

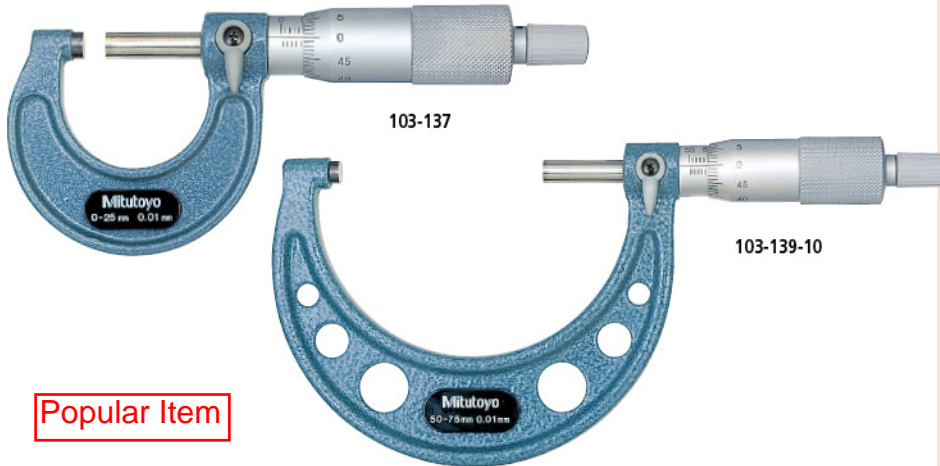
# Micrometer

The origin of Mitutoyo's trustworthy brand of small tool instruments

## Outside Micrometers SERIES 103

- Baked-enamel-finished frame.
- Measuring faces: Carbide
- Equipped with Ratchet Stop for constant measuring force.

B



Popular Item



An inspection certificate is supplied as standard. Refer to page X for details.

### Technical Data

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

Standard accessories: Reference bar, 1 pc  
(except for measuring range 0-25mm (0-1") models)  
Spanner (301336), 1 pc  
(for maximum measuring range up to 300mm (12"))  
Spanner (200154), 1 pc  
(for maximum measuring range 325mm (13") or over)



103-904-10



103-905-10



103-906

Metric	With ratchet stop		
Order No.	Range	Graduation	Accuracy
103-137	0 - 25mm	0.01mm	±2µm
103-129		0.001mm	
103-138	25 - 50mm	0.01mm	
103-130		0.001mm	
103-139-10		50 - 75mm	
103-140-10	75 - 100mm	±3µm	
103-141-10	100 - 125mm		
103-142-10	125 - 150mm	±4µm	
103-143-10	150 - 175mm		
103-144-10	175 - 200mm	±5µm	
103-145-10	200 - 225mm		
103-146-10	225 - 250mm	±6µm	
103-147-10	250 - 275mm		
103-148-10	275 - 300mm	±7µm	
103-149	300 - 325mm		
103-150	325 - 350mm	±8µm	
103-151	350 - 375mm		
103-152	375 - 400mm	±9µm	
103-153	400 - 425mm		
103-154	425 - 450mm	±10µm	
103-155	450 - 475mm		
103-156	475 - 500mm	±11µm	
103-157	500 - 525mm		
103-158	525 - 550mm	±12µm	
103-159	550 - 575mm		
103-160	575 - 600mm	±13µm	
103-161	600 - 625mm		
103-162	625 - 650mm	±14µm	
103-163	650 - 675mm		
103-164	675 - 700mm	±15µm	
103-165	700 - 725mm		
103-166	725 - 750mm		
103-167	750 - 775mm		
103-168	775 - 800mm		
103-169	800 - 825mm		
103-170	825 - 850mm		
103-171	850 - 875mm		
103-172	875 - 900mm		
103-173	900 - 925mm		
103-174	925 - 950mm		
103-175	950 - 975mm		
103-176	975 - 1000mm		

Inch	With ratchet stop		
Order No.	Range	Graduation	Accuracy
103-177	0 - 1"	.001"	±.0001"
103-131		.0001"	
103-178	1" - 2"	.001"	
103-132		.0001"	
103-179	2" - 3"	±.00015"	
103-180	3" - 4"		
103-181	4" - 5"	±.0002"	
103-182	5" - 6"		
103-183	6" - 7"	±.00025"	
103-184	7" - 8"		
103-185	8" - 9"	±.0003"	
103-186	9" - 10"		
103-187	10" - 11"	±.00035"	
103-188	11" - 12"		
103-189	12" - 13"	±.0004"	
103-190	13" - 14"		
103-191	14" - 15"	±.00045"	
103-192	15" - 16"		
103-193	16" - 17"	±.0005"	
103-194	17" - 18"		
103-195	18" - 19"	±.00055"	
103-196	19" - 20"		
103-197	20" - 21"	±.0006"	
103-198	21" - 22"		
103-199	22" - 23"	±.00065"	
103-200	23" - 24"		
103-201	24" - 25"	±.0007"	
103-202	25" - 26"		
103-203	26" - 27"	±.00075"	
103-204	27" - 28"		
103-205	28" - 29"		
103-206	29" - 30"		
103-207	30" - 31"		
103-208	31" - 32"		
103-209	32" - 33"		
103-210	33" - 34"		
103-211	34" - 35"		
103-212	35" - 36"		
103-213	36" - 37"		
103-214	37" - 38"		
103-215	38" - 39"		
103-216	39" - 40"		

