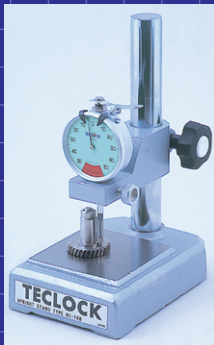


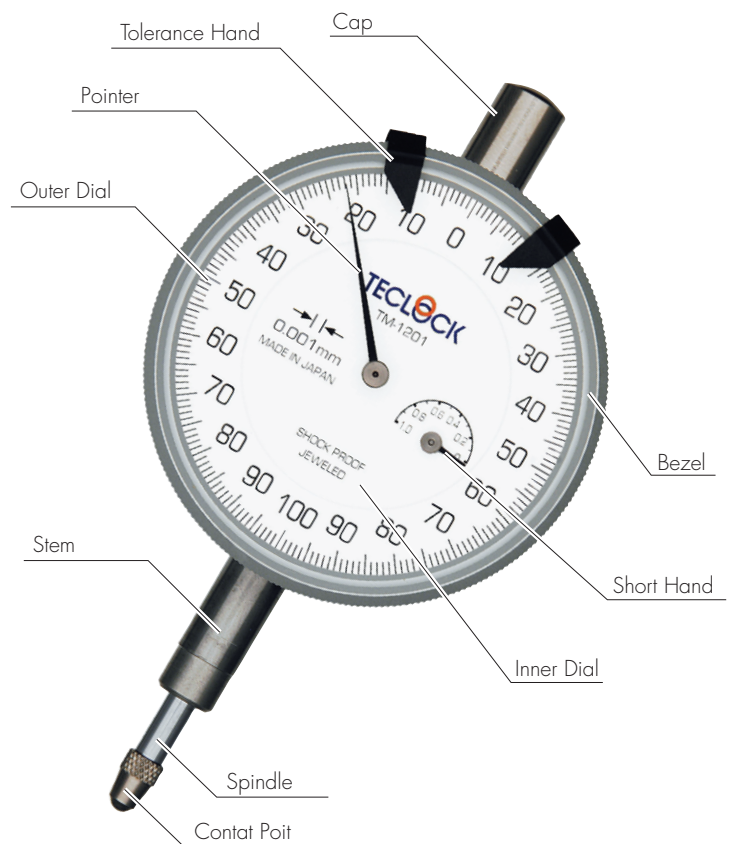


1 Dial Gauge

Dial Indicator is surely utilized at manufacturing sites where dimensional high accuracy is needed to be confirmed. The graduation (1-graduation) depends on usage and Teclock offers 6 kinds of graduations, namely 0.0005mm, 0.001mm, 0.005mm, 0.01mm, 0.05mm and 0.1mm. The strokes are available from 0.08mm (the shortest) up to 150mm. Dial Indicator is normally not used independent but its stem or lug back is fixed to a jig and holds work piece with the measuring stand and contact point, and displacement volume is read with short hand and pointer. The dial indicator is applied for direct measurement to measure actual dimension and comparative measurement for measuring displacement volume from a certain standard dimension.



It is possible to measure by placing work piece on the stand to which the dial indicator is installed (photo in the left side) or by installing work piece to the magnet base (photo of right side).





0.001mm Dial Indicators

- Standard type dial indicators of graduation 0.001mm and bezel diameter 56mm.
- Durability is pursued by protecting mechanical parts like gears with shock absorbing mechanism (Teclock unique shock proof mechanism).
- Jeweled bearing is applied for improving durability.
- Stable repeatability accuracy is realized with lever enlargement mechanism built-in.
- Tolerance hand is provided as standard accessory for all models for positive tolerance setting.
- Lifting lever (Option) can be mounted . (Refer to page 25)
- Bezel clamp (Option) can be mounted (except for TM-1201PW).
- Measuring ability can be changed .
- In case that flat back is required, add suffix "f" to the end of model number (example =TM-1201f).



TM-1201
Popular type

Graduation 0.001mm
Measuring Range 1mm



TM-1201PW
Oil-proof type

Graduation 0.001mm
Measuring Range 1mm



TM-1251
Wide graduation width type

Graduation 0.001mm
Measuring Range 1mm
One Revolution 0.1mm



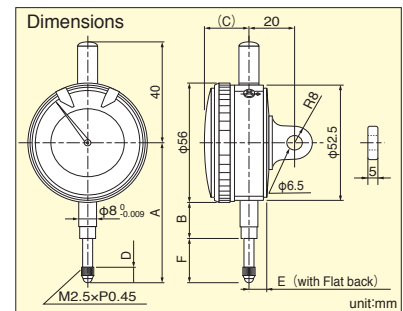
TM-1202
Type suitable to Boregauge

Graduation 0.001mm
Measuring Range 2mm



TM-1205
5mm stroke type

Graduation 0.001mm
Measuring Range 5mm



Dimensions Table

Model	A	B	C	D	E	F
TM-1201	62	18	15	7.5	8	16
TM-1201PW	65.5	(18)	13.5	11	8.5	(19.5)
TM-1251	62	18	15	7.5	8	16
TM-1202	62	19	15	7.5	8	16
TM-1205	62	19	15.5	7.5	8	16

unit:mm

Specifications

Model	Graduation (mm)	Measuring Range (Free Stroke) (mm)	Repeatability (μm)	Indication Error (μm)					Hysteresis (μm)	Standard Contact Point	Measuring Force (N)	Weight (g)
				Adjacent Error	1/2 Revolution	1 Revolution	2 Revolution	Total Range				
TM-1201	0.001	1 (3)	0.5	2.5	±3	±4	±4	±5	3	ZS-017	1.5 or less	170
TM-1201PW	0.001	1 (3)	0.5	2.5	±3	±4	±4	±5	3	ZS-028	1.5 or less	180
TM-1251	0.001	1 (3)	0.8	2.5	±3	±4	±4	±5	3	ZS-017	1.5 or less	170
TM-1202	0.001	2 (2)	0.5	4	±5	±6	±6	±7	3	ZS-017	1.5 or less	170
TM-1205	0.001	5 (-)	1	5	±6	±7	±8	±10	4	ZS-017	1.5 or less	170

*In case flat back is required, please add suffix "f" to the end of model number. (example=TM-1201f)

0.01mm Dial Indicators

- This is the most standard type dial indicator of graduation 0.01mm
- The model can be selected out of stainless stem, coaxial revolution pointer, oil discharge function and analog function depending on usage.
- These are standard series with high durability and high accuracy by pursuing parts accuracy.

- Lifting lever (Option) can be mounted (Refer to page 25).
- Bezel clamp (Option) can be mounted (except for TM-110PW / TM-110G).
- Measuring ability can be changed .
- In case that flat back is required, add suffix "f" to the end of model number (example =TM-110f).



