	0.1 mm	–	8 mm	58 mm	0.7 N ± 20%	Error Free
M 10/5 R	0.1 mm	5 mm	5 mm	58 mm	1.5 N ± 20%	Back Plunger
GM 10/80	0.1 mm	10 mm	20 mm	80 mm	0.7 N ± 20%	
GM 10/100	0.1 mm	10 mm	10 mm	100 mm	0.7 N ± 20%	



Small Dial Gauges KM 5 a und KM 10 a

On request the Small Dial Gauges KM 5 a and KM 10 a are also available with special fittings:

- KM 5 a resp. KM 10 a with lifting lever
- KM 5 a resp. KM 10 a with customized dials
- KM 5 a resp. KM 10 a with tolerance indicators

Spindle and stem are made of resistant stainless steel. The spindle is lapped.



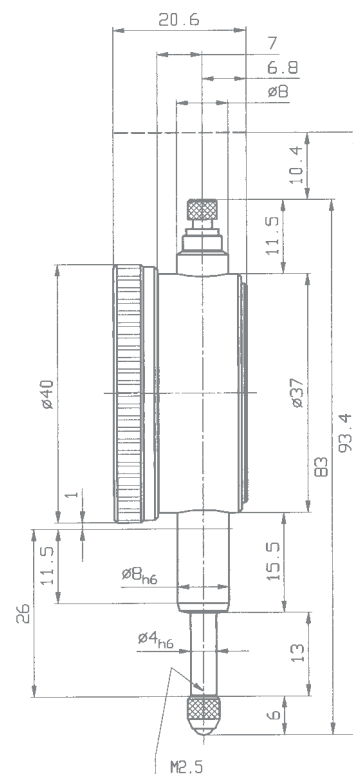
Model shown: KM 10 a

Small Dial Gauge KM 5 a

Reading	0.1 mm
Range	5 mm
Range per revolution	5 mm
Bezel-Ø	40 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 0.0500.9.0004
Initial measuring force	0.7 N ± 20%
Dimensioned drawing	on request
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de

Small Dial Gauge KM 10 a

Reading	0.1 mm
Range	10 mm
Range per revolution	10 mm
Bezel-Ø	40 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 0.0500.9.0004
Initial measuring force	1.0 N ± 20%
Dimensioned drawing	page 42
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Special fittings:





Dial Gauges M 10 a and M 10 b

Kaefer

The Dial Gauges with graduations of 0.1 mm have no tolerance indicators. If anyway desired they are available at no extra charge.

Dial Gauges M 10 a and M 10 b possess a stem which is laterally offset by 3.5 mm.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

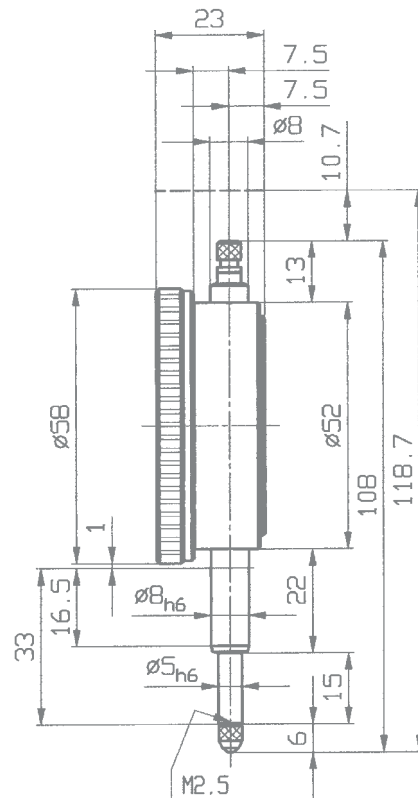
In comparison to model M 10 a the Dial Gauge M 10 b has an additional revolution counter.



Model shown: M 10 a

Dial Gauge M 10 a	
Reading	0.1 mm
Range	10 mm
Range per revolution	10 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 0.0500.9.0004
Initial measuring force	0.7 N ± 20%
Dimensioned drawing	page 43
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de

Dial Gauge M 10 b	
Reading	0.1 mm
Range	20 mm
Range per revolution	10 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 0.0500.9.0004
Initial measuring force	0.8 N ± 20%
Dimensioned drawing	on request
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Special fittings:





Dial Gauges M 10 c and M 10 d

On model M 10 c a straight line display is used as revolution counter instead of the traditional rotating pointer.

Dial Gauges M 10 c and M 10 d possess a stem which is laterally offset by 3.5 mm.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

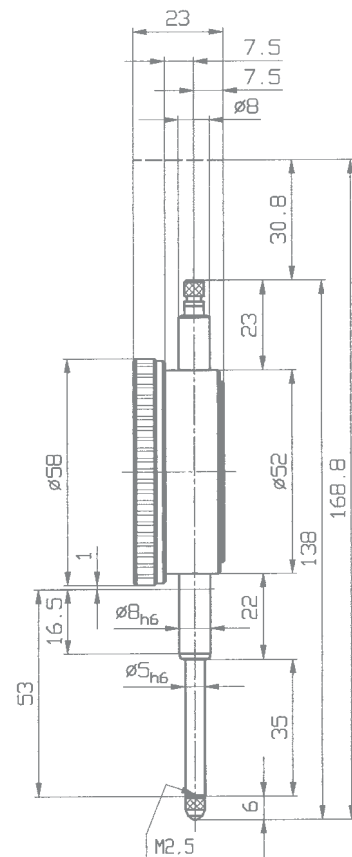
In comparison to model M 10 c the Dial Gauge M 10 d has a rotating pointer as revolution counter.



Model shown: M 10 c

Dial Gauge M 10 c	
Reading	0.1 mm
Range	30 mm
Range per revolution	10 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 0.0500.9.0004
Initial measuring force	0.8 N ± 20%
Dimensioned drawing	page 44
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de

Dial Gauge M 10 d	
Reading	0.1 mm
Range	50 mm
Range per revolution	10 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 0.0500.9.0004
Initial measuring force	1.2 N ± 20%
Dimensioned drawing	on request
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Special fittings:





Ideal for use in measuring fixtures

Small Dial Gauge KM 4 R

with back plunger

The models KM 4 R and KM 4/5 R differ only in their measuring ranges. Both Dial Gauges can be held either on the standard 8 mm h 6 stem or on the 28 mm diameter spigot.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

Small Dial Gauge KM 4/5 R

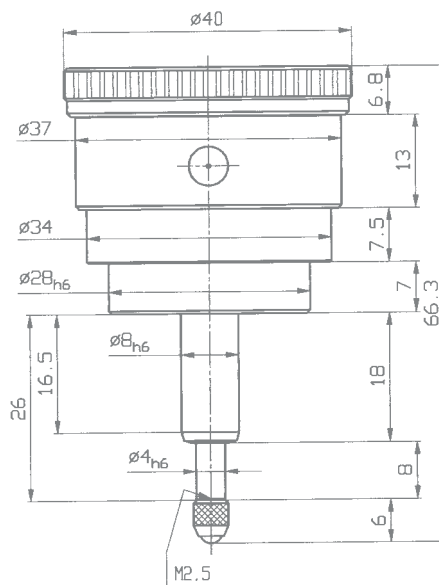
with back plunger

Small Dial Gauge KM 4 R with back plunger	
Reading	0.01 mm
Range	3 mm
Range per revolution	0.5 mm
Bezel-Ø	40 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 0.0500.9.0006
Initial measuring force	1.5 N ± 20%
Dimensioned drawing	page 45
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de

Small Dial Gauge KM 4/5 R with back plunger	
Reading	0.01 mm
Range	5 mm
Range per revolution	0.5 mm
Bezel-Ø	40 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 0.0500.9.0006
Initial measuring force	1.5 N ± 20%
Dimensioned drawing	page 45
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Model shown: KM 4 R



On the Small Dial Gauge KM 4/5 R the dimension of 7.5 mm in the above dimensioned drawing has been increased to 9.5 mm and the overall length from 66.3 mm to 68.3 mm.

Technical data for other Small Dial Gauges with back plunger

Model	Reading	Range	Dial Numbering	Bezel Ø	Dimensions and accuracy according to
KM 5 a R	0.1 mm	5 mm	0 – 5	40 mm	DIN EN ISO 463 / manufacturing standard 0.0500.9.0004
SI-45 R	0.01 mm	0.4 mm	20 – 0 – 20	40 mm	DIN EN ISO 463 / manufacturing standard 0.0500.9.0006
SI-45/0.8 R	0.01 mm	0.8 mm	40 – 0 – 40	40 mm	DIN EN ISO 463 / manufacturing standard 0.0500.9.0006
KM 500 R	0.002 mm	1 mm	0 – 100 / 0 – 100	40 mm	DIN EN ISO 463 / manufacturing standard 0.0500.9.0007
KM 1000 R	0.001 mm	1 mm	0 – 100 / 0 – 100	40 mm	DIN EN ISO 463 / manufacturing standard 0.0500.9.0007

Special fittings:



Only for KM 4/5 R



Ideal for use in measuring fixtures

Dial Gauge M 2 R

with back plunger

Dial Gauge M 2/5 R

with back plunger

The models M 2 R and M 2/5 R differ only in their measuring ranges. Both Dial Gauges can be held either on the standard 8 mm h 6 stem or on the 28 mm diameter spigot.

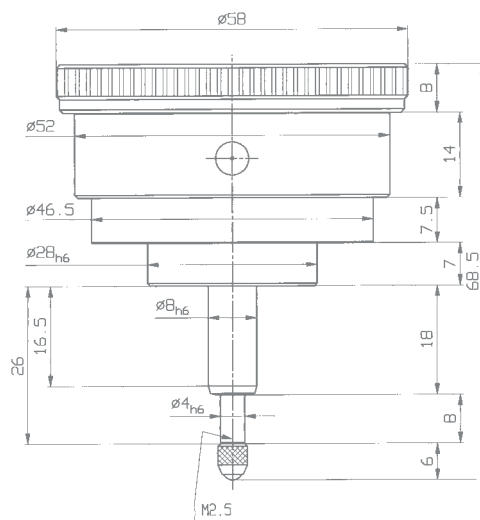
Spindle and stem are made of resistant stainless steel. The spindle is lapped.

Dial Gauge M 2 R with back plunger	
Reading	0.01 mm
Range	3 mm
Range per revolution	1 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 0.0500.9.0006
Initial measuring force	1.5 N ± 20%
Dimensioned drawing	page 46
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de

Dial Gauge M 2/5 R with back plunger	
Reading	0.01 mm
Range	5 mm
Range per revolution	1 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 0.0500.9.0006
Initial measuring force	1.5 N ± 20%
Dimensioned drawing	page 46
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Model shown: M 2 R



On the Dial Gauge M 2/5 R the dimension of 7.5 mm at Ø 46.5 mm in the above dimensioned drawing has been increased to 9.5 mm and the overall length from 68.5 mm to 70.5 mm.

Technical data for other Dial Gauges with back plunger

Model	Reading	Range	Dial Numbering	Bezel Ø	Dimensions and accuracy according to
M 10/5 R	0.1 mm	5 mm	0 – 5	58 mm	DIN EN ISO 463 / manufacturing standard 0.0500.9.0004
SI-90 R	0.01 mm	0.8 mm	40 – 0 – 40	58 mm	DIN EN ISO 463 / manufacturing standard 0.0500.9.0006
SI-18 R	0.01 mm	1.6 mm	80 – 0 – 80	58 mm	DIN EN ISO 463 / manufacturing standard 0.0500.9.0006
FM 500 R	0.002 mm	1 mm	0 – 100 / 0 – 100	58 mm	DIN EN ISO 463 / manufacturing standard 0.0500.9.0007
FM 1000 R	0.001 mm	1 mm	0 – 100 / 0 – 100	58 mm	DIN EN ISO 463 / manufacturing standard 0.0500.9.0007

Special fittings:



Error Free Dial Gauges

with overtravel and limited measuring range

In order to avoid reading errors the measuring range of these Dial Gauges is limited to slightly less than one revolution of the pointer. Therefore a measurement can only be performed within the range of one revolution of the hand guaranteeing error free reading of the Dial Gauge.

The following quality features apply with exception of model SI-9/0.1 to our entire manufacturing programme of Error Free Dial Gauges:

- The large overtravel assists with the insertion of test pieces into the measuring device.
- The circular scale can only be rotated by 36° (Except model MU 52 ST-SI: bezel rotatable by 360°)
- Double safeguard for the limitation of the measuring range:
 - a) Stop in the movement
 - b) Stop on the facet ring (Except model MU 52 ST-SI)
- Effective impact protection

Error Free Dial Gauges designated with capital letter W in the order code are waterproof. A detailed description of the model series of Waterproof Dial Gauges can be found on pages 53 to 59 of the catalogue.

The Dial Gauge SI-90 X from our series X incorporates quality injection moulded components combined with conventional metal components. This design concept offers high precision model SI-90 X having very low weight.

