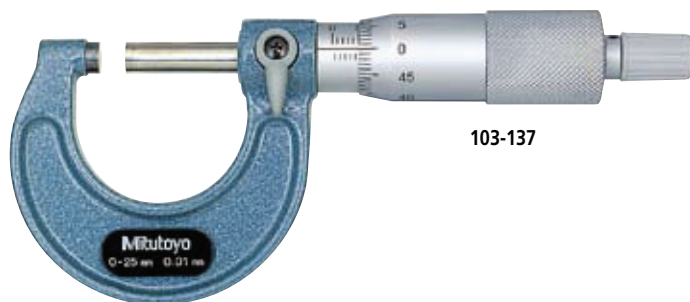


Outside Micrometers

SERIES 103

FEATURES

- Hammertone-green, baked-enamel-finished frame.
- Ratchet Stop or Friction Thimble for excellent repeatability.
- Supplied with a setting standard (except for 0-25mm/0-1" models).



103-137

SPECIFICATIONS

Metric With ratchet stop

Range	Order No.	Accuracy
0 - 25mm	103-137	±2μm
	103-129*	±2μm
25 - 50mm	103-138	±2μm
	103-130*	±2μm
50 - 75mm	103-139-10	±2μm
75 - 100mm	103-140-10	±3μm
100 - 125mm	103-141-10	±3μm
125 - 150mm	103-142-10	±3μm
150 - 175mm	103-143-10	±4μm
175 - 200mm	103-144-10	±4μm
200 - 225mm	103-145-10	±4μm
225 - 250mm	103-146-10	±5μm
250 - 275mm	103-147-10	±5μm
275 - 300mm	103-148-10	±5μm
300 - 325mm	103-149	±6μm
325 - 350mm	103-150	±6μm
350 - 375mm	103-151	±6μm
375 - 400mm	103-152	±7μm
400 - 425mm	103-153	±7μm
425 - 450mm	103-154	±7μm
450 - 475mm	103-155	±8μm
475 - 500mm	103-156	±8μm

(Models with a range up to 1000mm are available.)

*0.001mm reading is obtained with vernier.

Inch With ratchet stop

Range	Order No.	Accuracy
0 - 1"	103-177	±.0001"
	103-131*	±.0001"
1" - 2"	103-178	±.0001"
	103-132*	±.0001"
2" - 3"	103-179	±.0001"
3" - 4"	103-180	±.00015"
4" - 5"	103-181	±.00015"
5" - 6"	103-182	±.00015"
6" - 7"	103-183	±.0002"
7" - 8"	103-184	±.0002"
8" - 9"	103-185	±.0002"
9" - 10"	103-186	±.00025"
10" - 11"	103-187	±.00025"
11" - 12"	103-188	±.00025"
12" - 13"	103-189	±.0003"
13" - 14"	103-190	±.0003"
14" - 15"	103-191	±.0003"
15" - 16"	103-192	±.00035"
16" - 17"	103-193	±.00035"
17" - 18"	103-194	±.00035"
18" - 19"	103-195	±.0004"
19" - 20"	103-196	±.0004"

(Models with a range up to 40" are available.)

*.0001" reading is obtained with vernier.

Inch With friction thimble

Range	Order No.	Accuracy
0 - 1"	103-135*	±.0001"
1" - 2"	103-136*	±.0001"

*.0001" reading is obtained with vernier.

Metric Micrometer set

Range	Order No.	Models included
0 - 75mm (3 pcs./set)	103-927-10	103-137, 103-138, 103-139-10, 2 micrometer standards
0 - 150mm (6 pcs./set)	103-913-31	102-701*, 103-138, 103-139-10, 103-140-10, 103-141-10, 103-142-10, 5 micrometer standards
150 - 300mm (6 pcs./set)	103-915-10	103-143-10, 103-144-10, 103-145-10, 103-146-10, 103-147-10, 103-148-10, 6 micrometer standards
0 - 300mm (12 pcs./set)	103-914-31	All micrometers of 103-913-31 and 103-915-10 in one set, 11 micrometer standards

*Ratchet thimble micrometer

Inch Micrometer set

Range	Order No.	Models included
0 - 3" (3 pcs./set)	103-929	103-177, 103-178, 103-179, 2 micrometer standards
0 - 4" (4 pcs./set)	103-930	103-177, 103-178, 103-179, 103-180, 3 micrometer standards
0 - 6" (6 pcs./set)	103-904-10	103-177, 103-178, 103-179, 103-180, 103-181, 103-182, 5 micrometer standards
6" - 12" (6 pcs./set)	103-906	103-183, 103-184, 103-185, 103-186, 103-187, 103-188, 6 micrometer standards
0 - 12" (12 pcs./set)	103-905-10	All micrometers of 103-904-10 and 103-906 in one set, 11 micrometer standards

*Ratchet thimble micrometer



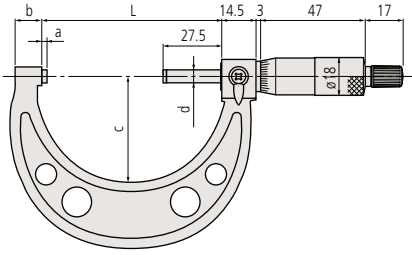
(Refer to page VIII for details.)

