# MACHINE SHOP DISCOUNT SUPPLY

# TUBULAR INSIDE MICROMETERS

MIT SERIES 139, 140:

#### **HEAVY DUTY TYPE, MIT SERIES 139:**

- Diameter of Extension Tubes: .669".
- Travel of Micrometer Head: 1".
- Graduation .001"

#### **EXTRA-HEAVY DUTY TYPE, MIT SERIES 140:**

- Diameter of Extension Tubes: 1.26".
- Travel of Micrometer Head: 2".
- Graduation .001"

| Micrometer Sets |        |       | Extension Tubes     |
|-----------------|--------|-------|---------------------|
|                 | Order  |       | Included            |
| Range           | No.    | Price | Lengths             |
| 4-20"           | 139178 |       | 1,2,4,8             |
| 4-36"           | 139179 |       | 1,2,4,8,16          |
| 4-52"           | 139180 |       | 1,2,4,8,16,16       |
| 40-120"         | 140162 |       | 2,4,4,8,20,40       |
| 40-160"         | 140163 |       | 2,4,4,8,20,40,40    |
| 40-200"         | 140164 |       | 2,4,4,8,20,40,40,40 |

# INSIDE DIAMETER MICROMETERS LARGE RANGE TUBULAR TYPE

**SERIES 203:** 

- Carbide measuring faces
- Laser engraved graduationsThermal insulator on each ro
- Each rod marked with length
- Laser engraved grads.
- Carbide measuring faces
- Chrome-plated

# Range Graduation Order No. Price 2-10" .001" 203210 4-36" .001" 203436 6-55" .001" 203655

# DIAL BORE GAGES WITH 3-POINT CONTACT

**STARRETT SERIES 84:** 

For inspecting bores and checking hole size. An adjusting range screw with positive locking feature and two centralizing plungers provides three-point contact for true alignment. The gaging contact and centralizing plungers are hardened tool steel, spring loaded for sensitivity and repeatability, and travel in bronze bushings. The range screw, also hardened tool steel, is inserted in a steel sleeve. Housing and knurled handle are aluminum with black finish. Furnished in case.



Starret

#### INCH: 1-1/2 - 12-1/8" Range

| Total Range with Extensions | Dial Indicator<br>Graduation | Catalog<br>No. | EDP<br>No. | Price |
|-----------------------------|------------------------------|----------------|------------|-------|
| Max. Bore Depth 4" –        |                              |                |            |       |
| Max. Plunger Travel .030"   |                              |                |            |       |
| 1-1/2 – 3"                  | .0001"                       | 84Z-111-4J     | 56264      |       |
| 1-1/2 – 3                   | .0005                        | 84Z-134-4J     | 56270      |       |
| Max. Bore Depth 6" -        |                              |                |            |       |
| Max. Plunger Travel .035"   |                              |                |            |       |
| 3 – 5-13/16                 | .0001                        | 84Z-111-5J     | 50386      |       |
| 3 – 5-13/16                 | .0005                        | 84Z-134-5J     | 50392      |       |
| 5 – 8-1/8                   | .0001                        | 84Z-111-6J     | 50388      |       |
| 5 – 8-1/8                   | .0005                        | 84Z-134-6J     | 50394      |       |
| Max. Bore Depth 7" -        |                              |                |            |       |
| Max. Plunger Travel .035"   |                              |                |            |       |
| 8 – 12-1/8"                 | .0001                        | 84Z-111-7J     | 50390      |       |
| 8 – 12-1/8"                 | .0005                        | 84Z-134-7J     | 50396      |       |
|                             |                              |                |            |       |

# tutoyo TAPER (BORE) GAGE

SERIES 247:





- Handy gage for measuring cylindrical bores, bearing work and for gaging slots.
- Made from polished stainless steel
- Clearly etched graduations for precise measurement. (Inch one side, mm's on the other)

|           | Rar       |         |       |
|-----------|-----------|---------|-------|
| Order No. | Inch mm   |         | Price |
| 2470115   | 1/32-5/8" | 1 to 15 |       |

