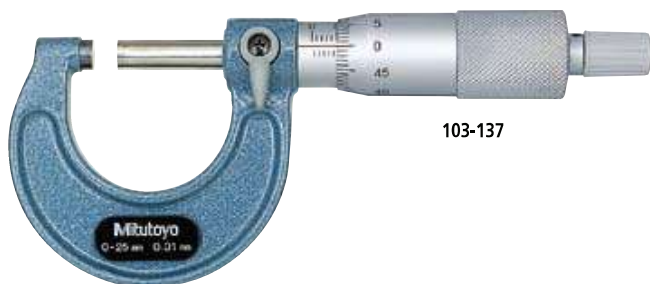


# Outside Micrometers

## 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	<b>103-137</b>	±2μm
	<b>103-129*</b>	±2μm
25 - 50mm	<b>103-138</b>	±2μm
	<b>103-130*</b>	±2μm
50 - 75mm	<b>103-139-10</b>	±2μm
75 - 100mm	<b>103-140-10</b>	±3μm
100 - 125mm	<b>103-141-10</b>	±3μm
125 - 150mm	<b>103-142-10</b>	±3μm
150 - 175mm	<b>103-143-10</b>	±4μm
175 - 200mm	<b>103-144-10</b>	±4μm
200 - 225mm	<b>103-145-10</b>	±4μm
225 - 250mm	<b>103-146-10</b>	±5μm
250 - 275mm	<b>103-147-10</b>	±5μm
275 - 300mm	<b>103-148-10</b>	±5μm
300 - 325mm	<b>103-149</b>	±6μm
325 - 350mm	<b>103-150</b>	±6μm
350 - 375mm	<b>103-151</b>	±6μm
375 - 400mm	<b>103-152</b>	±7μm
400 - 425mm	<b>103-153</b>	±7μm
425 - 450mm	<b>103-154</b>	±7μm
450 - 475mm	<b>103-155</b>	±8μm
475 - 500mm	<b>103-156</b>	±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"	<b>103-177</b>	±.0001"
	<b>103-131*</b>	±.0001"
1" - 2"	<b>103-178</b>	±.0001"
	<b>103-132*</b>	±.0001"
2" - 3"	<b>103-179</b>	±.0001"
3" - 4"	<b>103-180</b>	±.00015"
4" - 5"	<b>103-181</b>	±.00015"
5" - 6"	<b>103-182</b>	±.00015"
6" - 7"	<b>103-183</b>	±.0002"
7" - 8"	<b>103-184</b>	±.0002"
8" - 9"	<b>103-185</b>	±.0002"
9" - 10"	<b>103-186</b>	±.00025"
10" - 11"	<b>103-187</b>	±.00025"
11" - 12"	<b>103-188</b>	±.00025"
12" - 13"	<b>103-189</b>	±.0003"
13" - 14"	<b>103-190</b>	±.0003"
14" - 15"	<b>103-191</b>	±.0003"
15" - 16"	<b>103-192</b>	±.00035"
16" - 17"	<b>103-193</b>	±.00035"
17" - 18"	<b>103-194</b>	±.00035"
18" - 19"	<b>103-195</b>	±.0004"
19" - 20"	<b>103-196</b>	±.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"	<b>103-135*</b>	±.0001"
1" - 2"	<b>103-136*</b>	±.0001"

\*.0001" reading is obtained with vernier.

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

\*Ratchet thimble micrometer

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

\*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/0.00024" for models up to 300mm/12"  
 1μm/0.0004" 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