Internal measurement with 3-point contact

Application range from 7 to 105 mm

L210P3

Type	Measuring span Mes [mm]	Measuring range Meb [mm]	Range of indication Azb [mm]	Numerical interval Zw [mm]	Permissible errors G [mm]	Repeatability limit r [mm]	Measuring force F_{min} [N]	Measuring force F_{max} [N]	Weight [g]	Protection class	Measuring contact movable Hb [mm]	Measuring contact fixed Hf [mm]	Type of measuring contact	Groove depth A max. [mm]	Groove width B min. [mm]	Measuring depth L max. [mm]	Picture	Electronic E Mechanical M	Wooden box
L107P3	7	7–14	6.8–14.5	0.002	0.01	0.004	1.0	1.4	250	IP67	2.5	-	Ball Ø 0.6	2.2	0.8	34	[1]	E	1732-65
L210P3	10	10–20	9.8–20.5	0.005	0.02	0.01	1.1	1.6	270	IP67	4.6	-	Ball Ø 1	3.5	1.6	75	[2]	E	1732-65
L215P3	15	15–30	14.5–30.5	0.005	0.02	0.01	1.1	1.6	295	IP67	5.8	-	Ball Ø 1	5.0	1.6	77	[2]	E	1732-65
L225P3	20	25–45	24.5–45.5	0.005	0.02	0.01	1.1	1.6	275	IP67	7.3	-	Ball Ø 1	7.0	1.6	84	[3]	E	1732-65
L240P3	20	40–60	39.5–60.5	0.005	0.02	0.01	1.1	1.6	290	IP67	12.2	-	Ball Ø 1	8.0	1.6	84	[3]	E	1732-65
L255P3	20	55–75	54.5–75.5	0.005	0.02	0.01	1.1	1.6	290	IP67	12.2	-	Ball Ø 1	8.0	1.6	84	[3]	E	1732-65
L270P3	20	70–90	69.5–91	0.005	0.02	0.01	1.1	1.6	295	IP67	12.2	-	Ball Ø 1	8.5	1.6	84	[3]	E	1732-65
L285P3	20	85–105	84.5–106	0.005	0.02	0.01	1.1	1.6	305	IP67	12.2	-	Ball Ø 1	9.0	1.6	84	[3]	E	1732-65

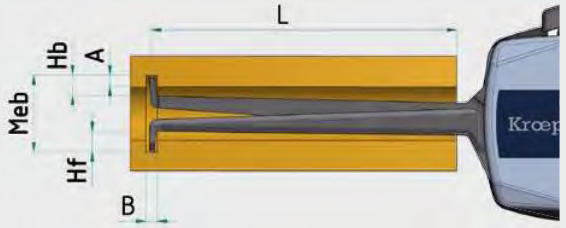
Measuring contacts


[1]
Ball Ø 0.6 mm


[2]
Ball Ø 1.0 mm


[3]
Ball Ø 1.0 mm

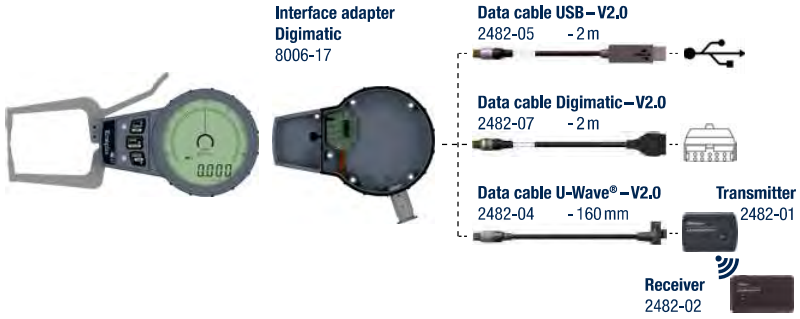
Measuring capacity

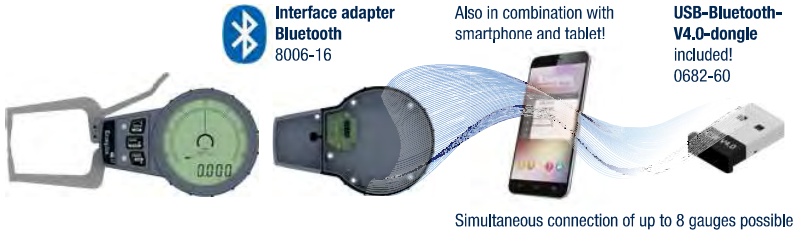


Meb	Measuring range	Hb	Measuring contact movable
A	Groove depth	Hf	Measuring contact fixed
B	Groove width	L	Measuring depth

