



Partnership · Precision · Performance

**PGE-6000**

**PRECISION ELECTRONIC  
BORE GAGING SYSTEM**





## SUNNEN'S PGE-6000

# Electronic Bore Gaging with Sunnen Reliability

Sunnen's new electronically amplified comparative PGE-6000 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. This system measures in both inches and millimeters.

The new PGE-6000 features a menu-driven operator interface. Its potential is almost unlimited. You are free to "customize" its usage according to your own preference and choose what you want to display and how you want to display it.

The new PGE-6000 electronic gaging system knows no rival for accuracy, reliability, versatility, simplicity and economy. It is an excellent solution to ensure precision bore sizing in:

- Production lines
- Job and contract shops
- Quality Control departments
- Receiving inspection

## THE SUNNEN SERVICE TEAM

Your Sunnen Technical Specialist will work with you to determine the best solution for your needs – it's all part of the added value you get with Sunnen. Plus, our worldwide sales and service team provides comprehensive support for the installation and operation of every system we make. Whatever your need, we have the expertise and product range to create the right solution for you and the dedication to support you for the long run.

To find the Sunnen representative nearest you, visit our website at [www.sunnen.com](http://www.sunnen.com)







Linear display.



Radial Arc display.



Easily view historic data.

## The PGE-6000 Electronic Bore Gage: Bore Gaging Made Easy.

Regardless of the bore application, the new Sunnen PGE-6000 Electronic Bore Gage will make the job quick and easy. If you're processing or buying parts with precision bores where tolerances are critical, the PGE-6000 will make your gaging operations more accurate, and more economical too.

### Typical uses for the new PGE-6000:

#### "IN PROCESS" INSPECTION

The new PGE-6000 Bore Gage makes it practical to monitor production piece by piece. You can control scrap and rejects right at the machine. You detect tool wear as it happens and know exactly when tool changes or machine adjustments are needed. For sampling or 100% inspection, the PGE-6000 can take day-in and day-out punishment on the production line.

#### FOR HONING WORK

The new PGE-6000 Bore Gage speeds up your honing operation. It eliminates all guesswork and unnecessary gaging. This gage has a 0,25 mm (0.010 in.) total measuring range in any particular application. This permits exact control of final bore size by the operator. With air spindles and plug gages, you must be almost "to size" before you can even check the bore. The PGE-6000 is as versatile as the Sunnen Honing Machine.

#### RECEIVING INSPECTION

The new PGE-6000 Bore Gage gives you full control over the quality of purchased or semi-finished goods. Wide diameter range gives you incredible accuracy in a wide variety of bore sizes. Instant readouts make it ideal for 100% inspection or fast sampling of large lots. You can catch faulty vendor parts when they arrive, before they cause production issues.

#### LABORATORY ANALYSIS

The PGE-6000 is a versatile measuring instrument for Quality Control Labs that check a variety of precision I.D. work. Set up for any size bore in minutes. And the PGE-6000 finds bore size inaccuracies and bore conditions such as out-of-round, taper, barrel, bellmouth – instantly.

#### JOB AND CONTRACT SHOPS

Now, even the smallest shop can have a complete I.D. Gaging System with a very small capital investment. No more costly ring gages, air probes or plug gages to buy. Take on a wider variety of work without investing part of the profits in additional gaging equipment.

A Sunnen setting fixture quickly transfers the desired final bore diameter onto the PGE-6000 gage.



## PGE-6000 FEATURES

- Simple and quick calibration of gage.
- Easy to follow setup menu.
- Selectable between two scale settings, “Narrow” mode or “Wide” mode.
- Display in either millimeters or inches.
- Single or Multiple measurements.
- Batch or Serial number modes.
- Programmable operator-defined default settings.

