

Coolant Proof Micrometer

SERIES 293 — with Dust/Water Protection Conforming to IP65 Level

FEATURES

- IP65 protection level, enabling use in environments exposed to cutting oil, etc*.
*Anti-corrosion treatment is required after use.
- Measurement data output function is available with a water-resistant connection cable.
- Oil-resistance materials are used in all plastic components.
- $\pm 1\mu\text{m}$ instrumental error (75mm or less range models)
- Auto power ON/OFF function.
- Certificate of inspection* is included. (50mm or less range models)
*It is not the type used to obtain calibration certificates.



293-230



293-252



Oil-resistance materials are used in all plastic components.



(Refer to the page 9 for details.)



(Refer to the page 9 for details.)



Certificate of inspection

Technical Data

- Accuracy: Refer to the list of specifications. (excluding quantizing error)
- Resolution: 0.001mm, .00005"/0.001mm (up to 4") or .0001"/0.001mm (over 4")
- Flatness: 0.3 μm
- Parallelism: 1 μm for models up to 50mm
2 μm for models up to 100mm
3 μm for models up to 175mm
4 μm for models up to 275mm
5 μm for models over 275mm
- Measuring faces: Carbide tipped
- Display: LCD
- Battery: SR44 (1 pc.), **938882**
- Battery life: Approx. 1.2 years under normal use (8 months: over 100mm models)
- Dust/Water protection level: IP65

Function

- Origin-set, Preset (over 100mm models), Zero-setting, Automatic power ON/OFF, Data hold, Data output, inch/mm conversion (inch/mm models)
- Alarm: Low voltage, Counting value composition error

Optional Accessory

- 05CZA662:** SPC cable with data switch (1m)
05CZA663: SPC cable with data switch (2m)

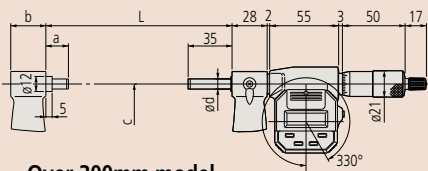


SPC cable with data switch



Measurement data output function is available with a water-resistant connection cable.

DIMENSION

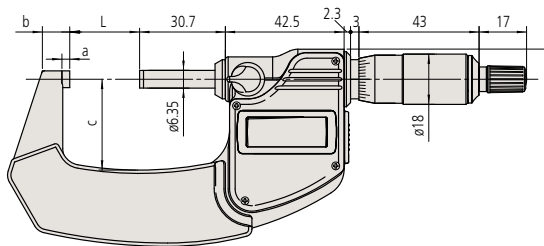


Over 300mm model

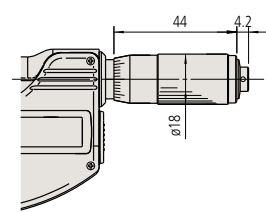
Range	L	a	b	c	d
300 - 235mm	353	18	28	187	8
325 - 350mm	378	18	28	199	8
350 - 375mm	403	18	28	212	8
375 - 400mm	428	18	28	224	8
400 - 425mm	453	18	28	236	8
425 - 450mm	478	18	28	248	8
450 - 475mm	503	18	28	261	8
475 - 500mm	528	18	28	273	8

DIMENSION AND MASS

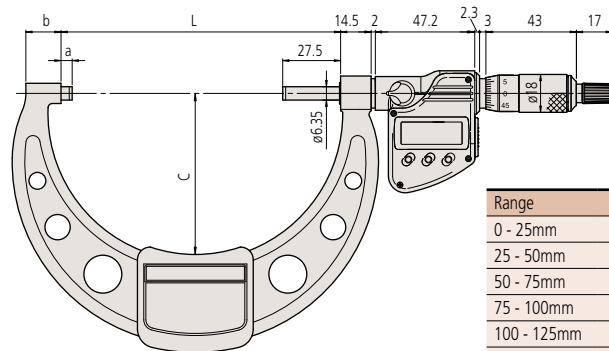
Ratchet stop type up to 100mm



Ratchet thimble type / Friction thimble type



Unit: mm



Ratchet stop type over 100mm

Range	L	a	b	c	Mass
0 - 25mm	0	2.8	9	(25)	270g
25 - 50mm	25	2.8	9.8	(32)	330g
50 - 75mm	50	2.8	12.6	(47)	470g
75 - 100mm	75	2.8	14	(60)	625g
100 - 125mm	132.8	5.3	16.7	(76.5)	600g
125 - 150mm	158.2	5.7	18.8	(91)	740g
150 - 175mm	183.6	6.1	19.1	(103.1)	800g
175 - 200mm	208.8	6.3	18.2	(115.3)	970g
200 - 225mm	234.2	6.7	16.8	(126.8)	1100g
225 - 250mm	258	5.5	18	(139.8)	1270g
250 - 275mm	284	6.5	18	(152.3)	1340g
275 - 300mm	309	6.5	18	(166)	1540g

SPECIFICATIONS

Metric With ratchet stop

Range	Order No.	Accuracy
0 - 25mm	293-230 / 293-240*	±1µm
25 - 50mm	293-231 / 293-241*	±1µm
50 - 75mm	293-232 / 293-242*	±1µm
75 - 100mm	293-233 / 293-243*	±2µm
100 - 125mm	293-250	±2µm
125 - 150mm	293-251	±2µm
150 - 175mm	293-252	±3µm
175 - 200mm	293-253	±3µm
200 - 225mm	293-254	±3µm
225 - 250mm	293-255	±4µm
250 - 275mm	293-256	±4µm
275 - 300mm	293-257	±4µm

*without SPC data output

Metric With ratchet thimble

Range	Order No.	Accuracy
0 - 25mm	293-234 / 293-244*	±1µm
25 - 50mm	293-235 / 293-245*	±1µm
50 - 75mm	293-236 / 293-246*	±1µm
75 - 100mm	293-237 / 293-247*	±2µm

*without SPC data output

Metric With friction thimble

Range	Order No.	Accuracy
0 - 25mm	293-238 / 293-248*	±1µm

*without SPC data output

Inch/Metric With ratchet stop

Range	Order No.	Accuracy
0 - 1"	293-330 / 293-340*	±.00005"
1" - 2"	293-331 / 293-341*	±.00005"
2" - 3"	293-332 / 293-342*	±.00005"
3" - 4"	293-333 / 293-343*	±.0001"
4" - 5"	293-350	±.0001"
5" - 6"	293-351	±.0001"
6" - 7"	293-352	±.00015"
7" - 8"	293-353	±.00015"
8" - 9"	293-354	±.00015"
9" - 10"	293-355	±.0002"
10" - 11"	293-356	±.0002"
11" - 12"	293-357	±.0002"

*without SPC data output

Inch/Metric With ratchet thimble

Range	Order No.	Accuracy
0 - 1"	293-334 / 293-344*	±.00005"
1" - 2"	293-345*	±.00005"
2" - 3"	293-346*	±.00005"
3" - 4"	293-347*	±.0001"

*without SPC data output

Inch/Metric With friction thimble

Range	Order No.	Accuracy
0 - 1"	293-335 / 293-348*	±.00005"
1" - 2"	293-336	±.00005"

*without SPC data output