Technical Data

Accuracy: Refer to the list of specifications.
 Graduation: 0.01mm, 0.001mm, .001" or .0001"
 Flatness: 0.6μm/.000024" for models up to 300mm/12"
 1μm/.00004" for models over 300mm/12"
 Parallelism: (2+R/100)μm, R = max. range (mm)
 [.00008+.00004(R/4)]", R=max, range (inch)
 *fraction rounded down
 Measuring faces: Carbide

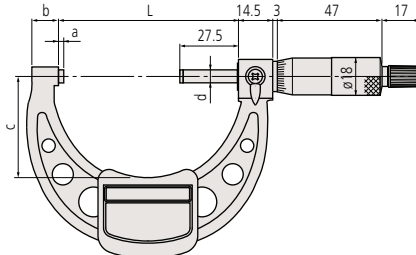
DIMENSIONS AND MASS

Models up to 75mm

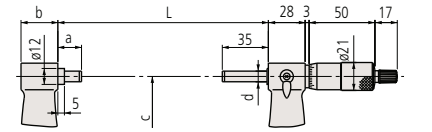


Range	L	a	b	c	d
0 - 25mm	30	2.5	9	28	ø6.35
25 - 50mm	55	2.5	10	38	ø6.35
50 - 75mm	80	2.5	12	46	ø6.35
75 - 100mm	105	2.5	14	57	ø6.35
100 - 125mm	132.8	5.3	16.7	76	ø6.35
125 - 150mm	158.2	5.7	18.8	90	ø6.35
150 - 175mm	183.6	6.1	19.1	102	ø6.35
175 - 200mm	208.8	6.3	18.2	115	ø6.35
200 - 225mm	234.2	6.7	16.8	127	ø6.35

Models 75mm to 300mm



Models over 300mm



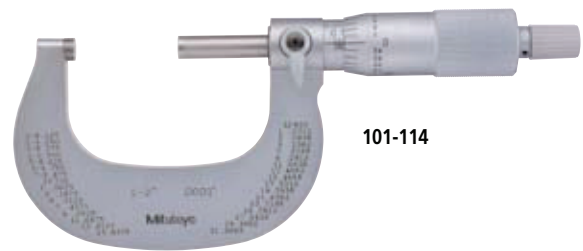
Range	L	a	b	c	d
225 - 250mm	258	5.5	18	139	ø6.35
250 - 275mm	284	6.5	18	152	ø6.35
275 - 300mm	309	6.5	18	166	ø6.35
300 - 325mm	353	18	28	187	ø8
325 - 350mm	378	18	28	199	ø8
350 - 375mm	403	18	28	212	ø8
375 - 400mm	428	18	28	224	ø8
400 - 425mm	453	18	28	236	ø8
425 - 450mm	478	18	28	248	ø8
450 - 475mm	503	18	28	261	ø8
475 - 500mm	528	18	28	273	ø8

Outside Micrometers

SERIES 101

FEATURES

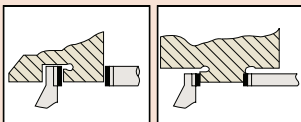
- Satin-chrome-finished frame, tapered (on the anvil side) for hard-to-reach places.
- Supplied with a setting standard (except for 0-1" models).



101-114

Technical Data

Accuracy: Refer to the list of specifications.
 Graduation: .001" or .0001"
 Flatness: .000024"
 Parallelism: .00008" for models up to 3"
 .00012" for models over 3"
 Measuring faces: Carbide



SPECIFICATIONS

Inch With ratchet stop

Range	Order No.	Accuracy
0 - 1"	101-113*	±.0001"
1" - 2"	101-114*	±.0001"
2" - 3"	101-119*	±.0001"
3" - 4"	101-120*	±.00015"

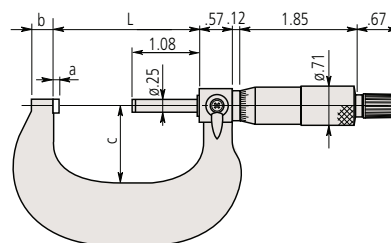
*.0001" reading is obtained with vernier.

Inch With friction thimble

Range	Order No.	Accuracy
0 - 1"	101-117*	±.0001"
1" - 2"	101-118*	±.0001"

*.0001" reading is obtained with vernier.

DIMENSIONS



Range	L	a	b	c
0 - 1"	1.18	.10	.20	1.10
1 - 2"	2.16	.08	.31	1.28
2 - 3"	3.19	.11	.33	1.77
3 - 4"	4.19	.11	.33	2.28

Note: The shape of the thimble changes on the model with a friction thimble.