TM-110
Standard type

Graduation 0.01mm
Measuring Range 10mm



TM-110R
Reversed dial type

Graduation 0.01mm
Measuring Range 10mm



TM-110D
Coaxial revolution pointers type

Graduation 0.01mm
Measuring Range 10mm



TM-110-4A
With oil ejection
holed bezel type

Graduation 0.01mm
Measuring Range 10mm



TM-110PW
Oil-Proof type

Graduation 0.01mm
Measuring Range 10mm



TM-110G
With stop hand

Graduation 0.01mm
Measuring Range 10mm



TM-110P
Direct reading
graduation type

Graduation 0.01mm
Measuring Range 10mm



TM-105
Type suitable to
Boregauge

Graduation 0.01mm
Measuring Range 5mm



TM-105W
Reversed type

Graduation 0.01mm
Measuring Range 5mm



TM-5106
Wide scale width type

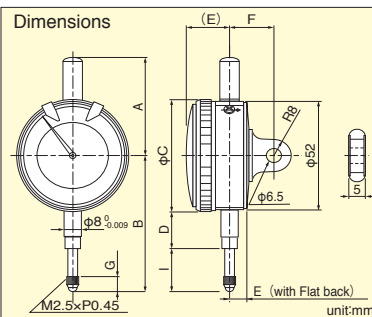
Graduation 0.01mm
Measuring Range 5mm

0.005mm Dial Indicators



TM-5105

Graduation 0.005mm
Measuring Range 5mm



Dimension Table

Model	A	B	C	D	E	F	G	H	I
TM-110	48	65	55	18	15.5	20	7.5	7.8	19.5
TM-110R	48	65	55	18	15.5	20	7.5	7.8	19.5
TM-110D	48	65	55	18	17.6	20	7.5	7.8	19.5
TM-110-4A	48	65	55	18	15.5	20	7.5	7.8	19.5
TM-110PW	44.5	68.5	56	(17.5)	14.5	20	11	8.3	23.0
TM-110G	48	65	55	18	17.3	20	7.5	7.8	19.5
TM-110P	48	65	55	18	15.5	20	7.5	7.8	19.5
* TM-105	48	65	55	18	15.5	*	7.5	7.8	19.5
TM-105W	48	65	55	18	15.5	20	7.5	7.8	19.5
TM-5106	48	65	55	19	15.5	20	7.5	7.8	19.5
TM-5105	48	65	55	19	15.5	20	7.5	7.8	19.5

*Indicator is supplied with Flat back.

unit:mm

Specifications

Model	Graduation (mm)	Measuring Range (mm)	Repeatability (μm)	Indication Error (μm)					Hysteresis (μm)	Standard Contact Point	Measuring Force (N)	Weight (g)
				Adjacent Error	1/2 Revolution	1 Revolution	2 Revolution	Total Range				
TM-110	0.01	10	5	8	±9	±10	±15	±15	5	ZS-017	1.4 or less	165
TM-110R	0.01	10	5	8	±9	±10	±15	±15	5	ZS-017	1.4 or less	165
TM-110D	0.01	10	5	8	±9	±10	±15	±15	5	ZS-017	1.4 or less	165
TM-110-4A	0.01	10	5	8	±9	±10	±15	±15	5	ZS-017	1.4 or less	165
TM-110PW	0.01	10	5	8	±9	±10	±15	±15	5	ZS-028	1.4 or less	165
TM-110G	0.01	10	5	8	±9	±10	±15	±15	5	ZS-017	2.0 or less	165
TM-110P	0.01	10	5	8	±9	±10	±15	±15	5	ZS-017	1.4 or less	145
TM-105	0.01	5	5	8	±9	±10	±12	±12	5	ZS-017	1.4 or less	145
TM-105W	0.01	5	5	8	±9	±10	±12	±12	5	ZS-017	1.4 or less	145
TM-5106	0.01	5	3	7	±8	±9	±10	±12	5	ZS-017	1.4 or less	145
TM-5105	0.005	5	3	7	±8	±9	±10	±12	5	ZS-017	1.4 or less	145

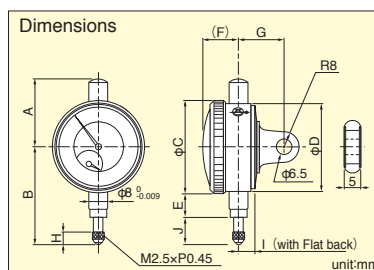
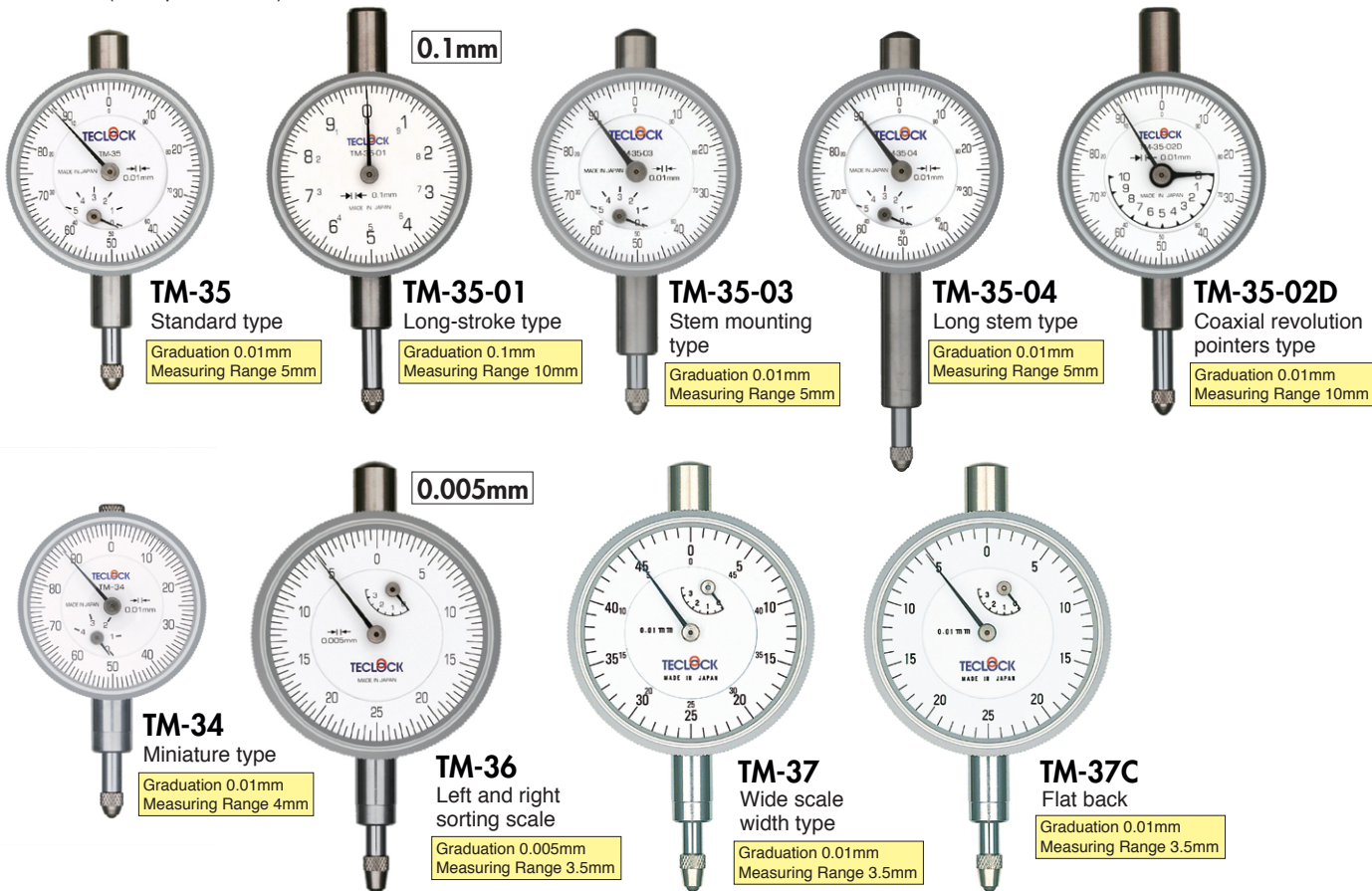
*In case flat back is required, please add suffix "F" to the end of model number. (example=TM-1201F)



Small Dial Indicators

- As bezel diameter is small (minimum diameter=36mm), these are suitable to measure at the narrow setting space of production lines and many measuring points by being mounted to the machine.
- Lifting lever (Option) can be mounted (except for TM-34).
- In case that flat back is required, add suffix "f" to the end of model number (example =TM-35f).

