

# Micrometer

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

## Disk Micrometers SERIES 323, 223, 123

- Measures "root tangent length" of spur gears and helical gears.
- Determination of the root tangent length: refer to "Quick Guide to Precision Measuring Instruments".
- Equipped with Ratchet Stop for constant measuring force.
- Supplied with a setting standard (except for 0-25mm/0-1" measuring range).

B



### SPECIFICATIONS

Metric					
Order No.	Range	Resolution	Accuracy*	Anvil dia.	Measurable module
Digimatic (LCD)					
323-250-30	0 - 25mm	0.001mm	±4μm	ø20mm	0.5 - 6
323-251-30	25 - 50mm				
323-252-30	50 - 75mm				
323-253-30	75 - 100mm				

\* Excluding quantizing error

Metric					
Order No.	Range	Graduation	Accuracy	Anvil dia.	Measurable module
Mechanical counter model					
223-101	0 - 25mm	0.01mm	±4μm	ø20mm	0.5 - 6
223-102	25 - 50mm				
Analog					
123-101	0 - 25mm	0.01mm	±4μm	ø20mm	0.5 - 6
123-113*					
123-102					
123-114*					
123-103	50 - 75mm	0.01mm	±6μm	ø20mm	0.5 - 6
123-115*					
123-104	75 - 100mm	0.01mm	±7μm	ø20mm	0.5 - 6
123-116*					
123-105	100 - 125mm	0.01mm	±8μm	ø30mm	0.7 - 11
123-106	125 - 150mm				
123-107	150 - 175mm	0.01mm	±9μm	ø30mm	0.7 - 11
123-108	175 - 200mm				
123-109	200 - 225mm	0.01mm	±9μm	ø30mm	0.7 - 11
123-110	225 - 250mm				
123-111	250 - 275mm	0.01mm	±9μm	ø30mm	0.7 - 11
123-112	275 - 300mm				

\* The measuring disks have carbide tips.

Inch/Metric					
Order No.	Range	Resolution	Accuracy*	Anvil dia.	Measurable module
Digimatic (LCD)					
323-350-30	0 - 1"	0.0005"/0.001mm	±.0002"	.787"	0.5 - 6
323-351-30	1" - 2"				
323-352-30	2" - 3"				
323-353-30	3" - 4"				

\* Excluding quantizing error

Inch					
Order No.	Range	Graduation	Accuracy	Anvil dia.	Measurable module
Mechanical counter model					
223-125	0 - 1"	.001"	±.0002"	.787"	0.5 - 6
Analog					
123-125	0 - 1"	.001"	±.0002"	.787"	0.5 - 6
123-126	1" - 2"				
123-127	2" - 3"				
123-128	3" - 4"				



These marks indicate that a product has successfully passed IP65-level testing, which is carried out by the independent German certification organization TÜV Rheinland.



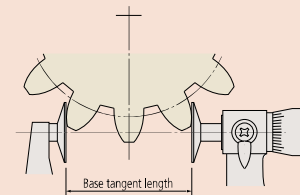
### IP Codes (series 323)

- Level 6: Dust-proof.  
No ingress of dust allowed.
- Level 5: Protected against water jets.  
Water projected in jets against the enclosure from any direction shall have no harmful effects.

### Technical Data

- Flatness: 1μm/.00004" for models up to 100mm/4"  
1.6μm/.000063" for models over 100mm/4"
- Parallelism: 4μm for models up to 50mm  
.0002" for models up to 2"  
6μm for models up to 100mm  
.0003" for models up to 4"  
(5+R/75)μm for models over 100mm,  
R = max. range (mm)  
fraction rounded up

### Root tangent length of gear (En)



### Battery for series 323

- SR44 (1 pc), 938882, for initial operational checks (standard accessory)
- Battery life: Approx. 2.4 years under normal use (for series 323)
- Length standard: Electromagnetic rotary sensor (for series 323)
- Standard accessories: Reference bar, 1 pc (except for measuring range 0-25mm (0-1") models)
- Spanner (301336), 1 pc

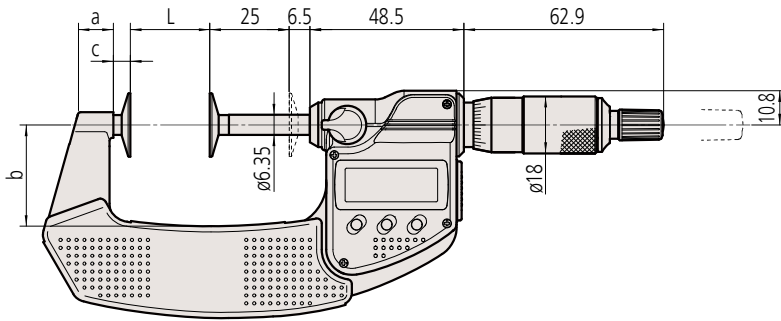
### Optional accessories for series 323

- Connecting cables  
1m: 05CZA662  
2m: 05CZA663
- USB Input Tool Direct  
USB-ITN-B (2m): 06ADV380B
- Connecting cables for U-WAVE-T  
02AZD790B 160mm
- For foot switch: 02AZE140B
- Refer to page B-68 for details.