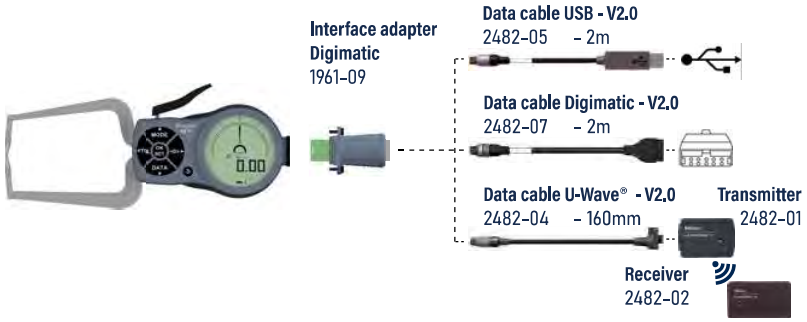
Interfaces

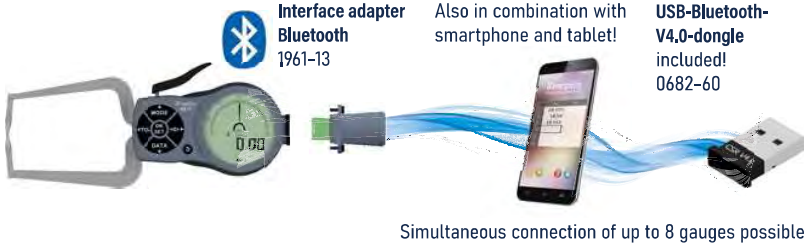
Gauges C0 / G0





Gauges K / L





Accessories

- Wooden boxes for all series
- For order code please see technical details (HK = wooden box is included in delivery)

For measuring small parts the holding unit enables the gauge to be used with a measuring stand.

Gauge L102
(available on request)

Holder C0 / G0	order no.: 8004-58
Holder D1 / H1 / D2 / H2	order no.: 8004-50
Holder D4 / H4	order no.: 8004-55
Holder K / L	order no.: 8007-10

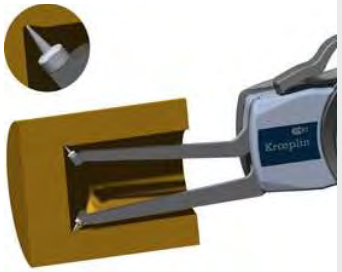
Special gauges

We are always searching for the best solution for your measuring problem, either mechanical or electronic.

In order to enable us to find the solution together and to design your special gauge, please kindly send us a drawing of the object to be measured and indicate tolerance and measuring force, and if possible, send us a sample of the part to be measured. Full information in your enquiry enables us to put forward the optimum design solution for your application.

The gauges shown are examples of special applications. For additional measuring applications we offer customised solutions.

- Measurements of undercuts with inclined measuring contacts.

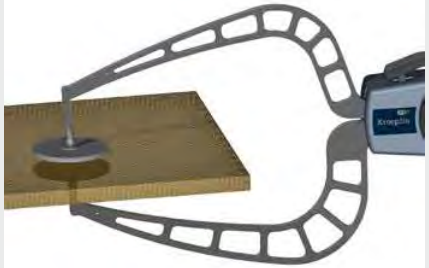


- Measurements of wall thicknesses in hard-to-access places.

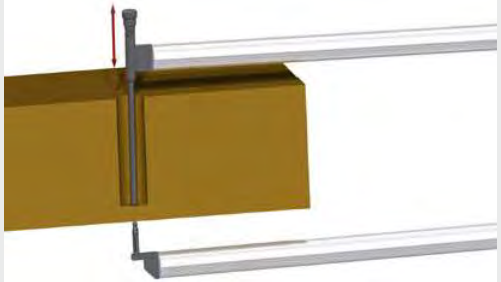
- Measurements in hard-to-access places with specially designed caliper arms.