- Measuring range 3.5mm, 4mm, 5mm, and 10mm are available in spite of small size.
- Bezel clamp (Option) can be mounted.
- Measuring ability can be changed. (Refer to page 23)



Dimensions Table

Model	A	B	C	D	E	F	G	H	I	J
TM-35	27.4	41.3	39	36.5	10	14.5	19	5	6.2	11.8
TM-35-01	32.5	46	39	36.5	10	14.5	19	5	6.2	16.5
TM-35-03	27.4	46	39	36.5	15	14.5	19	5	6.2	11.5
TM-35-04	27.4	58	39	36.5	26	14.5	19	5	6.2	12.5
TM-35-02D	32.5	46	39	36.5	10	16.5	19	5	6.2	16.5
TM-34	20	39.5	35	32	10	13	19	5	6.5	12
TM-36	33.5	50	47	44	13	15.5	19.7	7.5	7	13.5
TM-37	33.5	50	47	44	13	15.5	19.7	7.5	7	13.5
* TM-37C	33.5	50	47	44	13	15.5	*	7.5	7	13.5

*Indicator is supplied with Flat back.

unit:mm

Specifications

Model	Graduation (mm)	Measuring Range (mm)	Repeatability (μm)	Indication Error (μm)			Hysteresis (μm)	Standard Contact Point	Measuring Force (N)	Weight (g)
				Adjacent Error	1 Revolution	Total Range				
TM-35	0.01	5	5	9	±13	±15	6	ZS-014	1.3 or less	70
TM-35-01	0.1	10	—	—	—	±50	—	ZS-014	1.5 or less	70
TM-35-03	0.01	5	5	9	±13	±15	6	ZS-014	1.3 or less	72
TM-35-04	0.01	5	5	9	±13	±15	6	ZS-014	1.3 or less	75
TM-35-02D	0.01	10	5	9	±13	±18	7	ZS-014	1.6 or less	75
TM-34	0.01	4	5	8	±11	±15	6	ZS-014	1.0 or less	60
TM-36	0.005	3.5	5	8	±10	±12	5	ZS-017	1.2 or less	115
TM-37	0.01	3.5	5	8	±10	±12	6	ZS-017	1.2 or less	115
TM-37C	0.01	3.5	5	8	±10	±12	6	ZS-017	1.2 or less	115

*In case flat back is required, please add suffix "f" to the end of model number. (example=TM-1201f)



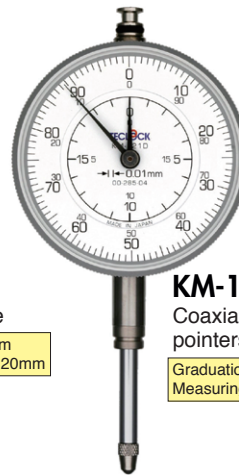
0.01mm Long Stroke Dial Indicators

- 20mm, 30mm long stroke dial indicators are available.
- Teclock unique shock proof mechanism is built-in to all models.
- Lifting lever (Option) can be mounted (except for KM-121PW).
- Bezel clamp (Option) can be mounted (except for KM-121PW).
- In case that flat back is required, add suffix "f" to the end of model number (example =KM-121f).



KM-121
Standard type

Graduation 0.01mm
Measuring Range 20mm



KM-121D
Coaxial revolution pointers type

Graduation 0.01mm
Measuring Range 20mm



KM-121PW
Oil-proof type

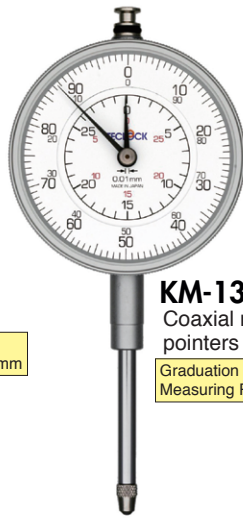
Graduation 0.01mm
Measuring Range 20mm

Measuring Range 30mm



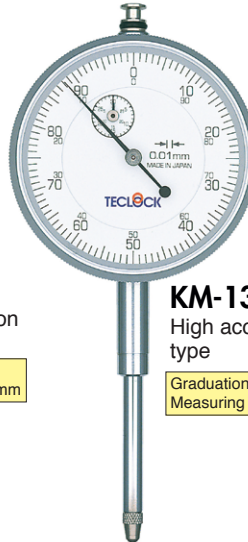
KM-131
Standard type

Graduation 0.01mm
Measuring Range 30mm



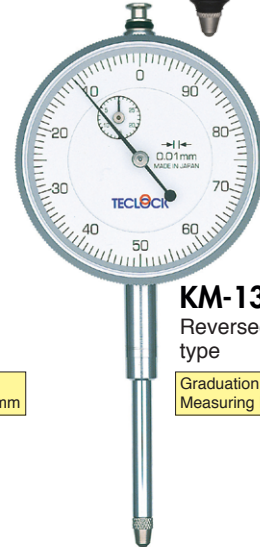
KM-132D
Coaxial revolution pointers type

Graduation 0.01mm
Measuring Range 30mm



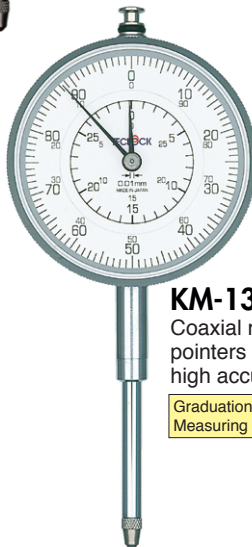
KM-130
High accurate type

Graduation 0.01mm
Measuring Range 30mm



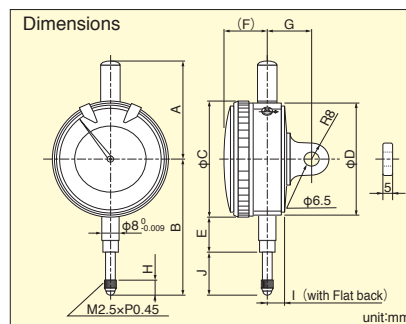
KM-130R
Reversed dial type

Graduation 0.01mm
Measuring Range 30mm



KM-130D
Coaxial revolution pointers type in the high accuracy

Graduation 0.01mm
Measuring Range 30mm



Dimensions table

Model	A	B	C	D	E	F	G	H	I	J
KM-121	36	75	55	52	18	15.5	20	7.5	7.8	29.5
KM-121D	36	75	55	52	18	17.6	20	7.5	7.8	29.5
KM-121PW	55	89	56	52	(17.5)	14.5	20	11	8.3	(43.5)
KM-131	36	86	55	52	19	15.5	20	7.5	8	39.5
KM-132D	36	86	55	52	19	17.3	20	7.5	8	39.5
KM-130	38.5	92	59	54.5	22.7	17.5	22	7.5	9.6	39.8
KM-130R	38.5	92	59	54.5	22.7	17.5	22	7.5	9.6	39.8
KM-130D	38.5	92	59	54.5	22.7	19.5	22	7.5	9.6	39.8