## **DIAL BORE GAGE SETS**

**SERIES 567:** 





For close tolerance I.D. measurements. Sets include dial indicator with protective cover, anvils, and spacers, in a fitted case.

| INCH | Graduation .0005' |
|------|-------------------|

| Range   | Bore<br>Depth       | Order No.   | Price |
|---|---------------------|---|-------|
| .2540"<br>.4070"<br>.7 - 1.5"<br>1.4 - 2.4"<br>2.0 - 6.0" | 1.57<br>4<br>5<br>6 | 5670010<br>5670018<br>5670035<br>5670060<br>5670150 |       |

#### METRIC Graduation .01mm

| Range   | Bore<br>Depth                            | Order No.  | Price |
|---|--|--|-------|
| 6-10mm<br>10-18mm<br>18-35mm<br>35-50mm<br>50-100mm<br>50-160mm | 40mm<br>100mm<br>125mm<br>150mm<br>150mm | 5670610<br>5671018<br>5671835<br>5673550<br>5675010<br>5675016 |       |

#### METRIC: 38 - 308mm Range

| METRIC: 38 - 308mm Range    |                              |             |            |       |  |
|-----------------------------|------------------------------|-------------|------------|-------|--|
| Total Range with Extensions | Dial Indicator<br>Graduation | Catalog No. | EDP<br>No. | Price |  |
| Max. Bore Depth 100mm       |                              |             |            |       |  |
| Max. Plunger Travel 0.76mm  |                              |             |            |       |  |
| 38-76.2mm                   | 0.002mm                      | 84MZ-161-4J | 64922      |       |  |
| 38-76.2mm                   | 0.01mm                       | 84MZ-181-4J | 64923      |       |  |
| Max. Bore Depth 150mm       |                              |             |            |       |  |
| Max. Plunger Travel 0.9mm   |                              |             |            |       |  |
| 76.2-131.75mm               | 0.002mm                      | 84MZ-161-5J | 64924      |       |  |
| 76.2-131.75mm               | 0.01mm                       | 84MZ-181-5J | 64925      |       |  |
| 127-206.37mm                | 0.002mm                      | 84MZ-161-6J | 64926      |       |  |
| 127-206.37mm                | 0.01mm                       | 84MZ-181-6J | 64927      |       |  |
| Max. Bore Depth 175mm       |                              |             |            |       |  |
| Max. Plunger Travel 0.9mm   |                              |             |            |       |  |
| 203.2-308mm                 | 0.002mm                      | 84MZ-161-75 | 64928      |       |  |
| 203.2-308mm                 | 0.01mm                       | 84MZ-181-75 | 64929      |       |  |

Starrett

## Tel 201.518.8472 / 800.388.0459 (USA & CANADA) / Email sales@msdiscounttool.com

### **DIAL BORE GAGE SETS**

**STARRETT SERIES 82:** 

- Split-ball contact is self-centering for rapid in-process and final inspection.
- Graduation is .0001".
- Interchangeable probes are hard chrome plated and polished.
- Sets include dial indicator, body and actuating rod, and probes in attractive, protective case.
- Two-point contact useful for detecting hole geometry problems like taper, bell-mouth and out-of-roundness.

#### **INCH**

| Total Range | No. of<br>Probes | Max. Bore<br>Depth | Catalog<br>No. | EDP<br>No. | Price |
|-------------|------------------|--------------------|----------------|------------|-------|
| .107266"    | 5                | 13/16"             | 82AZ           | 55791      |       |
| .217594"    | 6                | 1 3/4"             | 82BZ           | 55792      |       |
| .560-1.565" | 8                | 5"*                | 82CZ           | 55793      |       |

<sup>\*</sup> Includes insertion of gage body into bore.

