

# 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).



## SPECIFICATIONS

Metric					
Order No.	Range	Resolution	Accuracy*	Anvil dia.	Measurable module
Digimatic (LCD)					
323-250-30	0 - 25mm		$\pm 4\mu\text{m}$		
323-251-30	25 - 50mm	0.001mm	$\pm 4\mu\text{m}$	$\varnothing 20\text{mm}$	0.5 - 6
323-252-30	50 - 75mm		$\pm 6\mu\text{m}$		
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	$\pm 4\mu\text{m}$	$\varnothing 20\text{mm}$	0.5 - 6
223-102	25 - 50mm				
Analog					
123-101	0 - 25mm				
123-113*	25 - 50mm		$\pm 4\mu\text{m}$		
123-102	50 - 75mm				
123-114*	75 - 100mm				
123-103	100 - 125mm				
123-104	125 - 150mm				
123-115*	150 - 175mm				
123-105	175 - 200mm				
123-106	200 - 225mm				
123-107	225 - 250mm				
123-108	250 - 275mm				
123-109	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"		$\pm 4\mu\text{m}$		
323-351-30	1" - 2"	.0001mm	$\pm .0005"$		
323-352-30	2" - 3"		$\pm .001\text{mm}$		
323-353-30	3" - 4"		$\pm .003\text{"}$		

Inch					
Order No.	Range	Graduation	Accuracy	Anvil dia.	Measurable module
Mechanical counter model					
223-125	0 - 1"	.001"	$\pm .0002"$		
223-126	1" - 2"		$\pm .0002"$		
223-127	2" - 3"	.001"	$\pm .0003"$		
223-128	3" - 4"		$\pm .0003"$		

IP 65

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:  $1\mu\text{m}/0.0004"$  for models up to 100mm/4"

$1.6\mu\text{m}/0.00063"$  for models over 100mm/4"

Parallelism: 4μm for models up to 50mm

.0002" for models up to 2"

6μm for models up to 100mm

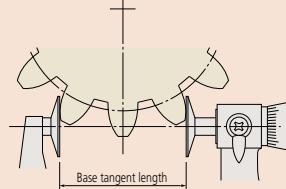
.0003" for models up to 4"

(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

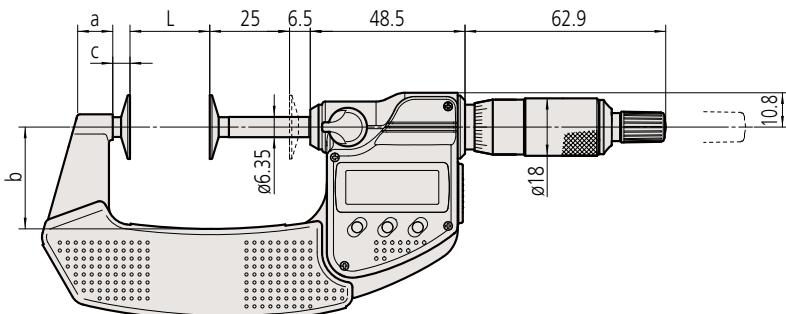
For foot switch: 02AZE140B

Refer to page B-68 for details.

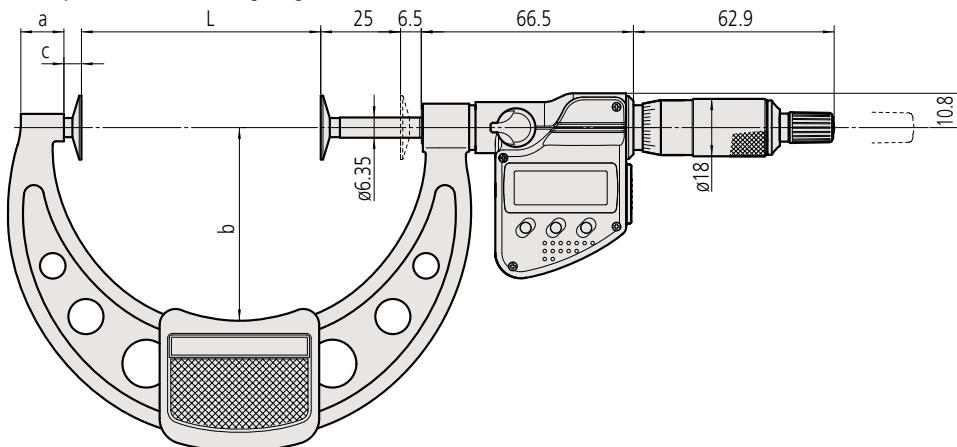
## DIMENSIONS

Digital models up to 75mm measuring range

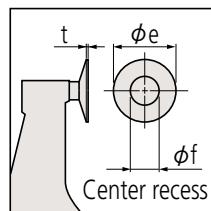
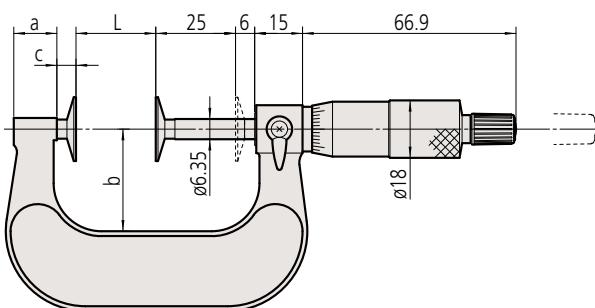
Unit: mm



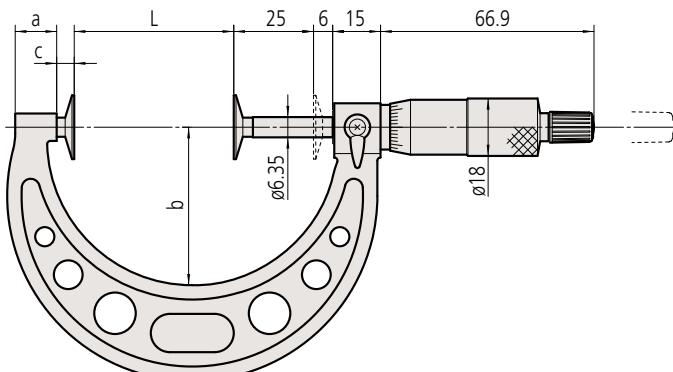
Digital models up to 100mm measuring range



Analog models up to 50mm measuring range



Analog over 50mm measuring range



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

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