unit:mm

Specifications

Model	Graduation (mm)	Measuring Range (mm)	Repeatability (μm)	Indication Error (μm)			Hysteresis (μm)	Standard Contact Point	Measuring Force (N)	Weight (g)
				Adjacent Error	1 Revolution	Total Range				
KM-121	0.01	20	5	10	±15	±20	7	ZS-017	2.2 or less	145
KM-121D	0.01	20	5	10	±15	±20	7	ZS-017	2.2 or less	150
KM-121PW	0.01	20	5	10	±15	±20	7	ZS-028	2.2 or less	165
KM-131	0.01	30	5	14	±18	±35	8	ZS-017	2.5 or less	150
KM-132D	0.01	30	5	14	±18	±35	8	ZS-017	2.5 or less	150
KM-130	0.01	30	5	14	±18	±25	7	ZS-017	2.2 or less	200
KM-130R	0.01	30	5	14	±18	±25	7	ZS-017	2.2 or less	200
KM-130D	0.01	30	5	14	±18	±25	7	ZS-017	2.2 or less	200

*In case flat back is required, please add suffix "f" to the end of model number.



- 50mm, 100mm, 150mm long stroke dial indicators with a large graduation plates are available.
- Measuring up to 150mm is materialized with highest precision components of high durability and Teclock original and unique enlargement mechanism is built-in.

-

Graduation 0.05mm
Measuring Range 50mm



Graduation 0.01mm
Measuring Range 50mm



Graduation 0.01mm
Measuring Range 50mm



Graduation 0.05mm
Measuring Range 100mm



Graduation 0.05mm
Measuring Range 150mm



Technical drawing of the M2.5xP0.45 probe tip, showing dimensions and views.

Dimensions:

- A:** Total length of the probe tip.
- B:** Length of the main body.
- C:** Length of the conical section.
- D:** Length of the cylindrical section.
- E:** Length of the threaded section.
- F:** Length of the flat back section.
- G:** Length of the flat back section (10 with Flat back).
- H:** Length of the flat back section (10 with Flat back).
- I:** Length of the flat back section (10 with Flat back).
- J:** Length of the flat back section (10 with Flat back).
- K:** Length of the flat back section (10 with Flat back).
- L:** Length of the flat back section (10 with Flat back).
- M:** Length of the flat back section (10 with Flat back).
- N:** Length of the flat back section (10 with Flat back).
- O:** Length of the flat back section (10 with Flat back).
- P:** Length of the flat back section (10 with Flat back).
- Q:** Length of the flat back section (10 with Flat back).
- R:** Length of the flat back section (10 with Flat back).
- S:** Length of the flat back section (10 with Flat back).
- T:** Length of the flat back section (10 with Flat back).
- U:** Length of the flat back section (10 with Flat back).
- V:** Length of the flat back section (10 with Flat back).
- W:** Length of the flat back section (10 with Flat back).
- X:** Length of the flat back section (10 with Flat back).
- Y:** Length of the flat back section (10 with Flat back).
- Z:** Length of the flat back section (10 with Flat back).

Other features:

- φ83:** Diameter of the main body.
- φ12⁰_{-0.05}:** Diameter of the conical section.
- M2.5xP0.45:** Thread specification of the probe tip.
- 3-φ6.5:** Three holes with diameter 6.5 mm.
- 16, 16, 16:** Spacing between the three holes.
- 7:** Width of the flat back section.
- 20:** Length of the flat back section.
- (22):** Length of the flat back section.
- 10 (with Flat back):** Length of the flat back section.

Unit: mm

Model	A	B	C	D	E
KM-05100	140	235	44	80	111
KM-05150	190	335	55	120	160

unit:mm

20



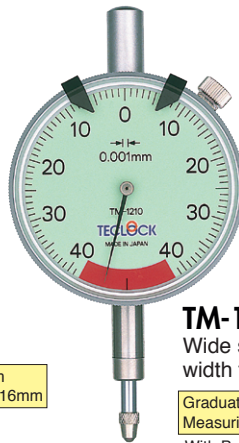
One Revolution Dial Indicators.

- These are indicators that are effective for comparative measurement with 0.0005mm, 0.001mm, and 0.01mm.
- High durability is realized with Teclock original and unique enlargement mechanism is built-in.
- Limiter is mounted as standard.
- Measuring ranges are subdivided to 0.08mm, 0.16mm, 0.2mm and 1.0mm.
- Clump is attached to 0.001mm model.
- Lifting lever (Option) can be mounted.
- In case that flat back is required, add suffix "f" to the end of model number (example =TM-1200 f).



TM-1200
Standard type

Graduation 0.001mm
Measuring Range 0.16mm
With Bezel clamp



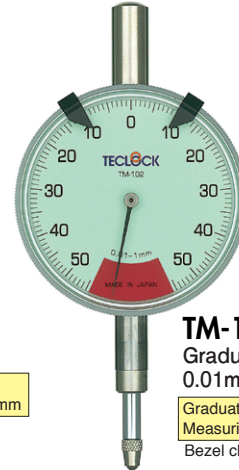
TM-1210
Wide scale width type

Graduation 0.001mm
Measuring Range 0.08mm
With Bezel clamp



TM-1211
Full range type

Graduation 0.001mm
Measuring Range 0.2mm
With Bezel clamp



TM-102
Graduation of 0.01mm type

Graduation 0.01mm
Measuring Range 1.0mm
Bezel clamp (Option)



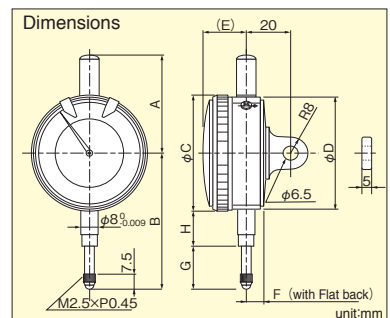
TM-98
Graduation of 0.1mm type

Graduation 0.1mm
Measuring Range 3.2mm
Bezel clamp (Option)



TM-5210
Minimum graduation type

Graduation 0.0005mm
Measuring Range 0.08mm



Dimensions table

Model	A	B	C	D	E	F	G	H
TM-1200	44.5	62	56	52.5	15	8	16	18
TM-1210	44.5	62	56	52.5	15	8	16	18
TM-1211	44.5	62	56	52.5	15	8	16	18
TM-102	48	65	55	52	15.8	8	19	18.5
TM-98	48	65	55	52	15.8	7.8	19	18.5
TM-5210	44.5	62	56	52.5	15	8	16	18

unit:mm

Specifications

Model	Graduation (mm)	Measuring Range (Free Stroke) (mm)	Repeatability (μm)	Indication Error (μm)			Hysteresis (μm)	Standard Contact Point	Measuring Force (N)	Weight (g)
				Adjacent Error	1 Revolution	Total Range				
TM-1200	0.001	0.16 (3.5)	0.5	2.5	-	±5	3	ZS-017	1.5 or less	170
TM-1210	0.001	0.08 (3.5)	0.8	2.5	-	±3.5	3	ZS-017	1.5 or less	170
TM-1211	0.001	0.2 (3.5)	0.5	2.5	-	±5	3	ZS-017	1.5 or less	170
TM-102	0.01	1 (5)	5	7	-	±10	5	ZS-017	1.4 or less	145
TM-98	0.1	3.2 (6)	20	20	-	±40	20	ZS-017	1.4 or less	145
TM-5210	0.0005	0.08 (3.5)	0.8	2.5	-	±2.5	2.5	ZS-017	1.5 or less	170

*In case flat back is required, please add suffix "f" to the end of model number.



