

# PG Bore Gaging System

**Diameter Range:**  
2,29 mm – 109,47 mm  
.090" – 4.310"

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 .001 mm or .0025 mm (.00005" or .0001") reading scales.



PG-710E Small Bore Precision Gage with PG-400E Setting Fixture



## PG-700E Small Bore Precision Gage

**Diameter Range:**  
2,29 mm-9,63 mm  
(.090"-.379")\*

Direct reading scale with .13 mm (.005") range divided into increments of .001 mm (.00005").

Order PG-700EM for metric applications. Weight: 9,3 kg (20.5 lbs.)

Dimensions (without fingers):  
267 mm x 197 mm x 165mm  
(10.5" H x 7.75" W x 6.5" D)

\*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 .24 mm (.010") wide and divided into increments of .0025 mm (.0001"). Order PG-710EM for metric applications.

## Gaging 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: .2 kg (.5 lb.)

Diameter Range		Gaging Depth*		Accessory Fingers
mm	inches	mm	inches	
2,29-2,51	.090-.099	7,14	.281	<b>PG-1090</b>
2,51-2,77	.099-.109	7,14	.281	<b>PG-1099</b>
2,77-3,05	.109-.120	7,14	.281	<b>PG-1109</b>
3,05-3,35	.120-.132	12,70	.500	<b>PG-1120</b>
3,35-3,68	.132-.145	12,70	.500	<b>PG-1132</b>
3,68-4,04	.145-.159	15,87	.625	<b>PG-1145</b>
4,04-4,42	.159-.174	15,87	.625	<b>PG-1159</b>
4,42-4,83	.174-.190	19,05	.750	<b>PG-1174</b>
4,83-5,26	.190-.207	19,05	.750	<b>PG-1190</b>
5,26-5,72	.207-.225	22,22	.875	<b>PG-1207</b>
5,72-6,20	.225-.244	22,22	.875	<b>PG-1225</b>
6,20-6,71	.244-.264	25,40	1.000	<b>PG-1244</b>
6,71-7,24	.264-.285	25,40	1.000	<b>PG-1264</b>
7,24-7,80	.285-.307	31,75	1.250	<b>PG-1285</b>
7,80-8,38	.307-.330	31,75	1.250	<b>PG-1307</b>
8,38-9,00	.330-.354	38,10	1.500	<b>PG-1330</b>
9,00-9,63	.354-.379	38,10	1.500	<b>PG-1354</b>
Metal Storage Cabinet				<b>PG-1418</b>
COMPLETE SET of all Gaging Finger Pairs, including PG-1418 Metal Storage Cabinet.				<b>PG-1401</b>
Weight: 9 kg (20 lbs.)				

\*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 1,02 mm (.040") 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: 2,89 mm diameter. Order: PG-1109-2,890-HMOX  
.2092" diameter. Order: PG-1202-2092-HMOX

Available 4 weeks after receipt of order.

# PG Bore Gaging System

## PG-800E Precision Bore Gage

**Diameter Range:** 9,4 mm – 38,1 mm { .370" – 1.500" }

Direct reading scale with ,13 mm (.005") range divided into increments of ,001 mm (.00005"). Overall size range is divided into two subranges 9,4 mm-19,05 mm (.370"-.750") and 19,05 mm-38,1 mm (.750"-1.500").

Replaceable carbide gage points which can be rotated for long life. Size range can be increased to 74,3 mm (2.9") by ordering PG-250 Extension Finger Set.



PG-800E

Order **PG-800EM** for metric applications.

Dimensions: 267 x 197 x 213 mm (10-1/2" H x 7-3/4" W x 8-3/8" D)

Gaging Depth: Small Side - 24,6 mm (.968")  
Large Side - 42,06 mm (1.656")  
With PG-250 - 41,27 mm (1.625")

Weight: 9,2 kg (20.25 lbs.)

## PG-810E Precision Bore Gage

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

## PG-250E Extension Finger Set



Used with the PG-800 and PG-810 Precision Bore Gages. Extends the PG-800/PG-810 measuring range from 38,1 mm (1.500") to over 74,3 mm (2.900") diameter. Consists of two pairs of carbide extension points which mount onto the fingers of the PG-800/PG-810. Mounting screws are permanently attached to extension points to avoid their loss.  
**FOR SALE OR LEASE**

## GAGE LEASING PROGRAM

Sunnens 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-400E Setting Fixture

**Diameter Range:** 2,29 mm – 38,3 mm { .090" – 1.500" }



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  $\pm$  ,0006 mm (.000025") 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: 3 kg (6.75 lbs.) (with carrying case and accessories)

