

# Micrometer

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

## Blade Micrometers SERIES 422, 122 — Non-Rotating Spindle Type

- The anvil and spindle are blade-shaped for measuring the groove diameter of shafts, keyways, and other hard-to-reach features.
- Carbide-tipped measuring faces are available.
- Non-rotating spindle type.
- Equipped with Ratchet Stop for constant measuring force.

**MeasurLink** ENABLED  
Data Management Software by Mitutoyo

MeasurLink ENABLED  
Data Management Software by Mitutoyo

Products equipped with the measurement data output function can be connected to the measurement data network system MeasurLink (refer to page A-5 for details).



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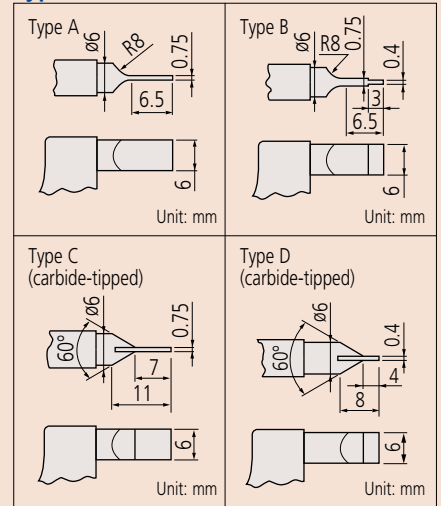
### IP Codes (series 422 Quickmike type)

- 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

- Parallelism  
3 μm for models up to 75 mm  
0.00015 in for models up to 3 in  
(3 + R/100) μm for models over 75 mm  
0.0002 in for models over 3 in  
R = max. range (mm)  
fraction rounded up

### Type and Dimensions



Digimatic (LCD)  
422-230-30



Quickmike Type (LCD)  
422-411-20

ABSOLUTE™

### SPECIFICATIONS

Metric						
Order No.	Range (mm)	Resolution (mm)	Accuracy* (μm)	Remark		
Digimatic (LCD)						
422-230-30	0 - 25	0.001	±3	Type A		
422-231-30	25 - 50					
422-232-30	50 - 75					
422-233-30	75 - 100					
422-260-30	0 - 25		±4	Type B		
422-261-30	25 - 50					
422-270-30	0 - 25				±3	Type C
422-271-30						Type D

\* Excluding quantizing error of ±1 count

Metric Quickmike type				
Order No.	Range (mm)	Resolution (mm)	Accuracy* (μm)	Remark
Digimatic (LCD)				
422-411-20	0 - 30	0.001	±3	Type A
422-412-20	25 - 55			

\* Excluding quantizing error of ±1 count

Metric				
Order No.	Range (mm)	Graduation (mm)	Accuracy (μm)	Remark
Analog				
122-101	0 - 25	0.01	±3	Type A
122-102	25 - 50			
122-103	50 - 75			
122-104	75 - 100			
122-105	100 - 125		±4	Type A
122-106	125 - 150			
122-107	150 - 175			
122-108	175 - 200			
122-109	200 - 225		±5	Type A
122-110	225 - 250			
122-115	250 - 275			
122-116	275 - 300			
122-111	0 - 25	±6	Type B	
122-112	25 - 50			
Analog (With carbide tip)				
122-161	0 - 25	0.01	±3	Type C
122-162	25 - 50			Type D
122-141	0 - 25			
122-142	25 - 50			

Note: A heat shield is provided with Digimatic models and 122-101, 122-161, 122-141 as standard.

Inch/Metric						
Order No.	Range (in)	Resolution	Accuracy* (in)	Remark		
Digimatic (LCD)						
422-330-30	0 - 1	0.00005 in/ 0.001 mm	±0.00015	Type A		
422-331-30	1 - 2					
422-332-30	2 - 3					
422-333-30	3 - 4					
422-360-30	0 - 1		±0.0002	Type B		
422-361-30	1 - 2					
422-370-30	0 - 1				±0.00015	Type C
422-371-30						Type D

\* Excluding quantizing error of ±1 count

Inch/Metric Quickmike type				
Order No.	Range (in)	Resolution	Accuracy* (in)	Remark
Digimatic (LCD)				
422-421-20	0 - 1.2	0.00005 in/ 0.001 mm	±0.00015	Type A

\* Excluding quantizing error of ±1 count

Inch				
Order No.	Range (in)	Graduation (in)	Accuracy (in)	Remark
Analog				
122-125	0 - 1	0.0001	±0.00015	Type A
122-126	1 - 2			
122-127	2 - 3			
122-128	3 - 4			
122-135	0 - 1		±0.0002	Type B
122-151				Type D

Note: A heat shield is provided with Digimatic models and 122-125, 122-135, 122-151 as standard.

Note: For functional details of series 422 refer to page B-8. Please note that these models are not water-proof.

