Gages for Valve Guides and Seats

P-310 Valve Guide Gage Set

The only way to be sure clearance is correct is to GAGE IT! The Sunnen P-310 checks all types of guides for size and roundness. FAST! Set Includes:

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-300</td>
<td>Gage [Dial calibrated in .0002 in. (0.005 mm) increments]</td>
</tr>
<tr>
<td>P-312</td>
<td>Probe (.3125 in.)</td>
</tr>
<tr>
<td>P-344</td>
<td>Probe (.3437 in.)</td>
</tr>
<tr>
<td>P-350</td>
<td>Indicator only</td>
</tr>
<tr>
<td>P-360</td>
<td>Wrench</td>
</tr>
<tr>
<td>P-375</td>
<td>Probe (.375 in.)</td>
</tr>
<tr>
<td>P-610A</td>
<td>Setting Fixture</td>
</tr>
<tr>
<td>P-650A</td>
<td>Metal Storage Case (stores items listed plus 5 more probes)</td>
</tr>
</tbody>
</table>

For metric applications, order P-310M.

Replacement and Additional Probes

<table>
<thead>
<tr>
<th>Probe</th>
<th>Size</th>
<th>Diameter Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part No.</td>
<td>Inches</td>
<td>Inches</td>
</tr>
<tr>
<td>P-236</td>
<td>.2187</td>
<td>.224 to .264</td>
</tr>
<tr>
<td>P-250</td>
<td>.25</td>
<td>.238 to .278</td>
</tr>
<tr>
<td>P-281</td>
<td>.2812</td>
<td>.269 to .309</td>
</tr>
<tr>
<td>P-312*</td>
<td>.3125</td>
<td>.300 to .340</td>
</tr>
<tr>
<td>P-344*</td>
<td>.3437</td>
<td>.332 to .372</td>
</tr>
<tr>
<td>P-375*</td>
<td>.375</td>
<td>.363 to .403</td>
</tr>
<tr>
<td>P-406</td>
<td>.4062</td>
<td>.394 to .434</td>
</tr>
<tr>
<td>P-438</td>
<td>.4375</td>
<td>.426 to .466</td>
</tr>
<tr>
<td>P-469</td>
<td>.4687</td>
<td>.457 to .497</td>
</tr>
<tr>
<td>P-500</td>
<td>.5</td>
<td>.488 to .528</td>
</tr>
</tbody>
</table>

*Included with P-310 Valve Guide Gage Set.

Sunnen VRC-500

Precision Valve Checker

Provides a means of checking the runout of the engine valve face in relation to the valve stem.

Features: Wide Range of Valve Sizes...
The VRC-500 can accommodate stem diameters from .25 to .75 in. (6-19 mm); head diameters from .625 to 4.5 in. (16-114 mm); and stem lengths up to 9.0 in. long (76 mm). The indicator reads in ten-thousands (.0001 of an inch) increments.

VRC-500M Metric Checker

Components of the VRC-500M are the same as VRC-500, except the indicator is replaced with a metric indicator calibrated in 0.005 mm increments. The diameter range is .25 to .75 in. (6-19 mm).

Replacement Items for P300 Gage

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-350</td>
<td>Dial Indicator Assembly</td>
</tr>
<tr>
<td>G-5955A</td>
<td>Bezel and Crystal (round lens style)</td>
</tr>
<tr>
<td>G-59515A</td>
<td>Bezel and Crystal (flat lens style)</td>
</tr>
</tbody>
</table>

VS-1005 Rapid Valve Seat Checker

Quickly and accurately checks out roundness and runout of the critical intersection between topping and seat angles. Thousandth reading indicator stays right side up for easy reading as gage checks full 360° of the seat. Works off valve pilot.

Set Includes: VS-1010 Indicator Assembly with indicating wheel for Sunnen Pilots .389 in. (9.9 mm); plus these Indicator Wheel Assemblies:

- VS-1625-44
- VS-1750-44
- VS-2025-44
- VS-2125-44
- VS-2250-44
- VS-2250-44
- VS-1020 Indicator Assembly only

SGM-5100 Valve Stem Height Gage Set

Accurately measures valve stem install height.
- .001 in. graduation gage
- 0-.100 reading
- Includes 1 in. calibration standard

* Unique design allows for measuring heights from 1.000-2.60 in.

Set includes:

- SGM-5108A Indicator
- SGM-5119A Adapter (1.12" ID/1.24" OD)
- SGM-5116A Adapter (.93" ID/1.06" OD)
- SGM-5117A Adapter (.775" ID/.90" OD)

VS-1015 Rapid Valve Seat Checker

Similar to VS-1005, for Harley Davidson® Heads.

Set Includes:

- VS-1010 Indicator Assembly with indicating wheel for Sunnen Pilots .389 in. (9.9 mm); plus these Indicator Wheel Assemblies:
  - VS-1500-44
  - VS-1550-44
  - VS-1650-44
  - VS-1875-44
  - VS-1925-44
  - VS-2000-44
  - VS-2050-44

Additional Indicator Wheel Assemblies must be ordered separately:

- VS-875-44
- VS-1125-44
- VS-1375-44
- VS-1500-44
- VS-1625-44
- VS-1875-44

VS-1005 & VS-1015 Rapid Valve Seat Checker can be used on other manufacturers’ pilots by ordering these indicating adapter wheels:

<table>
<thead>
<tr>
<th>Part No. Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>VS-1116A .385 in. (9,8 mm) diameter Sioux Pilots</td>
</tr>
<tr>
<td>VS-1117A .437 in. (11,1 mm) diameter Kwik Way Pilots</td>
</tr>
<tr>
<td>VS-1118A .375 in. (9,5 mm) diameter K.O. Lee, Neway, Black and Decker Pilots</td>
</tr>
</tbody>
</table>

For metric applications, order VS-1005M.

VSC-750 Rapid Valve Seat Checker

For use with the VSC-700 and SGM-700 Single-Blade, 3-Angle Seat Cutter Kit only. Compatible with the VS-875-44 and VS-1000-44 indicator wheels. Indicator wheels ordered separately.

For metric applications, order VSC-750M.

www.sunnen.com
**AG-Series Precision Gage**

*For Pin Fitting and Rod Reconditioning*

**AG-300 Range:** .375"-.750" (9.5 mm-19 mm)

**AG-400 Range:** .720"-2.687" (18 mm-68 mm)

---

**Sunnen AG-Series Precision Gage**

Helps Sell Rod Reconditioning Service (Must be ordered separately-not included with honing machines.)