## PG-500E Setting Fixture

(Not pictured-similar to PG-400)

**Diameter Range:** 37,7 mm – 74,3 mm { 1.500" – 2.900" }

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: 4,3 kg (9.5 lbs.) (with carrying case and accessories)

## PGE-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-810-Z08X Precision Bore Gage

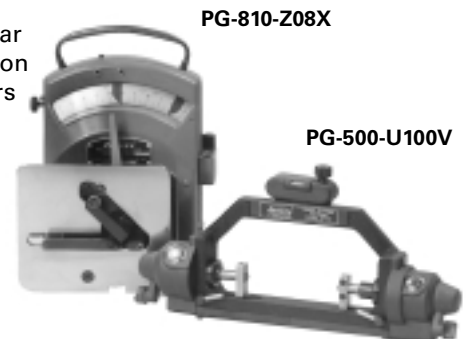
**Diameter Range:** 76,2 mm – 114,3 mm { 3.0" – 4.5" }

Available for purchase only. PG-810-Z08X is similar to the PG-810 Precision Bore Gage. Diameters 76,2 mm-95,25 mm (3.0"-3.750") are measured on one side. Diameters 95,25 mm-114,3 mm (3.750"-4.5") are measured on the opposite side.

Dimensions: 267 x 197 x 222 mm (10-1/2" H x 7-3/4" W x 8-3/4" D)

Order **PG-810M-Z08X** for metric applications.

Weight: 9,54 kg (21 lbs.)



PG-810-Z08X

PG-500-U100V

# PG Bore Gaging System

## PG-500-U100X

### Setting Fixture for PG-810-Z08X

(Similar to PG-500 Setting Gage.)

#### Diameter Range:

73,40 mm – 109,47 mm {2.890" – 4.310"}

Used to set 76,2 mm-109,47 mm (3.0"-4.310") 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 73,4 mm-76,2 mm (2.890"-3.0"). Setting size on PG-810-Z08X from 109,47 mm-114,3 mm (4.310"-4.5") must be done utilizing ring gages or gage blocks. Order **PG-500M-U100X** for metric applications. *Shipping Weight: 7,7 kg (17 lb.)*

**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: 2,1 kg (4.5 lbs.)*



## PG Bore Gaging Accessories

### Replacement Gage Points for PG-800 and PG-250

- PG-712A Point Set** Consists of Three Carbide Gaging and Three Mounting Screws for 18,8 mm-38,1 mm (.740"-1.500") diameter gaging fingers. Also used on non-centralizer gaging fingers on PG-250 Extension Finger Set.
- PG-714A Point Set** Consists of Three Carbide Gaging and Three Mounting Screws for 9,4-mm-18,8 mm (.370"-.740") 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 9,4 mm-18,8 mm (.370"-.740").
- PG-90A** Gage Point Removal and Installation Tool 18,8 mm-38,1 mm (.740"-1.500").
- PG-120A** Tolerance Flag Adjusting Wrench.

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

- PG-702A Blind Hole Point Set** Consists of Three Points and Screws 18,8 mm-38,1 mm (.740"-1.500"). Also used on non-centralizer gaging fingers on PG-250 Extension Finger Set.
- PG-704A Blind Hole Point Set** Consists of Three Points and Screws 9,4 mm-18,8 mm (.370"-.740") diameter gaging fingers.
- PG-LR6X Blind Hole Centralizer** For PG-250 Extension Finger Set 38,1 mm-74,3 mm (1.5"-2.9")

**Note:** Blind hole point sets measure to within 0,25 mm (.010") of the bottom of the blind hole.

*PG-LR6X available four weeks after receipt of order.*

## 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.



PG-4



PG-5



PG-6

### 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 2,77 mm-8,71 mm (.109"-.343").

**PG-10** 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 18,3 mm (.720"), 20,8 mm (.820"), and 23,4 mm (.920"). PG-6 hole size 9,7 mm (.380"), 10,9 mm (.430"), 12,2 mm (.480"), 13,5 mm (.530"), 14,7 mm (.580"), 16,0 mm (.630"), and 17,3 mm (.680").