0.1mm Dial Indicators

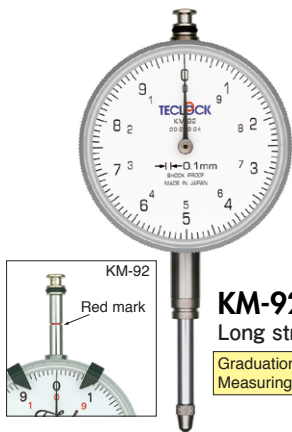
- These are 0.1mm graduation dial indicators.
- 3 types of 10mm, 20mm and 30mm are available depending on measuring ranges.
- Lifting lever (Option) can be mounted.
- This is used to measure approximate dimensional judgment for woodwork and leather goods etc. and also applicable for measurement of judge deviation dimension.
- Lifting lever (Option) can be mounted.
- Measuring ability can be changed. (Refer to page 23)
- In case that flat back is required, add suffix "f" to the end of model number (example =TM-91f).



TM-91
Standard Type
Graduation 0.1mm
Measuring Range 10mm



TM-91R
Reversed dial type
Graduation 0.1mm
Measuring Range 10mm



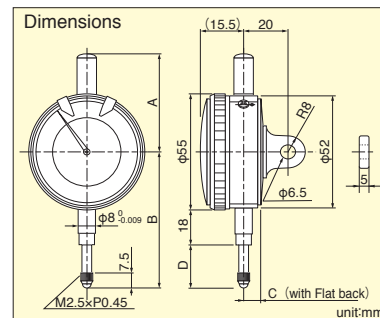
KM-92
Long stroke type
Graduation 0.1mm
Measuring Range 20mm



KM-93
Long stroke type
Graduation 0.1mm
Measuring Range 30mm



TM-35-01
Small type
Graduation 0.1mm
Measuring Range 10mm
(See page 20)



Dimensions table

Model	A	B	C	D
TM-91	48	65	7.8	19.5
TM-91R	48	65	7.8	19.5
KM-92	36	75	7.8	29.5
KM-93	36	85	7.8	39.5

unit:mm

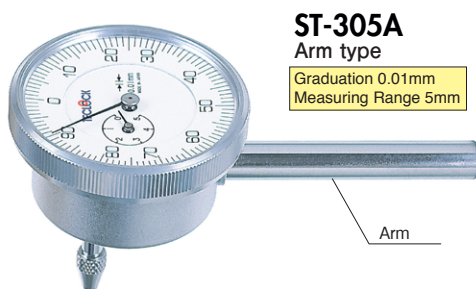
Specifications

Model	Graduation (mm)	Measuring Range (mm)	Repeatability (μm)	Indication Error (μm)		Hysteresis (μm)	Standard Contact Point	Measuring Force (N)	Weight (g)
				1 Revolution	Total Range				
TM-91	0.1	10	35	—	±50	—	ZS-017	1.4 or less	140
TM-91R	0.1	10	35	—	±50	—	ZS-017	1.4 or less	140
KM-92	0.1	20	35	±50	±60	—	ZS-017	2.2 or less	145
KM-93	0.1	30	35	±50	±70	—	ZS-017	2.5 or less	145

*In case flat back is required, please add suffix "f" to the end of model number.

Back Plunger Dial Indicators

- These are different from general indicators, of which gradation plate can be set in parallel to measuring face. It is suitable for leveling smooth surface and reading from the front of measuring point.



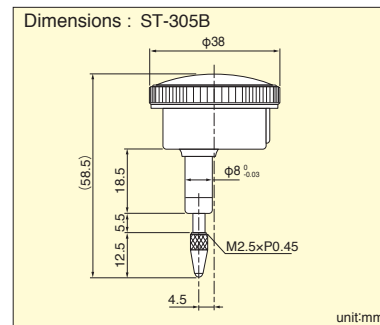
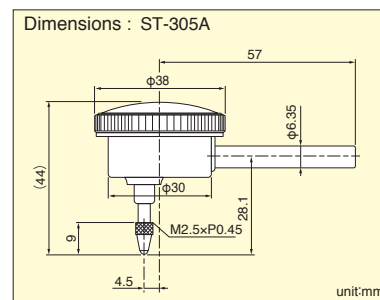
ST-305A
Arm type
Graduation 0.01mm
Measuring Range 5mm



ST-305B
Stem type
Graduation 0.01mm
Measuring Range 5mm



Displacement of can be read from above.



Specifications

Model	Graduation (mm)	Measuring Range (mm)	Repeatability (μm)	Indication Error (μm)					Hysteresis (μm)	Measuring Force (N)	Weight (g)
				Adjacent Error	1/2 Revolution	1 Revolution	2 Revolution	Total Range			
ST-305A	0.01	5	5	10	±12	±15	±20	±20	6	1.4 or less	80
ST-305B	0.01	5	5	10	±12	±15	±20	±20	6	1.4 or less	80



Dial Indicators for Dynamometer

- These are used to measure various power like compression force and tension.
Graduation 0.01mm and 0.005mm are available.



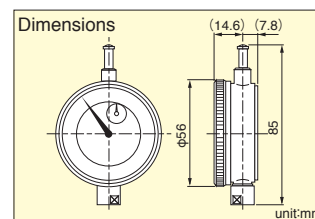
TM-110LM85-1A

Graduation 0.01mm
Measuring Range 10mm



TM-5105LM85-1A

Graduation 0.005mm
Measuring Range 7mm



Specifications

Model	Graduation (mm)	Measuring Range (mm)
TM-110LM85-1A	0.01	10
TM-5105LM85-1A	0.005	7

Example of use

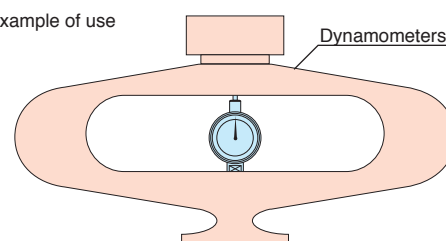


Table for low measuring forced dial indicator (make to order)

Model	Start Measuring Force (N)	Stop Measuring Force (N)	Standard Measuring Force (N)
TM-1201	0.8	1.1	1.5
TM-1202	0.8	1.1	1.5
TM-1205	0.6	0.8	1.5
TM-5105	0.4	0.9	1.4
TM-110	0.2	0.4	1.4

Model	Start Measuring Force(N)	Stop Measuring Force(N)	Standard Measuring Force (N)
TM-34	0.15	0.3	1.0
TM-35	0.15	0.2	1.3
TM-36	0.4	0.7	1.2
TM-37	0.4	0.7	1.2
KM-92	0.18	0.35	2.2

Model	Start Measuring Force(N)	Stop Measuring Force(N)	Standard Measuring Force (N)
KM-121	0.3	0.5	2.2
KM-130	0.4	0.6	2.2
KM-155	0.7	1.2	2.5
KM-131	0.2	0.5	2.5

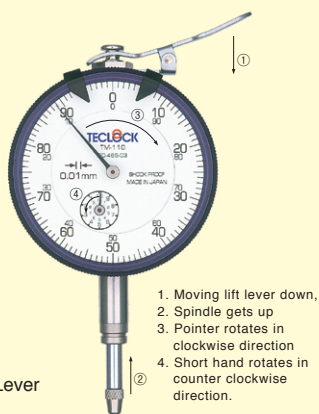
(note) You can not use in the reverse posture.