- Dial reads directly in “tenths” (.0001”).
- Checks rod journal bore for distortion.
- Assures correct size—within .0001”!
- Anyone can use it. No “feel” required!
- Measures size instantly!
- Wear-compensated gage points assure permanent accuracy!
- Assures exact fits required by today’s high tech engines.

No rod should be reconditioned or pins fit without precise gaging. The only way to know the size is to measure the hole.

- Exact pin size is transferred to the AG-300 Gage with a wear-compensated setting fixture.
- Rugged construction. All moving parts are enclosed in housing. Never affected by vibration or shock.

Shipment Weight: approximately 25 lbs. (11.4 kg)

---

**Midget Point Set AG-140 and AG-140L**

Range .375"-.750" (9.5-19 mm). For checking pin fits on small bore engines. Fits AG-300 Gage without alterations. (See chart below...be sure to check serial number of gage before ordering midget point sets.) Set includes all required parts and metal storage box.

**Extra Large Point Set AG-340**

Range 2.625"-3.375" (67-86 mm). Ideal for checking bores in large truck and tractor rods. Fits all AG-300 Gages.

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**Replacement Parts For AG-300**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AG-34*</td>
<td>Crystal</td>
<td>AG-456A*</td>
<td>Large Calibration Ring</td>
</tr>
<tr>
<td>AG-26A*</td>
<td>Face Plate</td>
<td>AG-450A*</td>
<td>Adjusting Wrench</td>
</tr>
<tr>
<td>AG-299A*</td>
<td>Setting Fixture (with wear pads)</td>
<td>AG-456A*</td>
<td>Large Calibration Ring</td>
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<tr>
<td>PG-7A*</td>
<td>Plastic Cover</td>
<td>AG-450A*</td>
<td>Adjusting Wrench</td>
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**Replacement Parts For AG-400**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Part No.</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>AG-34*</td>
<td>Crystal</td>
<td>AG-404*</td>
<td>Small Calibration Ring</td>
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<tr>
<td>AG-26A*</td>
<td>Face Plate</td>
<td>AG-465A*</td>
<td>Large Calibration Ring</td>
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<tr>
<td>AG-410A*</td>
<td>Setting Fixture (with wear pads)</td>
<td>AG-450A*</td>
<td>Adjusting Wrench</td>
</tr>
<tr>
<td>PG-7A*</td>
<td>Plastic Cover</td>
<td>AG-450A*</td>
<td>Adjusting Wrench</td>
</tr>
</tbody>
</table>

---

*These parts included with AG-300.

*These parts included with AG-400.
GRM/GR-3000 Dial Bore Gage

Diameter Range: .054" – 12.0"
1,37 mm – 304,8 mm

GR-3000 assembly consists of a .00001" reading indicator, probe retractor and probe retainer bushing in a reinforced nylon insulating shroud. Order GRM-3000 for .002 mm reading. Shipping Weight: 2 lbs. (1 kg)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
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<tbody>
<tr>
<td>GR/-GRM-3000</td>
<td>.054 - .061</td>
<td>1.37 - 1.55</td>
<td>G-1055</td>
<td>.43</td>
<td>11</td>
<td>6.6</td>
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<td>.059 - .075</td>
<td>1.50 - 1.90</td>
<td>G-1070</td>
<td>.63</td>
<td>16</td>
<td>6.9</td>
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<tr>
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<td>.071 - .087</td>
<td>1.80 - 2.20</td>
<td>G-1080</td>
<td>.63</td>
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<td>6.9</td>
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<td>.081 - .096</td>
<td>2.05 - 2.45</td>
<td>G-1090</td>
<td>.63</td>
<td>16</td>
<td>6.9</td>
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<td>.089 - .108</td>
<td>2.25 - 2.75</td>
<td>G-1100</td>
<td>.82</td>
<td>21</td>
<td>7.1</td>
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<td>.098 - .118</td>
<td>2.50 - 3.00</td>
<td>G-1110</td>
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<td>.108 - .128</td>
<td>2.75 - 3.25</td>
<td>G-1120</td>
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<td>.118 - .138</td>
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<td>G-1130</td>
<td>.82</td>
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<td>.128 - .148</td>
<td>3.25 - 3.75</td>
<td>G-1140</td>
<td>.82</td>
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<td>.138 - .157</td>
<td>3.50 - 4.00</td>
<td>G-1150</td>
<td>.82</td>
<td>21</td>
<td>7.1</td>
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<td>.148 - .167</td>
<td>3.75 - 4.25</td>
<td>G-1160</td>
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<td>.158 - .178</td>
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<td>G-1180</td>
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<td>.189 - .209</td>
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<td>.205 - .228</td>
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<td>.244 - .268</td>
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<td>.264 - .287</td>
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<td>.283 - .307</td>
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<td>G-1300</td>
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<td>.300 - .327</td>
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<td>.323 - .346</td>
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<td>.362 - .386</td>
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<td>.370 - .417</td>
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<td>.82</td>
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<td>.409 - .457</td>
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<td>.82</td>
<td>21</td>
<td>7.1</td>
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<tr>
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<td>.449 - .496</td>
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<tr>
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<td>.488 - .535</td>
<td>12.00 - 13.00</td>
<td>G-1520</td>
<td>.82</td>
<td>21</td>
<td>7.1</td>
</tr>
</tbody>
</table>

Dial/Digital Bore Gages
Gages and Accessories

GRM/GR-3000 Dial Bore Gage

1. Gage GR/GRM-3000
2. Probe
3. Transfer Pin
4. Probe Extension

Gage Probes and Transfer Pins

Probes and pins must be ordered separately. Diameter ranges, gaging depths and part numbers are listed in chart.

G-3005A Probe and Transfer Pin Storage case

Probe Extension

Available for probes .323" (8,2 mm) or larger. Probe extensions are 2.5" (63,5 mm) long, and up to three can be assembled together. Part Number: KZ1X-3500.

Probe extension is not intended for use with the CF-540 setting adapter.