Technical data for Metric Error Free Dial Gauges

Model	Reading	Range	Dial Reading	Overtravel	Bezel-Ø	Accuracy according to
SI-9/0.1	0.1 mm	8 mm	4 - 0 - 4	–	58 mm	Manufacturing standard 0.0500.9.0004
SI-45	0.01 mm	0.4 mm	20 - 0 - 20	4.5 mm	40 mm	DIN 878
SI-45/0.8	0.01 mm	0.8 mm	40 - 0 - 40	4 mm	40 mm	DIN 878
SI-50	0.01 mm	0.5 mm	25 - 0 - 25	4.5 mm	58 mm	DIN 878
SI-90	0.01 mm	0.8 mm	40 - 0 - 40	9 mm	58 mm	DIN 878
MU 52 ST-SI	0.01 mm	0.8 mm	40 - 0 - 40	7 mm	58 mm	DIN 878
M 2 TOP SI	0.01 mm	0.8 mm	40 - 0 - 40	7 mm	58 mm	DIN 878
SI-90 X	0.01 mm	0.8 mm	40 - 0 - 40	7 mm	58 mm	DIN 878
SI-100	0.01 mm	1.0 mm	50 - 0 - 50	9 mm	58 mm	DIN 878
SI-18	0.01 mm	1.6 mm	80 - 0 - 80	8 mm	58 mm	Manufacturing standard 0.4223.9.0008
M 3 a SI	0.005 mm	0.4 mm	20 - 0 - 20	4.5 mm	58 mm	DIN 878
KM 500 SI	0.002 mm	0.16 mm	80 - 0 - 80	4.5 mm	40 mm	Manufacturing standard 0.0500.9.0001
FM 500 SI	0.002 mm	0.16 mm	80 - 0 - 80	4.5 mm	58 mm	Manufacturing standard 0.0500.9.0001
Feinika SI-914	0.001 mm	0.08 mm	40 - 0 - 40	3 mm	40 mm	Manufacturing standard 0.0500.9.0010
Feinika SI-910	0.001 mm	0.1 mm	50 - 0 - 50	4 mm	40 mm	Manufacturing standard 0.0500.9.0010
Feinika SI-915	0.001 mm	0.08 mm	40 - 0 - 40	4.5 mm	58 mm	Manufacturing standard 0.0500.9.0010
Feinika SI-916	0.001 mm	0.1 mm	50 - 0 - 50	4.5 mm	58 mm	Manufacturing standard 0.0500.9.0010
SI-180	0.001 mm	0.16 mm	80 - 0 - 80	4.5 mm	58 mm	Manufacturing standard 0.0500.9.0001
Feinika SI-918	0.001 mm	0.16 mm	80 - 0 - 80	4.5 mm	58 mm	Manufacturing standard 0.0500.9.0010

Dimensions of all models according to DIN EN ISO 463.



Error Free Dial Gauge SI-45

shockproof, with overtravel

Due to their high-class impact protection the Error Free Dial Gauges SI-45 and SI-45/0.8 offer an extremely long service life. A gear rack sleeve covering the length of the spindle is arranged and sprung in such a way that the shocks against the measuring insert are not transferred to the measuring gear. The Dial Gauges are robust in operation. Their precision is maintained with practically no limitations.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

Error Free Dial Gauge SI-45 shockproof, with overtravel	
Reading	0.01 mm
Range	0.4 mm
Overtravel	4.5 mm
Bezel-Ø	40 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463/DIN 878	
Initial measuring force	0.8 N ± 20%
Dimensioned drawing	page 48
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



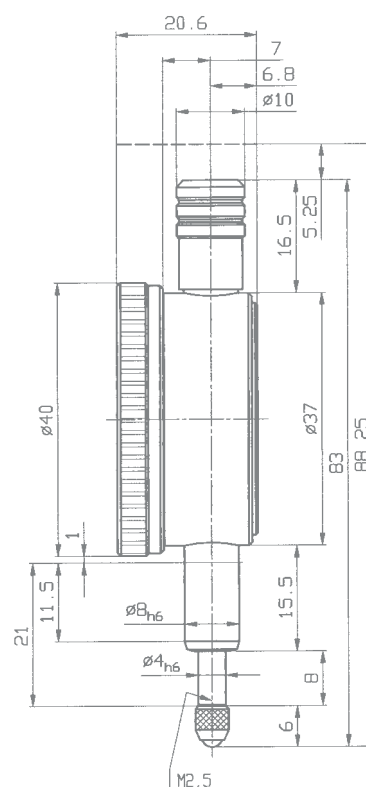
Error Free Dial Gauge SI-45/0.8

shockproof, with overtravel

Error Free Dial Gauge SI-45/0.8 shockproof, with overtravel	
Reading	0.01 mm
Range	0.8 mm
Overtravel	4 mm
Bezel-Ø	40 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463/DIN 878	
Initial measuring force	0.8 N ± 20%
Dimensioned drawing	page 48
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Model shown: SI-45



On request the Safety Dial Gauges SI-45 and SI-45/0.8 can also be supplied as waterproof version. Their model designations are SI-45 W and SI-45/0.8 W. Please note that in this case the dimensions of the above drawing do not apply.

Special fittings:





Error Free Dial Gauge SI-90

shockproof

Due to their effective shockproof system these Dial Gauges have an exceptionally long service life. A gear rack sleeve covering the length of the spindle is arranged and sprung in such a way that shocks against the measuring insert are not transferred to the movement. The Dial Gauges are robust in operation. Their precision is maintained with practically no limitations.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

Error Free Dial Gauge SI-90 shockproof, with overtravel	
Reading	0.01 mm
Range	0.8 mm
Overtravel	9 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463/DIN 878	
Initial measuring force	on request
Dimensioned drawing	page 50
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Error Free Dial Gauge SI-18

shockproof

Error Free Dial Gauge SI-18 shockproof, with overtravel	
Reading	0.01 mm
Range	1.6 mm
Overtravel	8 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463 / manufacturing standard 0.4233.9.0008	
Initial measuring force	on request
Dimensioned drawing	page 50
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Special fittings:





Error Free Dial Gauge SI-100

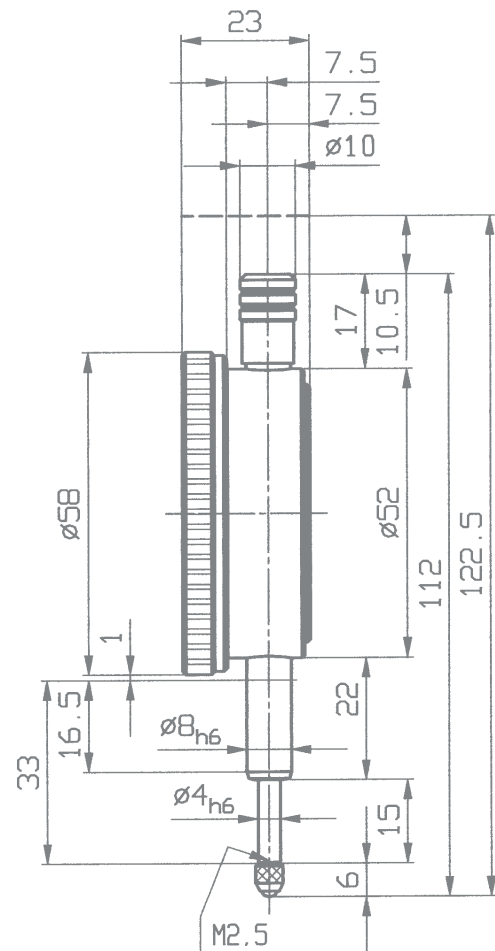
shockproof, with overtravel

Due to its high-class impact protection the Safety Dial Gauge SI-100 offers an extremely long service life. A gear rack sleeve covering the length of the spindle is arranged and sprung in such a way that the shocks against the measuring insert are not transferred to the measuring gear. The Dial Gauge is robust in operation. Its precision is maintained with practically no limitations.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

Error Free Dial Gauge SI-100 shockproof, with overtravel

Reading	0.01 mm
Range	1.0 mm
Overtravel	9 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463/DIN 878	
Initial measuring force	on request
Dimensioned drawing	page 50
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Special fittings:

50





Error Free Dial Gauge MU 52 ST – SI

shockproof, with overtravel

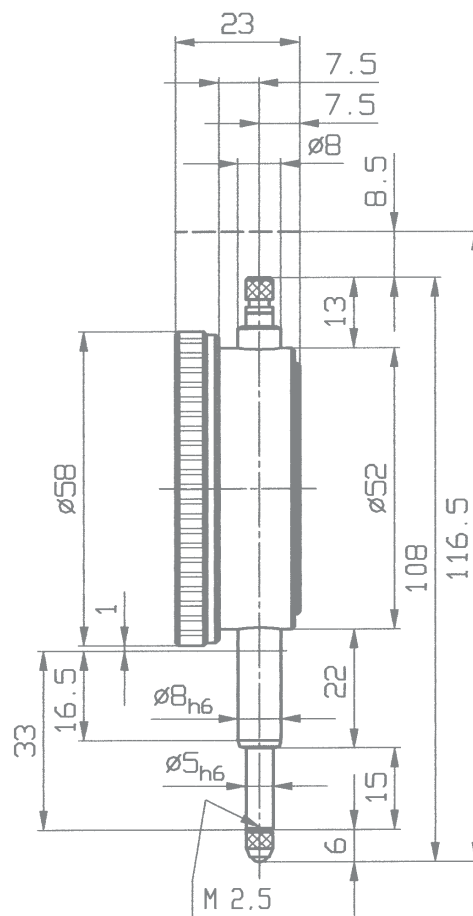
Kaefer

Except for the limited measuring range all technical features of model MU 52 ST – SI are the same as for model MU 52 ST shown on catalogue page 12.

The bezel of model MU 52 ST – SI can be rotated through 360°.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

Error Free Dial Gauge MU 52 ST - SI	
shockproof, with overtravel	
Reading	0.01 mm
Range	0.8 mm
Overtravel	7 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463/DIN 878	
Initial measuring force	0.6 N ± 20%
Dimensioned drawing	page 51
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Special fittings:





Error Free Dial Gauge Feinika SI-914

shockproof, with overtravel

Dial Gauges Feinika possess a movement similar to that of Comparator Gauges. The combined gear and lever transmission guarantees high accuracy and low hysteresis. Dial Gauges Feinika are therefore best suited as error free 0.001 mm-reading Dial Gauges.

Dial Gauges Feinika are supplied as standard version with lifting bush and metal bezel. The spindle is lapped.

Error Free Dial Gauge SI-914 shockproof, with overtravel	
Reading	0.001 mm
Range	0.08 mm
Overtravel	3 mm
Bezel-Ø	40 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 0.0500.9.0010
Initial measuring force	0.7 N ± 20%
Dimensioned drawing	page 52
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



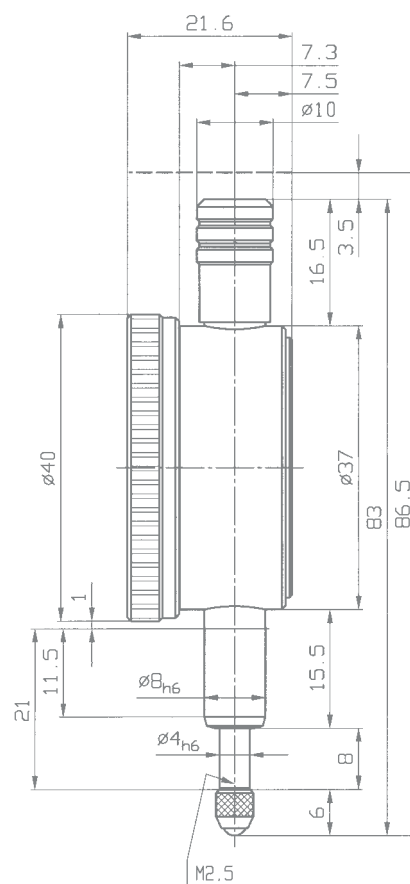
Error Free Dial Gauge Feinika SI-915

shockproof, with overtravel

Error Free Dial Gauge SI-915 shockproof, with overtravel	
Reading	0.001 mm
Range	0.08 mm
Overtravel	4.5 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 0.0500.9.0010
Initial measuring force	1.3 N ± 20%
Dimensioned drawing	on request
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Model shown: SI-914



On request the Error Free Dial Gauges SI-914 and SI-915 can also be supplied as waterproof version. Their model designations are SI-914 W and SI-915 W. Please note that in this case the dimensions of the above drawing do not apply.

Special fittings:



Waterproof Dial Gauges

shockproof

In the workshop it is unavoidable that Precision Dial Gauges are in contact with oil, water mist or dust. Our range of hermetically sealed Waterproof Dial Gauges has been specially designed to withstand these conditions. These extremely robust Precision Dial Gauges conforming to protection class IP 67 bear the order code ,W'.

Their features are:

- A flexible rubber bellows is fitted where the spindle enters the stem.
- The upper end of the measuring spindle is sealed by a safety cap and an ,O' ring.
- A new design of the metal bezel and its assembly produces a perfect seal. Its special features include ,O' rings, flat glasses and a screwed-on brass ring.
- An additional ,O' ring is placed between the rotating outer ring and the indicator's metal housing.
- The back plate is fitted in such a way that no foreign matter can enter.
- Effective shockproof system (except model M 2 RW).

Technical data for Metric Waterproof Dial Gauges IP 67

Model	Reading	Range per revolution	Range	Bezel-Ø	Accuracy according to
KM 4 SW	0.01 mm	0.5 mm	3 mm	44.5 mm	DIN 878
KM 4/5 SW	0.01 mm	0.5 mm	5 mm	44.5 mm	DIN 878
SI-45 W	0.01 mm	–	0.4 mm	44.5 mm	DIN 878
M 2 SW	0.01 mm	1 mm	10 mm	61.5 mm	DIN 878
M 2/30 SW	0.01 mm	1 mm	30 mm	61.5 mm	Manufacturing standard 1.0200.9.0014
M 2 RW	0.01 mm	1 mm	3 mm	61.5 mm	Manufacturing standard 0.0500.9.0006
SI-90 W	0.01 mm	–	0.8 mm	61.5 mm	DIN 878
GM 80 SW	0.01 mm	1 mm	10 mm	80 mm	Manufacturing standard 0.0200.9.0006
KM 500 SW	0.002 mm	0.2 mm	1 mm	44.5 mm	Manufacturing standard 0.0500.9.0001
Feinika KM 1101 W	0.001 mm	0.1 mm	1 mm	44.5 mm	Manufacturing standard 0.0500.9.0010
Feinika FM 1101 W	0.001 mm	0.1 mm	1 mm	61.5 mm	Manufacturing standard 0.0500.9.0010
FM 1000 SW	0.001 mm	0.2 mm	1 mm	61.5 mm	Manufacturing standard 0.0500.9.0001
FM 1000/5 SW	0.001 mm	0.2 mm	5 mm	61.5 mm	Manufacturing standard 0.0500.9.0001

Other Dial Gauges from our manufacturing programme with a measuring range of maximum 30 mm can also be supplied water- and oilproof. Please request our respective offer.