Lifting Lever Set ZY series

Spindle can be moved up and down by installing lift lever. It is convenient to use dial indicator by installing it to a stand.



With Lifting Lever
TM-110



Code No.	Applicable Models
ZY-900	TM-91, TM-110, TM-110P, TM-110D, TM-110-4A, TM-110G, DM-210, DM-210P, DM-211, DM-213, DM-214, DM-280, DM-283, TM-98, TM-91R, TM-110R
ZY-901	TM-35, TM-35-03, TM-35-04
ZY-902	TM-102, TM-5210, TM-105, TM-105W, TM-5105, TM-5106, TM-5210, TM-1200, TM-1201, TM-1202, TM-1205, TM-1251, TM-1210, TM-1211, DM-250, DM-250P, DM-251
ZY-922	KM-130, KM-130D, KM-130R
ZY-904	KM-121, KM-121D, KM-121, KM-132D, KM-92, KM-93, DM-220, DM-221, DM-223, DM-223P, DM-224, DM-224P, DM-230, DM-233, DM-234
ZY-905	TM-36, TM-37, TM-37C
ZY-913	TM-35-01, TM-35-02D
ZY-918	PC-440J, PC-465J, DMD-210J, DMD-211J, DMD-213J, DMD-214J, DMD-215J, DMD-293J, PC-480S2, PC-485S2, DMD-210S2, DMD-211S2, DMD-213S2, DMD-250S2, DMD-252S2

Limiter Seal

Seal is for judging tolerance of dial indicator. Putting seal to cover plate of dial indicator becomes mark to judge tolerance.



TN-1051 Red



TN-1052 Blue



TN-1053 Green

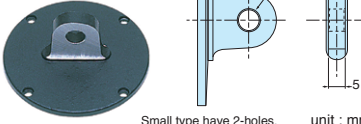
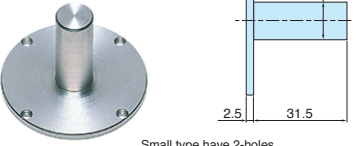


Dial Indicator used.
For outer frame diameter
φ55-φ59.
It can be used for TM-110 / TM-1201