- Measurement of bottle diameters with depth measurement.

- Measurements of foamed materials with flat contacts and reduced measuring force.



- Measurements of wall thicknesses at large undercuts with bayonet-type contacts (displacement in direction of the arrow before and after the measurement).



Detailed information and data sheets for all gauges are available on our webpage.

www.kroeplin.com

Foam inlays for storing measuring instruments

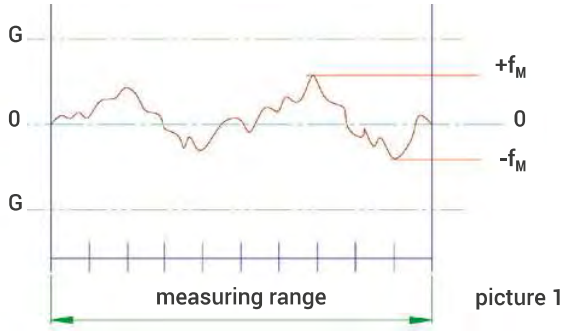
As an optional accessory we offer customised foam inlays for storing instruments e.g. in drawer cabinets.

Let us know the external dimensions as well as the number and type of Kroeplin gauges to be accommodated. If you would like to integrate different manufacturers' products or tools together with Kroeplin gauges in one inlay, we can implement this based on your 2D CAD data.

Based on your data we will send an appropriate offer. Please contact us.

Definitions

Diagram of deviation



picture 1

The individual diagram of deviation you can see in the certificate of quality which will be sent with every gauge.

Definitions
Terms of length test techniques see DIN 2257 part 1 and part 2 and International Vocabulary of Basic and General Terms in Metrology.

Foundations
This instruction follows approximately the checking instructions of the German standard DIN 878 for dial gauges and the checking instructions for caliper gauges according to VDI/VDE/DGQ 2618, page 13. The gauges are referred to as gauges with absolute measurement and adjustable zero point.

Measuring span Mes
The measuring span is the difference between starting value and final value of the measuring range.

Measuring range Meb
The measuring range of a gauge represents the range of measuring values in which given error limits must not be exceeded.

Range of indication Azb
The range of indication is the range between the highest and the lowest indication.

Numerical interval Zw
The numerical interval is the difference between two consecutive numbers of the last digit shown in the display. The numerical interval of a numerical scale is the modification of the value of a measured variable that causes the modification of the indication by one interval. The numerical interval corresponds to the scale interval of a line scale and is indicated in the unity of the measured variable.

Scale interval Skw
The scale interval is the modification of the value of a measured variable that causes the modification of the indication by one interval. The scale interval is indicated in the unity of the measured variable.

Deviation in the measuring range f_M
The deviation in the measuring range f_M represents the distance of ordinates between the highest and the lowest position in the deviation diagram, when the movable caliper arm closes. The **tolerance field G** for f_M is symmetrically positioned to the zero line.

Repeat precision f_w
The repeat precision f_w is a characteristic value for deviations of the measured quantity within the measuring range when the movable caliper arm closes (usually n=5). This margin of error is designated as **repeat limit r.**

Measuring force F_{min}, F_{max}
When the caliper arm closes, the measuring force F_{min} or F_{max} is determined at the top of the movable caliper arm. The gauge must be held in vertical position >= 200 mm.

Kroeplin
Längenmesstechnik

Application area

- Mechanical engineering
- Automobile industry
- Aerospace industry
- Wire manufacturers
- Glass industry
- Dental laboratories
- Aerosol and packaging industry
- Foundries
- Foamed material industry
- Tube manufacturers
- Ceramic industry
- Medical institutes
- Special designs

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The measure of all things.

Kroeplin Längenmesstechnik: Innovative and precise measuring instruments for exact measurement of lengths, diameters and thicknesses.

The measure of all things worldwide.

Subject to technical alterations. | Status: 10/2021