Small Dial Gauge KM 4 SW

waterproof, shockproof

Due to their high-class impact protection the Small Dial Gauges KM 4 SW and KM 4/5 SW offer an extremely long service life. A gear rack sleeve covering the length of the spindle is arranged and sprung in such a way that the shocks against the measuring insert are not transferred to the measuring gear. These Dial Gauges are robust in operation. Their precision is maintained with practically no limitations.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

Small Dial Gauge KM 4 SW waterproof, shockproof	
Reading	0.01 mm
Range	3 mm
Range per revolution	0.5 mm
Bezel-Ø	44.5 mm
Stem-Ø	8 h 6
Accuracy according to	DIN 878
Initial measuring force	1.0 N ± 20%
Dimensioned drawing	page 54
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



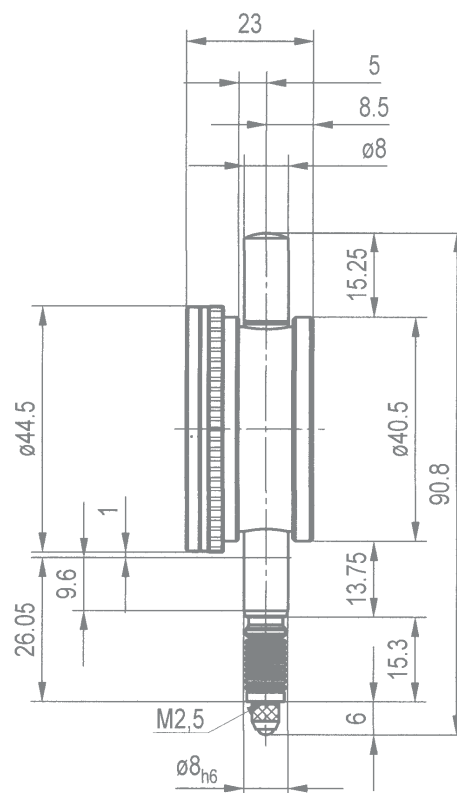
Model shown: KM 4 SW



Small Dial Gauge KM 4/5 SW

waterproof, shockproof

Small Dial Gauge KM 4/5 SW waterproof, shockproof	
Reading	0.01 mm
Range	5 mm
Range per revolution	0.5 mm
Bezel-Ø	44.5 mm
Stem-Ø	8 h 6
Accuracy according to	DIN 878
Initial measuring force	0.9 N ± 20%
Dimensioned drawing	page 54
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de

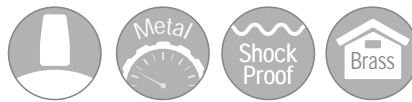


The above dimensioned drawing also applies to the Safety Dial Gauge SI-45 W.

On models KM 4 SW and SI-45 W the dimension 15.25 mm at the top is 12.25 mm instead. The overall length thus becomes 87.8 mm instead of 90.8 mm.

Special fittings:





Dial Gauge M 2 SW

waterproof, shockproof

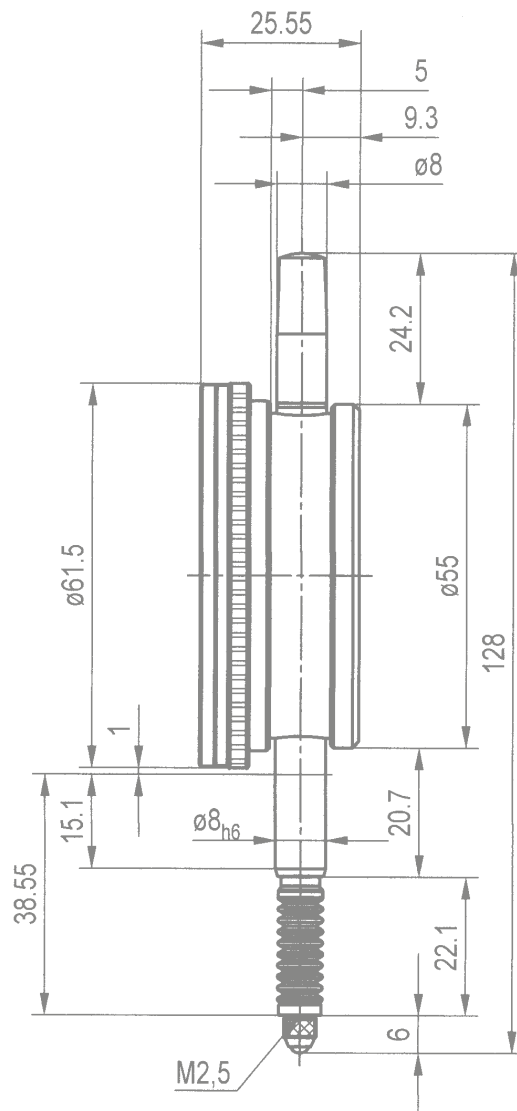
The waterproof Precision Dial Gauge M 2 SW also has a bezel which can be rotated through 360°.

When changing the measuring insert attention has to be paid that the spacer disc between the measuring insert and the rubber bellows is put back again. Otherwise the Dial Gauge is no longer sealed against the ingress of contamination.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

Precision Dial Gauge M 2 SW waterproof, shockproof

Reading	0.01 mm
Range	10 mm
Range per revolution	1 mm
Bezel-Ø	61.5 mm
Stem-Ø	8 h 6
Accuracy according to	DIN 878
Initial measuring force	on request
Dimensioned drawing	page 55
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Special fittings:





Dial Gauge M 2 RW

waterproof, back plunger

Model M 2 RW is a Precision Dial Gauge with back plunger which is waterproof according to protection class IP 67.

Effective impact protection protects the waterproof Dial Gauge M 2/30 SW even from hard impacts on the rack.

Spindle and stem are made of stainless steel. The spindle is lapped.

Dial Gauge M 2 RW waterproof, back plunger	
Reading	0.01 mm
Range	3 mm
Range per revolution	1 mm
Bezel-Ø	61.5 mm
Stem-Ø	8 h 6
Accuracy according to	manufacturing standard 0.0500.9.0006
Initial measuring force	1.7 N ± 20%
Dimensioned drawing	on request
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Dial Gauge M 2/30 SW

waterproof, shockproof

Dial Gauge M 2/30 SW waterproof, shockproof	
Reading	0.01 mm
Range	30 mm
Range per revolution	1 mm
Bezel-Ø	61.5 mm
Stem-Ø	8 h 6
Accuracy according to	manufacturing standard 1.0200.9.0014
Initial measuring force	1.3 N ± 20%
Dimensioned drawing	on request
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Special fittings:





Error Free Dial Gauge SI-90 W

waterproof, shockproof

Due to its high-class impact protection the Safety Dial Gauge SI-90 W offers an extremely long service life. A gear rack sleeve covering the length of the spindle is arranged and sprung in such a way that the shocks against the measuring insert are not transferred to the measuring gear. The Dial Gauge is robust in operation. Its precision is maintained with practically no limitations.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

Error Free Dial Gauge SI-90 W waterproof, shockproof

Reading	0.01 mm
Range	0.8 mm
Overtravel	9 mm
Bezel-Ø	61.5 mm
Stem-Ø	8 h 6
Accuracy according to	DIN 878
Initial measuring force	on request
Dimensioned drawing	page 55
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



On request other Dial Gauges from our manufacturing programme are available in waterproof version.

- Dial Gauge M 3 SW
- Dial Gauge M 3 a SW
- Dial Gauge SI-18 W

Please request our offers.

Special fittings:





Dial Gauge GM 80 SW

waterproof, shockproof

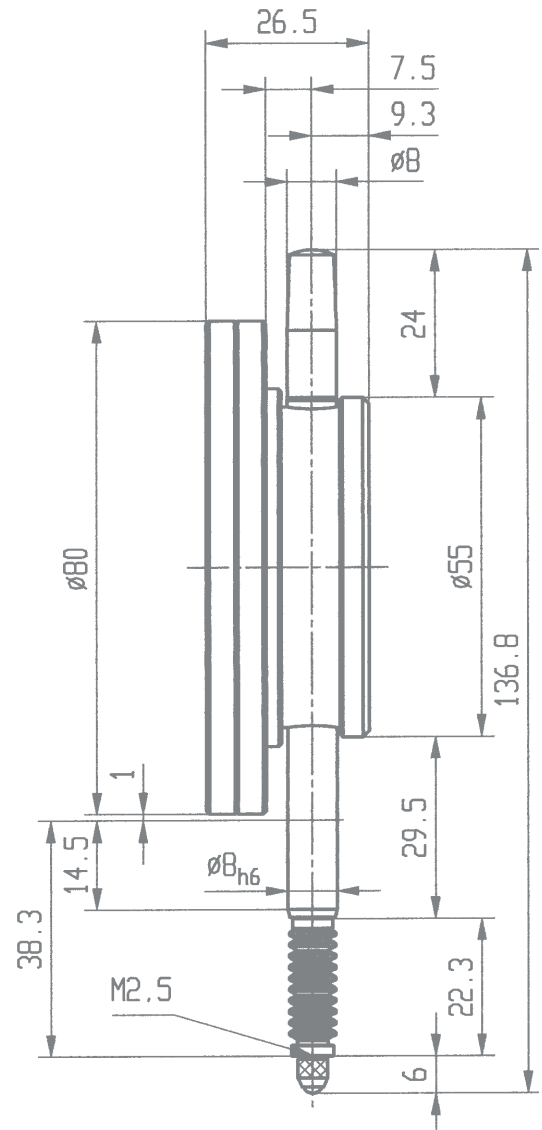
Model GM 80 SW is a Precision Dial Gauge with 80 mm bezel diameter which is waterproof according to protection class IP 67.

The high-class impact protection of the Dial Gauge GM 80 SW results in an exceptionally long service life. A gear rack sleeve covering the length of the spindle is arranged and sprung in such a way that the shocks against the measuring insert are not transferred to the measuring gear. The Dial Gauge is robust in operation. Its precision is maintained with practically no limitations.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

Dial Gauge GM 80 SW waterproof, shockproof

Reading	0.01 mm
Range	10 mm
Range per revolution	1 mm
Bezel-Ø	80 mm
Stem-Ø	8 h 6
Accuracy according to	manufacturing standard 0.0200.9.0016
Initial measuring force	on request
Dimensioned drawing	page 58
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Special fittings:





Dial Gauge FM 1000/5 SW

waterproof, shockproof

The high-class impact protection of the Dial Gauges FM 1000/5 SW and FM 1000 SW results in an exceptionally long service life. A gear rack sleeve covering the length of the spindle is arranged and sprung in such a way that the shocks against the measuring insert are not transferred to the measuring gear. The Dial Gauge is robust in operation. Its precision is maintained with practically no limitations.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

Dial Gauge FM 1000/5 SW waterproof, shockproof	
Reading	0.001 mm
Range	5 mm
Range per revolution	0.2 mm
Bezel-Ø	61.5 mm
Stem-Ø	8 h 6
Accuracy according to	manufacturing standard 0.0500.9.0001
Initial measuring force	on request
Dimensioned drawing	page 59
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



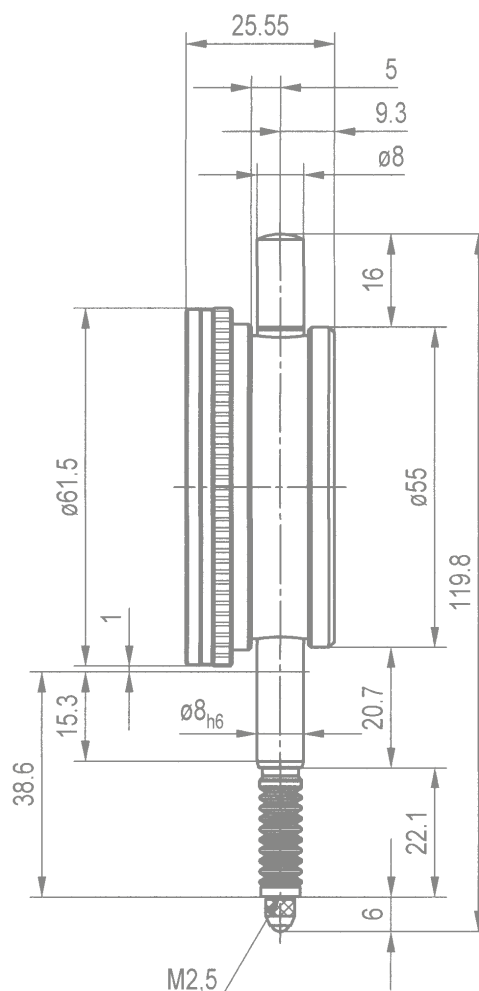
Dial Gauge FM 1000 SW

waterproof, shockproof

Dial Gauge FM 1000 SW waterproof, shockproof	
Reading	0.001 mm
Range	1 mm
Range per revolution	0.2 mm
Bezel-Ø	61.5 mm
Stem-Ø	8 h 6
Accuracy according to	manufacturing standard 0.0500.9.0001
Initial measuring force	on request
Dimensioned drawing	page 59
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Model shown: FM 1000/5 SW



Special fittings:





Dial Gauge M 2 S wa

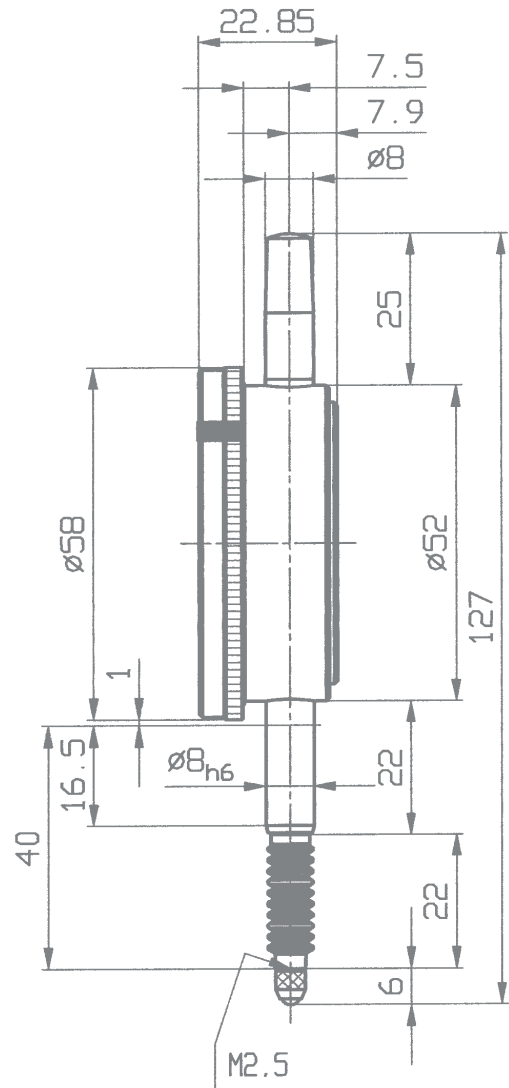
water protected, shockproof

Water protected Dial Gauges are to be recommended for applications where splash water prevails. These Dial Gauges conforming to protection class **IP53** bear the order code ,wa'.

