

# Setting Rings

**SERIES 177 — Accessories for Inside Micrometers, Holtest and Dial Bore Gages**

## FEATURES

- Used for quick and accurate setting of dial bore gages, Holtest, and inside micrometers.
- Actual calibration value for the diameter is marked on each ring.
- No anticorrosion treatment is required when handling Ceramic Setting Rings normally, resulting in simple maintenance and storage.

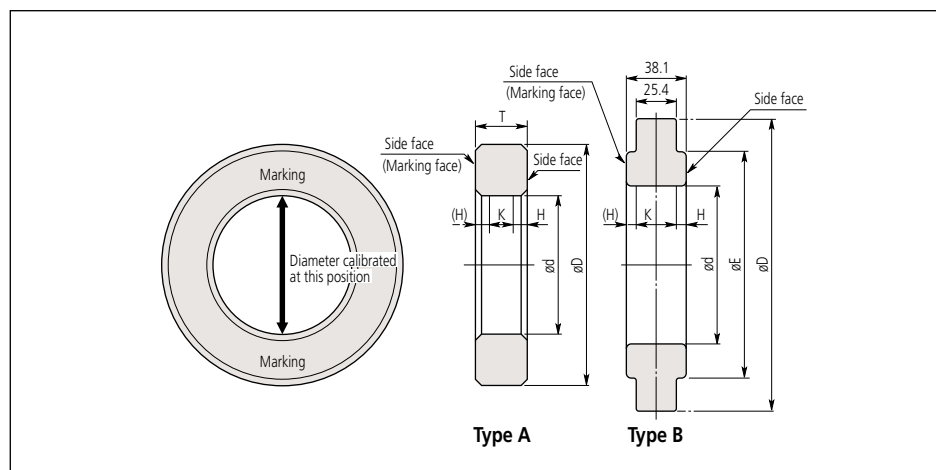
### Steel Setting Rings



### Ceramic Setting Rings



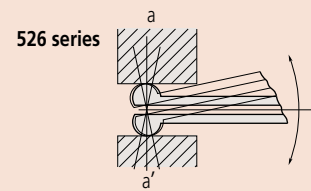
## DIMENSIONS



### Suffix

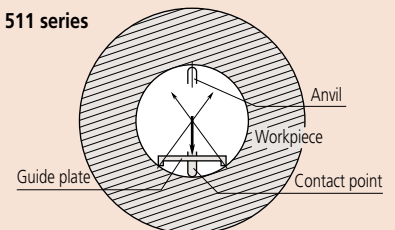
- 177-\*\*\*-12:** With Inspection Certificate  
**177-\*\*\*-62:** With Inspection Certificate and Calibration Certificate  
**177-\*\*\*-82:** With Inspection Certificate, Calibration Certificate, and Traceability System Chart

### Reading the indicated value



- The 526 series has a gage head with high curvature. Alignment with the diameter (a-a') is achieved by rotating the gage head in the direction indicated by the arrow, and the reading is the minimum value read from the dial indicator.

### 511 series



- The 511 series provides a guide plate to align the setting ring diameter with the measurement axis of the bore gage.