## 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.

# PG and PGE Bore Gaging System

## 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.

Model No.	Description
<b>MB-1325</b>	For Right Side of MB-1290, MBB-1290, MBB-1600, MBB-1650, or MBB-1660. <i>Weight: 4,5 kg (10 lbs.)</i>



Model No.	Description
<b>MB-2370</b>	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. <i>Weight: 5,5 kg (12 lbs.)</i>



<b>MB-1250</b>	For Left Side of MB-1290, MBB-1290, MBB-1600. <i>Weight: 4,5 kg (10 lbs.)</i>
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<b>EC-7170</b>	For Right Side of EC-3500.
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## The PGE-3000 Electronic Precision Bore Gage

**SPC Capable, Millionths Resolution Gage ... With Sunnen Reliability!**



It's a computer ...the only one of its kind! This self-contained system is complete user-friendly! With resolution beyond belief ...as fine as 0,0002 mm (.00008"). Sunnen's electronically amplified comparative PGE-3000 Bore Gaging System beats old-style mechanical gages in every respect. Its simplified design coupled with a sophisticated electronic package makes it the most versatile bore gaging system on the market. The system measures in both millimeters and inches using replaceable gaging probes to measure diameters ranging in size from 9,39-73,66 mm (.370"-2.90"). **NOTE:** Optional extension finger set required for 38,10-73,66 mm (1.5"-2.90") range. Besides the internal linear probe, two optional external probes are also available for further measuring.

### PGE-3000 Special Features:

- Can utilize the PG-400 or PGE-500 or customer's ring gages to set master bore size.
- Easy-to-follow setup menus with programmable user-defined default settings.
- RS-232 interface to PC:
  - Fully programmable to accommodate a wide range of data collection and SPC software packages.
  - Standard ASCII output.
  - Software revision updates can be installed via PC link.
- Optional foot switch simulates the send key for ease of use.

*Shipping Weight: 13 kg (29 lbs.)*

### Optional Accessories

<b>PGE-3430</b>	Linear Probe (Channel "A")
<b>PGE-3431</b>	Linear Probe (Channel "B")
<b>PGE-3450</b>	Foot Switch
<b>PGE-3440</b>	RS-232 Cable to IBM or compatible PC

## PGE-3000 Electronic Gage Finger Sets

The PGE-3000 Electronic Gage comes standard with two sets of precision gage finger sets—the PGE-3600 and PGE-3610—to cover diameter ranges .375" - 1.500" (9,525 - 38,1 mm). Optional finger sets expand your gage to cover the complete diameter ranges .176" - 2.90" (4,470 - 73,66 mm). When ordering the PGE-3000 Electronic Gage, please specify which finger set and diameter range needed.

**Note:** Gage must be calibrated for specific diameter range desired. To order a PGE Gage and/or a Finger Set, call customer service at 1-800-325-3670.

Part Number	Range of PGE Finger Sets	Part Number	Range of Extension Finger Sets
<b>PGE-3600*</b>	19,05 - 38,1 mm (.750" - 1.500")	<b>PGE-250E</b>	Extension Finger Set screws onto PGE-3600 extending measuring range to 1.5" to 2.90" (38,10 - 73,66 mm)
<b>PGE-3610*</b>	9,525 - 19,05 mm (.375" - .750")		
<b>PGE-3620</b>	7,671 - 9,525 mm (.302" - .375")	<b>PGE-251E</b>	Extension Finger Set screws onto PGE-3600 extending measuring range to 1.5" to 2.90" (38,10 - 73,66 mm)
<b>PGE-3630</b>	5,842 - 7,671 mm (.230" - .302")		
<b>PGE-3640</b>	4,470 - 5,842 mm (.176" - .230")		

\*PGE-3600 and PGE-3610 come standard with the PGE-3000 Electronic Gage.

## PGE-3167 Auxiliary Faceplate

Required when using PG-500 Setting Fixture and PGE-250 Extension Finger sets (Supplied with PGE-500 Setting Fixture).

## Replacement Probes

<b>PGE-3020</b>	Large Probe 19,05-38,1 mm (.75" - 1.50")
<b>PGE-3030</b>	Medium Probe 9,40 - 19,05 mm (.370" - .75")

## Replacement Gage Points for PGE-3000 and PGE-250

**PG-712A Point Set** Consists of Three Carbide Gaging and Three Mounting Screws for 18,8 mm - 38,1 mm (.740" - 1.500") diameter gaging fingers. Also used on non-centralizer gaging fingers on PGE-250 Extension Finger Set.

**PG-714A Point Set** Consists of Three Carbide Gaging and Three Mounting Screws for 9,4 mm - 18,8 mm (3.70" - .740") diameter gaging fingers.

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

**PG-110A** Gage Point Removal and Installation Tool 9,4 mm - 18,8 mm (.370" - .740").

**PG-90A** Gage Point Removal and Installation Tool 18,8 mm - 38,1 mm (.740" - 1.500").