The transparent front cover, made of knock resistant plastics, with its anti-reflective coating reduces shadows on the dial face and makes the Dial Gauge M 2 S wa very easy to read even at awkward angles that may often be found in fixture applications.

Precision Dial Gauge M 2 S wa, water protected

Reading	0.01 mm
Range	10 mm
Range per revolution	1 mm
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Accuracy according to	DIN 878
Initial measuring force	on request
Dimensioned drawing	page 60
Data sheet to DIN EN ISO 463	www.kaefer-messuhren.de



Special fittings:

60



Inch Reading Precision Dial Gauges

Technical data for Inch Reading Precision Dial Gauges with metric stem-Ø and thread size

Page	Model	Reading	Range per revolution	Dial Reading	Range	Bezel-Ø	Stem-Ø	Special Feature
63	MU 28 ZO	.0005"	.020"	0–20	.140"	28 mm	8 mm h 6	
63	KZO 6 T	.0005"	.020"	0–20	.120"	32 mm	8 mm h 6	
–	KZO 4 T	.001"	.020"	0–20	.120"	40 mm	8 mm h 6	
–	KZO 4 R	.001"	.020"	0–20	.120"	40 mm	8 mm h 6	Back Plunger
–	KZO 4/5 SW	.001"	.100"	0–100	.200"	44.5 mm	8 mm h 6	Waterproof
–	ZO 2 T	.001"	.100"	0–100	.500"	58 mm	8 mm h 6	
–	ZO 2 S	.001"	.100"	0–100	.400"	58 mm	8 mm h 6	Shockproof
–	SI-90 Z	.001"	–	40–0–40	.080"	58 mm	8 mm h 6	Error Free
–	ZO 2/30 T	.001"	.100"	0–100	1.000"	58 mm	8 mm h 6	
–	ZO 2/50 T	.001"	.100"	0–100	2.000"	58 mm	8 mm h 6	
62	ZO 3 T	.0005"	.050"	0–50	.500"	58 mm	8 mm h 6	
62	ZO 3 S	.0005"	.050"	0–50	.400"	58 mm	8 mm h 6	Shockproof
–	ZO 3/30 T	.0005"	.050"	0–50	1.000"	58 mm	8 mm h 6	
–	ZO 3/50 T	.0005"	.050"	0–50	2.000"	58 mm	8 mm h 6	
–	ZO 3 R	.0005"	.050"	0–50	.120"	58 mm	8 mm h 6	Back Plunger
–	ZO 3/5 R	.0005"	.050"	0–50	.200"	58 mm	8 mm h 6	Back Plunger
–	ZO 3 SNW	.0005"	.050"	0–50	.400"	61.5 mm	8 mm h 6	Waterproof
–	GZ 80 T	.0005"	.050"	0–50	.500"	80 mm	8 mm h 6	
–	GZ 100 T	.0005"	.050"	0–50	.500"	100 mm	8 mm h 6	
–	KFZO T	.0001"	.010"	0–10	.040"	40 mm	8 mm h 6	
–	KFZO S	.0001"	.010"	0–10	.040"	40 mm	8 mm h 6	Shockproof
–	KFZO 1101	.00005"	.005"	0–50	.040"	40 mm	8 mm h 6	Shockproof, extra accurate movement
–	SI-914 ZO	.00005"	–	20–0–20	.004"	40 mm	8 mm h 6	Error Free, extra accurate movement
64	FZO T	.0001"	.010"	0–10	.040"	58 mm	8 mm h 6	
64	FZO 5 T	.0001"	.010"	0–10	.200"	58 mm	8 mm h 6	
–	FZO 1101	.00005"	.005"	0–50	.040"	58 mm	8 mm h 6	Shockproof, extra accurate movement
–	SI-915 ZO	.00005"	–	20–0–20	.004"	58 mm	8 mm h 6	Error Free, extra accurate movement
–	FZ 80 T	.0001"	.010"	0–10	.040"	80 mm	8 mm h 6	
–	FZ 80/5 T	.0001"	.010"	0–10	.200"	80 mm	8 mm h 6	

All models of the above table have a stem-diameter of 8 mm h 6 and a thread M 2.5. The Dial Gauges will be supplied with flat backs. A mounting lug is available at extra charge.

Inch Reading Dial Gauges are also available with measurements equivalent to the American Standard ANSI B89.1.10M-2001. These instruments have a stem-Ø of $\frac{3}{8}$ ", the thread for the contact point is 4/48 UNF. For details concerning this Dial Gauge series please see the table on pages 65 and 66.



Inch Dial Gauge ZO 3 T

Inch Dial Gauge ZO 3 S

shockproof

The Dial Gauges ZO 3 T and ZO 3 S will be supplied with continuous dial reading and flat backs. On request balanced dials and lug backs are available at extra charge.

Due to its effective shockproof system the Dial Gauge ZO 3 S has an exceptionally long service life. A gear rack sleeve covering the length of the spindle is arranged and sprung in such a way that the shocks against the measuring insert are not transferred to the measuring gear. An additional feature of this Dial Gauge is the incorporated fine adjustment of the pointer. By turning the knurled screw at the top, the large hand can be easily set to 0 without turning the bezel and the outer dial.

DIN-standard 878 applies to all permissible deviation spans analogous.

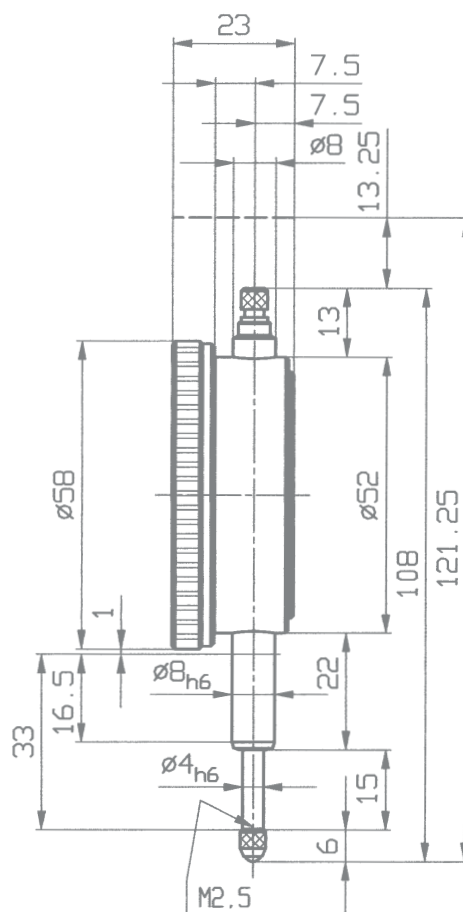
Spindle and stem are made of resistant stainless steel. The spindle is lapped.

Inch Dial Gauge ZO 3 T	
Reading	.0005"
Range	.500"
Range per revolution	.050"
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463/DIN 878	
Initial measuring force	0.8 N ± 20%
Dimensioned drawing	page 62

Inch Dial Gauge ZO 3 S shockproof	
Reading	.0005"
Range	.400"
Range per revolution	.050"
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to DIN EN ISO 463/DIN 878	
Initial measuring force	0.9 N ± 20%
Dimensioned drawing	same as M 2 S on page 14



Model shown: ZO 3 T



Special fittings:





Small Inch Dial Gauge MU 28 ZO

The Dial Gauge MU 28 ZO is the smallest model of our broad manufacturing programme. Its extremely small overall dimensions require a special adjustment procedure according to a manufacturing standard.

Spindles and stems of the Small Dial Gauges MU 28 ZO and KZO 6 T are made of resistant stainless steel. The spindles are lapped.

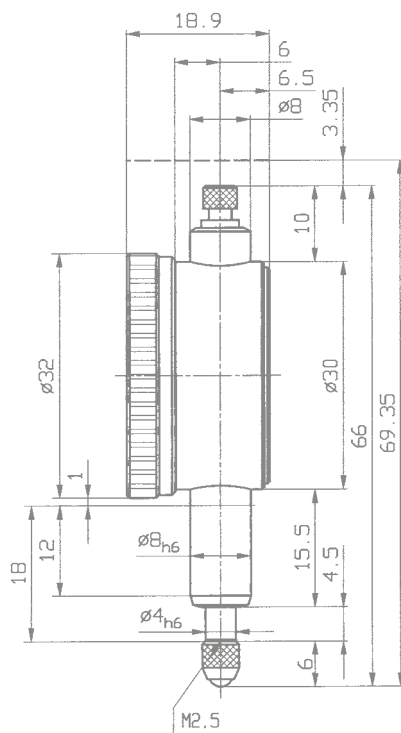
Small Inch Dial Gauge MU 28 ZO	
Reading	.0005"
Range	.140"
Range per revolution	.020"
Bezel-Ø	28 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 4.0000.9.0012
Initial measuring force	0.8 N ± 20%
Dimensioned drawing	same as model MU 28 page 24

Small Inch Dial Gauge KZO 6 T

On request the Small Dial Gauge KZO 6 T is also available with special fittings:

- KZO 6 T with lifting device
- KZO 6 T with lug back
- KZO 6 T with customized dial

Small Inch Dial Gauge KZO 6 T	
Reading	.0005"
Range	.120"
Range per revolution	.020"
Bezel-Ø	32 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463/DIN 878
Initial measuring force	0.7 N ± 20%
Dimensioned drawing	page 63



Special fittings for KZO 6 T:





Inch Dial Gauge FZO T

The carefully thought-out design, the use of selected components and materials as well as the movement perfected by precision engineering guarantee reliable measuring results and a long service life of our Precision Dial Gauges.

Spindle and stem are made of resistant stainless steel. The spindle is lapped.

Inch Dial Gauge FZO T	
Reading	.0001"
Range	.040"
Range per revolution	.010"
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 0.0800.9.0005
Initial measuring force	1.3 N ± 20%
Dimensioned drawing	page 64

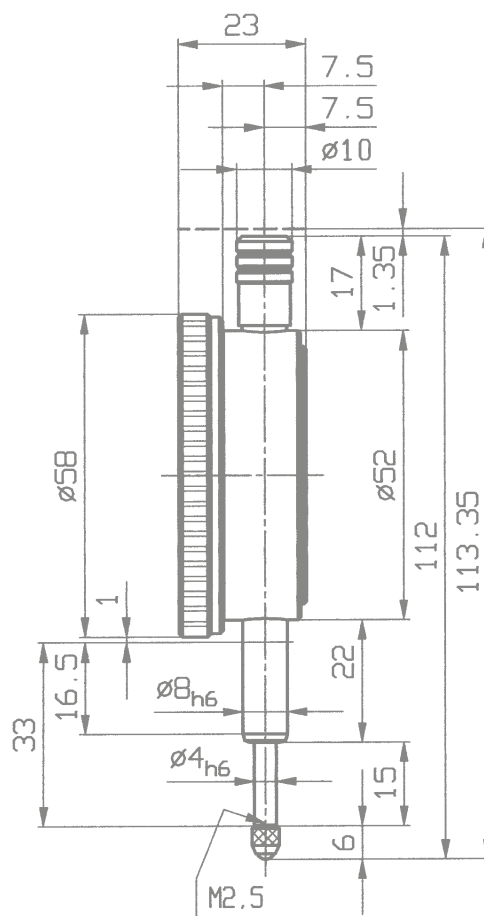


Model shown: FZO T



Inch Dial Gauge FZO 5 T

Inch Dial Gauge FZO 5 T	
Reading	.0001"
Range	.200"
Range per revolution	.010"
Bezel-Ø	58 mm
Stem-Ø	8 h 6
Dimensions and accuracy according to	DIN EN ISO 463 / manufacturing standard 0.0800.9.0005
Initial measuring force	1.4 N ± 20%
Dimensioned drawing	on request



Special fittings:



Inch Reading Precision Dial Gauges to ANSI Standard



Technical data for Inch Reading Precision Dial Gauges to ANSI Standard

Page	Model	Reading	Range per revolution	Dial Reading	Range	Bezel-Ø	Stem-Ø	Special Feature
-	KZ 6 T	.0005"	.020"	0-20	.120"	1 13/50"	3/8"	
67	KZ 4/5 Sb	.001"	.100"	0-50-0	.200"	1 9/16"	3/8"	Shockproof
-	KZ 4/5 Sb FS	.001"	.100"	0-50-0	.200"	1 9/16"	3/8"	Shockproof, fixing screw
-	KZ 4/5 Sb LB	.001"	.100"	0-50-0	.200"	1 9/16"	3/8"	Shockproof, lug back
72	KZ 4/5 Rb	.001"	.020"	0-10-0	.200"	1 9/16"	3/8"	Back plunger
-	KZ 4/5 Rb FS	.001"	.020"	0-10-0	.200"	1 9/16"	3/8"	Back plunger, fixing screw
-	KZ 4 SI	.001"	-	40-0-40	.080"	1 9/16"	3/8"	Error Free
-	KZ 4 SI FS	.001"	-	40-0-40	.080"	1 9/16"	3/8"	Error Free, fixing screw
-	KZ 4 SI LB	.001"	-	40-0-40	.080"	1 9/16"	3/8"	Error Free, lug back
-	KZ 4/5 SW b	.001"	.100"	0-50-0	.200"	1 4/5"	3/8"	Waterproof
-	Z 1 Ta	.001"	.100"	0-100	.250"	2 1/4"	3/8"	
-	Z 1 Ta FS	.001"	.100"	0-100	.250"	2 1/4"	3/8"	Fixing screw
-	Z 1 Ta LB	.001"	.100"	0-100	.250"	2 1/4"	3/8"	Lug back
-	Z 1 Tb	.001"	.100"	0-50-0	.250"	2 1/4"	3/8"	
-	Z 1 Tb FS	.001"	.100"	0-50-0	.250"	2 1/4"	3/8"	Fixing screw
-	Z 1 Tb LB	.001"	.100"	0-50-0	.250"	2 1/4"	3/8"	Lug back
-	Z 2 Ta	.001"	.100"	0-100	.250"	2 1/4"	3/8"	
-	Z 2 Ta FS	.001"	.100"	0-100	.250"	2 1/4"	3/8"	Fixing screw
-	Z 2 Ta LB	.001"	.100"	0-100	.250"	2 1/4"	3/8"	Lug back
-	Z 2 Tb	.001"	.100"	0-50-0	.250"	2 1/4"	3/8"	
-	Z 2 Tb FS	.001"	.100"	0-50-0	.250"	2 1/4"	3/8"	Fixing screw
-	Z 2 Tb LB	.001"	.100"	0-50-0	.250"	2 1/4"	3/8"	Lug back
68	Z 2/8 SNb	.001"	.100"	0-50-0	.312"	2 1/4"	3/8"	Shockproof
-	Z 2/8 SNb FS	.001"	.100"	0-50-0	.312"	2 1/4"	3/8"	Shockproof, fixing screw
-	Z 2/8 SNb LB	.001"	.100"	0-50-0	.312"	2 1/4"	3/8"	Shockproof, lug back
69	ZMU 52 TK	.001"	.100"	0-100	.500"	2 1/4"	3/8"	
-	ZMU 52 TK LB	.001"	.100"	0-100	.500"	2 1/4"	3/8"	Lug back
69	ZMU 52/30 T	.001"	.100"	0-100	1.000"	2 1/4"	3/8"	
-	ZMU 52/30 T LB	.001"	.100"	0-100	1.000"	2 1/4"	3/8"	Lug back
70	Z 2/30 Ta	.001"	.100"	0-100	1.000"	2 1/4"	3/8"	
-	Z 2/30 Ta FS	.001"	.100"	0-100	1.000"	2 1/4"	3/8"	Fixing screw
-	Z 2/30 Ta LB	.001"	.100"	0-100	1.000"	2 1/4"	3/8"	Lug back
-	Z 2/50 Ta	.001"	.100"	0-100	2.000"	2 1/4"	3/8"	
-	Z 2/50 Ta FS	.001"	.100"	0-100	2.000"	2 1/4"	3/8"	Fixing screw
-	Z 2/50 Ta LB	.001"	.100"	0-100	2.000"	2 1/4"	3/8"	Lug back
-	Z 2/100 Ta	.001"	.100"	0-100	4.000"	2 1/4"	3/8"	
-	Z 2/100 Ta FS	.001"	.100"	0-100	4.000"	2 1/4"	3/8"	Fixing screw
-	Z 2/100 Ta LB	.001"	.100"	0-100	4.000"	2 1/4"	3/8"	Lug back
73	Z 2 SI	.001"	-	40-0-40	.080"	2 1/4"	3/8"	Error Free
-	Z 2 SI FS	.001"	-	40-0-40	.080"	2 1/4"	3/8"	Error Free, fixing screw
-	Z 2 SI LB	.001"	-	40-0-40	.080"	2 1/4"	3/8"	Error Free, lug back
-	GZ 80/100 T	.001"	.100"	0-100	4.000"	3 1/8"	3/8"	
-	GZ 80/100 T LB	.001"	.100"	0-100	4.000"	3 1/8"	3/8"	Lug back
67	KZ 3/5 Sb	.0005"	.040"	0-20-0	.200"	1 9/16"	3/8"	Shockproof
-	KZ 3/5 Sb FS	.0005"	.040"	0-20-0	.200"	1 9/16"	3/8"	Shockproof, fixing screw
-	KZ 3/5 Sb LB	.0005"	.040"	0-20-0	.200"	1 9/16"	3/8"	Shockproof, lug back
-	KZ 3 SI	.0005"	-	10-0-10	.020"	1 9/16"	3/8"	Error Free
-	KZ 3 SI FS	.0005"	-	10-0-10	.020"	1 9/16"	3/8"	Error Free, fixing screw
-	KZ 3 SI LB	.0005"	-	10-0-10	.020"	1 9/16"	3/8"	Error Free, lug back
-	Z 3 Ta	.0005"	.050"	0-50	.125"	2 1/4"	3/8"	
-	Z 3 Ta FS	.0005"	.050"	0-50	.125"	2 1/4"	3/8"	Fixing screw
-	Z 3 Ta LB	.0005"	.050"	0-50	.125"	2 1/4"	3/8"	Lug back
-	Z 3 Tb	.0005"	.050"	0-25-0	.125"	2 1/4"	3/8"	
-	Z 3 Tb FS	.0005"	.050"	0-25-0	.125"	2 1/4"	3/8"	Fixing screw
-	Z 3 Tb LB	.0005"	.050"	0-25-0	.125"	2 1/4"	3/8"	Lug back
-	Z 3/0.04 SNb	.0005"	.040"	0-20-0	.312"	2 1/4"	3/8"	Shockproof
-	Z 3/0.04 SNb FS	.0005"	.040"	0-20-0	.312"	2 1/4"	3/8"	Shockproof, fixing screw
-	Z 3/0.04 SNb LB	.0005"	.040"	0-20-0	.312"	2 1/4"	3/8"	Shockproof, lug back
70	Z 3/30 Ta	.0005"	.050"	0-50	1.000"	2 1/4"	3/8"	
-	Z 3/30 Ta FS	.0005"	.050"	0-50	1.000"	2 1/4"	3/8"	Fixing screw
-	Z 3/30 Ta LB	.0005"	.050"	0-50	1.000"	2 1/4"	3/8"	Lug back
-	Z 3/50 Ta	.0005"	.050"	0-50	2.000"	2 1/4"	3/8"	
-	Z 3/50 Ta FS	.0005"	.050"	0-50	2.000"	2 1/4"	3/8"	Fixing screw
-	Z 3/50 Ta LB	.0005"	.050"	0-50	2.000"	2 1/4"	3/8"	Lug back

Inch Reading Precision Dial Gauges to ANSI Standard

Technical data for Inch Reading Precision Dial Gauges to ANSI Standard

Page	Model	Reading	Range per revolution	Dial Reading	Range	Bezel-Ø	Stem-Ø	Special Feature
72	Z3/5 Rb	.0005"	.050"	0-25-0	.200"	2 1/4"	3/8"	Back plunger
-	Z3/5 Rb FS	.0005"	.050"	0-25-0	.200"	2 1/4"	3/8"	Back plunger, fixing screw
74	Z3 SNW	.0005"	.050"	0-50	.400"	2 27/64"	3/8"	Waterproof
-	FZ3 SI	.0005"	-	10-0-10	.020"	2 1/4"	3/8"	Error Free
-	FZ3 SI FS	.0005"	-	10-0-10	.020"	2 1/4"	3/8"	Error Free, fixing screw
-	FZ3 SI LB	.0005"	-	10-0-10	.020"	2 1/4"	3/8"	Error Free, lug back
-	KFZ Tb	.0001"	.010"	0-5-0	.040"	1 9/16"	3/8"	
-	KFZ Tb FS	.0001"	.010"	0-5-0	.040"	1 9/16"	3/8"	Fixing screw
-	KFZ Tb LB	.0001"	.010"	0-5-0	.040"	1 9/16"	3/8"	Lug back
-	KFZ3 Sb	.0001"	.010"	0-5-0	.100"	1 9/16"	3/8"	Shockproof
-	KFZ3 Sb FS	.0001"	.010"	0-5-0	.100"	1 9/16"	3/8"	Shockproof, fixing screw
-	KFZ3 Sb LB	.0001"	.010"	0-5-0	.100"	1 9/16"	3/8"	Shockproof, lug back
-	KFZ 1101	.00005"	.005"	0-50	.040"	1 9/16"	3/8"	Shockproof
-	KFZ 1101 FS	.00005"	.005"	0-50	.040"	1 9/16"	3/8"	Shockproof, fixing screw
-	KFZ 1101 LB	.00005"	.005"	0-50	.040"	1 9/16"	3/8"	Shockproof, lug back
-	SI-914 Z	.00005"	-	20-0-20	.004"	1 9/16"	3/8"	Error Free
-	SI-914 Z FS	.00005"	-	20-0-20	.004"	1 9/16"	3/8"	Error Free, fixing screw
-	SI-914 Z LB	.00005"	-	20-0-20	.004"	1 9/16"	3/8"	Error Free, lug back
-	FZ Ta	.0001"	.010"	0-10	.025"	2 1/4"	3/8"	
-	FZ Ta FS	.0001"	.010"	0-10	.025"	2 1/4"	3/8"	Fixing screw
-	FZ Ta LB	.0001"	.010"	0-10	.025"	2 1/4"	3/8"	Lug back
-	FZ Tb	.0001"	.010"	0-5-0	.025"	2 1/4"	3/8"	
-	FZ Tb FS	.0001"	.010"	0-5-0	.025"	2 1/4"	3/8"	Fixing screw
-	FZ Tb LB	.0001"	.010"	0-5-0	.025"	2 1/4"	3/8"	Lug back
-	FZ 1101	.00005"	.005"	0-50	.040"	2 1/4"	3/8"	Shockproof
-	FZ 1101 FS	.00005"	.005"	0-50	.040"	2 1/4"	3/8"	Shockproof, fixing screw
-	FZ 1101 LB	.00005"	.005"	0-50	.040"	2 1/4"	3/8"	Shockproof, lug back
-	FZ/2.5 Sb	.0001"	.010"	0-5-0	.100"	2 1/4"	3/8"	Shockproof
-	FZ/2.5 Sb FS	.0001"	.010"	0-5-0	.100"	2 1/4"	3/8"	Shockproof, fixing screw
-	FZ/2.5 Sb LB	.0001"	.010"	0-5-0	.100"	2 1/4"	3/8"	Shockproof, lug back
-	SI-915 Z	.00005"	-	20-0-20	.004"	2 1/4"	3/8"	Error Free
-	SI-915 Z FS	.00005"	-	20-0-20	.004"	2 1/4"	3/8"	Error Free, fixing screw
-	SI-915 Z LB	.00005"	-	20-0-20	.004"	2 1/4"	3/8"	Error Free, lug back

All the models of the above table have measurements equivalent to the American Standard ANSI B 89. 1/10M-2001. These instruments have a stem-Ø of 3/8", the thread for the contact point is 4/48 UNF.

In standard version the Dial Gauges will be delivered without fixing device for the bezel and flat back. At extra charge versions with fixing screw as well as lug back are available. Please add the type code FS for fixing screw resp. LB for lug back should you require the Dial Gauge with these features. Extra charges can be found in our price list below the listing of Inch Dial Gauges.

Additional accessories are available for Inch Dial Gauges:

- Offset lug back
- Screw type back
- Special contact points (see page 91)

Inch reading Dial Gauges are also available with a stem-Ø 8 mm h 6 and a thread M 2.5. For details of this Dial Gauge Series please see the table on page 61.



Small Inch Dial Gauges KZ 4/5 Sb and KZ 3/5 Sb

to ANSI standard, shockproof

The high-class impact protection of the Inch Dial Gauges KZ 4/5 Sb and KZ 3/5 Sb results in an exceptionally long service life. A gear rack sleeve covering the length of the spindle is arranged and sprung in such a way that the shocks against the measuring insert are not transferred to the measuring gear. The Dial Gauges are robust in operation. Their precision is maintained with practically no limitations.

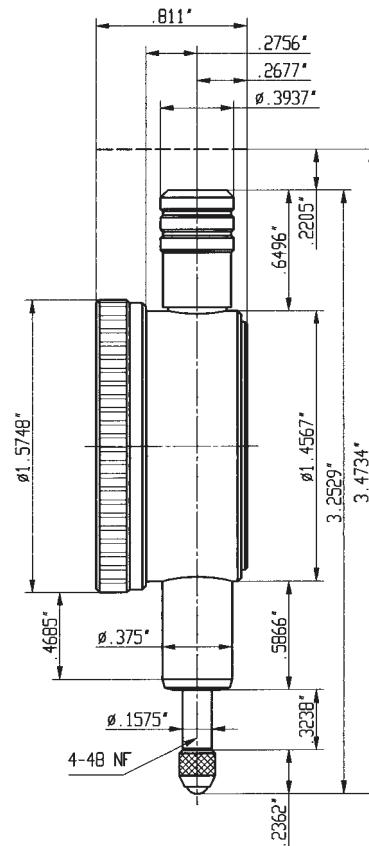
Spindle and stem are made of resistant stainless steel.

Small Inch Dial Gauge KZ 4/5 Sb shockproof	
Reading	.001"
Range	.200"
Range per revolution	.100"
Dial reading	0-50-0
Bezel-Ø	1 9/16"
Stem-Ø	3/8"
Dimensions and accuracy according to	ANSI
Spindle	lapped
Dimensioned drawing	page 67

Small Inch Dial Gauge KZ 3/5 Sb shockproof	
Reading	.0005"
Range	.200"
Range per revolution	.040"
Dial reading	0-20-0
Bezel-Ø	1 9/16"
Stem-Ø	3/8"
Dimensions and accuracy according to	ANSI
Spindle	lapped
Dimensioned drawing	page 67



Model shown: KZ 4/5 Sb



For model KZ 3/5 Sb the spindle is shorter by .0285" thus reducing the overall length to 3.4449" from 3.4734".

