

# Tube Micrometers

## SERIES 395, 295, 115 — Spherical and Cylindrical Anvils

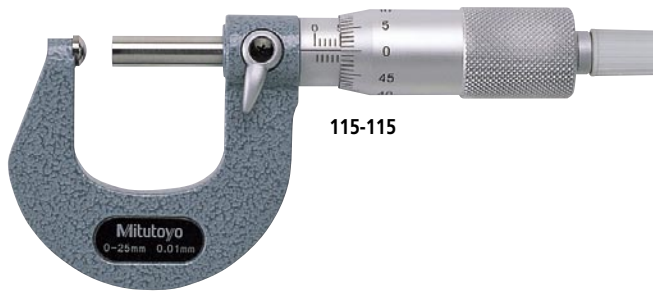
### FEATURES

- IP65 water/dust protection (395 series).
- Designed to measure the wall thickness of various tubing.
- The Tube Micrometers have two combinations of measuring faces (carbide-tipped): spherical-flat type, and spherical-spherical type.
- Cylindrical anvils (perpendicular) are also available.
- With Ratchet Stop for constant force.
- With SPC output (series 395).
- With digit counter (series 295).



395-251

Spherical-flat Type



115-115



395-271

Spherical-spherical Type



115-215



(Refer to the page 9 for details.)

### Technical Data

Accuracy: Refer to the list of specifications.  
(excluding quantizing error for digital models)  
Resolution\*: 0.001mm or .00005"/0.001mm  
Graduation\*\*: 0.01mm, .001" or .0001"  
Flatness: 0.6µm  
Display\*: LCD  
Battery\*: SR44 (1 pc.), **938882**  
Battery life\*: Approx. 1.2 years under normal use  
Dust/Water protection level\*: IP65  
\*Digital models \*\*Analog models

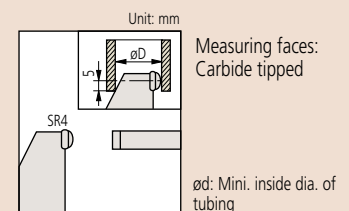
### Function of Digital Model

Origin-set, Zero-setting, Data hold, Automatic power ON/OFF, Data output, inch/mm conversion (inch/mm models)  
Alarm: Low voltage, Counting value composition error

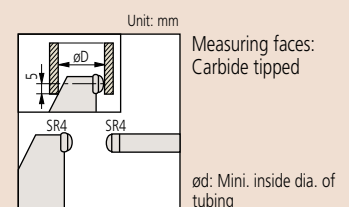
### Optional Accessory for Digital Model

**05CZA662**: SPC cable with data switch (1m)  
**05CZA663**: SPC cable with data switch (2m)

### Spherical anvil type



### Spherical anvil-spindle type

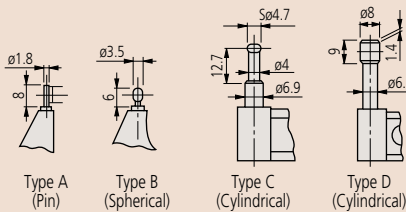


## Cylindrical Anvil Type



395-261

### Cylindrical anvil type

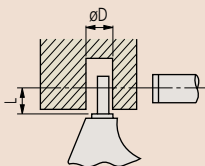


Type A (Pin)

Type B (Spherical)

Type C (Cylindrical)

Type D (Cylindrical)



∅D: Mini. inside dia. of tubing  
Spindle face: Carbide tipped

Anvil	D	L
Type A	2	4
Type B	3.6	4
Type C	4.8	12
Type D	8.2	22

## SPECIFICATIONS

### Metric Digital model with spherical anvil

Range	Order No.	Accuracy	Remarks
0 - 25mm	395-251 <sup>S-F</sup>	±2μm	D: 15mm
	395-271 <sup>S-S</sup>	±2μm	D: 15mm
25 - 50mm	395-252 <sup>S-F</sup>	±2μm	D: 15mm
	395-272 <sup>S-S</sup>	±2μm	D: 15mm
50 - 75mm	395-253 <sup>S-F</sup>	±2μm	D: 19mm
	395-273 <sup>S-S</sup>	±2μm	D: 19mm
75 - 100mm	395-254 <sup>S-F</sup>	±3μm	D: 20mm
	395-274 <sup>S-S</sup>	±3μm	D: 20mm