## SPECIFICATION

### Steel Setting Rings

#### Metric

| Nominal size ød | Order No. | Dimensions (mm) |    |    | Type | Accuracy                                                        |                                            |                             |                                    |                                              |
|-----------------|-----------|-----------------|----|----|------|-----------------------------------------------------------------|--------------------------------------------|-----------------------------|------------------------------------|----------------------------------------------|
|                 |           | øD              | øE | T  |      | Tolerance between the nominal size and the actual diameter (μm) | Uncertainty of marked dimension value (μm) | Roundness/Cylindricity (μm) | Distance from the side face H (mm) | Size of warranted calibration surface K (mm) |
| 1mm             | 177-220   | 20              | —  | 4  | A    | ±10                                                             | ±1.5                                       | 1                           | 1.6                                | 0.8                                          |
| 1.1mm           | 177-222   | 20              | —  | 4  | A    | ±10                                                             | ±1.5                                       | 1                           | 1.6                                | 0.8                                          |
| 1.2mm           | 177-225   | 20              | —  | 4  | A    | ±10                                                             | ±1.5                                       | 1                           | 1.6                                | 0.8                                          |
| 1.3mm           | 177-227   | 20              | —  | 4  | A    | ±10                                                             | ±1.5                                       | 1                           | 1.6                                | 0.8                                          |
| 1.4mm           | 177-230   | 20              | —  | 4  | A    | ±10                                                             | ±1.5                                       | 1                           | 1.6                                | 0.8                                          |
| 1.75mm          | 177-236   | 25              | —  | 5  | A    | ±10                                                             | ±1.5                                       | 1                           | 1.6                                | 1.8                                          |
| 2mm             | 177-239   | 25              | —  | 5  | A    | ±10                                                             | ±1.5                                       | 1                           | 1.6                                | 1.8                                          |
| 2.25mm          | 177-242   | 25              | —  | 5  | A    | ±10                                                             | ±1.5                                       | 1                           | 1.6                                | 1.8                                          |
| 2.5mm           | 177-208   | 25              | —  | 7  | A    | ±10                                                             | ±1.5                                       | 1                           | 1.7                                | 3.6                                          |
| 2.75mm          | 177-246   | 25              | —  | 7  | A    | ±10                                                             | ±1.5                                       | 1                           | 1.7                                | 3.6                                          |
| 3mm             | 177-248   | 25              | —  | 7  | A    | ±10                                                             | ±1.5                                       | 1                           | 1.7                                | 3.6                                          |
| 3.25mm          | 177-250   | 25              | —  | 7  | A    | ±10                                                             | ±1.5                                       | 1                           | 1.7                                | 3.6                                          |
| 3.5mm           | 177-252   | 25              | —  | 7  | A    | ±10                                                             | ±1.5                                       | 1                           | 1.7                                | 3.6                                          |
| 3.75mm          | 177-255   | 25              | —  | 7  | A    | ±10                                                             | ±1.5                                       | 1                           | 1.7                                | 3.6                                          |
| 4mm             | 177-204   | 25              | —  | 7  | A    | ±10                                                             | ±1.5                                       | 1                           | 1.7                                | 3.6                                          |
| 4.5mm           | 177-257   | 25              | —  | 7  | A    | ±10                                                             | ±1.5                                       | 1                           | 1.7                                | 3.6                                          |
| 5mm             | 177-205   | 25              | —  | 7  | A    | ±10                                                             | ±1.5                                       | 1                           | 1.7                                | 3.6                                          |
| 5.5mm           | 177-263   | 25              | —  | 7  | A    | ±10                                                             | ±1.5                                       | 1                           | 1.7                                | 3.6                                          |
| 6mm             | 177-267   | 25              | —  | 7  | A    | ±10                                                             | ±1.5                                       | 1                           | 1.7                                | 3.6                                          |
| 6.5mm           | 177-271   | 25              | —  | 7  | A    | ±10                                                             | ±1.5                                       | 1                           | 1.7                                | 3.6                                          |
| 7mm             | 177-275   | 25              | —  | 7  | A    | ±10                                                             | ±1.5                                       | 1                           | 1.7                                | 3.6                                          |
| 8mm             | 177-125   | 32              | —  | 10 | A    | ±10                                                             | ±1.5                                       | 1                           | 2.0                                | 6.0                                          |
| 9mm             | 177-279   | 32              | —  | 10 | A    | ±10                                                             | ±1.5                                       | 1                           | 2.0                                | 6.0                                          |
| 10mm            | 177-126   | 32              | —  | 10 | A    | ±10                                                             | ±1.5                                       | 1                           | 2.0                                | 6.0                                          |
| 12mm            | 177-284   | 32              | —  | 10 | A    | ±10                                                             | ±1.5                                       | 1                           | 2.0                                | 6.0                                          |
| 14mm            | 177-132   | 38              | —  | 10 | A    | ±10                                                             | ±1.5                                       | 1                           | 2.0                                | 6.0                                          |