Special fittings:





Inch Dial Gauge Z 2/8 SNb

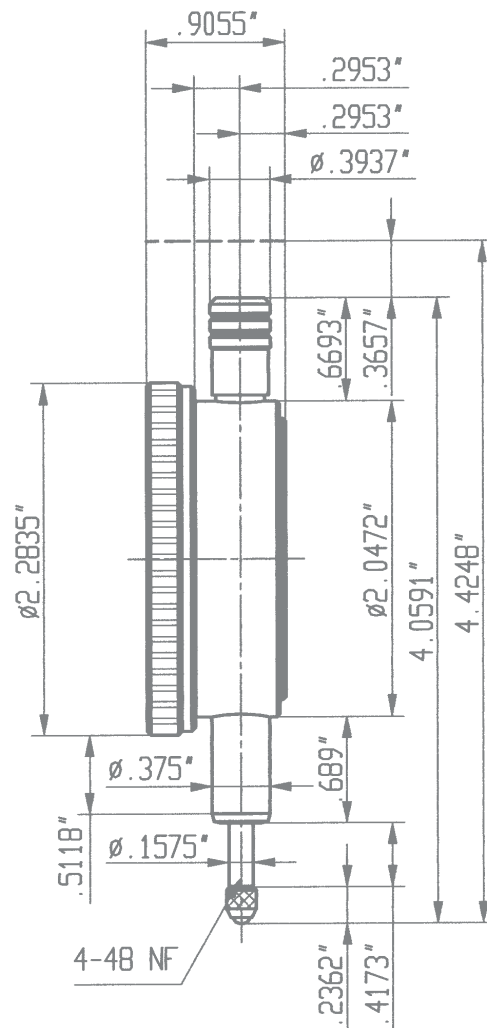
to ANSI standard, shockproof

With this shockproof series, a product of our extensive design expertise, we offer an accurate, reliable and long-lasting Dial Gauge.

A gear rack sleeve covering the length of the spindle is arranged and sprung in such a way that the shocks against the measuring insert are not transferred to the measuring gear. The Dial Gauge is robust in operation. Its precision is maintained with practically no limitations.

Spindle and stem are made of resistant stainless steel.

Inch Dial Gauge Z 2/8 SNb shockproof	
Reading	.001"
Range	.312"
Range per revolution	.100"
Dial reading	0-50-0
Bezel-Ø	2 1/4"
Stem-Ø	3/8"
Dimensions and accuracy according to	ANSI
Spindle	lapped
Dimensioned drawing	page 68



Special fittings:





Dial Gauge ZMU 52 TK

to ANSI standard

Our new Dial Gauge Series MU 52 has been designed and manufactured by Käfer Dial Gauges Shanghai. The racks and pinions – the key parts for the accuracy of Dial Gauges – are however supplied by Käfer Germany. All Dial Gauges are checked for their accuracy on a Feinmess Suhl automatic Dial Gauge Measuring Machine.

All details of these Dial Gauges conform to the American Standard ANSI B 89. Particularly clear reading due to the concentrically positioned small pointer.

Precision Dial Gauge ZMU 52 TK	
Reading	.001"
Range	.5"
Range per revolution	.1"
Bezel-Ø	2 1/4"
Stem-Ø	3/8"
Dimensions and accuracy according to	ANSI
Spindle	lapped
Dimensioned drawing	on request



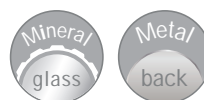
Dial Gauge ZMU 52/30 T

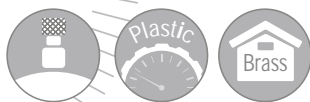
to ANSI standard, shockproof

Precision Dial Gauge ZMU 52/30 T	
Reading	.001"
Range	1"
Range per revolution	.1"
Bezel-Ø	2 1/4"
Stem-Ø	3/8"
Dimensions and accuracy according to	ANSI
Spindle	lapped
Dimensioned drawing	on request



Special fittings:





Inch Dial Gauge Z 2/30 Ta

to ANSI standard

The concentric millimetre pointer allows an easy and safe reading of these Dial Gauges. The carefully thought out design, the use of selected components and materials as well as the movement perfected by precision engineering guarantee reliable measuring results and a long service life of the Precision Dial Gauges Z 2/30 Ta and Z 3/30 Ta.

The essential parts of the movement are jewelled.
Spindle and stem are made of resistant stainless steel.

Inch Dial Gauge Z 2/30 Ta	
Reading	.001"
Range	1"
Range per revolution	.100"
Dial reading	0-100
Bezel-Ø	2 1/4"
Stem-Ø	3/8"
Dimensions and accuracy according to	ANSI
Spindle	lapped
Dimensioned drawing	page 70



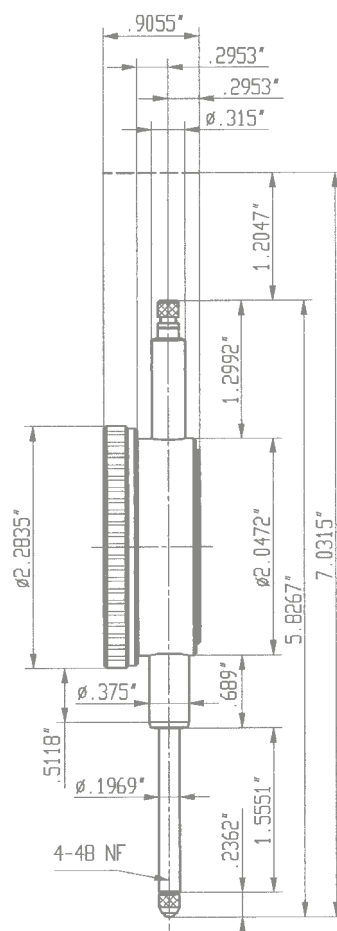
Inch Dial Gauge Z 3/30 Ta

to ANSI standard

Inch Dial Gauge Z 3/30 Ta	
Reading	.0005"
Range	1"
Range per revolution	.050"
Dial reading	0-50
Bezel-Ø	2 1/4"
Stem-Ø	3/8"
Dimensions and accuracy according to	ANSI
Spindle	lapped
Dimensioned drawing	page 70



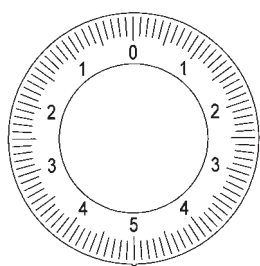
Model shown: Z 2/30 Ta



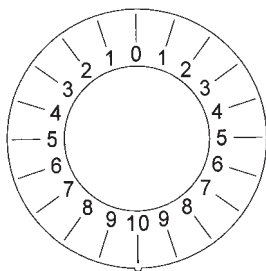
Special fittings:



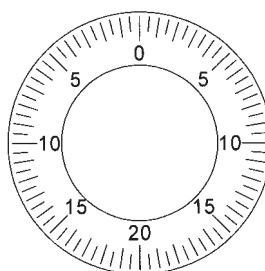
Dial Numbering of Inch Reading Dial Gauges to ANSI



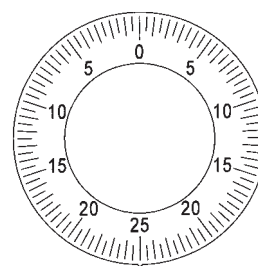
0-5-0 reading .0001"
KFZ Tb, KFZ3 Sb, FZ Tb,
FZ 2.5 Sb



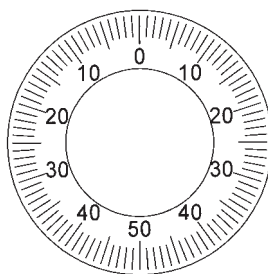
0-10-0 reading .001"
KZ 4/5 Rb



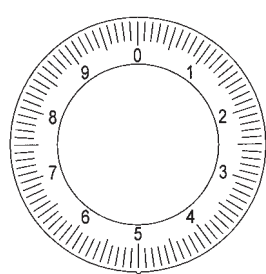
0-20-0 reading .0005"
KZ 3/5 Sb, Z 3/0.4 SNb



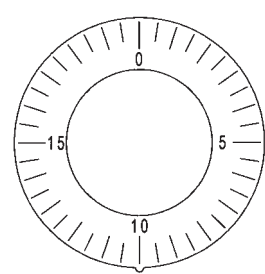
0-25-0 reading .0005"
Z3 Tb, Z 3/5 Rb



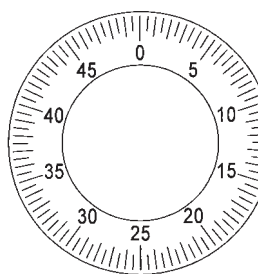
0-50-0 reading .001"
KZ 4/5 Sb, KZ 4/5 SWb,
Z 1 Tb, Z 2 Tb, Z 2/8 SNb



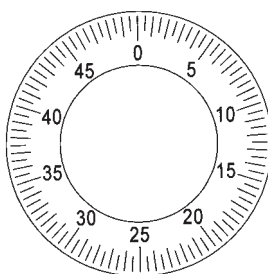
0-10 reading .0001"
FZ Ta



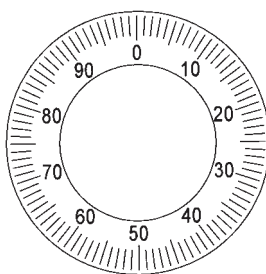
0-20 reading .0005"
KZ 6 T



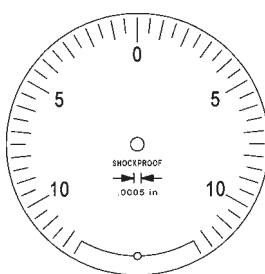
0-50 reading .0005"
Z 3 Ta, Z 3/30 Ta, Z 3/50 Ta
Z 3 SNW



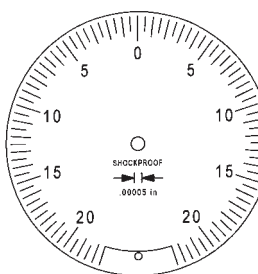
0-50 reading .00005"
KFZ 1101, FZ 1101



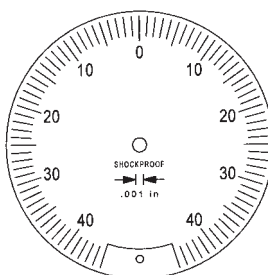
0-100 reading .001"
Z 1 Ta, Z 2 Ta, Z 2/30 Ta,
Z 2/50 Ta, Z 2/100 Ta,
GZ 80/100 T, ZMU 52 TK,
ZMU 52/30 T



10-0-10 reading .0005"
KZ 3 SI, FZ 3 SI

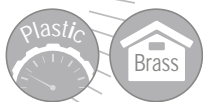


20-0-20 reading .00005"
SI - 914 Z, SI - 915 Z



40-0-40 reading .001"
KZ4 SI, Z 2 SI

All models bearing the same prefix but with a suffix identifying a special version (i.e. FS for fixing screw or LB for lug back) have the same dial numbering as the illustrated basic models.



Ideal for use in measuring fixtures

Small Inch Dial Gauge KZ 4/5 Rb

with back plunger

Inch Dial Gauge Z 3/5 Rb

with back plunger

The models with back plunger provide the designer with new construction possibilities. They allow positioning with optimal read-out facility. These models can be held either on the stem $\varnothing \frac{3}{8}$ " or on the 1.1024" diameter spigot.

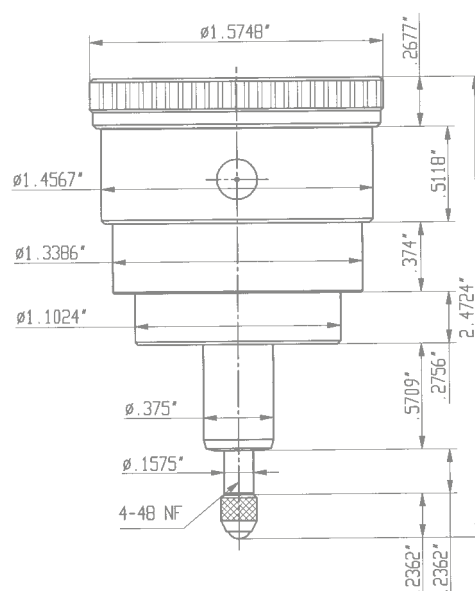
Spindle and stem are made of resistant stainless steel.

Small Inch Dial Gauge KZ 4/5 Rb with back plunger	
Reading	.001"
Range	.200"
Range per revolution	.020"
Dial reading	0-10-0
Bezel-Ø	1 $\frac{9}{16}$ "
Stem-Ø	$\frac{3}{8}$ "
Accuracy according to manufacturing standard	0.0500.9.0007
Spindle	lapped
Dimensioned drawing	page 72

Inch Dial Gauge Z 3/5 Rb with back plunger	
Reading	.0005"
Range	.200"
Range per revolution	.050"
Dial reading	0-25-0
Bezel-Ø	2 $\frac{1}{4}$ "
Stem-Ø	$\frac{3}{8}$ "
Accuracy according to manufacturing standard	0.0500.9.0007
Spindle	lapped
Dimensioned drawing	on request



Model shown: KZ 4/5 Rb



Special fittings:





Error Free Inch Dial Gauge Z2 SI

to ANSI, with overtravel, shockproof

In order to avoid reading errors the measuring ranges of our Error Free Dial Gauges series 'SI' are limited to slightly less than one revolution of the hand. Therefore a measurement can only be performed within the range of one revolution of the hand guaranteeing an error free reading of the Dial Gauges.

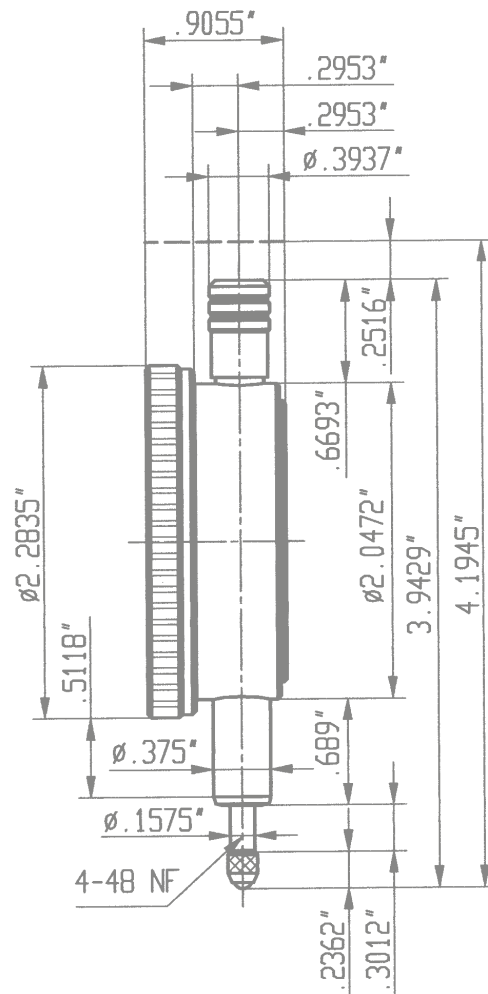
The high-class impact protection of the Error Free Dial Gauge Z2 SI results in an exceptionally long service life. A gear rack sleeve covering the length of the spindle is arranged and sprung in such a way that the shocks against the measuring insert are not transferred to the measuring gear.

