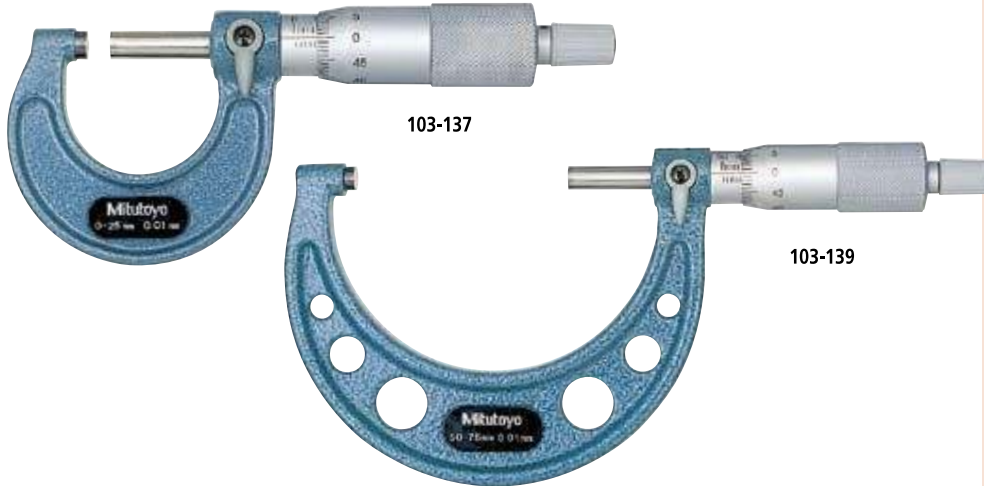


Micrometer

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.



An inspection certificate is supplied as standard. Refer to page IX 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



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	0.01mm		±3µm
103-140-10	75 - 100mm			
103-141-10	100 - 125mm			
103-142-10	125 - 150mm			
103-143-10	150 - 175mm			
103-144-10	175 - 200mm			±4µm
103-145-10	200 - 225mm			
103-146-10	225 - 250mm			
103-147-10	250 - 275mm			
103-148-10	275 - 300mm			
103-149	300 - 325mm	±5µm		
103-150	325 - 350mm			
103-151	350 - 375mm			
103-152	375 - 400mm			
103-153	400 - 425mm		±6µm	
103-154	425 - 450mm			
103-155	450 - 475mm			
103-156	475 - 500mm			
103-157	500 - 525mm			
103-158	525 - 550mm		±7µm	
103-159	550 - 575mm			
103-160	575 - 600mm			
103-161	600 - 625mm			
103-162	625 - 650mm			
103-163	650 - 675mm			
103-164	675 - 700mm			
103-165	700 - 725mm			
103-166	725 - 750mm			
103-167	750 - 775mm	±8µm		
103-168	775 - 800mm			
103-169	800 - 825mm			
103-170	825 - 850mm			
103-171	850 - 875mm			
103-172	875 - 900mm	±9µm		
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"	.001"		±.00015"
103-180	3" - 4"			
103-181	4" - 5"			
103-182	5" - 6"			
103-183	6" - 7"			
103-184	7" - 8"			±.0002"
103-185	8" - 9"			
103-186	9" - 10"			
103-187	10" - 11"			
103-188	11" - 12"			
103-189	12" - 13"	±.00025"		
103-190	13" - 14"			
103-191	14" - 15"			
103-192	15" - 16"			
103-193	16" - 17"		±.0003"	
103-194	17" - 18"			
103-195	18" - 19"			
103-196	19" - 20"			
103-197	20" - 21"			
103-198	21" - 22"		±.00035"	
103-199	22" - 23"			
103-200	23" - 24"			
103-201	24" - 25"			
103-202	25" - 26"	±.0004"		
103-203	26" - 27"			
103-204	27" - 28"			
103-205	28" - 29"			
103-206	29" - 30"			
103-207	30" - 31"	±.00045"		
103-208	31" - 32"			
103-209	32" - 33"			
103-210	33" - 34"			
103-211	34" - 35"		±.0005"	
103-212	35" - 36"			
103-213	36" - 37"			
103-214	37" - 38"			
103-215	38" - 39"			
103-216	39" - 40"		±.00055"	

