



MUD MOTOR POWER SECTION



The background of the page is a dark, close-up photograph of a diamond plate metal surface. A large, polished metal pipe or tube is positioned diagonally on the left side of the frame, showing its threaded end. The text "MUD MOTOR POWER SECTION GAGES" is overlaid in the center-right in a large, bold, yellow font. There are two horizontal grey bars, one above and one below the text.

MUD MOTOR POWER SECTION GAGES



MUD MOTOR POWER SECTION

Maximize the Performance of Your Power Section

Drilling faster without stalls is critical to any drilling operation. The demands placed on the drilling motor to achieve optimum performance require the proper fit between the rotor and the stator in the power section. Gagemaker's Power Section Gages ensure this fit meets these specifications.

With Gagemaker's Stator Bore Diameter Gages, Rotor Major Diameter Gages, and Rotor Minor Diameter Gages, you are armed to maintain the quality of the power section you produce. With this arsenal of inspection gages, there's not a motor or pump out there that can't be inspected.





Stator Bore Diameter Measurement



Rotor Major and Minor Diameter Measurement



Stator Bore Diameter Measurement



Each of Gagemaker's electronic Stator Bore Gages provides data collection and data storage options of bore measurements. The gage is supplied with your choice of a light duty netbook or a heavy duty notebook computer. Both provide the ability to enter a serial number and store inspection data as a file for future reference. The data can also be ported through a wireless link to a central computer for further processing.

Durable, accurate, easy to use, the Gagemaker Stator Bore Gages ensure your quality levels remains at the highest level possible.

Electronic Stator Minor Bore Gages

The SBG series of gages determines a precise stator/rotor match by measuring the largest and smallest bore diameters. Attaching or removing different height extension shoes achieves the gage's range flexibility. Both gage models address any pitch or lobe configuration.

The SBG-5000E measures diameters from 1.500" - 2.000". Additional shoes are available for inspecting diameters larger than 2.000" and up to 7.500" (see page 75).

The SBG-5000E includes three extension shoes, a interface box, a computer, measurement software, cables, and setting standard base (standard not included).

Setting standards are sold separately, please see page 74.

| Model | Description | Range |
|-----------|--|-----------------|
| SBG-5000E | Electronic Stator Bore Gage with interface box, computer, software, standard base, & SB-2100, SB-2110, SB-2120 extension shoes | 1.500" - 2.000" |

Indicator Style Stator Minor Bore Gage

Gagemaker also offers two indicator based versions of the electronic SBG-5000 model. One setting standard assembly without setting standard and three shoes are included. For diameters over 2.000", additional shoes are required. Please see page 75 for more shoes. Setting standards are sold separately, please see page 74.

| Model | Description | Range |
|-----------|---|-----------------|
| SBG-5000A | Stator Bore Gage with Analog Indicator and SB-2100, SB-2110, and SB-2120 extension shoes | 1.500" - 2.000" |
| SBG-5000D | Stator Bore Gage with Digital Indicator and SB-2100, SB-2110, and SB-2120 extension shoes | 1.500" - 2.000" |



Interface Box & Computer



Connection Cable



SBG-5000E



SBG Flat Standards

Gagemaker Stator Bore

File Device Settings Help

Real-Time Measurement

2.3750

To Table

GAGEMAKER

| | Value | Deviation |
|---|--------|-----------|
| 1 | 2.3750 | 0.0000 |
| 2 | 2.3748 | -0.0002 |
| 3 | 2.3659 | -0.0091 |
| 4 | 2.3666 | -0.0084 |
| 5 | 2.3530 | -0.0220 |
| 6 | 2.3624 | -0.0126 |
| 7 | 2.3516 | -0.0234 |
| 8 | 2.3606 | |
| 9 | 2.3522 | |

Stator Serial #:

Standard Size: 2.375

Current Standard Size: 2.375

Average: 2.3609

Scanner

☐ Max Value 0.0000

☐ Min Value 0.0000

Display Units

☒ Inches

☐ Millimeters

Save as CS

Enabling Form



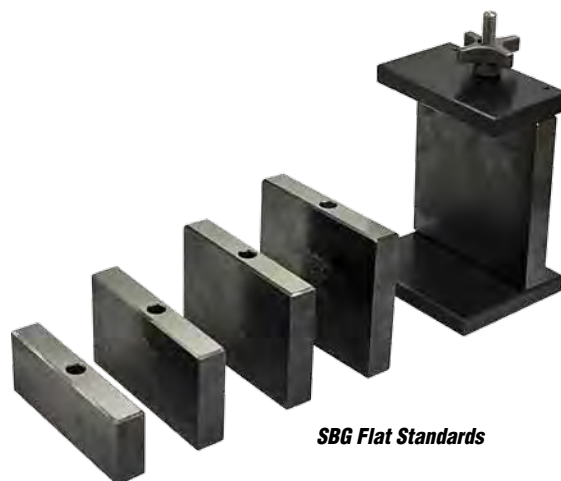


Setting Standard Assembly

All Stator Bore Gages require presetting prior to part inspection. The flat style standard provides an economical method to accurately preset the gage. For smaller diameters, round standards are preferable and are also available.

The assembly allows for fast and secure setup. The flat style standards use a common base and top plate and use interchangeable flat sizing blocks to achieve the setting distance required. A speed nut locks the assembly together quickly and securely.

Setting standards do not need to be sized to the exact bore of the stator's bore. As long as the size of the standard is within the measurement range of the gage, it can be used to preset the gage.



SBG Flat Standards

SBG-5000A, SBG-5000D, and SBG-5000E Flat Standards

| Setting Master Height | Flat Standard Model | Setting Master Height | Flat Standard Model |
|-----------------------|---------------------|-----------------------|---------------------|
| 1.600" | SBFS-1600 | 4.640" | SBFS-4640 |
| 1.727" | SBFS-1727 | 4.750" | SBFS-4750 |
| 1.800" | SBFS-1800 | 4.900" | SBFS-4900 |
| 2.062" | SBFS-2062 | 5.060" | SBFS-5060 |
| 2.187" | SBFS-2187 | 5.150" | SBFS-5150 |
| 2.375" | SBFS-2375 | 5.240" | SBFS-5240 |
| 2.598" | SBFS-2598 | 5.350" | SBFS-5350 |
| 2.700" | SBFS-2700 | 5.420" | SBFS-5420 |
| 2.736" | SBFS-2736 | 5.500" | SBFS-5500 |
| 2.900" | SBFS-2900 | 5.600" | SBFS-5600 |
| 3.080" | SBFS-3080 | 5.750" | SBFS-5750 |
| 3.150" | SBFS-3150 | 5.850" | SBFS-5850 |
| 3.245" | SBFS-3245 | 5.960" | SBFS-5960 |
| 3.303" | SBFS-3303 | 6.050" | SBFS-6050 |
| 3.400" | SBFS-3400 | 6.140" | SBFS-6140 |
| 3.425" | SBFS-3425 | 6.250" | SBFS-6250 |
| 3.500" | SBFS-3500 | 6.375" | SBFS-6375 |
| 3.625" | SBFS-3625 | 6.500" | SBFS-6500 |
| 3.750" | SBFS-3750 | 6.600" | SBFS-6600 |
| 3.976" | SBFS-3976 | 6.750" | SBFS-6750 |
| 4.000" | SBFS-4000 | 6.860" | SBFS-6860 |
| 4.160" | SBFS-4160 | 6.950" | SBFS-6950 |
| 4.250" | SBFS-4250 | 7.040" | SBFS-7040 |
| 4.370" | SBFS-4370 | 7.220" | SBFS-7220 |
| 4.520" | SBFS-4520 | 7.375" | SBFS-7375 |
| 4.567" | SBFS-4567 | 7.450" | SBFS-7450 |

Custom Sizes and Round Standards (usually for smaller diameters) are available as special requests.