| Nominal size ød | Order No. | Dimensions (mm) |     |                | Type | Accuracy                                                        |                                            |                             |                                    |                                              |
|-----------------|-----------|-----------------|-----|----------------|------|-----------------------------------------------------------------|--------------------------------------------|-----------------------------|------------------------------------|----------------------------------------------|
|                 |           | øD              | øE  | T              |      | Tolerance between the nominal size and the actual diameter (μm) | Uncertainty of marked dimension value (μm) | Roundness/Cylindricity (μm) | Distance from the side face H (mm) | Size of warranted calibration surface K (mm) |
| 16mm            | 177-177   | 45              | —   | 10             | A    | ±10                                                             | ±1.5                                       | 1                           | 2.0                                | 6.0                                          |
| 17mm            | 177-133   | 45              | —   | 10             | A    | ±10                                                             | ±1.5                                       | 1                           | 2.0                                | 6.0                                          |
| 18mm            | 177-285   | 45              | —   | 10             | A    | ±10                                                             | ±1.5                                       | 1                           | 2.0                                | 6.0                                          |
| 20mm            | 177-286   | 45              | —   | 10             | A    | ±10                                                             | ±1.5                                       | 1                           | 2.0                                | 6.0                                          |
| 25mm            | 177-139   | 53              | —   | 15             | A    | ±10                                                             | ±1.5                                       | 1                           | 3.2                                | 8.6                                          |
| 30mm            | 177-288   | 71              | —   | 15             | A    | ±10                                                             | ±1.5                                       | 1                           | 3.2                                | 8.6                                          |
| 35mm            | 177-140   | 71              | —   | 15             | A    | ±10                                                             | ±1.5                                       | 1                           | 3.2                                | 8.6                                          |
| 40mm            | 177-290   | 71              | —   | 15             | A    | ±10                                                             | ±1.5                                       | 1                           | 3.2                                | 8.6                                          |
| 45mm            | 177-178   | 85              | —   | 15             | A    | ±10                                                             | ±1.5                                       | 1                           | 3.7                                | 7.6                                          |
| 50mm            | 177-146   | 85              | —   | 20             | A    | ±20                                                             | ±1.5                                       | 1                           | 3.7                                | 12.6                                         |
| 60mm            | 177-292   | 112             | —   | 20             | A    | ±20                                                             | ±1.5                                       | 1                           | 3.7                                | 12.6                                         |
| 62mm            | 177-314   | 112             | —   | 20             | A    | ±20                                                             | ±1.5                                       | 1.5                         | 3.7                                | 12.6                                         |
| 70mm            | 177-147   | 112             | —   | 20             | A    | ±20                                                             | ±1.5                                       | 1.5                         | 3.7                                | 12.6                                         |
| 75mm            | 177-316   | 125             | —   | 25             | A    | ±20                                                             | ±1.5                                       | 1.5                         | 4.2                                | 16.6                                         |
| 80mm            | 177-294   | 125             | —   | 25             | A    | ±20                                                             | ±1.5                                       | 1.5                         | 4.2                                | 16.6                                         |
| 87mm            | 177-318   | 140             | —   | 25             | A    | ±20                                                             | ±1.5                                       | 1.5                         | 4.2                                | 16.6                                         |
| 90mm            | 177-148   | 140             | —   | 25             | A    | ±20                                                             | ±1.5                                       | 1.5                         | 4.2                                | 16.6                                         |
| 100mm           | 177-296   | 160             | —   | 25             | A    | ±20                                                             | ±1.5                                       | 2                           | 4.2                                | 16.6                                         |
| 125mm           | 177-298   | 210             | 168 | 38.1<br>(25.4) | B    | ±20                                                             | ±1.5                                       | 2                           | 5.3                                | 27.5                                         |
| 150mm           | 177-300   | 235             | 187 |                | B    | ±20                                                             | ±1.5                                       | 2                           | 5.3                                | 27.5                                         |
| 175mm           | 177-302   | 260             | 215 |                | B    | ±20                                                             | ±1.5                                       | 2.5                         | 5.3                                | 27.5                                         |
| 200mm           | 177-304   | 311             | 244 |                | B    | ±20                                                             | ±1.5                                       | 2.5                         | 5.3                                | 27.5                                         |
| 225mm           | 177-306   | 337             | 264 |                | B    | ±20                                                             | ±1.5                                       | 2.5                         | 5.3                                | 27.5                                         |
| 250mm           | 177-308   | 362             | 290 |                | B    | ±20                                                             | ±1.5                                       | 3                           | 5.3                                | 27.5                                         |
| 275mm           | 177-310   | 413             | 321 |                | B    | ±20                                                             | ±1.5                                       | 3                           | 5.3                                | 27.5                                         |
| 300mm           | 177-312   | 438             | 340 |                | B    | ±20                                                             | ±1.5                                       | 3                           | 5.3                                | 27.5                                         |