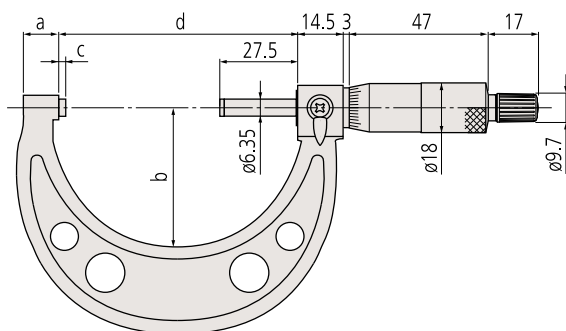
Inch With friction thimble			
Order No.	Range	Graduation	Accuracy
103-135	0 - 1"	.001"	±.0001"
103-136	1" - 2"		

Metric Micrometer set / With ratchet thimble		
Order No.	Range	Models included
103-927-10	0 - 75mm (3 pcs./set)	103-137, 103-138, 103-139-10, 2 micrometer standards
103-913-50	0 - 150mm (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 - 300mm (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 - 300mm (12 pcs./set)	All micrometers of 103-913-50 and 103-915-10 in one set, 11 micrometer standards

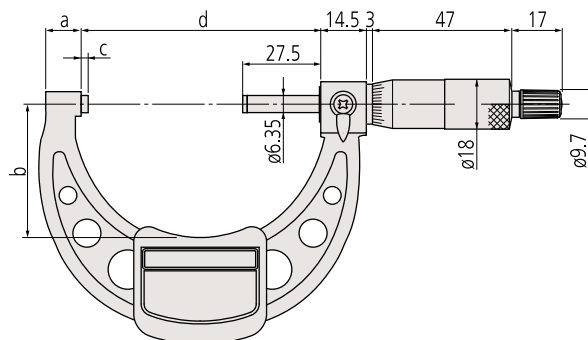
Inch Micrometer set / With ratchet thimble		
Order No.	Range	Models included
103-929	0 - 3" (3 pcs./set)	103-177, 103-178, 103-179, 2 micrometer standards
103-930	0 - 4" (4 pcs./set)	103-177, 103-178, 103-179, 103-180, 3 micrometer standards
103-904-10	0 - 6" (6 pcs./set)	103-177, 103-178, 103-179, 103-180, 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

Models up to 75mm measuring range

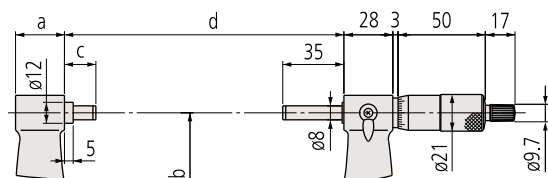


Models 75mm to 300mm



Unit: mm

Models over 300mm measuring range



Range	a	b	c	d
0 - 25mm	9	28	2.5	30
25 - 50mm	10	38		55
50 - 75mm	12	49		80
75 - 100mm	14	60		105
100 - 125mm	16.7	79	5.3	132.8
125 - 150mm	18.8	94	5.7	158.2
150 - 175mm	19.1	106	6.1	183.6
175 - 200mm	18.2	118	6.3	208.8
200 - 225mm	16.8	130	6.7	234.2
225 - 250mm	18	143	5.5	258

Range	a	b	c	d
250 - 275mm	18	156	6.5	284
275 - 300mm		169		309
300 - 325mm		187		353
325 - 350mm		199		378
350 - 375mm	28	212	18	403
375 - 400mm		224		428
400 - 425mm		236		453
425 - 450mm		248		478
450 - 475mm		261		503
475 - 500mm		273		528

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