

GLE SRE IOM

Instruction, Operation & Maintenance Manual

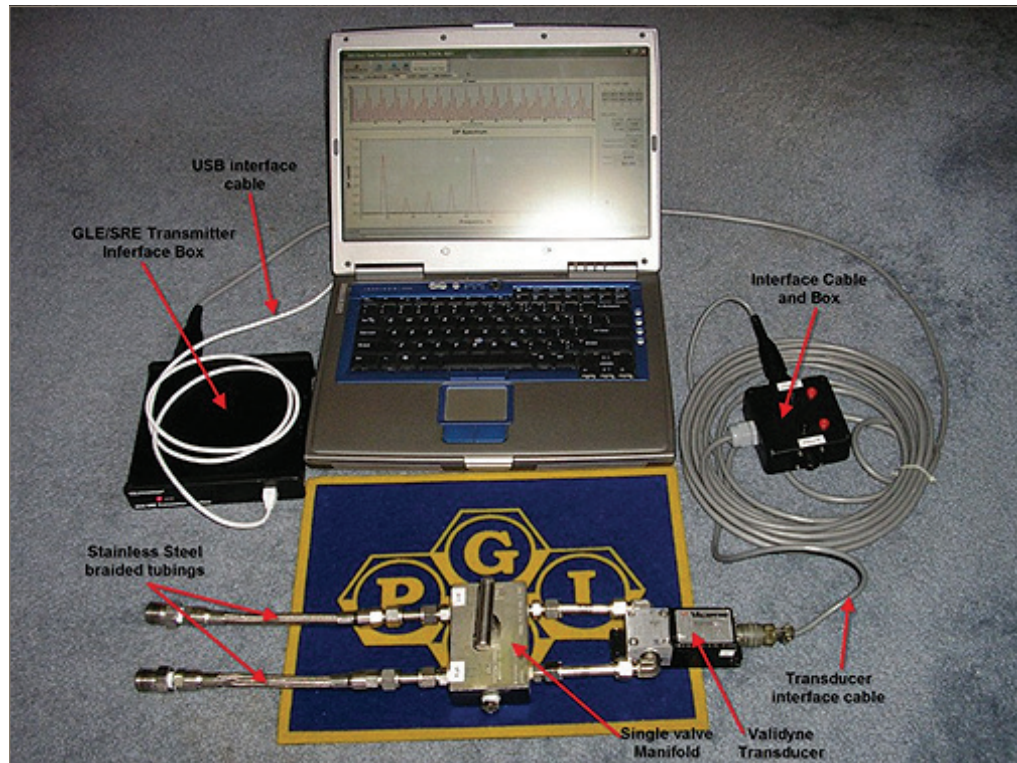
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Square Root Error and Gauge Line Error

Parker's SRE and the GLE 6 Indicators are test devices designed to quantify Square Root Error and Gauge Line Error in natural gas orifice flow measurement. The SRE 6 Indicator system consists of the following main components: A laptop computer (user provided), SRE-GLE 6 software, Validyne high-speed transducer with manifold, USB transmitter interface box, transmitter cable, and interface cable. The Parker PGI SRE-GLE 6 tester includes the SREI-6 indicator plus an additional Validyne transducer, a DP to DP adapter, and PGI Direct Mount Manifolds.

The heart of the system is the SRE-GLE software. The system calculates the percentage of SRE and/or percentage GLE, and displays a spectrum that shows what frequency the pulsations are occurring. The software will then display the annualized gas volume and estimated gas cost that would be correctly measured because of pulsations. In addition, the system will store the data to provide reports for future analysis. Additional features include: low and high pass filtering of data for easy of troubleshooting, advanced diagnosis strip chart of transducer(s) voltages, ability to modify test description without affecting test results.



Covered by US Patent 4654813

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⚠ WARNING – USER RESPONSIBILITY

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker-Hannifin Corporation, its subsidiaries and authorized distributors provide product or system options for further investigation by users having technical expertise.

The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalog and in any other materials provided from Parker or its subsidiaries or authorized distributors.

To the extent that Parker or its subsidiaries or authorized distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems.



System and Software Installation and Startup

The SRE-GLE software is compatible with Windows XP, 7, and 8.