S-F: Spherical anvil and flat spindle  
S-S: Spherical anvil and spherical spindle

### Metric Digital model with cylindrical anvil

Range	Order No.	Accuracy	Remarks
0 - 25mm	395-261	±3μm	Type A
	395-262	±3μm	Type B
	395-263	±3μm	Type C
	395-264	±3μm	Type D

### Metric Mechanical counter model with spherical anvil

Range	Order No.	Accuracy	Remarks
0 - 25mm	295-115 <sup>S-F</sup>	±3μm	D: 10mm
	295-215 <sup>S-S</sup>	±3μm	D: 10mm

S-F: Spherical anvil and flat spindle  
S-S: Spherical anvil and spherical spindle

### Metric With spherical anvil

Range	Order No.	Accuracy	Remarks
0 - 25mm	115-115 <sup>S-F</sup>	±3μm	D: 10mm
	115-215 <sup>S-S</sup>	±3μm	D: 10mm
25 - 50mm	115-116 <sup>S-F</sup>	±3μm	D: 11mm
	115-216 <sup>S-S</sup>	±3μm	D: 11mm
50 - 75mm	115-117 <sup>S-F</sup>	±3μm	D: 17mm
	115-217 <sup>S-S</sup>	±3μm	D: 17mm
75 - 100mm	115-118 <sup>S-F</sup>	±4μm	D: 18mm
	115-218 <sup>S-S</sup>	±4μm	D: 18mm

S-F: Spherical anvil and flat spindle  
S-S: Spherical anvil and spherical spindle

### Metric With cylindrical anvil

Range	Order No.	Accuracy	Remarks
0 - 25mm	115-302	±3μm	Type A
	115-308	±3μm	Type B
	115-315	±3μm	Type C
	115-316	±3μm	Type D
25 - 50mm	115-303	±3μm	Type A
	115-309	±3μm	Type B

### Inch/Metric Digital model with spherical anvil

Range	Order No.	Accuracy	Remarks
0 - 1"	395-351 <sup>S-F</sup>	±.0001"	D: .59"
	395-371 <sup>S-S</sup>	±.0001"	D: .59"
1" - 2"	395-352 <sup>S-F</sup>	±.0001"	D: .59"
	395-372 <sup>S-S</sup>	±.0001"	D: .59"
2" - 3"	395-353 <sup>S-F</sup>	±.0001"	D: .75"
	395-373 <sup>S-S</sup>	±.0001"	D: .75"
3" - 4"	395-354 <sup>S-F</sup>	±.00015"	D: .79"
	395-374 <sup>S-S</sup>	±.00015"	D: .79"

S-F: Spherical anvil and flat spindle  
S-S: Spherical anvil and spherical spindle

### Inch/Metric Digital model with cylindrical anvil

Range	Order No.	Accuracy	Remarks
0 - 1"	395-362	±.00015"	Type B
	395-363	±.00015"	Type C
	395-364	±.00015"	Type D

### Inch Mechanical counter model with spherical anvil

Range	Order No.	Accuracy	Remarks
0 - 1"	295-153 <sup>S-F*</sup>	±.00015"	D: .40"
	295-253 <sup>S-S*</sup>	±.00015"	D: .40"

S-F: Spherical anvil and flat spindle  
S-S: Spherical anvil and spherical spindle  
\*.0001" reading is obtained with vernier.

### Inch With spherical anvil

Range	Order No.	Accuracy	Remarks
0 - 1"	115-153 <sup>S-F*</sup>	±.00015"	D: .40"
	115-253 <sup>S-S*</sup>	±.00015"	D: .40"
1" - 2"	115-242 <sup>S-S</sup>	±.00015"	D: .44"
2" - 3"	115-243 <sup>S-S</sup>	±.00015"	D: .67"

S-F: Spherical anvil and flat spindle  
S-S: Spherical anvil and spherical spindle  
\*.0001" reading is obtained with vernier.

### Inch With cylindrical anvil

Range	Order No.	Accuracy	Remarks
0 - 1"	115-305	±.00015"	Type A
	115-313*	±.00015"	Type C
	115-314*	±.00015"	Type D

\*.0001" reading is obtained with vernier.