#### Inch

| Nominal size ød | Order No. | Dimensions (mm) |    |    | Type | Accuracy                                                          |                                              |                               |                                      |                                                |
|-----------------|-----------|-----------------|----|----|------|-------------------------------------------------------------------|----------------------------------------------|-------------------------------|--------------------------------------|------------------------------------------------|
|                 |           | øD              | øE | T  |      | Tolerance between the nominal size and the actual diameter (inch) | Uncertainty of marked dimension value (inch) | Roundness/Cylindricity (inch) | Distance from the side face H (inch) | Size of warranted calibration surface K (inch) |
| .1"             | 177-209   | 25              | —  | 7  | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .067"                                | .142"                                          |
| .16"            | 177-206   | 25              | —  | 7  | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .067"                                | .142"                                          |
| .24"            | 177-207   | 25              | —  | 7  | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .067"                                | .142"                                          |
| .275"           | 177-281   | 25              | —  | 7  | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .079"                                | .118"                                          |
| .35"            | 177-179   | 32              | —  | 10 | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .079"                                | .236"                                          |
| .425"           | 177-283   | 32              | —  | 10 | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .079"                                | .236"                                          |
| .5"             | 177-180   | 32              | —  | 10 | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .079"                                | .236"                                          |
| .6"             | 177-181   | 38              | —  | 10 | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .079"                                | .236"                                          |
| .65"            | 177-182   | 45              | —  | 10 | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .079"                                | .236"                                          |
| .7"             | 177-183   | 45              | —  | 10 | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .079"                                | .236"                                          |
| .8"             | 177-287   | 45              | —  | 10 | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .079"                                | .236"                                          |
| 1"              | 177-184   | 53              | —  | 15 | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .126"                                | .339"                                          |
| 1.2"            | 177-289   | 71              | —  | 15 | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .126"                                | .339"                                          |
| 1.4"            | 177-185   | 71              | —  | 15 | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .126"                                | .339"                                          |
| 1.6"            | 177-291   | 71              | —  | 15 | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .126"                                | .339"                                          |
| 1.8"            | 177-186   | 85              | —  | 15 | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .146"                                | .299"                                          |

| Nominal size ød | Order No. | Dimensions (mm) |     |      | Type | Accuracy                                                          |                                              |                               |                                      |                                                |
|-----------------|-----------|-----------------|-----|------|------|-------------------------------------------------------------------|----------------------------------------------|-------------------------------|--------------------------------------|------------------------------------------------|
|                 |           | øD              | øE  | T    |      | Tolerance between the nominal size and the actual diameter (inch) | Uncertainty of marked dimension value (inch) | Roundness/Cylindricity (inch) | Distance from the side face H (inch) | Size of warranted calibration surface K (inch) |
| 2"              | 177-187   | 85              | —   | 20   | A    | ±.0008"                                                           | ±.00006"                                     | .00004"                       | .146"                                | .496"                                          |
| 2.4"            | 177-293   | 112             | —   | 20   | A    | ±.0008"                                                           | ±.00006"                                     | .00004"                       | .146"                                | .496"                                          |
| 2.5"            | 177-315   | 112             | —   | 20   | A    | ±.0008"                                                           | ±.00006"                                     | .00006"                       | .165"                                | .457"                                          |
| 2.8"            | 177-188   | 112             | —   | 20   | A    | ±.0008"                                                           | ±.00006"                                     | .00006"                       | .165"                                | .457"                                          |
| 3"              | 177-317   | 125             | —   | 25   | A    | ±.0008"                                                           | ±.00006"                                     | .00006"                       | .165"                                | .654"                                          |
| 3.2"            | 177-295   | 125             | —   | 25   | A    | ±.0008"                                                           | ±.00006"                                     | .00006"                       | .165"                                | .654"                                          |
| 3.5"            | 177-319   | 140             | —   | 25   | A    | ±.0008"                                                           | ±.00006"                                     | .00006"                       | .165"                                | .654"                                          |
| 3.6"            | 177-189   | 140             | —   | 25   | A    | ±.0008"                                                           | ±.00006"                                     | .00006"                       | .165"                                | .654"                                          |
| 4"              | 177-297   | 160             | —   | 25   | A    | ±.0008"                                                           | ±.00006"                                     | .00008"                       | .165"                                | .654"                                          |
| 5"              | 177-299   | 210             | 168 | 38.1 | B    | ±.0008"                                                           | ±.00010"                                     | .00008"                       | .209"                                | 1.083"                                         |
| 6"              | 177-301   | 235             | 187 | 38.1 | B    | ±.0008"                                                           | ±.00010"                                     | .00008"                       | .209"                                | 1.083"                                         |
| 7"              | 177-303   | 260             | 215 | 38.1 | B    | ±.0008"                                                           | ±.00010"                                     | .00010"                       | .209"                                | 1.083"                                         |
| 8"              | 177-305   | 311             | 244 | 38.1 | B    | ±.0008"                                                           | ±.00010"                                     | .00010"                       | .209"                                | 1.083"                                         |
| 9"              | 177-307   | 337             | 264 | 38.1 | B    | ±.0008"                                                           | ±.00010"                                     | .00010"                       | .209"                                | 1.083"                                         |
| 10"             | 177-309   | 362             | 290 | 38.1 | B    | ±.0008"                                                           | ±.00010"                                     | .00012"                       | .209"                                | 1.083"                                         |
| 11"             | 177-311   | 413             | 321 | 38.1 | B    | ±.0008"                                                           | ±.00010"                                     | .00012"                       | .209"                                | 1.083"                                         |
| 12"             | 177-313   | 438             | 340 | 38.1 | B    | ±.0008"                                                           | ±.00010"                                     | .00012"                       | .209"                                | 1.083"                                         |