- Display both graphical and numerical values.
- Maximum resolution of 0,0001 mm or 0.000001 inch.
- Programmable:
  - Visual limit indicators
  - Internal data collection
  - Software revision updates installed via USB drive
- Internal data storage capacity for later downloading to PC.
- Portable. Uses external power supply.
- Adjustable bore diameter range from 9,40 mm to 38,10 mm (0.370 in. to 1.500 in.)  
*See details below under “Reversible Base”.*
- Optional Extended Bore diameter range from 38,10 mm to 76.20 mm (1.500 in. to 3.000 in.) using PG-250E Extension Finger Set.
- Export data to a PC by using USB drive or direct via cable.
- Displays the Average, Median, Standard Deviation, Minimum, and Maximum of a series of measurements.
- The new PGE-6000 can utilize the PG-400 or PG-500 setting fixtures or customer’s ring gages to set master bore size.
- The visual indicator reports high and low limits, depicting an “in” or “out” of tolerance condition.



### DISPLAY

- The LCD display shows the measurement in both a numerical and graphical format.
- The operator can choose either Radial Arc or Linear display.
- The operator can choose either a Light and Dark theme.
- All pertinent information regarding the setup of the gage is entered using the SETUP menu tab.

### REVERSIBLE BASE

- Both sides of base are equipped with measurement fingers with different ranges.
- Unit can be configured to either range depending on application:
  - Side 1 measures – 9,40 mm to 18,80 mm (.370 in. to .740 in.)
  - Side 2 measures – 18,80 mm to 38,10 mm (.740 in. to 1.500 in.)

### OPTIONS AND ACCESSORIES

- Setting fixtures:
  - PG-400 range – 2,29 mm to 38,1 mm (.090 in. to 1.500 in.)
  - PG-500 range – 38,1 mm to 73,7 mm (1.500 in. to 2.900 in.)
- PGE-250E Extension Finger Set extends measuring range of PGE-6000 from 38,10 mm to 73,66 mm (1.5 in. to 2.90 in.)
- PGE-6540 programmed foot switch allows hands-free data entry.

PGE-6540  
programmed  
foot switch

# Simple. Reliable. Accurate. Economical.

The PGE-6000 combines the robust design of Sunnen's legendary PG-Series mechanical bore gages with a computerized operating system. The result is a unique instrument that is equally at home on the shop floor or an environmentally controlled laboratory.

## NO MORE MASTER RINGS OR PLUG GAGES TO BUY

The PGE-6000 is the result of a two-year development program in conjunction with customer input and field testing. When used with a Sunnen Setting Fixture, the PGE-6000 puts an end to the expense and clutter of a cabinet full of master rings. No more gage blocks, micrometers, air probes or plug gages. Just one simple, practical, reliable, accurate bore gaging system that ensures accuracy and precision on every part measured.

## QUICK SETUP FOR ANY SIZE BORE

You can quickly set the PGE-6000 gage to measure any size bore in its range. You just dial the desired size on the Sunnen Setting Fixture and transfer the size to the gage. There are no "missing sizes" in the Sunnen Bore Gaging System.

## STAYS SET AND REPEATS WITHIN +/- 0,00025 MM (+/- .000010 IN.)

Linearity and repeatability are built in and guaranteed to stay put by the exclusive system of floating reeds. Performance is consistent. The size is locked in. No drift or lag. It is as reliable in the shop as in the controlled atmosphere of the lab.

## STAYS RELIABLE, YEAR AFTER YEAR

The floating reed system eliminates friction and wear in the PGE-6000. It is built without jewels, racks, gears or pulleys. No critical sliding or rotating parts to loosen, wear or warp.



## CHECK I.D. ACCURATELY RIGHT UP TO THE VERY EDGE

The PGE-6000 will explore the entire bore and show variations in diameter, taper, barrel and bellmouth. It is accurate right up to the edge of ports, lands and ends.

## A RUGGED WORKING TOOL

Both gage and setting fixture are built for everyday shop use, just like your machine tools.

## EASY TO SET - EASY TO USE

Machine operators and quality control inspectors can use the Sunnen PGE-6000 and Setting Fixture with confidence after only a brief demonstration. No advanced skill, "feel" or opinion involved. You get the right size every time, no matter who sets or uses the Sunnen Gage.