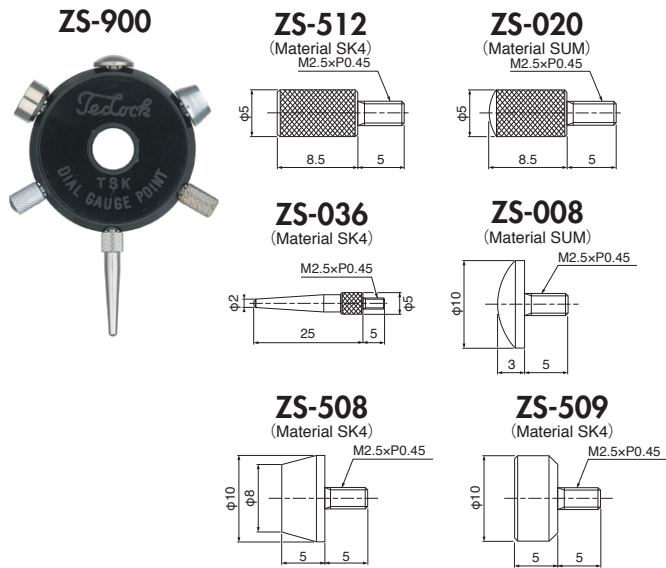
Parts & Accessories

Backs

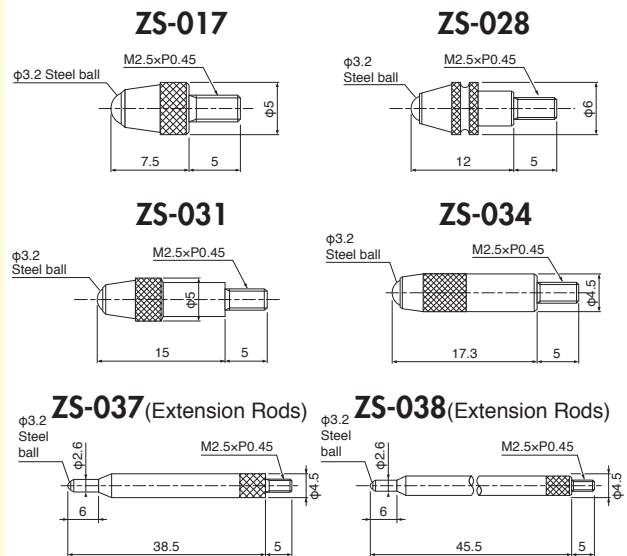
Backs	Code No.	Applicable models
Lug Back Bezel clamping by nipping lug back part.  Small type have 2-holes. unit : mm	ZL-010 ZL-021 ZL-024 ZL-007 ZL-012 ZL-013 ZL-017	TM-1200, TM-1201, TM-1201PW, TM-1202, TM-1251, TM-102, TM-98, TM-5210, TM-110, TM-110R, TM-110D, TM-110-4A, TM-110PW, TM-110G, TM-110P, TM-105, TM-105W, TM-5105, TM-5106, TM-91, TM-91R, KM-92, KM-93, KM-121, KM-121D, KM-121PW, KM-131, KM-132D, TM-1210, TM-1211 TM-34 TM-35, TM-35-01, TM-35-02D, TM-35-03, TM-35-04 TM-36, TM-37, TM-37C TM-1205 KM-130, KM-130D, KM-130R KM-55, KM-155, KM-155D
Flat Back It can not be clamping by using back lid.  Small type have 2-holes. unit : mm	ZL-066 (t=2.3mm) (Plastic) ZL-067 (t=2mm) (Alumi) ZL-060 (t=1.5mm) ZL-062 (t=1.5mm) ZL-063 (t=1.5mm) ZL-073 (t=2mm) ZL-076 (t=2mm) ZL-072 (t=2mm)	TM-110, TM-110R, TM-110G, TM-110P, TM-105, TM-105W, TM-5105, TM-5106, TM-102, TM-91, TM-91R, KM-92, KM-93, KM-121, KM-121D, KM-121PW, KM-131, KM-132D, TM-98, TM-110D, TM-110-4A TM-1200, TM-1201, TM-1201PW, TM-1202, TM-5210, TM-1210, TM-1211, TM-1251, TM-110PW TM-34 TM-35, TM-35-01, TM-35-02D, TM-35-03, TM-35-04 TM-36, TM-37, TM-37C TM-1205 KM-130, KM-130D, KM-130R KM-55, KM-155, KM-155D
Post Back (make to order) Used by clamping post.  Small type have 2-holes. unit : mm	ZL-120 ZL-121 ZL-122 ZL-123 ZL-124	TM-1200, TM-1201, TM-1201PW, TM-1202, TM-1251, TM-102, TM-5210, TM-110, TM-110R, TM-110D, TM-110-4A, TM-110PW, TM-110G, TM-105, TM-105W, TM-5105, TM-5106, TM-91, TM-91R, TM-98, KM-92, KM-93, KM-121, KM-121D, KM-121PW, KM-131, KM-132D, TM-1210, TM-1211 TM-35, TM-35-01, TM-35-02D, TM-35-03, TM-35-04 TM-36, TM-37, TM-37C KM-130, KM-130D, KM-130R KM-55, KM-155, KM-155D
Screw Post Back (make to order) Used with screw as guide and clamping this with screw.  Small type have 2-holes. unit : mm	ZL-130 ZL-131 ZL-132 ZL-133 ZL-134	TM-1200, TM-1201, TM-1201PW, TM-1202, TM-1251, TM-102, TM-5210, TM-110, TM-110R, TM-110D, TM-110-4A, TM-110PW, TM-110G, TM-105, TM-105W, TM-5105, TM-5106, TM-91, TM-91R, TM-98, KM-92, KM-93, KM-121, KM-121D, KM-121PW, KM-131, KM-132D, TM-1210, TM-1211 TM-35, TM-35-01, TM-35-02D, TM-35-03, TM-35-04 TM-36, TM-37, TM-37C KM-130, KM-130D, KM-130R KM-55, KM-155, KM-155D
Adjustable Bracket Back (make to order) Can be slide with gutter as guide. Clamped by screw.  Small type have 2-holes. unit : mm	ZL-140 ZL-142 ZL-141 ZL-143	TM-1200, TM-1201, TM-1201PW, TM-1202, TM-1251, TM-102, TM-5210, TM-110, TM-110R, TM-110D, TM-110-4A, TM-110PW, TM-110G, TM-105, TM-110P, TM-105W, TM-5105, TM-5106, TM-91, TM-91R, TM-98, KM-92, KM-93, KM-121, KM-121D, KM-121PW, KM-131, KM-132D, TM-1210, TM-1211 TM-35, TM-35-01, TM-35-02D, TM-35-03, TM-35-04 TM-36, TM-37, TM-37C KM-55, KM-155, KM-155D
Magnetic Back (make to order) Can be easily installed with magnet on iron Plates or machinery.  Small type have 2-holes. unit : mm	ZL-900	TM-1200, TM-1201, TM-1201PW, TM-1202, TM-1251, TM-102, TM-5210, TM-110, TM-110R, TM-110D, TM-110-4A, TM-110PW, TM-110G, TM-105, TM-110P, TM-105W, TM-5105, TM-5106, TM-91, TM-91R, TM-98, KM-92, KM-93, KM-121, KM-121D, KM-121PW, KM-131, KM-132D, TM-1210, TM-1211



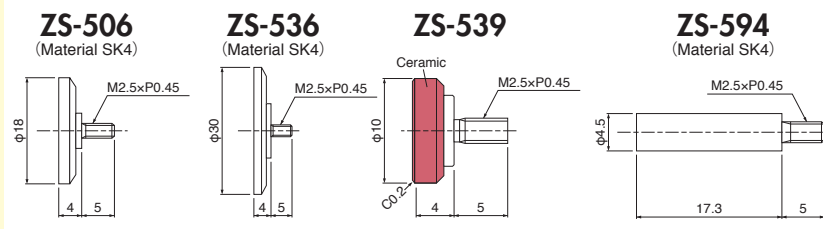
Contact Point Sets



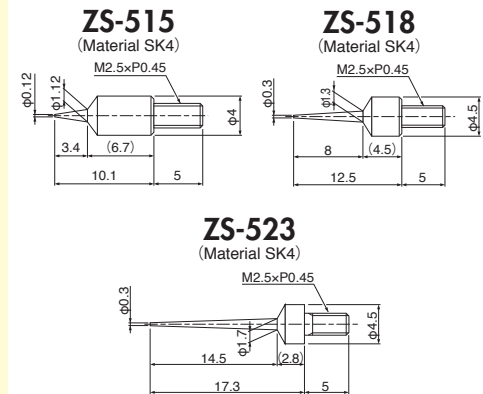
Steel Ball Contact Point



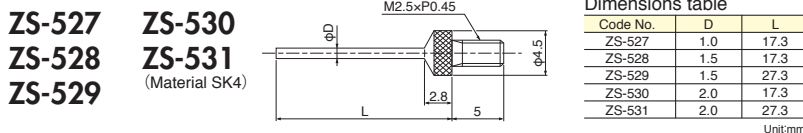
Flat Contact Point



Needle Contact Point

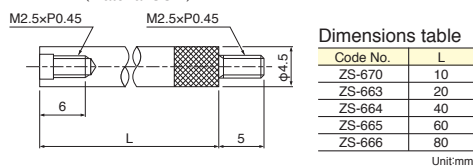


Flat Needle contact Point



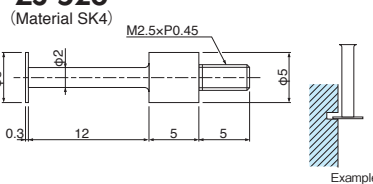
Extension Rods

ZS-663·664·665·666·670



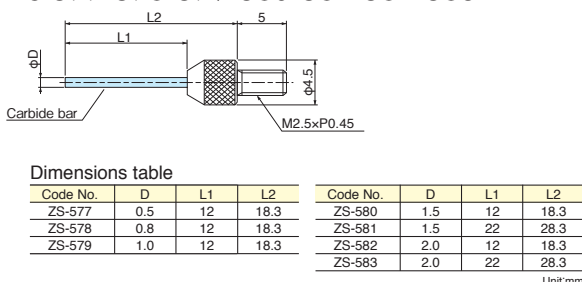
T-shape Contact Point

ZS-526



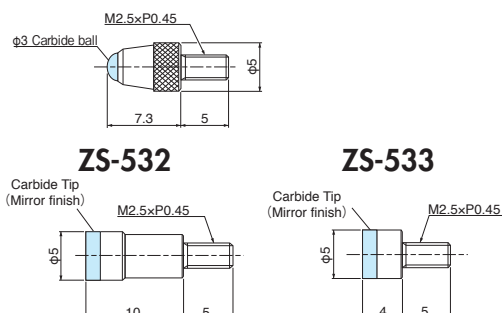
Carbide Flat Needle Contact Point

ZS-577·578·579·580·581·582·583



Carbide Contact Point

ZS-117

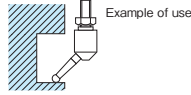
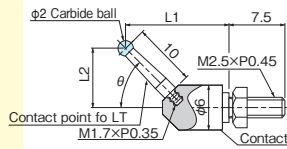




Special Contact Point

ZS-907·908·909

(Offset Contact point with ZS-713)



Dimensions table

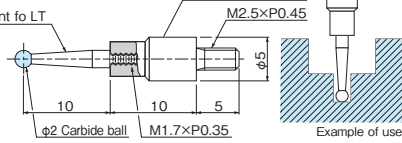
Code No.	Contact point body	θ	L1	L2
ZS-907	ZS-419	30°	17.1	7
ZS-908	ZS-420	45°	15.1	9.1
ZS-909	ZS-421	60°	12.3	10.7

Can also be used in other LT for contact point.