Inch	With friction thimble		
Order No.	Range	Graduation	Accuracy
103-135	0 - 1"	.0001"	±.0001"
103-136	1" - 2"		

## Technical Data

- Standard accessories:  
Reference rod 1 pc.  
(Excluding the measuring range 0 to 25 mm)  
Spanner (301336) 1 pc.  
(Maximum measuring length Less than 300 mm)  
Spanner (200154) 1 pc.  
(Maximum measuring length More than 325 mm)



103-904-10



103-905-10



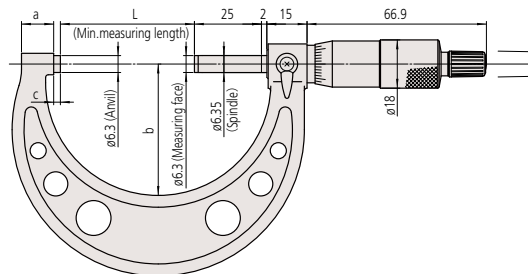
103-906

Metric Micrometer set/With ratchet thimble		
Order No.	Range (mm)	Models included
103-927-10	0 - 75 (3 pcs./set)	103-137, 103-138, 103-139-10, 2 micrometer standards
103-913-50	0 - 150 (6 pcs./set)	103-137, 103-138, 103-139-10, 103-140-10, 103-141-10, 103-142-10, 5 micrometer standards
103-915-10	150 - 300 (6 pcs./set)	103-143-10, 103-144-10, 103-145-10, 103-146-10, 103-147-10, 103-148-10, 6 micrometer standards
103-914-50	0 - 300 (12 pcs./set)	All micrometers of 103-913-50 and 103-915-10 in one set, 11 micrometer standards

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

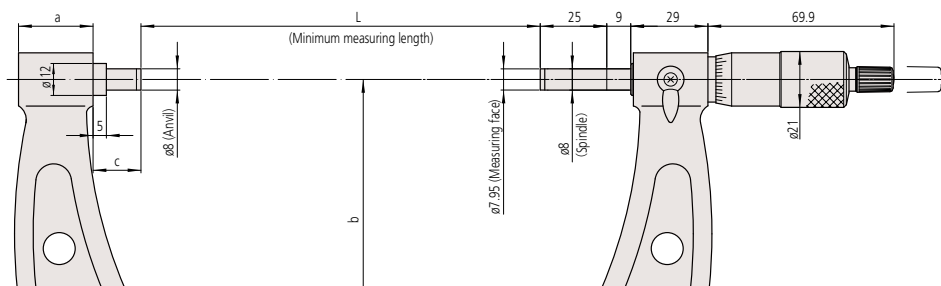
## DIMENSIONS

### 103-137 and 103-138, Models 75 mm to 300 mm



Unit: mm

### Models 325 mm to 1000 mm



Range (mm)	L	a	b	c
0 - 25	0	9	28	2.5
25 - 50	25	10	38	
50 - 75	50	12	49	
75 - 100	75	14	60	
100 - 125	100	16.7	79	
125 - 150	125	18.8	94	5.7
150 - 175	150	19.1	106	6.1
175 - 200	175	18.2	118	6.3
200 - 225	200	16.8	130	6.7
225 - 250	225	18	143	5.5

Range (mm)	L	a	b	c
250 - 275	250	18	156	6.5
275 - 300	275		169	
300 - 325	300		187	
325 - 350	325		199	
350 - 375	350		212	
375 - 400	375	28	224	18
400 - 425	400		236	
425 - 450	425		248	
450 - 475	450		261	
475 - 500	475		273	

Range (mm)	L	a	b	c
500 - 525	500	28	307	40
525 - 550	525			15
550 - 575	550		332	40
575 - 600	575			15
600 - 625	600		355	40
625 - 650	625			15
650 - 675	650		382	40
675 - 700	675			15
700 - 725	700		405	40
725 - 750	725			15
750 - 775	750	28	430	40
775 - 800	775			15
800 - 825	800		455	40
825 - 850	825			15
850 - 875	850		480	40
875 - 900	875			15
900 - 925	900		505	40
925 - 950	925			15
950 - 975	950		530	40
975 - 1000	975			15