# General Information And Specifications

**GAGE MODEL**  
PGE-6000

**SELECTABLE RESOLUTION**  
0,01 / 0,001 / 0,0001 mm or  
0.0001 / 0.00001 / 0.000001 inch

**STANDARD MEASURING RANGE**  
9,40 mm to 38,10 mm  
(.370 in. to 1.500 in.)

**RANGE OF SMALL GAGE  
FINGERS<sup>1</sup>**  
9,40 mm to 18,80 mm  
(.370 in. to .740 in.)

**RANGE OF LARGE GAGE FINGERS**  
18,80 mm to 38,10 mm  
(.740 in. to 1.500 in.)

**OPTIONAL RANGE PG-250E  
EXTENSION FINGERS**  
38,10 mm to 74,30 mm  
(1.500 in. to 3.000 in.)

**POWER REQUIREMENTS**  
120V/60 Hz single phase or  
240V/50 Hz single phase

**OPERATING TEMPERATURE**  
10 ~ 30 degrees C  
(50 ~ 86 degrees F)

**NET WEIGHT**  
12.25 kg (27 lbs.)

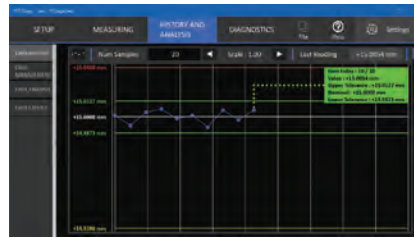
<sup>1</sup> Due to the delicacy of the small gaging fingers, do not use them to gage holes larger than 18,80 mm (.740 in.) diameter. Use the large gaging fingers on the opposite side for diameters 18,80 mm to 38,10 mm (.740 in. up to 1.500 in.). Using the small gaging fingers on diameters larger than 18,80 mm (.740 in.) could result in product damage.

## PGE-6000

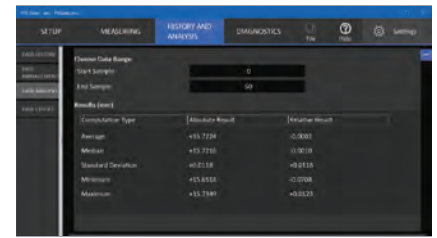
### Fast and Easy SPC Data Collection

The PGE-6000 is compatible with SPC software, allowing fast and easy data collection. The rear panel provides easy interface to a PC and includes two external probe ports.

A menu-driven operator interface allows the PGE-6000 user to select from a variety of screen displays depending on the application or the operator's preference, in both millimeters and inches. It also offers more capability and range of use with less hardware.



Data history mode.



Data analysis mode.



The optional PG-250E Extension Finger extends the range of the PGE-6000 from 38,10 mm to 74,30 mm (1.500" to 3.001 in.).

## Try the Sunnen Bore Gaging System in Your Shop

We welcome the opportunity to have you compare the Sunnen Gaging System with other systems – and evaluate it for the various gaging applications in your plant. Ask your Sunnen Representative for a demonstration.

### Sunnen Gage Leasing Program

Our unique lease plan puts the gage and setting fixture into your shop for less than you think. Your Sunnen Field Engineer will give you complete pricing information and help you select the equipment you'll need for your specific application. Of course, you may buy the Sunnen Bore Gaging System, if you wish.

A LEGACY OF EXCELLENCE SINCE 1924

## Sunnen Worldwide

With world headquarters in St. Louis, Missouri, Sunnen is the largest fully integrated company in the world specializing in precision bore creation, sizing and finishing equipment. A Sunnen solution might include honing, lapping, skiving/roller burnishing or deep hole machining...or a combination of those processes.

Our 12 international affiliates and over 40 authorized distributors allow us to deliver top quality Sunnen machines, tools, service and training wherever they are needed around the globe.

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