NOTE: It may be necessary to order one or more KZ1X-3500 Probe extensions to reach the valve guides. The probe extensions may be larger in diameter than the value guide, but will not interfere with the gaging probe.

www.sunnen.com
**Dial/Digital Bore Gages Setting Fixtures**

**CF-540 Size Setting Adapter**
Centers gage probes between parallel reference surfaces on CF-502 Setting Fixture. Serves as an “extra pair of hands” to help in nulling the gage on both the horizontal and vertical axis. Assures fast, accurate setup of the gage.

Shipping Weight: 2 lbs. (1 kg)

**Setting Fixtures CF-502M (metric)**
1,37 mm-50,8 mm
CF-502 (inch) .054"-2.00"

For use with 3000, 4000, 6000, and 9000 Series Dial Bore Gages.

CF-502M comes with 0-51 mm micrometer head marked in .002 mm increments with precision lapped carbide anvils. Includes a ring gage checking standard and three interchangeable nests. (Use of CF-502M/CF-502 with 3000 series gage requires the purchase of CF-540 Size Setting Adapter.) Setting Master has a rugged, stress-relieved cast-iron base and may be used without removing it from its protective case. CF-502 is equipped with a 0"-2" micrometer head marked in .0001" increments.

**CF-502M/CF-502 Shipping Weight:**
10 lbs. (4.5 kg)

**Replacement Gage Nests For CF-502M Metric & CF502:**

| CF-502M | CF-550A | 12.6 mm-19.1 mm
| CF-560A | 18.8 mm-30.2 mm
| CF-570A | 30.0 mm-50.0 mm
| CF-502 | CF-550A | .495"-.750"
| CF-560A | .740"-1.19"
| CF-570A | 1.18"-2.00"

**CF-137** Micrometer Adjusting Wrench
**CF-138** Spindle Lock Knob
**CF-544A** Magnifier
**CF-576A** Calibration Ring

**Right Angle Attachment***
Available for special conditions where it is difficult to read the gage or the total gage height causes a problem.

Part Number: KZ1X-90.

*Standard CF-502 Setting Fixture nest does not work with these accessories. Alternative methods of setting size must be used. Available 4 weeks after receipt of order.
Dial/Digital Bore Gages

GA/GAM-4000 Series Gages

**Diameter Range:**
.495" – .750" (12.6 mm – 19.0 mm)

Non-retractable gage with .0001" or (.002 mm metric) reading indicator. Capable of measuring to within .000" (0.05 mm) of the bottom of a blind hole. Indicators reading in .010 mm or .0005" are available on special order.

**Replacement Parts For GA/GAM-4000 Series**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Max. Gaging Depth</th>
<th>Overall Length</th>
<th>Shipping Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>GA-4051</td>
<td>GAM-4051</td>
<td>2.5</td>
<td>62</td>
</tr>
<tr>
<td>GA-4101</td>
<td>GAM-4101</td>
<td>5</td>
<td>125</td>
</tr>
<tr>
<td>GA-4141</td>
<td>GAM-4141</td>
<td>7</td>
<td>175</td>
</tr>
</tbody>
</table>

Gages:

- G-275A Quick Setting Wrench (Metric reading)
- G-275MA Quick Setting Wrench (Inch reading)
- G-285A Indicating Ball Removal Tool
- PBR-506A Indicating Finger Clamp
- G-222A Centralizer Points (Package of 2)
- G-261MA #1 Point Assembly (metric) .495"-.580" diameter
- G-261A #1 Point Assembly (inch) .495"-.580" diameter
- G-262A #2 Point Assembly (metric) 14.7 mm-16.9 mm diameter
- G-262MA #2 Point Assembly (inch) .580"-.665" diameter
- G-263A #3 Point Assembly (metric) 16.9 mm-19.0 mm diameter
- G-263MA #3 Point Assembly (inch) .665"-.750" diameter
- G-249A Nuts for Point Assembly
- G-249MA Metric Nuts for Point Assembly
- G-327A Indicating Ball (.0937" Diameter Carbide)
- G-385A Indicating Ball Removal Tool
- G-389A Indicating Finger Clamp
- G-393A Indicating Ball (.0625" Diameter Carbide)
- G-322A Centralizer Points (Package of 2)
- G-327A Centralizer Points (Package of 2)
- G-361MA #1 Point Assembly (metric) 18.8 mm-22.6 mm diameter
- G-361A #1 Point Assembly (inch) .740"-.890" diameter
- G-362A #2 Point Assembly (metric) 22.6 mm-26.4 mm diameter
- G-362MA #2 Point Assembly (inch) .890"-1.04" diameter
- G-363A #3 Point Assembly (metric) 26.4 mm-30.2 mm diameter
- G-363MA #3 Point Assembly (inch) 1.04"-.119" diameter
- G-349A Nuts for Point Assembly
- G-349MA Metric Nuts for Point Assembly
- G-363MA #3 Point Assembly (inch)
- G-361A #1 Point Assembly (inch)
- G-362A #2 Point Assembly (inch)
- G-363A #3 Point Assembly (inch)
- G-363MA #3 Point Assembly (inch)
- G-349A Nuts for Point Assembly
- G-349MA Metric Nuts for Point Assembly
- G-363MA #3 Point Assembly (inch)

Special Length Dial Bore Gages are available on a special order basis. GA/GAM-4000 Indicator cannot be peaked at lengths longer than 7" (175 mm) therefore gage accuracy is compromised.

To order special length dial bore gages, specify as follows: GA/GAM-4_1X. The _ is the desired gaging length multiplied by 2 (in inches). Available 4 weeks after receipt of order.

**CF-502 Setting Fixture**

Metric version CF-502M has a 0 to 51 mm Micrometer head marked in .002 mm increments. Supplied in a sturdy, nested box.

**CF-502 for .054" to 2.000" diameters** is equipped with a large micrometer head with range of 0" to 2" marked in .0001" increments.

To order special length dial bore gages, specify as follows: GR/GRM-6_1X. The _ is the desired gaging length multiplied by 2 (in inches). Available 4 weeks after receipt of order.

GR/GRM-6000 Series Gages for Lifters

**Diameter Range:**
.740" – 1.190" (18.8 mm – 30.2 mm)

Retractable gage with .0001" or (.002 mm) metric reading indicator. Capable of measuring to within .270" (6.8 mm) of the bottom of a blind hole. Indicators reading in .0005" or (.010 mm) are available on special order.