Contact point to LT

ZS-910

(for Deep Hole with ZS-713)



Can also be used in other LT for contact point.

Contact point body ZS-422



Example of use

Roller Point

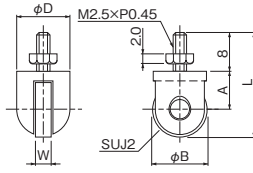
ZS-802·803·804

(Material SUJ2)

Dimensions table

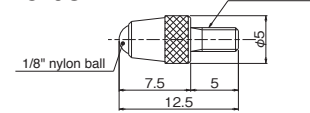
Code No.	A	B	D	L	W
ZS-802	5.5	6	6	16.5	2.6
ZS-803	8	11	11	21.5	4
ZS-804	13.5	22	14	32.5	7

unit:mm



Nylon Ball Point

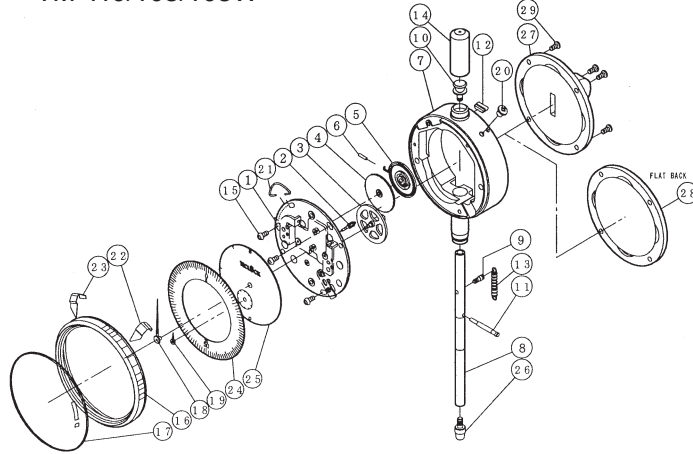
ZS-054



Parts List

0.01mm Dial Indicators

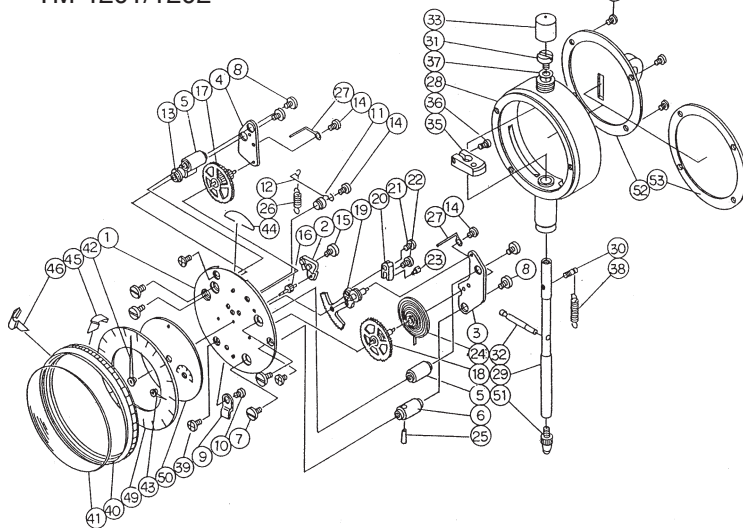
TM-110/105/105W



Key No.	Model No. Product No.	TM-110 00-465-04	TM-105 00-461-04	TM-105W 00-463-03
1	BOTTOM PLATE ASSY		DG-110501S	
2	CENTER PINION		DG-110009S	
3	#1 GEAR ASSY		DG-110511S	
4	#2 GEAR ASSY		DG-110514P	
5	HAIR SPRING		DG-110516	
6	HAIR SPRING PIN		DG-921018	
7	CASE		DG-110541S	
8	SPINDLE	DG-110046S	DG-105046S	
9	STOP SCREW		DG-110047	
10	TOP POINT		DG-110048S	
11	SLIDE PIN		DG-110049S	
12	SHOCK PILLOW		DG-110056S	
13	SPRING		DG-110067	
14	CAP		ZY-006	
15	BOTTOM PLATE SCREW		001523	
16	BEZEL	DG-110081S	DG-121081S	
17	DIAL COVER		DG-110088	
18	POINTER		DG-110584	
19	COUNTER HAND		DG-110586	
20	#0 SCREW		021033	
21	BEZEL SPRING		DG-110090S	
22	TOLERANCE HAND R		DG-110092	
23	TOLERANCE HAND L		DG-110093	
24	DIAL PLATE	T-5101	T-62	T-5101
25	COUNTER HAND DIAL PLATE	T-5262	T-5271	T-5269
26	CONTACT POINT		ZS-017	
27	LUG BACK	ZL-010		ZL-010
28	FLATBACK	-	ZL-066	-
29	#0 SCREW		001328	

0.001mm Dial Indicators

TM-1201/1202



KEY NO.	PartName	TM-1201	TM1202	KEY NO.	PartName	TM-1201	TM1202
1	BOTTOM PLATE			28	CASE		DG-1201641
2	CENTER BEARING			29	SPINDLE		DG-1201046
3	#1 UPPER PLATE			30	STOP SCREW		DG-1201047
4	#2 UPPER PLATE			31	TOP SCREW		DG-36048
5	#1 POST			32	SLIDE PIN		DG-1201049
6	#2 POST			33	CAP		ZY-012
7	UPPER PLATE SCREW A			35	CONTACTING POINT ASSY.		DG-1201554
8	UPPER PLATE SCREW B			36	CONTACTOR SCREW		DG-1201056
9	BEZEL CLAMP			37	TOP WASHER		DG-1201058
10	BEZEL CLAMP SCREW			38	SPRING		DG-1201067
11	LEVER STATTO			39	BASE PLATE SCREW		001314
12	SPRING LEVER			40	BEZEL		DG-1201081
13	#3 POST			41	DIAL COVER		DG-1201088
14	SPRING LEVER SCREW		001308	42	POINTER		DG-1201584
15	#0 SCREW		001308	43	COUNTER HAND		DG-1201586
16	CENTER PINION	DG-1201009	DG-1202009	44	BEZEL SPRING		DG-110090
17	#1 GEAR ASSY.	DG-1201511	DG-1202511	45	TOLERANCE HAND R		DG-110092
18	#2 GEAR ASSY.	DG-1201514		46	TOLERANCE HAND L		DG-110093
19	SECTOR GEAR ASSY.	DG-1201323		49	DIAL PLATE		T-5304B
20	BRACKET	DG-1201331		50	COUNTER HAND DIAL PLATE	T-5004B	T-5005B
21	BRACKET SCREW A	DG-1201032		51	CONTACT POINT		ZS-017
22	BRACKET SCREW B	DG-1201033		52	LUG BACK		ZL-010
23	CAM	DG-1201034		54	LAG BACK SCREW		001314
24	HAIR SPRING	DG-121516					
25	HAIR SPRING PIN	DG-131018					
26	SPRING B	DG-1201037					
27	STOPPER	DG-1201038					