Stator Bore Extension Shoes

Stator bore gage extension shoes provide flexibility to the gauging package by simple changing a shoe or adjusting a shoe when stator diameters change. Extension shoes are lightweight metal that are anodized to resist wear.

The style of extension shoe depends on the diameter range being measured. Shoes are offered in several lengths depending on the pitch of the stator lobes. It is important that the shoe length be long enough to contact a minimum of two points on the bottom and one point on the top pad.



SBG-5000A, SBG-5000D, and SBG-5000E Extension Shoes

Extension shoes are designed with flexibility in mind. The wide range of bores is balanced with the travel of the gage to provide just the right fit for your stator. Select the shoe that best meets the minor diameter range of the stator to be inspected.

| Model | Description | Range |
|---------|--|-----------------|
| SB-2100 | 8" long extension shoe | 1.500" – 1.650" |
| SB-2110 | 8" long extension shoe | 1.650" – 1.800" |
| SB-2120 | 8" long extension shoe | 1.800" – 1.950" |
| SB-2200 | 20" extension shoe (requires riser, see below) | |
| SB-2150 | .130" riser – SB-2200 extension shoe required | 2.000" – 2.150" |
| SB-2300 | .280" riser – SB-2200 extension shoe required | 2.150" – 2.300" |
| SB-2400 | .380" riser – SB-2200 extension shoe required | 2.250" – 2.400" |
| SB-2500 | .480" riser – SB-2200 extension shoe required | 2.350" – 2.550" |
| SB-2600 | .580" riser – SB-2200 extension shoe required | 2.450" – 2.600" |
| SB-3500 | 20" extension shoe w/ brackets and adapter | 2.600" – 3.500" |
| SB-4500 | 20" extension shoe w/ brackets and adapter | 3.450" – 4.500" |
| SB-5500 | 20" extension shoe w/ brackets and adapter | 4.450" – 5.500" |
| SB-6500 | 20" extension shoe w/ brackets and adapter | 5.450" – 6.500" |
| SB-7500 | 20" extension shoe w/ brackets and adapter | 6.450" – 7.500" |



Rotor Major & Minor Diameter

Today in the oil field industry, unique high-performance power sections require accurate measurement tools for rotors and stators. Gagemaker has designed several gages to measure a rotor's major and minor diameters. The Gagemaker Major Diameter T-Micrometer (T-MIC) is for rotor major diameters (0" - 9") and comes with bases ranging from 6" to 24". Gagemaker's Minor Diameter Gage (MM) is for inspecting rotor minor diameters (0" - 6").

- The T-MIC's frame is not only the strongest and most rigid available on the market today, but the hardened and ground A-2 tool steel base rails are re-grindable after years of service
- The T-MIC's micrometer thimble mount allows for calibration and replacement
- The T-MIC's micrometer thimble is available with a flat or radiused micrometer stem
- Both the T-MIC and MM are durably constructed for the harshest work environments



Rotor Minor Diameter (MM)

Gagemaker's Minor Diameter gage was designed to measure a rotor's minor diameter. The spiral lobes on the rotor produce a valley, or minor diameter. The depth of the minor diameter from the major diameter requires a 1" travel indicator stem. The range of the gage (0" - 6") allows measuring most rotor sizes with only one gage. Ensuring the gage's durability and long life, Gagemaker's design uses a heavy duty indicator stem and bearing housing to withstand side loads. Special sizes are available.

| Model | Description | Diameter Range |
|--------|---------------------------|----------------|
| MM-0-6 | Minor diameter micrometer | 0" - 6" |

Rotor Major Diameter Micrometer (T-MIC)