**Replacement Parts For GR/GRM-6000 Series Gages**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Max. Gaging Depth</th>
<th>Overall Length</th>
<th>Shipping Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>GA-6051</td>
<td>GAM-6051</td>
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<td>GA-6121</td>
<td>GAM-6121</td>
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<td>150</td>
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<td>GA-6241</td>
<td>GAM-6241</td>
<td>12</td>
<td>300</td>
</tr>
</tbody>
</table>

**Replacement Parts For GR/GRM-6000 Series Gages**

- G-375A Quick Setting Wrench (Metric reading)
- G-375MA Quick Setting Wrench (Inch reading)
- G-385A Indicating Ball Removal Tool
- G-389A Indicating Finger Clamp
- PBR-506A Indicating Ball (.0937" Diameter Carbide)
- G-322A Centralizer Points (Package of 2)
- G-327A Centralizer Points (Package of 2)
- G-361MA #1 Point Assembly (metric) 18.8 mm-22.6 mm diameter
- G-361A #1 Point Assembly (inch) .740"-.890" diameter
- G-362A #2 Point Assembly (metric) 22.6 mm-26.4 mm diameter
- G-362MA #2 Point Assembly (inch) .890"-1.04" diameter
- G-363A #3 Point Assembly (metric) 26.4 mm-30.2 mm diameter
- G-363MA #3 Point Assembly (inch) 1.04"-.119" diameter
- G-349A Nuts for Point Assembly
- G-349MA Metric Nuts for Point Assembly
- G-363MA #3 Point Assembly (inch)

Special Length Dial Bore Gages are available on a special order basis. GR/GRM-6000 Indicator cannot be peaked at lengths longer than 12" (305 mm) therefore gage accuracy is compromised.
Dial/Digital Bore Gages

GR/GRM-9000 Series Gages
Diameter Range: 1.18” – 2.0” 30.0 mm – 50.8 mm
Retractable gage with .0001” or (.002 mm metric) reading indicator. Capable of measuring to within .335” (8.5 mm) of the bottom of a blind hole. Indicators reading in .0005”, or .010 mm are available on special order.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Max. Gaging Diameter</th>
<th>Overall Length</th>
<th>Shipping Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>GR-9071</td>
<td>GRM-9071</td>
<td>3.5 88</td>
<td>9.25 237</td>
</tr>
<tr>
<td>GR-9121</td>
<td>GRM-9121</td>
<td>6 150</td>
<td>11.75 300</td>
</tr>
<tr>
<td>GR-9241</td>
<td>GRM-9241</td>
<td>12 300</td>
<td>17.75 452</td>
</tr>
</tbody>
</table>

Replacement Parts For GR/GRM-9000 Series Gages:

- G-475MA Quick Setting Wrench (Metric reading)
- G-375A Quick Setting Wrench (Inch reading)
- G-485A Indicating Ball Removal Tool
- G-489A Indicating Finger Clamp
- PBR-503A Indicating Ball (.125” Diameter Carbide)
- G-427A Centralizer Points (Package of 2)
- G-461A #1 Point Assembly (metric) 30.0 mm-35.2 mm diameter
- G-461A #1 Point Assembly (inch) 1.18”-1.385” diameter
- G-462A #2 Point Assembly (metric) 35.2 mm-40.4 mm diameter
- G-462A #2 Point Assembly (inch) 1.385”-1.59” diameter
- G-463A #3 Point Assembly (metric) 40.4 mm-45.6 mm diameter
- G-463A #3 Point Assembly (inch) 1.59”-1.795” diameter
- G-464A #4 Point Assembly (metric) 45.6 mm-50.8 mm diameter
- G-464A #4 Point Assembly (inch) 1.795”-2.0” diameter
- G-449A Nuts for Point Assembly (inch) (Package of 4)
- G-449MA Nuts for Point Assembly (metric) (Package of 4)

Special Length Dial Bore Gages are available on a special order basis. GR/GRM-9000 Indicator cannot be peaked at lengths longer than 25” (635 mm) therefore gage accuracy is compromised.

To order special length dial bore gages, specify as follows: GR/GRM-9_1X. The _ is the desired gaging length multiplied by 2 (in inches).

Available 4 weeks after receipt of order.

Note: Sunnen 2000 Series Dial Bore Gages can be extended to 12” 304.8 mm by adding oversize centralizer points and additional gage point extensions.

For gaging diameters in the range of 6”-12” (152.4-304.8 mm) order:
2000 Series Gages assembled with G-822A Gage extension set cannot be used with CF-112S setting fixture when set for diameters above 8” (203.2 mm). Alternative methods of setting gage must be used.

G-822C Centralizer Point Only.

GA/GAM-2000 Series Gages
(Non-Retractable)

GR/GRM-2000 Series Gages
(Retractable)
Diameter Range: 2.0” – 6.0” 50 mm – 150 mm
Non-retractable gage with .0001” or (.002 mm metric) reading indicator. Capable of measuring to within .500” (13 mm) of the bottom of a blind hole. Indicators reading in .0005” or .010 mm are available on special order.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Max. Gaging Diameter</th>
<th>Overall Length</th>
<th>Shipping Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>GA-2031</td>
<td>GAM-2031</td>
<td>3 75</td>
<td>8 203</td>
</tr>
<tr>
<td>GA-2061</td>
<td>GAM-2061</td>
<td>6 150</td>
<td>11 280</td>
</tr>
<tr>
<td>GA-2121</td>
<td>GAM-2121</td>
<td>12 300</td>
<td>17 432</td>
</tr>
<tr>
<td>GA-2241*</td>
<td>GAM-2241*</td>
<td>24 600</td>
<td>29 737</td>
</tr>
</tbody>
</table>

*Available 2 weeks after receipt of order.

Extension sleeves are available for converting GAM/GA-2000 Series Gages to different lengths. The following extension sleeves are available:
- GA-203 Accessory Extension Sleeves 3” (75 mm)
- GA-206 Accessory Extension Sleeves 6” (150 mm)
- GA-212 Accessory Extension Sleeves 12” (300 mm)
- GA-224 Accessory Extension Sleeves 24” (600 mm)

Retractable gage with .0001” or (.002 mm metric) reading indicator. Capable of measuring to within .500” (13 mm) of the bottom of a blind hole. Indicators reading in .0005” or .010 mm available on special order.

