

## Inside Micrometers

### Tubular Inside Micrometers SERIES 133 — Single-Rod Type

- Standard Single-Rod Type inside micrometer.
- Carbide measuring faces.
- The sleeve is rotated to adjust the reference point adjustment when setting to a length standard.
- Optional Setting Rings (nominal size below 300 mm), CERA Inside Micro Checker and Gauge Block Accessory Sets are available as reference gages datum adjustment. (Refer to pages C-28, C-52, and E-17 to E-20 for details)



133-143

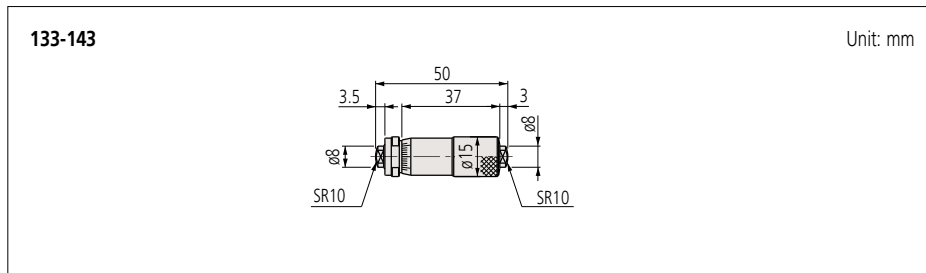
### SPECIFICATIONS

Metric		Individual	
Order No.	Range (mm)	Graduation (mm)	Maximum permissible error $J_{MPE}$ ( $\mu\text{m}$ )
133-143	50 - 75	0.01	$\pm 3$

Inch		Individual	
Order No.	Range (in)	Graduation (in)	Maximum permissible error $J_{MPE}$ (in)
133-223	2 - 3	0.001	$\pm 0.00015$

### DIMENSIONS



133-144

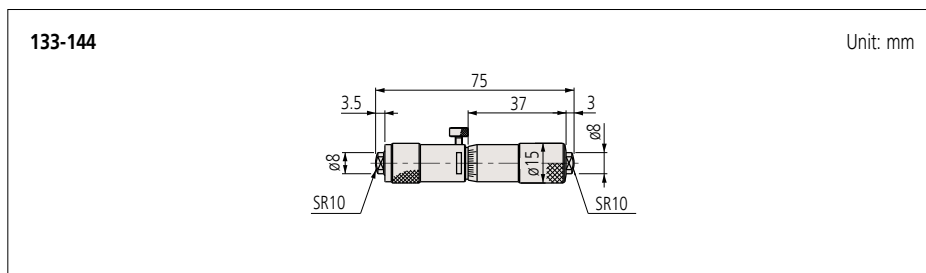
### SPECIFICATIONS

Metric		Individual	
Order No.	Range (mm)	Graduation (mm)	Maximum permissible error $J_{MPE}$ ( $\mu\text{m}$ )
133-144	75 - 100	0.01	$\pm 4$

Inch		Individual	
Order No.	Range (in)	Graduation (in)	Maximum permissible error $J_{MPE}$ (in)
133-224	3 - 4	0.001	$\pm 0.0002$

### DIMENSIONS



### Measurement example



## Micrometer Set



133-902

- 133-901** (Metric)  
 • Range: 50 - 150 mm (4 heads/set)  
 • Models included:  
**133-143 133-144**  
**133-145 133-146**  
 with fitted case

- 133-902** (Metric)  
 • Range: 50 - 300 mm (10 heads/set)  
 • Models included:  
**133-143 133-144**  
**133-145 133-146**  
**133-147 133-148**  
**133-149 133-150**  
**133-151 133-152**  
 with fitted case

- 133-903** (Inch)  
 • Range: 2 - 6 in (4 heads/set)  
 • Models included:  
**133-223 133-224**  
**133-225 133-226**  
 with fitted case

- 133-904** (Inch)  
 • Range: 2 - 12 in (10 heads/set)  
 • Models included:  
**133-223 133-224**  
**133-225 133-226**  
**133-227 133-228**  
**133-229 133-230**  
**133-231 133-232**  
 with fitted case



133-152

## SPECIFICATIONS

Metric		Individual	
Order No.	Range (mm)	Graduation (mm)	Maximum permissible error $J_{MPE}$ ( $\mu\text{m}$ )
133-145	100 - 125	0.01	$\pm 5$
133-146	125 - 150		
133-147	150 - 175		
133-148	175 - 200		
133-149	200 - 225		
133-150	225 - 250		
133-151	250 - 275		$\pm 6$
133-152	275 - 300		$\pm 7$
133-153	300 - 325		
133-154	325 - 350		
133-155	350 - 375		
133-156	375 - 400		
133-157	400 - 425		
133-158	425 - 450		$\pm 9$
133-159	450 - 475		
133-160	475 - 500		
133-161	500 - 525		
133-162	525 - 550		
133-163	550 - 575	$\pm 10$	
133-164	575 - 600	$\pm 11$	
133-165	600 - 625		
133-166	625 - 650		
133-167	650 - 675		
133-168	675 - 700		
133-169	700 - 725		$\pm 12$
133-170	725 - 750	$\pm 13$	
133-171	750 - 775		
133-172	775 - 800		
133-173	800 - 825		
133-174	825 - 850		
133-175	850 - 875		$\pm 14$
133-176	875 - 900	$\pm 15$	
133-177	900 - 925		
133-178	925 - 950		
133-179	950 - 975		
133-180	975 - 1000		$\pm 16$

Inch		Individual	
Order No.	Range (in)	Graduation (in)	Maximum permissible error $J_{MPE}$ (in)
133-225	4 - 5	0.001	$\pm 0.00025$
133-226	5 - 6		
133-227	6 - 7		
133-228	7 - 8		
133-229	8 - 9		
133-230	9 - 10		
133-231	10 - 11		$\pm 0.0003$
133-232	11 - 12		

## DIMENSIONS

133-145 to 133-180

Unit: mm

Order No.	L <sub>1</sub>	L <sub>6</sub>	L <sub>7</sub>
133-145	100	5	3
133-146	125	5	3
133-147	150	18	15
133-148	175	18	15
133-149	200	18	15
⋮	⋮	⋮	⋮
133-180	975	18	15