Due to high spirals on the lobes, conventional measurement gages cannot be used for measuring rotor major diameters. Gagemaker developed the T-MIC to measure a rotor's major diameter. The T-MIC's base spans across two lobes on one side of the centerline and uses a micrometer thimble on the other to measure the diameter. Instead of modifying an existing micrometer, Gagemaker custom builds each T-MIC. Gagemaker's rugged design far exceeds all others on the market today. Special sizes are available, contact customer service for more information. **Special sizes, metric thimbles, and metric sizes are available.**

| Range | Model | | | | | Description |
|---------|---------|---------|----------|----------|----------|----------------------------------|
| | 6" Base | 8" Base | 12" Base | 18" Base | 24" Base | |
| 0" - 1" | TM6-0-1 | TM8-0-1 | TM12-0-1 | TM18-0-1 | TM24-0-1 | T-MIC for Rotor, ½" wide base |
| 1" - 2" | TM6-1-2 | TM8-1-2 | TM12-1-2 | TM18-1-2 | TM24-1-2 | |
| 2" - 3" | TM6-2-3 | TM8-2-3 | TM12-2-3 | TM18-2-3 | TM24-2-3 | |
| 3" - 4" | TM6-3-4 | TM8-3-4 | TM12-3-4 | TM18-3-4 | TM24-3-4 | |
| 4" - 5" | TM6-4-5 | TM8-4-5 | TM12-4-5 | TM18-4-5 | TM24-4-5 | |
| 5" - 6" | TM6-5-6 | TM8-5-6 | TM12-5-6 | TM18-5-6 | TM24-5-6 | |
| 6" - 7" | TM6-6-7 | TM8-6-7 | TM12-6-7 | TM18-6-7 | TM24-6-7 | |
| 7" - 8" | TM6-7-8 | TM8-7-8 | TM12-7-8 | TM18-7-8 | TM24-7-8 | |
| 8" - 9" | TM6-8-9 | TM8-8-9 | TM12-8-9 | TM18-8-9 | TM24-8-9 | |



Rotor Major Diameter T-Micrometer with Digital Micrometer

Gagemaker also offers our T-MICs with digital micrometers. The digital micrometer can transfer your data to a computer via the included SPC output. **Special sizes, metric thimbles, and metric sizes are available.**

| Range | Model | | | | | Description |
|---------|-------------|-------------|--------------|--------------|--------------|---|
| | 6" Base | 8" Base | 12" Base | 18" Base | 24" Base | |
| 0" - 1" | TM6-0-1-352 | TM8-0-1-352 | TM12-0-1-352 | TM18-0-1-352 | TM24-0-1-352 | T-MIC for Rotor, ½" wide base with a Mitutoyo 350-352-10 digital micrometer and SPC output |
| 1" - 2" | TM6-1-2-352 | TM8-1-2-352 | TM12-1-2-352 | TM18-1-2-352 | TM24-1-2-352 | |
| 2" - 3" | TM6-2-3-352 | TM8-2-3-352 | TM12-2-3-352 | TM18-2-3-352 | TM24-2-3-352 | |
| 3" - 4" | TM6-3-4-352 | TM8-3-4-352 | TM12-3-4-352 | TM18-3-4-352 | TM24-3-4-352 | |
| 4" - 5" | TM6-4-5-352 | TM8-4-5-352 | TM12-4-5-352 | TM18-4-5-352 | TM24-4-5-352 | |
| 5" - 6" | TM6-5-6-352 | TM8-5-6-352 | TM12-5-6-352 | TM18-5-6-352 | TM24-5-6-352 | |
| 6" - 7" | TM6-6-7-352 | TM8-6-7-352 | TM12-6-7-352 | TM18-6-7-352 | TM24-6-7-352 | |
| 7" - 8" | TM6-7-8-352 | TM8-7-8-352 | TM12-7-8-352 | TM18-7-8-352 | TM24-7-8-352 | |
| 8" - 9" | TM6-8-9-352 | TM8-8-9-352 | TM12-8-9-352 | TM18-8-9-352 | TM24-8-9-352 | |