*Furnished with metal case for accessories only.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Max. Gaging Diameter</th>
<th>Overall Length</th>
<th>Shipping Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>GR-2061</td>
<td>GRM-2061</td>
<td>6 150</td>
<td>11 280</td>
</tr>
<tr>
<td>GR-2121</td>
<td>GRM-2121</td>
<td>12 300</td>
<td>17 432</td>
</tr>
<tr>
<td>GR-2241</td>
<td>GRM-2241</td>
<td>24 600</td>
<td>29 737</td>
</tr>
</tbody>
</table>

Replacement Parts For 2000 Series Gages

- PBR-503A Indicating Ball (.125” Diameter Carbide)
- G-522A Centralizer Points (Package of 2)
- G-532A Nuts (Package of 6)
- G-532MA Nuts (metric) (Package of 6)
- G-640A Indicating Ball Removal Tool
- G-610A #1 Point Assembly 2.0”-2.375” (50.8 mm-60.3 mm)
- G-611A #2 Point Assembly 2.375”-2.750” (60.3 mm-69.8 mm)
- G-612A #3 Point Assembly 2.750”-3.125” (69.8 mm-79.4 mm)
- G-613A #4 Point Assembly 3.125”-3.500” (79.4 mm-88.9 mm)
- G-614A #5 Point Assembly 3.500”-3.750” (88.9 mm-98.4 mm)
- G-615A #6 Point Assembly 3.750”-4.250” (95.3 mm-107.9 mm)
- G-632A #7 Point Extension
- G-634A #8 Point Extension
- G-645A Gage Point Assembly Ball Removal Tool
- G-638A Gage Point Assembly Wrench

Special Length Dial Bore Gages are available on a special order basis. 2000 Series Indicators cannot be peaked at lengths longer than 65” (1650 mm) therefore gage accuracy is compromised. To order special length dial bore gages, specify as follows: G_-2_1X. The second _ is the desired gaging length multiplied by 2 (in inches). Available 4 weeks after receipt of order.
Setting Fixtures
CF-1126 (inch) CF-1126M (metric)
Diameter Range: 2.0" – 8.0" (51 mm – 203 mm)

Shipping Weight: 9.5 kg (21 lbs.)

Includes .0001" (.002 mm) micrometer head with precision lapped carbide anvils. Comes with a ring gage checking standard and precision setting standards in 1" (25.4 mm) increments. Setting Master has a rugged, stress-relieved, cast iron base. May be used without removing from its protective case.

Setting Fixtures are shipped complete with setting standards to cover 2"-6" (50 mm-152 mm) range. A setting standard is not required to measure in the 7"-8" (178 mm-203 mm) range. When measuring in the 6"-7" (152 mm-178 mm) range order:

<table>
<thead>
<tr>
<th>CF-260A</th>
<th>6”-7” (inch)</th>
<th>CF-360A</th>
<th>152-178 mm (metric)</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Included with CF-1126</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

E Series Electronic Dial Bore Gages Features
- 16 Models + Special Lengths. All 3000, 4000, 6000, 2000 Series Available - Add “E” Suffix on Part Number
- Metric/Inch Conversion .0001" or (.001 mm) Divisions
- Display Swivels 330° for any Gaging Position
- SPC Capability
- Preset, zero set, +/- direction and Go/No Go functions.
- Communicates with Computers.
- Large, easy-to-read LCD.
- GO/±NG judgment can be performed by setting upper and lower tolerance limits. The judgment result (GO/±NG) can be displayed in full-size characters.
- The positive/negative count resulting from the spindle’s up/down movement can be toggled.
- Internal calculations using the simple formula of \[ F(x) = Ax \] are available
- Employing the ABSOLUTE linear encoder, the ID-C always displays the spindle “Absolute Position” from the origin at power-on. Also unlimited response speed eliminates overspeed errors.
- The ID-C indicator face can be rotated 330° to an appropriate angle for easy reading.
- With SPC data output. Can be connected to a computer to input measurements directly into SPC software/spreadsheet
- Technical Data
  - Accuracy: 0.00012 in
  - Resolution: 0.0005 in or 0.001 mm (switchable)
  - Display: LCD
  - Length standard: ABSOLUTE electrostatic capacitance type linear encoder
  - Max. Response speed: Unlimited
  - Battery life: Approx. 5,000 hours under normal use
  - Dust/Water protection level: IP42 or IP53 (dust-proof type)
- Functions
  - Origin-set/Preset, Zero set, GO/±NG judgment, Counting direction switching, Power ON/OFF,
  - Data output, inch/mm conversion
  - Alarm: Low voltage, Counting value composition error, Over-flow error, Tolerance limit setting error
  - Internal calculations using the simple formula of \[ F(x) = Ax \] are available

Accessories/Repair Parts for E Series
LU2X1 Cable (2 Meter Length) Connect to USB Port
G799A Replacement Indicator and Bushing

Replacement Indicators for Sunnen Dial Bore Gages

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Qty.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>G959A</td>
<td>1</td>
<td>Ref. Dial Indicator Assembly includes Indicator (.0005 in. Reading)</td>
</tr>
<tr>
<td>G959MA</td>
<td>1</td>
<td>Indicator (.001 mm Reading)</td>
</tr>
<tr>
<td>G795A</td>
<td>1</td>
<td>Indicator (.0001 in. Reading)</td>
</tr>
<tr>
<td>G795MA</td>
<td>1</td>
<td>Indicator (.0002 mm Reading)</td>
</tr>
<tr>
<td>G956A</td>
<td>1</td>
<td>Screw</td>
</tr>
<tr>
<td>G957A</td>
<td>1</td>
<td>Nut</td>
</tr>
<tr>
<td>G95915A</td>
<td>1</td>
<td>Bezel and Crystal Assembly - Flat Style Lens</td>
</tr>
<tr>
<td>G95913A</td>
<td>1</td>
<td>Bezel Clamp and Screw - Flat Style Lens</td>
</tr>
<tr>
<td>G95-5A</td>
<td>1</td>
<td>Bezel and Crystal Assembly - Round Style Lens</td>
</tr>
<tr>
<td>G95-3A</td>
<td>1</td>
<td>Bezel Clamp and Screw - Round Style Lens</td>
</tr>
<tr>
<td>G795-1</td>
<td>1</td>
<td>Bezel and Crystal Assembly - Flat Style Lens with Blue Bezel</td>
</tr>
<tr>
<td>G795-2</td>
<td>1</td>
<td>Bezel Clamp and Screw - Flat Style Lens with Blue Bezel</td>
</tr>
</tbody>
</table>
Note: Sunnen 2000 Series Dial Bore Gages can be extended to 12” (304.8 mm) by adding oversize centralizer points and additional gage point extensions.