If you have trouble in installing the software or setting the hardware to work for you, call Parker PGI at 800.231.0233 or 713.466.0056 for Technical Support.

Software Setup

The SRE-GLE 6 software is available for the Parker PGI web site. <http://www.pgiint.com/mat.asp>

NOTE: Install the SRE-GLE 6 software *before* connecting the USB Transducer Interface Box (TIB). The installation program needs to install the device driver so that the Windows New Hardware can locate the USB drivers when the USB TIB is connected.

To install the software, download the software (SREGLE6 program.ZIP) from the web site and save on the operators' computer. A site license file will be electronically emailed and is required to collect new test data

1. Unzip the SREGLE6 program.ZIP file.
2. Execute the SreGleInstaller-XXXXXXX.exe program. Where the XXXXXXX represents the current release number.
3. Select OK to run the installation procedure

The program will guide you through the installation steps asking you for the following information:

1. The location for the SRE-GLE 6 software files.
We recommend to select the default settings;
2. Whether you would like to back up any files that the program overwrites as it installs the software.
We recommend selection of the default settings.
3. Copy the site license file to the folder where the SRE-GLE programs is located.

NOTE: The software is free to review and print out filed data. However, in order to collect SRE and GLE test data, purchasing a site license is required. Using the software without a site license will allow a user to retrieve data and perform limited functions within the program

USB Transducer Interface Box (TIP) Setup

After completing the software installation, you may now connect the USB Transducer Interface Box to your computer. Windows will automatically detect the new hardware and will begin installation of necessary drivers. When installation is complete Windows will indicate that the new hardware is ready for use.

NOTE: Please insure that the SRE 6-GLE 6 software is installed on the computer before connecting the USB TIB to the computer. An end-user can install the software on multi machine, however the software is protected under U.S. Patent laws to prohibit the operation on more that one machine at a time. This allows companies to install the software on multiple machines for reporting and reviewing of stored data. The operations of the software and the ability to perform field tests require the original USB Transducer Interface Box and the encrypted identification number to operate.

SRE-GLE Software on the Web

New information, as well as updates, are available at <http://www.pgiint.com/mat.asp>.

Software Operations and Options

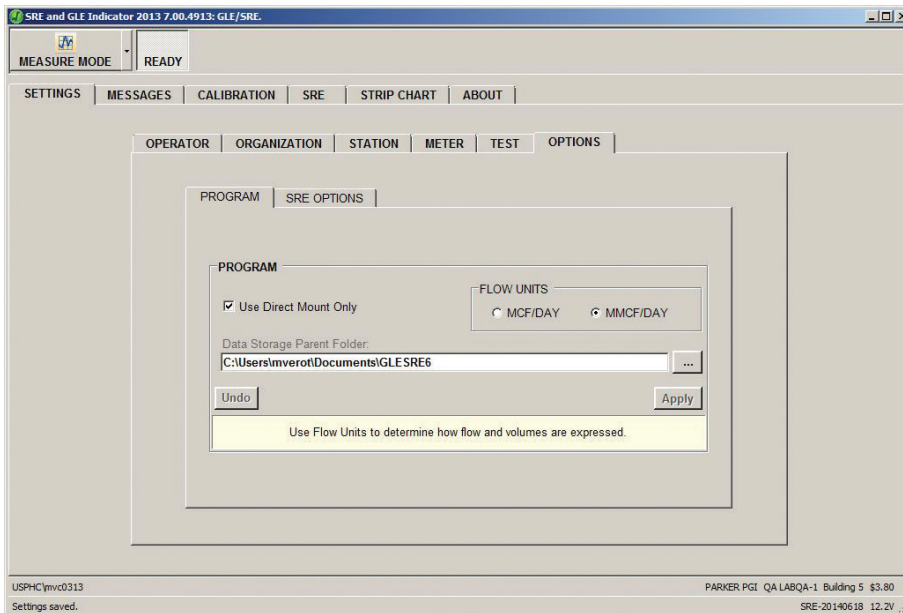
The Pulsation software will determine available features depending on the exact product purchased. When the GLE option is purchased, the software will display an additional tab in the main window and allow the user to perform Gauge Line Error test. Additionally, in the Calibration Tab there will be an additional option for calibrating the remote mount transducer. However, if this option is not purchased then the software program will not display any feature for performing Gauge Line Error test and these features will not be visible.