### Cera Setting Rings

#### Metric

| Nominal size ød | Order No. | Dimensions (mm) |    |    | Type | Accuracy                                                        |                                            |                             |                                    |                                              |
|-----------------|-----------|-----------------|----|----|------|-----------------------------------------------------------------|--------------------------------------------|-----------------------------|------------------------------------|----------------------------------------------|
|                 |           | øD              | øE | T  |      | Tolerance between the nominal size and the actual diameter (μm) | Uncertainty of marked dimension value (μm) | Roundness/Cylindricity (μm) | Distance from the side face H (mm) | Size of warranted calibration surface K (mm) |
| 4mm             | 177-418   | 25              | —  | 7  | A    | ±10                                                             | ±1.5                                       | 1                           | 1.7                                | 3.6                                          |
| 6mm             | 177-420   | 25              | —  | 7  | A    | ±10                                                             | ±1.5                                       | 1                           | 1.7                                | 3.6                                          |
| 8mm             | 177-423   | 32              | —  | 10 | A    | ±10                                                             | ±1.5                                       | 1                           | 2.0                                | 6.0                                          |
| 10mm            | 177-424   | 32              | —  | 10 | A    | ±10                                                             | ±1.5                                       | 1                           | 2.0                                | 6.0                                          |
| 12mm            | 177-425   | 45              | —  | 10 | A    | ±10                                                             | ±1.5                                       | 1                           | 2.0                                | 6.0                                          |
| 16mm            | 177-427   | 45              | —  | 10 | A    | ±10                                                             | ±1.5                                       | 1                           | 2.0                                | 6.0                                          |
| 20mm            | 177-429   | 45              | —  | 10 | A    | ±10                                                             | ±1.5                                       | 1                           | 2.0                                | 6.0                                          |
| 25mm            | 177-430   | 53              | —  | 15 | A    | ±10                                                             | ±1.5                                       | 1                           | 3.2                                | 8.6                                          |
| 30mm            | 177-431   | 71              | —  | 15 | A    | ±10                                                             | ±1.5                                       | 1                           | 3.2                                | 8.6                                          |
| 35mm            | 177-432   | 71              | —  | 15 | A    | ±10                                                             | ±1.5                                       | 1                           | 3.2                                | 8.6                                          |
| 40mm            | 177-433   | 71              | —  | 15 | A    | ±10                                                             | ±1.5                                       | 1                           | 3.2                                | 8.6                                          |
| 45mm            | 177-434   | 85              | —  | 15 | A    | ±10                                                             | ±1.5                                       | 1                           | 3.2                                | 8.6                                          |

#### Inch

| Nominal size ød | Order No. | Dimensions (mm) |    |    | Type | Accuracy                                                          |                                              |                               |                                      |                                                |
|-----------------|-----------|-----------------|----|----|------|-------------------------------------------------------------------|----------------------------------------------|-------------------------------|--------------------------------------|------------------------------------------------|
|                 |           | øD              | øE | T  |      | Tolerance between the nominal size and the actual diameter (inch) | Uncertainty of marked dimension value (inch) | Roundness/Cylindricity (inch) | Distance from the side face H (inch) | Size of warranted calibration surface K (inch) |
| .16"            | 177-518   | 25              | —  | 7  | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .067"                                | .142"                                          |
| .24"            | 177-520   | 25              | —  | 7  | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .067"                                | .142"                                          |
| .275"           | 177-522   | 25              | —  | 7  | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .067"                                | .142"                                          |
| .35"            | 177-523   | 32              | —  | 10 | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .079"                                | .236"                                          |
| .425"           | 177-524   | 32              | —  | 10 | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .079"                                | .236"                                          |
| .5"             | 177-525   | 32              | —  | 10 | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .079"                                | .236"                                          |
| .65"            | 177-527   | 45              | —  | 10 | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .079"                                | .236"                                          |
| .8"             | 177-529   | 45              | —  | 10 | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .079"                                | .236"                                          |
| 1"              | 177-530   | 53              | —  | 15 | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .126"                                | .339"                                          |
| 1.2"            | 177-531   | 71              | —  | 15 | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .126"                                | .339"                                          |
| 1.4"            | 177-532   | 71              | —  | 15 | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .126"                                | .339"                                          |
| 1.6"            | 177-533   | 71              | —  | 15 | A    | ±.0004"                                                           | ±.00006"                                     | .00004"                       | .126"                                | .339"                                          |

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