For gaging diameters in the range of 6”-12” (152.4 mm-304.8 mm) order: G-822A Gage Extension Kit. Consists of: Two Oversize Centralizer Points, G-632A #7 Gage Point Extension, G-634A #8 Gage Point Extension.

2000 Series Gages assembled with G-822A Gage extension set cannot be used with CF-1126 Setting Fixture when set for diameters above 8” (203.2 mm). Alternative methods of setting gage must be used.

Setting fixtures for Dial Bore Gages, see next page.
Dial/Digital Bore Gage Setting Fixtures

Sunnen’s unique setting fixtures allow fast, easy setting of Sunnen dial bore gages with no need for separate micrometers and ring gages. Sizes are simply “dialed in” with the micrometer adjustment, which eliminates errors due to “feel” in setting gages.

Two models combine to cover a continuous range of .054” to 8” in .0001” increments (1.37 mm to 203 mm in .002 mm increments). Both models feature a heavy stress-relieved cast iron base, lapped carbide micrometer anvils, and built-in magnifier for fast, accurate setup.

**CF-502 Setting Fixture**  
(Gage not included)

For use with GR-6245 and GR-9245 dial bore gages.  
For .054” to 2.000” (1.4 to 50.8 mm) diameters—  
Model CF-502 is equipped with a large micrometer head with range of 0” to 2” marked in .0001” increments.  
Setting Fixture comes with CF-576A .750” (19.05 mm) master calibrating ring.  
*Shipping Weight: 13 lbs. (5.9 kg)*

CF-502M Metric Setting Fixture has a 0 to 51 mm micrometer head marked in .002 mm increments. Supplied in a sturdy, nested box.

**CF-1126 Setting Fixture**  
(Gage not included)

For use with GA-2125, GR-2125 and GR-2245 Dial Bore Gages.  
For 2” to 8” (51 to 203 mm) diameters.  
The CF-1126 incorporates a tenth-reading micrometer head with precision carbide anvil. Accurate within .0001” (0.0025 mm). Ring gage checking standard included. Precision setting standards in 1” (25.4 mm) increments. Setting Master has rugged stress-relieved, cast iron base. May be used without removing from protective case.  
*Shipping Weight: 21 lbs. (9.5 kg)*

The setting fixture itself covers the 7” to 8” (178 to 203 mm) range. In addition, the fixture is supplied with standards to cover the 2” to 6” (50 to 152.4 mm) range. Order additional setting standards to give complete 2” to 8” range as follows:

**CF-130A (Not shown)**  
Replacement Micrometer Anvil

---

**CF-125A (Not shown)**  
Nest for CF-1126

**CF-140 Adapter Kit (Not shown)**  
This adapter kit is required for the early model CF-1000 Setting Fixture so it can be used with the Sunnen CK-9280 as well as the current GA-2125 and GR-2245 Gages.

**CF-210A Setting Standard**  
Setting standard for CF-1000 setting fixture.

*Note: For electronic gages add “E” to the end of the part number.*

---

**Gage Point Selection Table**

<table>
<thead>
<tr>
<th>Gage Point No.</th>
<th>Diameter Range (in)</th>
<th>Diameter Range (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.000-2.375</td>
<td>50-60</td>
</tr>
<tr>
<td>2</td>
<td>2.375-2.750</td>
<td>60-70</td>
</tr>
<tr>
<td>3</td>
<td>2.750-3.125</td>
<td>70-79</td>
</tr>
<tr>
<td>4</td>
<td>3.125-3.500</td>
<td>79-89</td>
</tr>
<tr>
<td>5</td>
<td>3.500-3.875</td>
<td>89-98</td>
</tr>
<tr>
<td>6</td>
<td>3.875-4.250</td>
<td>98-108</td>
</tr>
<tr>
<td>7 + 2</td>
<td>4.250-4.625</td>
<td>108-117</td>
</tr>
<tr>
<td>7 + 3</td>
<td>4.625-5.000</td>
<td>117-127</td>
</tr>
<tr>
<td>7 + 4</td>
<td>5.000-5.375</td>
<td>127-137</td>
</tr>
<tr>
<td>7 + 5</td>
<td>5.375-5.750</td>
<td>137-146</td>
</tr>
<tr>
<td>7 + 6</td>
<td>5.750-6.000</td>
<td>146-150</td>
</tr>
</tbody>
</table>

1-G-101
PG Bore Gaging System

PG-700E Small Bore Precision Gage
Diameter Range: .090"-.379" (2.29 mm-9.63 mm)*
Direct reading scale with .005" (.13 mm) range divided into increments of .00005" (.001 mm).
Order PG-700EM for metric applications.
Weight: 20.5 lbs. (9.3 kg)
Dimensions (without fingers):
10.5" H x 7.75" W x 6.5" D (267 mm x 197 mm x 165 mm)
*Covered with complete set of gaging fingers. Individual finger sets can be ordered for specific sizes. Order individual finger sets from the complete list at right.

PG-710E Small Bore Precision Gage
Identical to PG-700 except direct reading scale is .010" (.24 mm) wide and divided into increments of .0001" (.0025 mm). Order PG-710EM for metric applications.

Gage Fingers for PG-700 or PG-710 Precision Gage
To order individual finger pairs, consult the table below for size ranges and part numbers.
Each pair of gaging fingers is stamped with its size range and comes nested in an impact-resistant box. Available for sale only.