Spindle and stem are made of resistant stainless steel.

Käfer

Error Free Inch Dial Gauge Z2 SI shockproof, with overtravel

Reading	.001"
Range	.080"
Overtravel	.1568"
Bezel-Ø	2 1/4"
Stem-Ø	3/8"
Dimensions and accuracy according to	ANSI
Spindle	lapped
Dimensioned drawing	page 73



The above dimensioned drawing also applies to model FZ 3 SI which is not shown in this catalogue.

Special fittings:





Inch Dial Gauge Z3 SNW

waterproof, shockproof

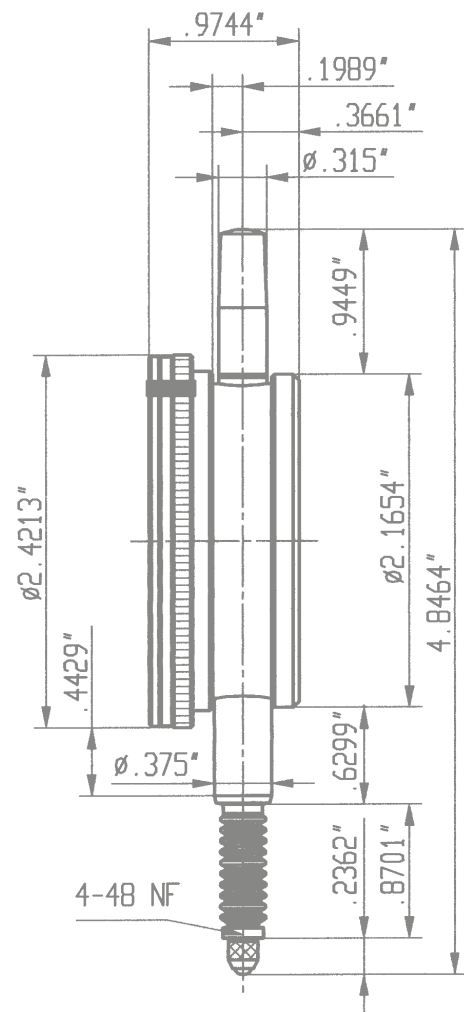
The technical features of our waterproof Inch Dial Gauges are the same as for the metric models on page 53 of this catalogue.

When changing the measuring insert attention has to be paid that the spacer disc between the measuring insert and the rubber bellows is put back again. Otherwise the Dial Gauge is no longer sealed against the ingress of contamination.

Spindle and stem are made of resistant stainless steel.

Inch Dial Gauge Z3 SNW waterproof, shockproof

Reading	.0005"
Range	.400"
Range per revolution	.050"
Bezel-Ø	2 ²⁷ / ₆₄ "
Stem-Ø	³ / ₈ "
Dimensions and accuracy according to	ANSI
Spindle	lapped
Dimensioned drawing	page 74



Special fittings:



Additional Equipment for Mechanical Dial Gauges

Locking screw

The knurled bezel on Dial Gauges can be turned with the outer dials. This allows zero point adjustment.

In order to avoid unintentional adjustment, Dial Gauges can be supplied with locking plate and knurled screw at extra charge for the purpose of locking the bezel.

Following Dial Gauges are available with the locking screw:

- range not greater than 80 mm
- no model of the X series
- bezel-Ø 40 or 58 mm

Retrofitting of this device to existing Dial Gauges is not possible.

Slave Pointer

On Dial Gauges with slave pointer facility, the displayed measured value remains visible after the dial gauge pointer returns to its original setting, because the additional pointer dragged along with it stays at the position from where the main pointer returns.

It must be noted that the slave pointer facility is only effective within one pointer revolution.

Following Dial Gauges without concentric small hands are available with a slave pointer device:

- reading 0.1 or 0.01 mm
- not shockproof
- bezel Ø 40 or 58 mm

Retrofitting of this device to existing Dial Gauges is possible.

Lifting Device

The lifting lever permits quick lifting of the spindle. The lever itself can be swivelled and permits its use in the most comfortable position.

Lifting devices are available in 2 sizes for Dial Gauges with ranges up to 10 mm and for Dial Gauge models with range of 30 mm.

Following Dial Gauges are available with lifting device:

- range up to 10 mm
- bezel Ø 40 or 58 mm
- range up to 30 mm
- bezel Ø 58 mm

Retrofitting of this device is possible on condition that the Dial Gauge is not fitted with a protection sleeve and that it is not a model of the X-series.



Additional Equipment for Mechanical Dial Gauges



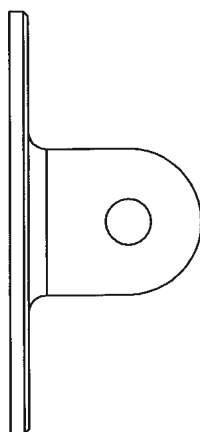
Magnetic Back

Magnetic backs allow Dial Gauges to be used without a holder and without a stand. The magnet, made of sinter metal does in no way affect the mechanism of the Dial Gauge.

Magnetic backs are available in 2 sizes for the following Dial Gauges:

- Dial Gauges with 40 mm ($1 \frac{9}{16}$ ") Ø
- Dial Gauges with 58 mm ($2 \frac{1}{4}$ ") Ø or larger

Retrofitting of magnetic backs is possible.



Lug Back

Lug backs are available in 3 sizes for:

- Dial Gauges with 32 mm ($1 \frac{13}{50}$ ") Ø
- Dial Gauges with 40 mm ($1 \frac{9}{16}$ ") Ø
- Dial Gauges with 58 mm ($2 \frac{1}{4}$ ") Ø or larger.

The standard bore diameter in the fixing lug is 5 mm. Delivery of Dial Gauges conforming to American standards with $\frac{1}{4}$ " bore diameter. On request a bore diameter of 6 mm is also possible.

Retrofitting of lug backs is possible.

Offset lug backs are available on request.

Special Backs

All standard model Dial Gauges will be delivered with flat backs. Delivery of special back versions on request. Retrofitting is possible.

Post type backs with post Ø 12.7 mm (.500")

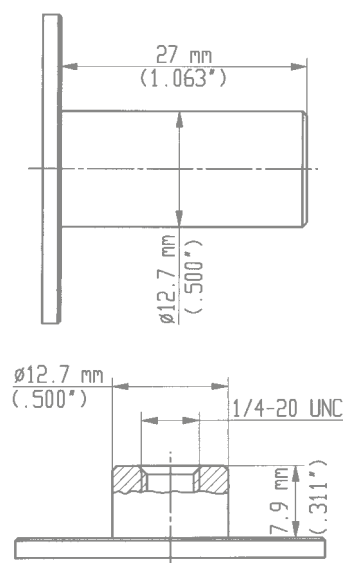
- Back with drawing number 020603/2 is for models AGD1 (40 mm Ø)
- Back with drawing number 020603/1 is for models AGD 2 (58 mm Ø)

Screw type backs with female thread $\frac{1}{4}$ -20UNC

- Back with drawing number 020603/4 is for models AGD1 (40 mm Ø)
- Back with drawing number 020603/3 is for models AGD 2 (58 mm Ø)

Back with adjustable bracket

- Back with drawing number 020308/3 is for models AGD 2 (58 mm Ø)



Special Dials for mechanical Dial Gauges

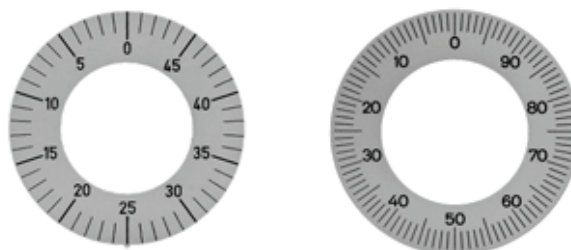
Dials with coloured tolerance segments

The colours red, green and yellow are available. Please indicate in your order text what segments of the dial should be marked red, green or yellow.



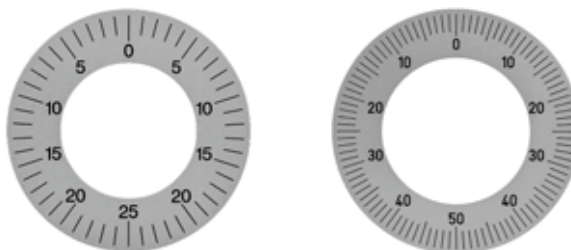
Dials for anti-clockwise reading

Unless otherwise stated on the order both the inner and outer dials are supplied for anti-clockwise reading.



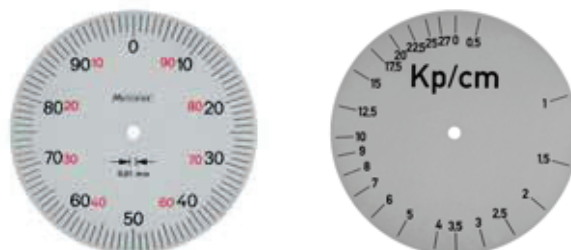
Balanced Dials

Unless otherwise stated on the order only the outer dial is supplied with balanced numbers. The inner dial is supplied with numbers for clockwise reading.



Custom-made Dials

We can supply custom-made dials with special logos, with special numbers, with special imprints and in special colours. Both the inner and outer dials can be supplied in custom-made versions.



Special dials are available for many models but not for all Dial Gauges. Please request our offers.

EXTRACTS OF MANUFACTURING STANDARDS FOR METRIC DIAL GAUGES

Manufacturing standard	Field of application	Span of error	Range	Maximum value
0.0500.9.0004	Dial Gauges with 0.1 mm reading	Span of error $\frac{1}{10}$ revolution Span of error f_e Hysteresis f_u Repeatability f_w Some values may differ on Large Dial Gauges	1 mm up to 30 mm 50 mm 80 mm 100 mm up to 30 mm	30 μm 50 μm 80 μm 100 μm 100 μm 15 μm 15 μm
0.0500.9.0006	Dial Gauges with 0.01 mm reading and back plunger	Span of error $\frac{1}{10}$ revolution Span of error f_e Hysteresis f_u Repeatability f_w	0.05 or 0.1 mm up to 3 mm 5 mm up to 3 mm 5 mm	5 μm 10 μm 15 μm 5 μm 8 μm 5 μm
0.0500.9.0001	High Precision Dial Gauges with 0.001 mm reading and 0.002 mm reading	Span of error $\frac{1}{10}$ revolution Span of error f_e Hysteresis f_u Repeatability f_w Some values may differ on Large Dial Gauges	0.02 mm 0.16 mm 1 mm 5 mm	1.5 – 3 μm 3 μm 5 μm 10 μm 3 μm 0.5 μm
0.0500.9.0010	High Precision Dial Gauges FEINIKA with 0.001 mm reading and 0.002 mm reading	Span of error $\frac{1}{10}$ revolution Span of error f_e Hysteresis f_u Repeatability f_w	0.01 mm 0.08 mm 0.16 mm 1 mm	1 μm 2 μm 2 μm 3 μm 1.5 μm 0.5 μm
1.0200.9.0002	Dial Gauges with 0.01 mm reading and range > 30 mm	Span of error $\frac{1}{10}$ revolution Span of error f_e Span of error f_w Some values may differ on Large Dial Gauges	0.1 mm 50 mm 80 mm 100 mm up to 80 mm 100 mm	5 μm 25 μm 30 μm 50 μm 3 μm 5 μm
1.0200.9.0014	Dial Gauges with 0.01 mm reading and ranges 20 – 30 mm	Span of error $\frac{1}{10}$ revolution Span of error f_e Hysteresis f_u Repeatability f_w Some values may differ on Large Dial Gauges	0.1 mm	5 μm 20 μm 5 μm 3 μm

Manufacturing standards for Dial Gauges MU 28 (4.0000.9.0012) and SI-18 (0.4223.9.0008) and for Inch Dial Gauges on request. Data sheets to DIN EN ISO 463: www.kaefer-messuhren.de

Digital Dial Gauge MD 12 TOP

Accessories for MD 12 TOP



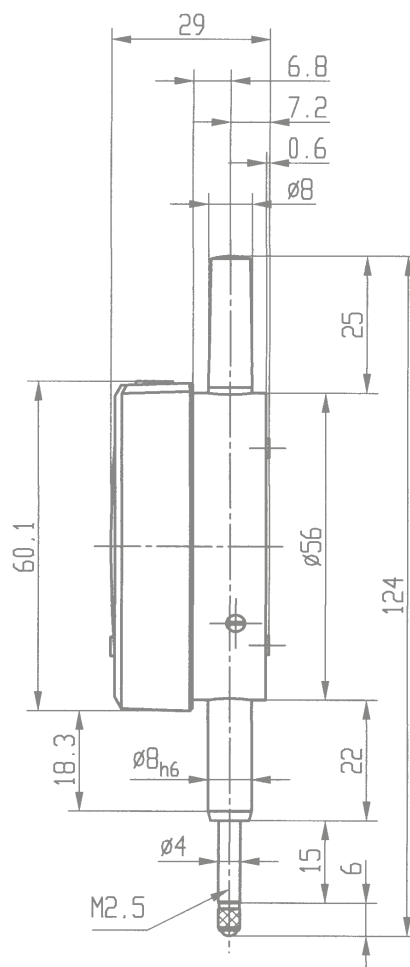
The compact construction and the well placed operating keys permit versatile application and simple operation.