Dependent upon the software status the top level icons may include the following:

- Mode button (Measure or Retrieve)
- Connect before Open
- Open
- Status Indicator (Calibrate Data Now, Retrieve, Ready)
- Available Tests (SRE, GLE, BIAS, Noise/Bias)
- Compute
- Print
- Start Test button

The SRE program is divided using the Tab function. The top level of Tabs include:

- Data Files (when in “Retrieve” mode)
- Settings
- Messages
- Calibration
- SRE
- Strip Chart (only shown in “Measure” mode)
- About



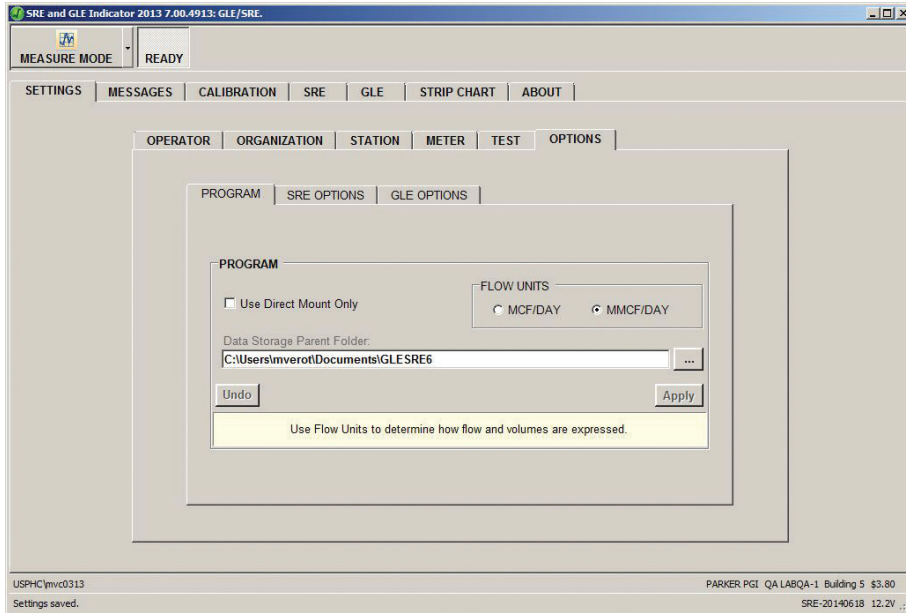
Information provided at the bottom of the screen will vary with input and setup.

GLE Program Tabs

The GLE program is divided using the Tab function.

The top level of tabs include:

- Data Files (when in “Retrieve” mode)
- Settings
- Messages
- Calibration
- SRE
- GLE
- Strip Chart (only shown in “Measure” mode)
- About



Information provided at the bottom of the screen will vary with input and setup.