Individual Gaging Finger Shipping Weight: .5 lb. (.2 kg)

<table>
<thead>
<tr>
<th>Diameter Range</th>
<th>Gaging Depth*</th>
<th>Accessory Fingers</th>
</tr>
</thead>
<tbody>
<tr>
<td>.090-.099</td>
<td>.281</td>
<td>7.14</td>
</tr>
<tr>
<td>.099-.109</td>
<td>.281</td>
<td>7.14</td>
</tr>
<tr>
<td>.109-.120</td>
<td>.281</td>
<td>7.14</td>
</tr>
<tr>
<td>.120-.132</td>
<td>.500</td>
<td>12.70</td>
</tr>
<tr>
<td>.132-.145</td>
<td>.500</td>
<td>12.70</td>
</tr>
<tr>
<td>.145-.159</td>
<td>.625</td>
<td>15.87</td>
</tr>
<tr>
<td>.159-.174</td>
<td>.625</td>
<td>15.87</td>
</tr>
<tr>
<td>.174-.190</td>
<td>.750</td>
<td>19.05</td>
</tr>
<tr>
<td>.190-.207</td>
<td>.750</td>
<td>19.05</td>
</tr>
<tr>
<td>.207-.225</td>
<td>.875</td>
<td>22.22</td>
</tr>
<tr>
<td>.225-.244</td>
<td>.875</td>
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<td>.244-.264</td>
<td>1.000</td>
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<td>.264-.285</td>
<td>1.000</td>
<td>25.40</td>
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<tr>
<td>.285-.307</td>
<td>1.250</td>
<td>31.75</td>
</tr>
<tr>
<td>.307-.330</td>
<td>1.250</td>
<td>31.75</td>
</tr>
<tr>
<td>.330-.354</td>
<td>1.500</td>
<td>38.10</td>
</tr>
<tr>
<td>.354-.379</td>
<td>1.500</td>
<td>38.10</td>
</tr>
</tbody>
</table>

Metal Storage Cabinet
COMPLETE SET of all Gaging Finger Pairs, including PG-1418 Metal Storage Cabinet.
Weight: 20 lbs. (9 kg)
*If bore can be measured from both ends, bore length can be double the gaging depth shown.

Blind Hole Gaging Fingers for PG-700/PG-710 Gages
Special Blind Hole Gaging Fingers are available on special order basis. These fingers are non-adjustable and can only be used for a specific diameter size. These altered blind hole fingers can measure to within .040" (1.02 mm) of the bottom of the blind end of the bore. Recommend customer use a ring gage to set size on the gage.

How to order blind hole gaging fingers:
PG- _ _ _ _ - _ _ _ _ - HMOX The first _ _ _ _ is the four-digit number of the standard gaging fingers for the diameter needed to be measured. The second _ _ _ _ is the finished diameter of the bore to be measured, either in English or Metric units.
Examples: .2092" diameter. Order: PG-1202-2092-HMOX
2.89 mm diameter. Order: PG-1109-2,890-HMOX
Available 4 weeks after receipt of order.

GAGE LEASING PROGRAM
Sunnen PG-700, PG-800 Series Gages, Setting Fixtures, and PG-250 Extension Fingers are also available on a unique lease plan. Leasing the Sunnen bore gaging system includes maintenance and updating by Sunnen. Contact KS & C Industries 1-800-247-7098 for complete leasing information.
Note: This program is not available outside of the United States.
**PG Bore Gaging System**

**PG-800 Precision Gage**
Diameter Range: .090" - .4.310" (2.29 mm - 109.47 mm)

The Sunnen “PG” Bore Gaging System is a unique mechanical gaging system that makes I.D. Gaging simple, reliable, and economical. Eliminates buying and maintaining costly master rings and air gage probes. Both gage and setting fixture are built for everyday use making them ideal for "in-process" inspection. Available in 00005" or .0001" (.001 mm or .0025 mm) reading scales.

**PG-800E Precision Bore Gage**
Diameter Range: .370" - 1.500" (9.4 mm – 38.1 mm)

Direct reading scale with .005" (.13 mm) range divided into increments of .00005" (.001 mm). Overall size range is divided into two subranges .370"-.750" (9.4 mm-19.05 mm) and .750"-1.500" (19.05 mm-38.1 mm). Replaceable carbide gage points which can be rotated for long life. Size range can be increased to 2.9" (74.3 mm) by ordering PG-250 Extension Finger Set.

Order PG-800EM for metric applications. Dimensions: 10.5" H x 7.75" W x 8.375" D (267 x 197 x 213 mm) Gaging Depth: Small Side - .968" (24.6 mm) Large Side - 1.656" (42.06 mm) Weight: 20.25 lbs. (9.2 kg)

**PG-810E Precision Bore Gage**
Identical to PG-800 except direct reading scale is .010" (.24 mm) wide and divided into increments of .0001" (.0025 mm). Order PG-810EM for metric applications.

**PG-810-Z08X Precision Bore Gage**
Diameter Range: 3.0" – 4.5" (76.2 mm – 114.3 mm)

Available for purchase only. PG-810-Z08X is similar to the PG-810 Precision Bore Gage. Diameters 3.0"-3.750" (76.2 mm-95.25 mm) are measured on one side. Diameters 3.750"-4.5" (95.25 mm-114.3 mm) are measured on the opposite side. Dimensions: 10.5" H x 7.75" W x 8.75" D (267 x 197 x 222 mm)

Order PG-810M-Z08X for metric applications. Weight: 21 lbs. (9.54 kg)

**PG-800/810 XR Series Gages for Extended Range**

The PG800/810 ER, series gages have an extended lower diameter range and extended bore length range. The part numbers are as follows:

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>PG-800EXR</td>
<td>.00005&quot; resolution</td>
</tr>
<tr>
<td>PG-800EXRM</td>
<td>1 mm resolution</td>
</tr>
<tr>
<td>PG-810EXR</td>
<td>.0001&quot; resolution</td>
</tr>
<tr>
<td>PG-810EXRM</td>
<td>5 mm resolution</td>
</tr>
</tbody>
</table>

**ER Series Finger Assemblies:**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Diameter Range</th>
<th>Maximum Gaging Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>PG-3610</td>
<td>4.5 – 24.5 mm</td>
<td>18.0 mm</td>
</tr>
<tr>
<td>PG-3620</td>
<td>5.8 – 25.8 mm</td>
<td>25.2 mm</td>
</tr>
<tr>
<td>PG-3630</td>
<td>7.5 – 27.5 mm</td>
<td>36.0 mm</td>
</tr>
<tr>
<td>PG-3640</td>
<td>11 – 31 mm</td>
<td>39.5 mm</td>
</tr>
<tr>
<td>PG-3650</td>
<td>19 – 39 mm</td>
<td>53.6 mm</td>
</tr>
</tbody>
</table>

- PG-3600 - complete finger set with case.
- The optional PGE-251E/K set can be used with PF-3600 finger assembly to increase the range and increase the range to ID of 76 mm.

**PG-250E Extension Finger Set**

Used with the PG-800 and PG-810 Precision Bore Gages. Extends the PG-800/PB-810 measuring range from 1.500" (38.1 mm) to over 2.900" (74.3 mm) diameter. Consists of two pairs of carbide extension points which mount onto the fingers of the PG-800/PB-810. Mounting screws are permanently attached to extension points to avoid their loss. FOR SALE OR LEASE.