## DIMENSIONS



### Technical Data

- Battery for **series 422 SR44** (1 pc.), **938882**, for initial operational checks (standard accessory)
- Battery life: Approx. 2.4 years under normal use (for **series 422-2XX, 3XX**)  
Approx. 5 year under normal use (for **series 422-4XX**)  
Approx. 18,000 hours in continuous use
- Length standard: Electromagnetic rotary sensor (for **series 422-2XX, 3XX**)  
Electrostatic capacity absolute sensor (for **series 422-4XX**)
- Standard accessories: Reference bar, 1 pc. (except for measuring range 0-25 mm/0-30 mm (0-1 in/0-1.2 in) models)
- Spanner (**301336**), 1 pc. (for **series 122-1XX, 422-2XX, 3XX**)

### Optional Accessories

- Connecting cables for Digimatic models  
1 m: **05CZA662**  
2 m: **05CZA663**
- USB Input Tool Direct  
**USB-ITN-B** (2 m): **06AFM380B**
- Connecting for **422-230-30** to **422-271-30**, **422-330-30** to **422-371-30**
- U-WAVE-T** dedicated connection cable (for **series 422**)  
160 mm: **02AZD790B**  
For foot switch: **02AZE140B**

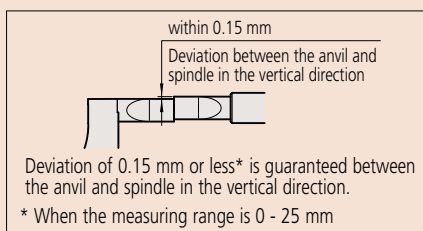
### Wireless Data Output\* **U-WAVE fit**

- U-WAVE-TM 264-622** IP67 type  
**264-623** Buzzer type
- Connecting unit for **U-WAVE-TM 02AZF310** (IP67/buzzer type common specification)  
Note: cannot be used with Quickmike type  
Refer to page A-15 for details.  
\* Only **series 422** (except for Quickmike type) can be attached.

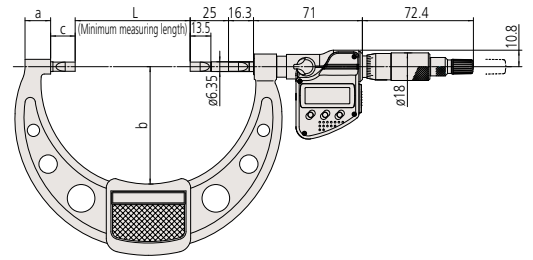
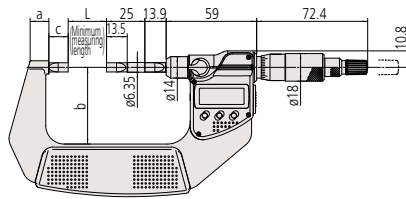
### Quickmike

- Provides a speedy spindle feed of 10 mm per thimble rotation which enables widely differently sized features to be measured quickly.

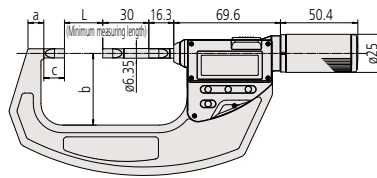
### Deviation Between the Anvil and Spindle in the Vertical Direction



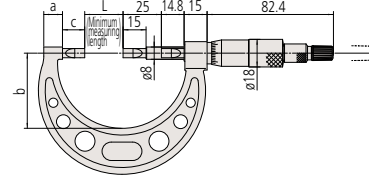
Digimatic models up to 50 mm measuring range    Digimatic models over 75 mm measuring range    Unit: mm



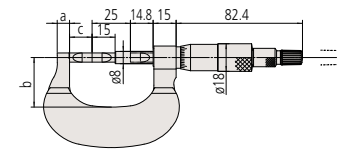
### Quickmike type



### Analog models over 50 mm measuring range



### Analog models up to 25 mm measuring range



Order No.	L	a	b	C
<b>422-230-30</b>	0	11	31	12.5
<b>422-231-30</b>	25	12.2	50	12.6
<b>422-232-30</b>	50	14.6	57	13
<b>422-233-30</b>	75	16.7	76	16
<b>422-260-30</b>	0	11	31	12.5
<b>422-261-30</b>	25	12.2	50	12.6
<b>422-270-30</b>				
<b>422-271-30</b>	0	11	31	12.5
<b>122-101</b>		7.8	32	15
<b>122-102</b>	25	12.2	49	14.5
<b>122-103</b>	50	14.6	60	
<b>122-104</b>	75	16.7	79	17.5
<b>122-105</b>	100	18.8	94	17.9
<b>122-106</b>	125	19.1	106	18.3
<b>122-107</b>	150	18.2	118	18.5
<b>122-108</b>	175	16.8	130	18.9
<b>122-109</b>	200	18	143	17.7
<b>122-110</b>	225		156	18.7
<b>122-115</b>	250		169	
<b>112-116</b>	275		181	
<b>422-411-20</b>	0	8.5	36	13.5
<b>422-412-20</b>	25	10.3	47	