Following functions of the Digital Dial Gauge MD 12 TOP can be used:

- Zero setting
- Data transmission
- Reversal of measuring direction
- mm/inch selection
- Preset of any value
- Data output Opto RS 232C, USB or Digimatic

Digital Dial Gauge MD 12 TOP	
Resolution	0.01 mm / .0005"
Range	12.5 mm / .5"
Digital display LCD, height of digits	8.5 mm
Measuring system	capacitive
Power supply	on battery 3 V, CR 2032
Battery life	3 years
Output	Opto RS 232 or Digimatic or USB
Initial Measuring force	0.6 N \pm 20%
Working temperature	+10°C – +40°C
Maximum error	20 μ m
Dimensioned drawing	page 79

Accessories for MD 12 TOP	
Data connection cable with SUB-D jack 9-pin	Opto RS232C
Order number:	DCMV 232
Data connection cable with flat connector 10-pin	Digimatic
Order number:	DCMV DIGIMATIC
Data connection cable length	USB
Order number:	DCMV USB
Battery 3V, type CR 2032	
Order number:	BCR 2032
Contact points	see pages 89 – 90



The above design and dimensioned drawing also apply to model FMD 12 TOP

Digital Dial Gauge MD 12 TB

Digital Dial Gauge FMD 12 TB

The digital display with its large numerals makes it very simple to use this Dial Gauge. Function and display section can be rotated through 270°. The sturdy construction guarantees precision and reliability.

Following functions of the Digital Dial Gauges MD 12 TB and FMD 12 TB can be used:

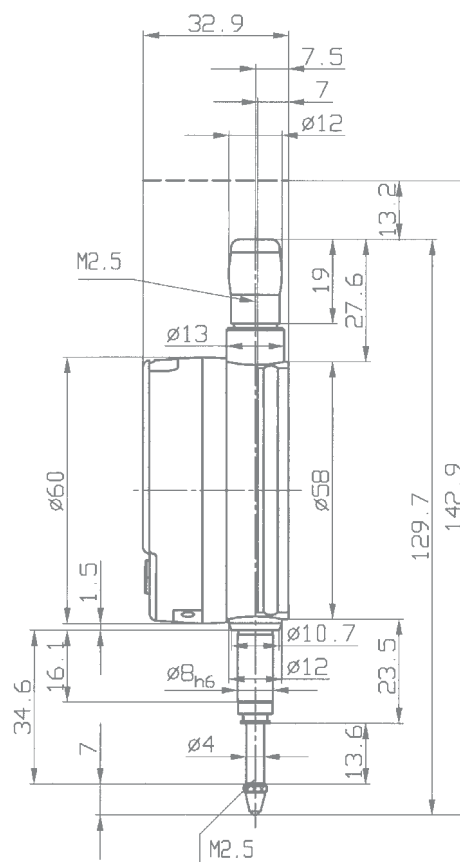
- Zero setting
- Data transmission
- Selection of measuring direction
- mm/inch selection
- Preset value recall
- Personalising the functions
- Memory set Hold

Digital Dial Gauge MD 12 TB	
Resolution	0.01 mm / .0005"
Range	12.5 mm / .5"
Power supply	on Lithium battery 3 V
Battery life	8000 h
Output	RS 232 / USB
Working temperature	+5 °C – +40 °C
Maximum error	20 µm
Initial measuring force	0.7 N ± 20%
Dimensioned drawing	page 80

Digital Dial Gauge FMD 12 TB	
Resolution	0.001 mm / .00005"
Range	12.5 mm / .5"
Power supply	on Lithium battery 3 V
Battery life	8000 h
Output	RS 232 / USB
Working temperature	+5 °C – +40 °C
Maximum error	4 µm
Initial measuring force	0.7 N ± 20%
Dimensioned drawing	page 80



Model shown: MD 12 TB



Digital Dial Gauge MD 25 TB

Digital Dial Gauge FMD 25 TB

The digital display with its large numerals makes it very simple to use this Dial Gauge. Function and display section can be rotated through 270°. The sturdy construction guarantees precision and reliability.

Following functions of the Digital Dial Gauges MD 25 TB and FMD 25 TB can be used:

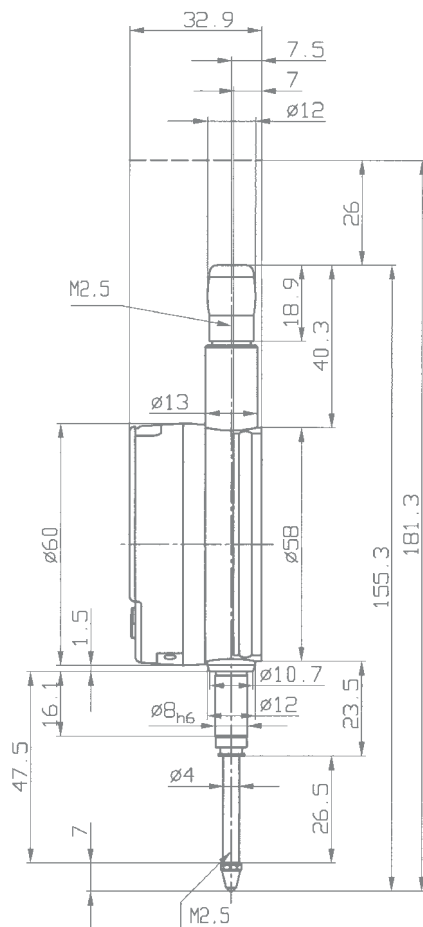
- Zero setting
- mm/inch selection
- Memory set Hold
- Data transmission
- Preset value recall
- Selection of measuring direction
- Personalising the functions

Digital Dial Gauge MD 25 TB	
Resolution	0.01 mm / .0005"
Range	25 mm / 1"
Power supply	on Lithium battery 3 V
Battery life	8000 h
Output	RS 232 / USB
Working temperature	+5 °C – +40 °C
Maximum error	20 µm
Initial measuring force	0.7 N ± 20%
Dimensioned drawing	page 81

Digital Dial Gauge FMD 25 TB	
Resolution	0.001 mm / .00005"
Range	25 mm / 1"
Power supply	on Lithium battery 3 V
Battery life	8000 h
Output	RS 232 / USB
Working temperature	+5 °C – +40 °C
Maximum error	5 µm
Initial measuring force	0.7 N ± 20%
Dimensioned drawing	page 81



Model shown: FMD 25 T



Digital Dial Gauge MD 50 TB

Digital Dial Gauge FMD 50 TB

The digital display with its large numerals makes it very simple to use these Dial Gauges. Function and display section can be rotated through 270°. The sturdy construction guarantees precision and reliability.

Following functions of the Dial Gauges MD 50 TB and FMD 50 TB can be used:

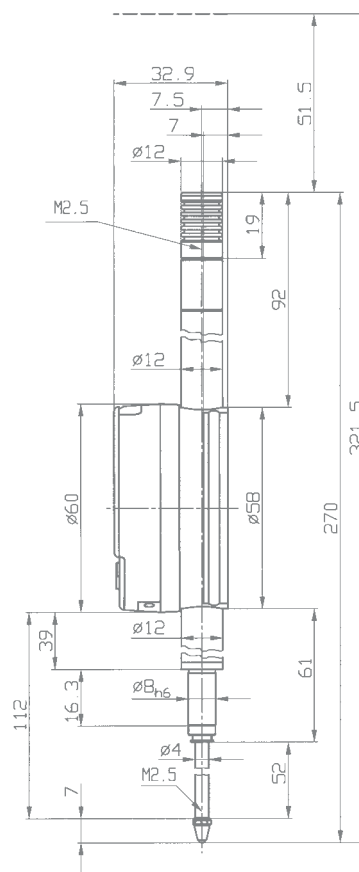
- Zero setting
- mm/inch selection
- Memory set Hold
- Data transmission
- Preset value recall
- Selection of measuring direction
- Personalising the functions

Digital Dial Gauge MD 50 TB	
Resolution	0.01 mm / .0005"
Range	50 mm / 2"
Power supply	on Lithium battery 3 V
Battery life	8000 h
Output	RS 232 / USB
Working temperature	+5 °C – +40 °C
Maximum error	30 µm
Initial measuring force	1.3 N ± 20%
Dimensioned drawing	page 82

Digital Dial Gauge FMD 50 TB	
Resolution	0.001 mm / .00005"
Range	50 mm / 2"
Power supply	on Lithium battery 3 V
Battery life	8000 h
Output	RS 232 / USB
Working temperature	+5 °C – +40 °C
Maximum error	7 µm
Initial measuring force	1.3 N ± 20%
Dimensioned drawing	page 82



Model shown: FMD 50 TB



Digital Dial Gauge FMD 12 TA

Digital Dial Gauge FMD 25 TA

The digital display with its large numerals makes it very simple to use these Dial Gauges. Function and display section can be rotated through 270°. The sturdy construction guarantees precision and reliability.

Following functions of the Dial Gauges FMD 12 TA and FMD 25 TA can be used:

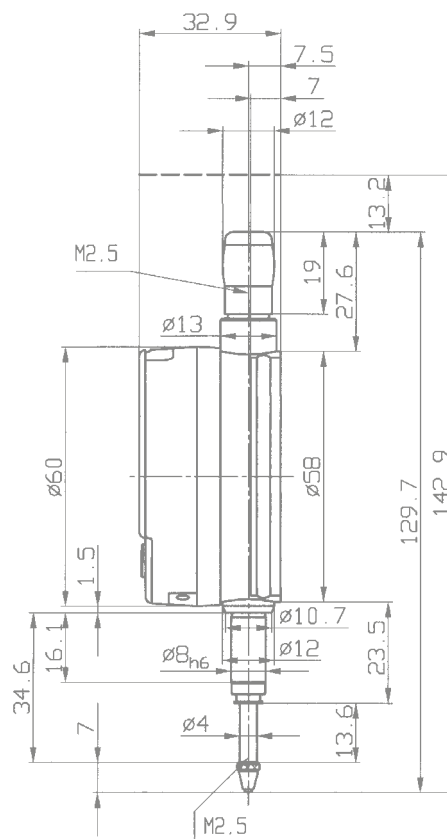
- Zero setting
- mm/inch selection
- Memory set Hold
- MIN / MAX / DELTA
- Data transmission
- Preset value recall
- REF I / REF II
- Setting of tolerances
- Selection of measuring direction
- Personalising the functions
- Selection of resolution
- Multiplication factor

Digital Dial Gauge FMD 12 TA	
Resolution	0.001 mm / .00005"
Range	12.5 mm / 2"
Power supply	on Lithium battery 3 V
Battery life	8000 h
Output	RS 232 / USB
Working temperature	+5 °C – +40 °C
Maximum error	3 µm
Initial measuring force	0.7 N ± 20%
Dimensioned drawing	page 83

Digital Dial Gauge FMD 25 TA	
Resolution	0.001 mm / .00005"
Range	25 mm / 2"
Power supply	on Lithium battery 3 V
Battery life	8000 h
Output	RS 232 / USB
Working temperature	+5 °C – +40 °C
Maximum error	4 µm
Initial measuring force	0.7 N ± 20%
Dimensioned drawing	on request



Model shown: FMD 12 TA



Small Digital Dial Gauge KMD 12 T

Following functions of the Small Digital Dial Gauge KMD 12 T can be used:

- Zero setting
- mm/inch selection
- Absolute / relative mode
- Preset value recall
- Data transmission
- Selection of measuring direction

Small Digital Dial Gauge KMD 12 T

Resolution	0.01 mm/.0005"
Range	12.5 mm/.5"
Digital display LCD, height of digits	6 mm
Power supply	on Lithium battery 3 V
Battery life	5000 h
Output	RS 232, with external power supply / USB
Working temperature	+5 °C – +40 °C
Maximum error	20 µm
Initial measuring force	0.5 N ± 20%
Dimensioned drawing	page 84

The dovetail at the rear offers an additional fixing option. The standard contact point can be exchanged for specially styled contact points as listed on pages 89 and 90.



Summary of important technical data of other Digital Dial Gauges and accessories

Digital Dial Gauges	Resolution	Range	Bezel-Ø	Stem-Ø	Maximum error	Data cable	Special feature
KMD 5 R	0.01 mm	5 mm	44 mm	8 h 6	20 µm	DCKMD 232/DCKMD USB	back plunger
KMD 12 T wa	0.01 mm	12.5 mm	44 mm	8 h 6	20 µm	DCKMD 232/DCKMD USB	water protected
FKMD 5 R	0.001 mm	5 mm	44 mm	8 h 6	5 µm	DCKMD 232/DCKMD USB	back plunger
FKMD 12 T	0.001 mm	12.5 mm	44 mm	8 h 6	5 µm	DCKMD 232/DCKMD USB	
FMD 12 TOP	0.001 mm	12.5 mm	58 mm	8 h 6	5 µm	DCMV Digimatic/DCMV 232/DCMV USB	
MD 100 TB	0.01 mm	100 mm	60 mm	8 h 6	30 µm	DCPRMD 232/DCPRMD USB	
FMD 100 TB	0.001 mm	100 mm	60 mm	8 h 6	8 µm	DCPRMD 232/DCPRMD USB	
DK 30	0.001 mm	0.8 mm	44 mm	–	10 µm	DCKMD 232/DCKMD USB	model lever type
Accessories	Model	Technical features		Suitable for model			
Data cable	DCMV 232	2 m long, SUB-D jack 9-pin		MD 12 TOP/FMD 12 TOP			
Data cable	DCMV DIGIMATIC	2 m long, flat connector 10-pin		MD 12 TOP/FMD 12 TOP			
Data cable	DCMV USB	2 m long, USB connector		MD 12 TOP/FMD 12 TOP			
Data cable	DCPRMD 232	Max. 15 m, standard 3 m long, SUB-D jack 9-pin/F		MD 12 TB, MD 25 TB, MD 50 TB, MD 100 TB			
Data cable	DCPRMD USB	3 m long, USB connector		FMD12TB, FMD25TB, FMD50TB, FMD100TB			
Data cable	DCKMD 232	Max. 15 m, standard 2m long, SUB-D jack 9-pin/F; power supply		MD 12 TB, MD 25 TB, MD 50 TB, MD 100 TB, FMD 12 TB, FMD 25 TB, FMD 50 TB, FMD 100 TB, FMD 12 TA, FMD 25 TA			
Data cable	DCKMD USB	2 m long, USB connector		KMD 12 T, KMD 12 Twa, FKMD 12 T, DK 30, KMD 5 R, FKMD 5 R			
Battery	BCR 2032	Lithium 3V type CR 2032		KMD 12 T, KMD 12 Twa, FKMD 12 T, DK 30, KMD 5 R, FKMD 5 R			
				For all Digital Gauges			

The cable for data transmission is not included in the scope of supply of Digital Dial Gauges but has to be ordered separately.