**PG-400E Setting Fixture**

Diameter Range: .090" – 1.500" (2.29 mm – 38.3 mm)

This Setting Fixture is used to set the PGE-3000, PG-800, PG-810, PG-700 and PG-710 Precision Bore Gages. Dimensional accuracy is guaranteed to be within ± .000025" (.0006 mm) of nominal reading over the entire range of the instrument. Comes in a carrying case with a master calibrating ring traceable to the Bureau of Standards.

Order PG-400EM for metric applications. Weight: 6.75 lbs. (3 kg) (with carrying case and accessories)

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PG Bore Gaging System

PG-500E Setting Fixture
(Not pictured-similar to PG-400)
Diameter Range: 1.500" – 2.900" (37,7 mm – 74,3 mm)
Similar to PG-400, except for higher range. Used to set PG-800 or PG-810 Precision Bore Gage when equipped with PG-250 Extension Fingers. Comes in a carrying case with a master calibrating ring traceable to the Bureau of Standards. Includes PG-2090 Auxiliary Faceplate.
Order PG-500EM for metric applications.
Weight: 9.5 lbs. (4,3 kg) (with carrying case and accessories).

PG-500 Setting Fixture
Identical to PG-500E Setting Fixture. Use to set PGE-3000 Precision Bore Gage when equipped with PGE-250 Extension Fingers. Includes PGE-3167 Auxiliary Faceplate.
Order PGE-500EM for metric applications.

PG-500-U100X Setting Fixture for PG-810-Z08X
(Similar to PG-500 Setting Gage.)
Diameter Range: 2.890" – 4.310" (73,4 mm – 109,47 mm)
Used to set 3.0"-4.310" (76,2 mm-109,47 mm) diameter range on PG-810-Z08X.
Also used with PG-800 Series Gage with PG-250 Extension Fingers and PG-2090-AM1X Auxiliary Face Plate to set diameters 2.890"-3.0" (73,4 mm-76,2 mm). Setting size on PG-810-Z08X from 4.310"-4.5" (109,47 mm-114,3 mm) must be done utilizing ring gages or gage blocks.
Order PG-500M-U100X for metric applications.
Shipping Weight: 17 lb. (7,7 kg)
PG-810-Z08X and PG-500-U100X available from stock (limited quantity available). PG-2090-AM1X available three weeks after receipt of order.

PG-845 Tilting Gage Stand
A recommended accessory for the PG-810-Z08X Precision Gage. Lets the gage faceplate support the majority of the part weight. Used also with PGE-3000, PG-800/PG-810. Attaches to MB-2370 Gage Mounting Bracket.
Weight: 4.5 lbs. (2,1 kg)

PG-2130 Flexible Hex Wrench
Use to dampen vibration when centralizing PG-400 on the PG-700/710 Precision Gage.

PG-2110 Clip-On Auxiliary Faceplate
For PG-700/710 Precision Gage.
Additional PG Gage Faceplates.

PG-4 Auxiliary Faceplate for PG-700/PG-710. A flat plate with ten holes designed to slip over the gaging fingers of a PG-700/PG-710. Reduces the opening size of the PG-2110 faceplate making it easier to measure thin walled parts. Hole sizes on PG-4 vary from .109"-.343" (2,77 mm-8,71 mm).

PG-5 Auxiliary Faceplate set for PG-800/ PG-810 Precision Gage. Consists of one PG-5 and PG-6 Faceplate similar to PG-4. PG-5 hole size .720" (18,3 mm), .820" (20,8 mm), and .920" (23,4 mm). PG-6 hole size .380" (9,7 mm), .430" (10,9 mm), .480" (12,2 mm), .530" (13,5 mm), .580" (14,7 mm), .630" (16,0 mm), and .680" (17,3 mm).
PG Bore Gaging System

PG Bore Gaging Accessories

Replacement Gage Points for PG-800 and PG-250

PG-712A Consists of Three Carbide Gaging and Three Mounting Screws for .740"-1.500" (18.8 mm-38.1 mm) diameter gaging fingers. Also used on non-centralizer gaging fingers on PG-250 Extension Finger Set.

PG-714A Consists of Three Carbide Gaging and Three Mounting Screws for .370"-.740" (9.4 mm-18.8 mm) diameter gaging fingers.

PG-1007 Eccentric Centralizer with carbide ring used on both centralizer extension fingers of the PG-250 Extension Finger Set.

PG-110A Gage Point Removal and Installation Tool .370"-.740" (9.4 mm-18.8 mm).

PG-90A Gage Point Removal and Installation Tool .740"-1.500" (18.8 mm-38.1 mm).

PG-120A Tolerance Flag Adjusting Wrench.

Blind Hole Gaging Points for PG-800 and PG-250

PG-702A Consists of Three Points and Screws .740"-.1.500" (18.8 mm-38.1 mm). Also used on non-centralizer gaging fingers on PG-250 Extension Finger Set.

PG-704A Consists of Three Points and Screws 9.4 mm-.370"-.740" (18.8 mm) diameter gaging fingers.

PG-LR6X For PG-250 Extension Finger Set

Blind Hole 1.5"-2.9" (38.1 mm-74.3 mm)

Centralizer

Note: Blind hole point sets measure to within .010" (0.25 mm) of the bottom of the blind hole.

PG-LR6X available four weeks after receipt of order.

Gage Mounting Brackets

Recommended when any Sunnen Precision Bore Gage is used on a Sunnen Honing Machine. Mounting brackets reduce lost motion and fatigue and reduce runoff of honing oil.

Available for either right or left side mounting. All models adjustable for easiest access to gage.

To order, specify from chart.

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MB-2370</td>
<td>For Left or Right Side of MBB-1650 or MBB-1660; Left Side of MBB-1670, MBB-1680, MBB-1690, MBB-1800, MBC-1800, MBC-1801, MBC-1802, MBC-1803, MBC-1804, MBC-1805. Weight: 12 lbs. (5.5 kg)</td>
</tr>
<tr>
<td>EC-7170</td>
<td>For Right Side of EC-3500.</td>
</tr>
</tbody>
</table>

PG-25 Magnifying Glass

With spring clip. Made of 2.5x ground optical glass with a spring clip for mounting on PG-700 or PG-800 precision gage.