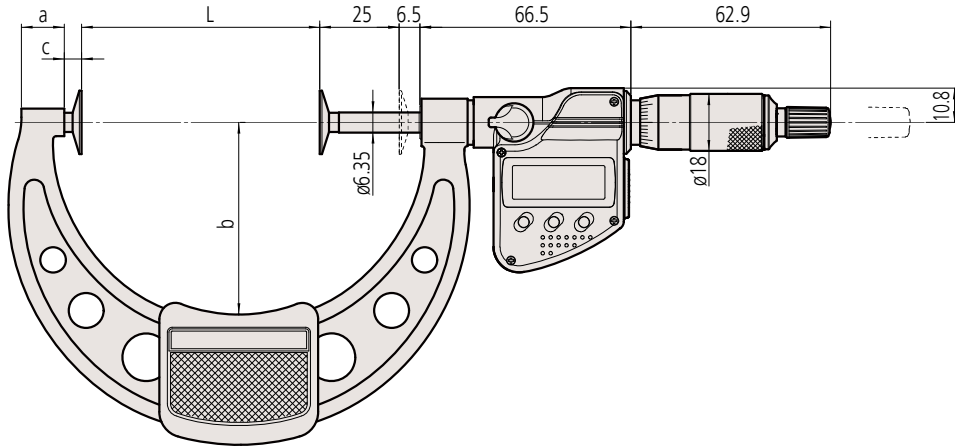
## DIMENSIONS

### Digital models up to 75mm measuring range

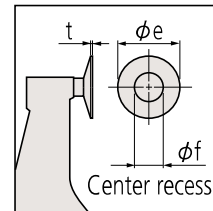
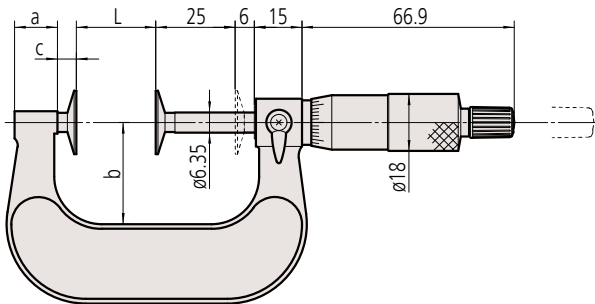
Unit: mm



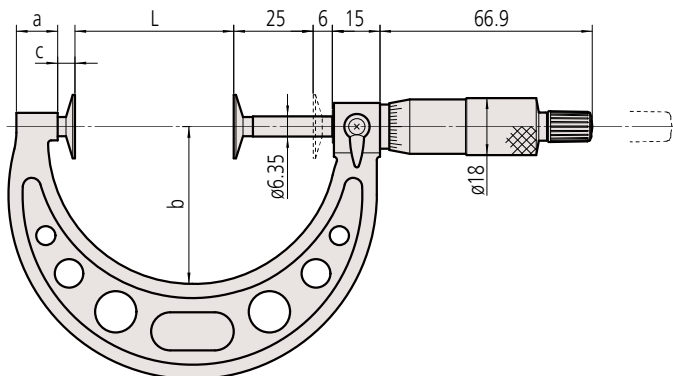
### Digital models up to 100mm measuring range



### Analog models up to 50mm measuring range



### Analog over 50mm measuring range



Range	L	a	b	c	e	f	t
Digimatic (LCD)							
0 - 25mm	0	9.2	25	4.5	20	8	0.7
25 - 50mm	25	11	31	5.4			
50 - 75mm	50	12.2	50	5.5			
75 - 100mm	75	14	60	5.5			
Analog							
0 - 25mm	0	13.8	25	5.7	20	8 (9.8)	0.7 (0.7)
25 - 50mm	25		32				
50 - 75mm	50	12	49				
75 - 100mm	75	14	63				
100 - 125mm	100	12	79	5.5	6	30	12
125 - 150mm	125	15	94				
150 - 175mm	150	16	106				
175 - 200mm	175	15	118				
200 - 225mm	200	14	130				
225 - 250mm	225		143				
250 - 275mm	250	15	156				
275 - 300mm	275		169				

\* Data in ( ) applies to those with carbide-faced disks.