SETTINGS Tab

SRE and GLE Indicator 2013 7.00.4913: GLE/SRE

MEASURE MODE READY

SETTINGS | MESSAGES | CALIBRATION | SRE | GLE | STRIP CHART | ABOUT

OPERATOR | ORGANIZATION | STATION | METER | TEST | OPTIONS

OPERATOR

NAME: USPHC\mvc0313

ID: 9847715

Undo Apply

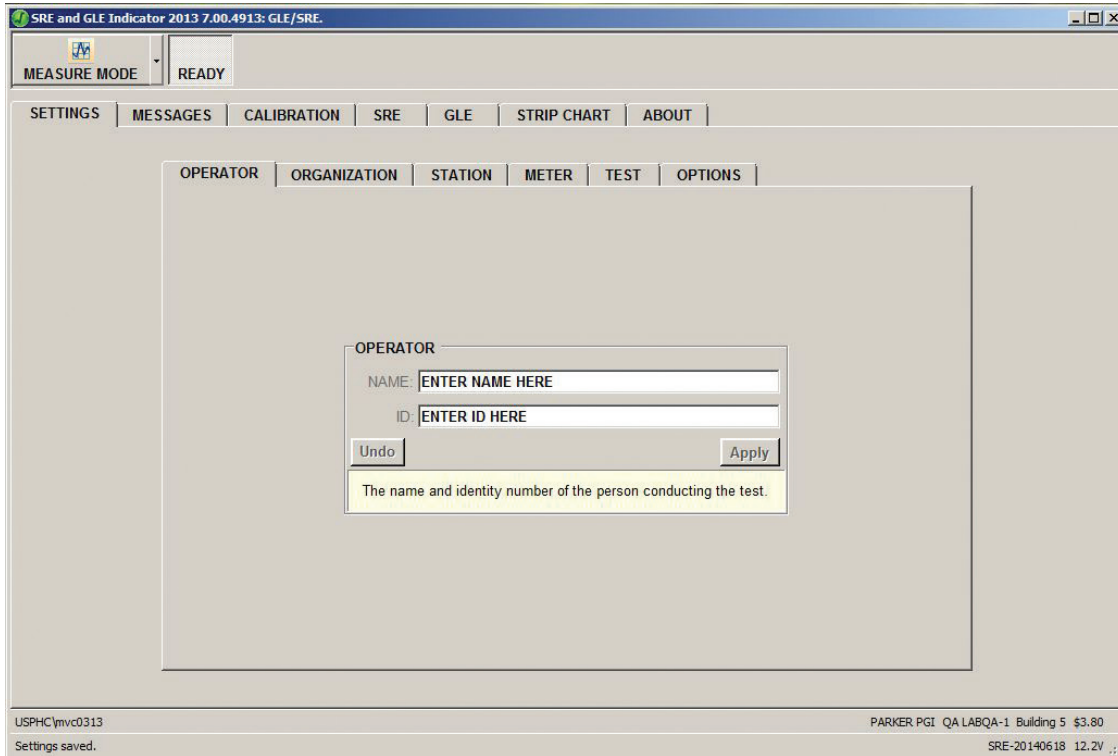
The name and identity number of the person conducting the test.

USPHC\mvc0313 PARKER PGI QA LABQA-1 Building 5 \$3.80

Settings saved. SRE-20140618 12.2V

Use the Settings tab to input information on the operator, organization, station, meter, and test being performed. Changes to the program options will also be made here.

SETTINGS > OPERATOR Tab



Use the Operator tab to enter the tester's name and ID number. This information is used for report identification and traceability.

SETTINGS > ORGANIZATION Tab

Use the Organization tab to enter any company specific information.

SETTINGS > STATION Tab

Use the Station tab to enter detailed location information about the station/site being tested. Natural gas pricing is also entered in this field.

SETTINGS > METER Tab

The screenshot shows the 'SRE and GLE Indicator 2013 7.00.4913: GLE/SRE' application window. The 'METER' tab is selected, displaying the following fields and values:

Field	Value
METER NUMBER	M-01
ESTIMATED AVERAGE FLOW [MMCF/DAY]	14.01
AVERAGE FLOWING PRESSURE [PSIG]	860
DIFFERENTIAL PRESSURE [IN H2O]	7.0
METER TUBE DIAMETER [INCH]	11.875
HOURLY ORIFICE COEFFICIENT	7523.6511

DESCRIPTION OF PULSATION SOURCE: Compressor running about 25 feet upstream of the meter tube.