#### **METRIC**

| Total Range  | No. of<br>Probes | Max. Bore<br>Depth | Catalog<br>No. | EDP<br>No. | Price |
|--------------|------------------|--------------------|----------------|------------|-------|
| 2.7-6.76mm   | 5                | 20.6mm             | 82MAZ          | 66010      |       |
| 5.5-15.1 mm  | 6                | 44mm               | 82MBZ          | 66011      |       |
| 14.2-39.75mm | _                | 125mm*             | 82MCZ          | 66012      |       |

<sup>\*</sup> Includes insertion of gage body into bore.

## DIGITAL BORE GAGE

**SERIES 567:** 

- For inside measurements
- · Zero setting at any position
- With data output interface
- Metric/Inch system conversion at any position

| Range                | Resolution    | Order No. | Price |
|----------------------|---------------|-----------|-------|
| 2"-4"/50-100mm       | 0.005"/0.01mm | 5670204   |       |
| 2"-6.125"/50-160mm   | 0.005"/0.01mm | 5670206   |       |
| 4"-6.125" /100-160mm | 0.005"/0.01mm | 5670406   |       |
| 6.125"-10"/160-250mm | 0.005"/0.01mm | 5671610   |       |





## **BORE GAGES**

#### MIT SERIES 511:

Mitutoyo

MITUTOYO offers a complete selection of Dial Bore Gages, all of them with interchangeable anvils and necessary accessories to perform close tolerance I.D. measurements. Some of the larger 511 Series Bore Gages are equipped with a unique guiding device which facilitates accurate measurement of the bore because it is self-centering. The supplied AGD Series 2 Dial Indicator is fully protected by a rugged cover.



- All MITUTOYO Dial Bore Gages are supplied with AGD Series 2 Dial Indicator and fitted carrying case.
- Dial Protection cover is supplied as standard (Part No. 950658).
- A reference chart is furnished which indicates the spacer and rod sizes to be selected for the specific range.
- Extension collars and rods available to increase Measuring Range; please inquire.

| Order<br>No.   | Probe<br>Depth   | Graduation                   | No.<br>of<br>Anvils | No.<br>of<br>Spacers | Price |  |
|--|--|------------------------------|---------------------|----------------------|-------|--|
|  | INCH SETS - Grad0005" with 2922FB Dial Indicator<br>Range: .7 - 6.0" Grad0001" with 2923FB-10 Dial Indicator |                              |                     |                      |       |  |
| 511911<br>511912   |  | .0005 (2922)<br>.0001 (2923) | 25<br>25            | 7<br>7               |       |  |
| METRIC SETS - Grad. 0.01mm with 2046FB Dial Indicator Range: 18 - 150mm Grad. 0.001mm with 2109FB Dial Indicator |  |                              |                     |                      |       |  |
|  | 100/150mm<br>100/150mm   | 0.01mm<br>0.001mm            | 26 pcs<br>26 pcs    | 7<br>7               |       |  |