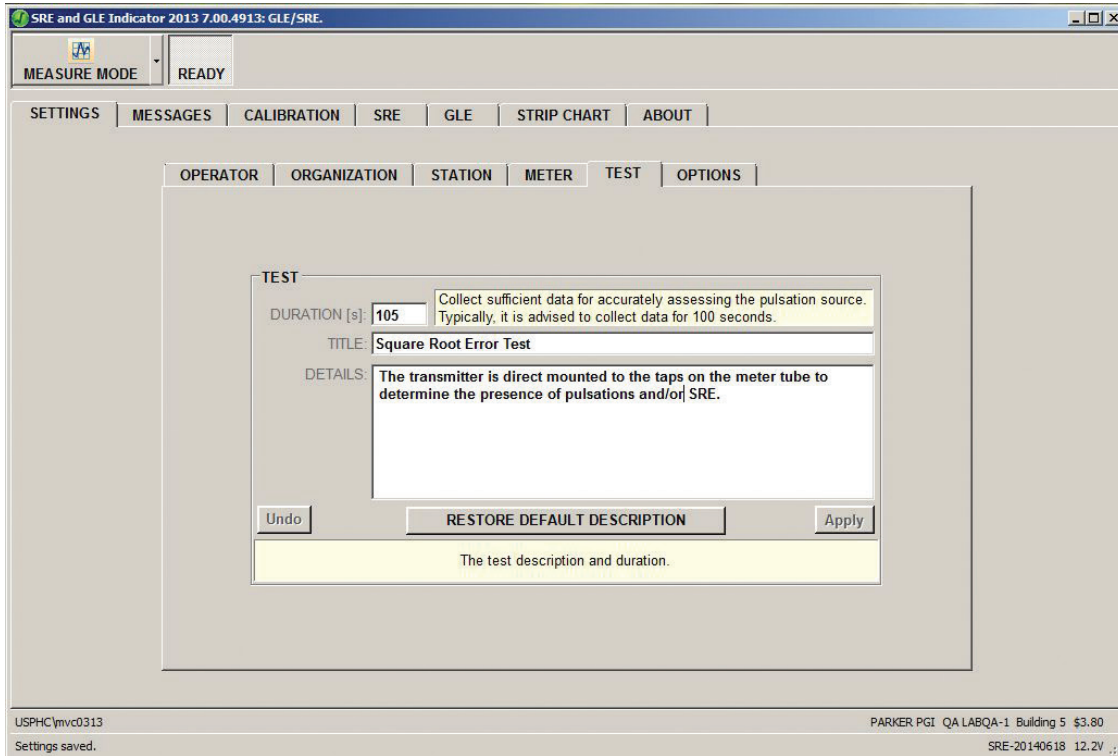
Buttons: Undo, Apply, CALCULATE

Help text: Enter the orifice coefficient or fill in the flow and pressure data to the left and click CALCULATE to estimate the

Footer: USPHC\mvc0313, PARKER PGI QA LABQA-1 Building 5 \$3.80, Settings saved., SRE-20140618 12.2V

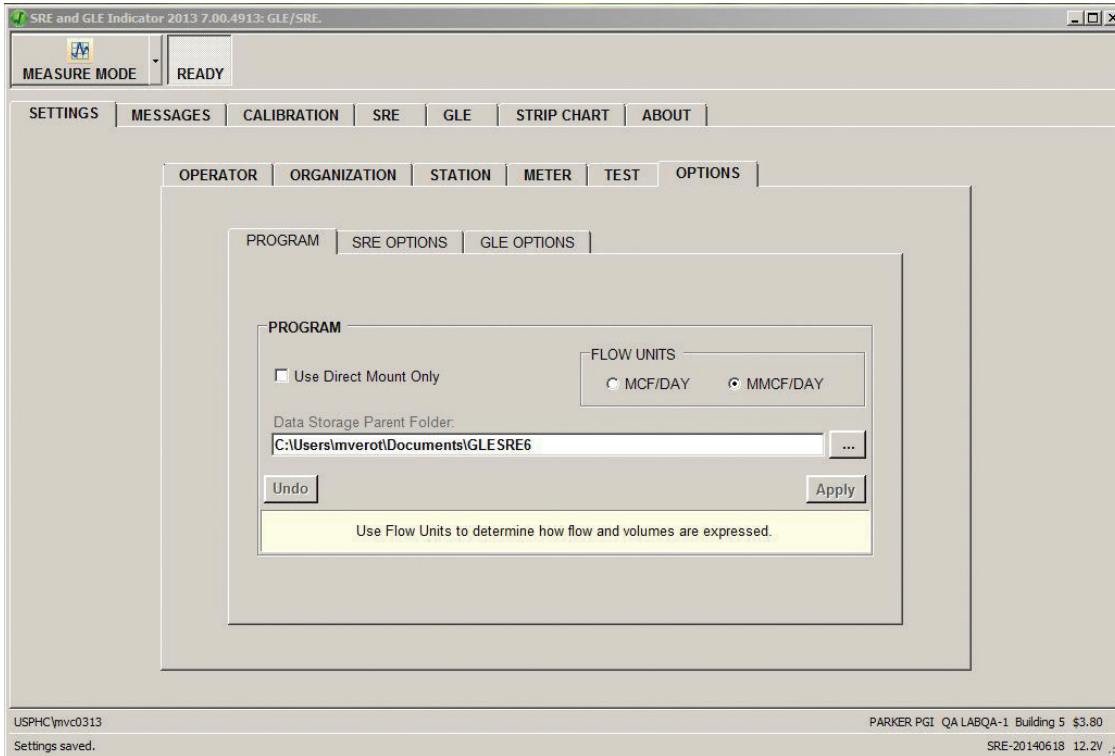
Use the Meter tab to enter the process parameters for the meter under test. The information entered here will be used to determine the volume of gas measurement error caused by pulsation or gauge line error. It is critical that the information entered be precise.