| Order  |             | Probe |       | No.<br>of | No.     |       |  |  |  |
|--|-------------|-------|-------|-----------|---------|-------|--|--|--|
| No.  | Range       | Depth | Grad. | Anvils    | Spacers | Price |  |  |  |
| INCH - Graduation .0001" with 2923FB-10 Dial Indicator |             |       |       |           |         |       |  |  |  |
| 511212   | .244        | 2"    | .0001 | 9         | -       |       |  |  |  |
| 9511206  | .474        | 4     | .0001 | 9         | 1       |       |  |  |  |
| 511163   | .74 -1.4    | 4     | .0001 | 8         | 3       |       |  |  |  |
| 511164   | 1.4 - 2.5   | 6     | .0001 | 6         | 4       |       |  |  |  |
| 511166   | 2.0 - 6.0   | 6     | .0001 | 11        | 4       |       |  |  |  |
| 511187   | 4.0 - 6.5   | 6     | .0001 | 13        | 4       |       |  |  |  |
| 511188   | 6.5 - 10.0  | 10    | .0001 | 6         | 6       |       |  |  |  |
| 511189   | 10.0 - 16.0 | 10    | .0001 | 5         | 6       |       |  |  |  |
| INCH - Graduation .0005" with 2922FB Dial Indicator    |             |       |       |           |         |       |  |  |  |
| E44040   | 04 4        | o"    | 0005  |           |         |       |  |  |  |
| 511213   | .244        | 2"    | .0005 | 9         |         |       |  |  |  |
| 511207   | .474        | 4     | .0005 | 9         | 1       |       |  |  |  |
| 511159   | .74 - 1.4   | 4     | .0005 | 8         | 3       |       |  |  |  |
| 511160   | 1.4 - 2.5   | 6     | .0005 | 6         | 4       |       |  |  |  |
| 511162   | 2.0 - 6.0   | 6     | .0005 | 11        | 4       |       |  |  |  |
| 511184   | 4.0 - 6.5   | 6     | .0005 | 13        | 4       |       |  |  |  |
| 511185   | 6.5 - 10.0  | 10    | .0005 | 6         | 6       |       |  |  |  |
| 511186   | 10.0 - 16.0 | 10    | .0005 | 5         | 6       |       |  |  |  |

| Order<br>No.   | Range     | Probe<br>Depth | Grad.   | No.<br>of<br>Anvils | No.<br>of<br>Spacers | Price |  |  |  |  |
|--|-----------|----------------|---------|---------------------|----------------------|-------|--|--|--|--|
| METRIC - Graduation 0.01mm with 2046FB Dial Indicator  |           |                |         |                     |                      |       |  |  |  |  |
| 511-204  | 10-18.5mm | 90mm           | 0.01mm  | 9 pcs.              | 1                    |       |  |  |  |  |
| 511-171  | 18-35mm   | 100mm          | 0.01mm  | 9 pcs.              | 2                    |       |  |  |  |  |
| 511-172  | 35-60mm   | 150mm          | 0.01mm  | 6 pcs.              | 4                    |       |  |  |  |  |
| 511-173  | 50-100mm  | 150mm          | 0.01mm  | 11 pcs.             | 4                    |       |  |  |  |  |
| 511-174  | 50-150mm  | 150mm          | 0.01mm  | 11 pcs.             | 4                    |       |  |  |  |  |
| 511-175  | 100-160mm | 150mm          | 0.01mm  | 13 pcs.             | 4                    |       |  |  |  |  |
| 511-176  | 160-250mm | 250mm          | 0.01mm  | 6 pcs.              | 7                    |       |  |  |  |  |
| 511-177  | 250-400mm | 250mm          | 0.01mm  | 5 pcs.              | 7                    |       |  |  |  |  |
| METRIC - Graduation 0.001mm with 2109FB Dial Indicator |           |                |         |                     |                      |       |  |  |  |  |
| 511-203  | 10-18.5mm | 90mm           | 0.001mm | 9 pcs.              | 1                    |       |  |  |  |  |
| 511-167  | 18-35mm   | 100mm          | 0.001mm | 9 pcs.              | 2                    |       |  |  |  |  |
| 511-168  | 35-60mm   | 150mm          | 0.001mm | 6 pcs.              | 4                    |       |  |  |  |  |
| 511-169  | 50-100mm  | 150mm          | 0.001mm | 11 pcs.             | 4                    |       |  |  |  |  |
| 511-170  | 50-150mm  | 150mm          | 0.001mm | •                   | 4                    |       |  |  |  |  |
| 511-178  | 100-160mm | 150mm          | 0.001mm | 13 pcs.             | 4                    |       |  |  |  |  |
| 511-179  | 160-250mm | 250mm          | 0.001mm |                     | 7                    |       |  |  |  |  |
| 511-180  | 250-400mm | 250mm          | 0.001mm | 5 pcs.              | 7                    |       |  |  |  |  |