SETTINGS > TEST Tab



Use the Test tab to enter specific information and conditions related to the site being tested. This information will appear on the test report and can be helpful in determining the root cause of pulsation errors.

SETTINGS > OPTIONS Tab



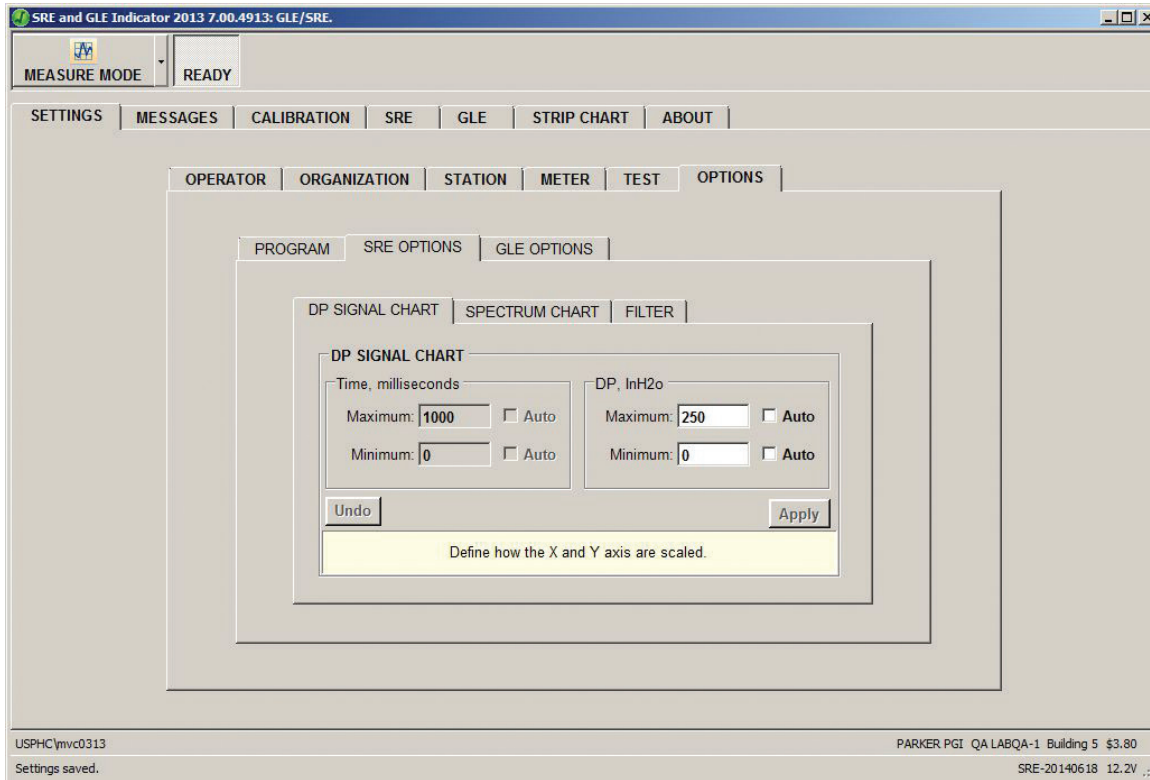
The Options tab will show three additional tabs for program setup, SRE options, and GLE options.

SETTINGS > OPTIONS > PROGRAM Tab

Use the Program tab to designate the location to which data files will be stored. The files are stored with a date/time naming convention but may be changed at the users discretion. Several folders are created to store test results with the structure being Station > Meter > Date. A backup folder is also created.

Flow units are selected on the Program tab and will be recorded in MCF/DAY or MMCF/DAY. The “Use Direct Mount Only” box is checked when only an SRE test is being performed. When this box is left unchecked it is expected that a GLE test will be done and all associated screens will reflect this.

SETTINGS > OPTIONS > SRE OPTIONS Tab

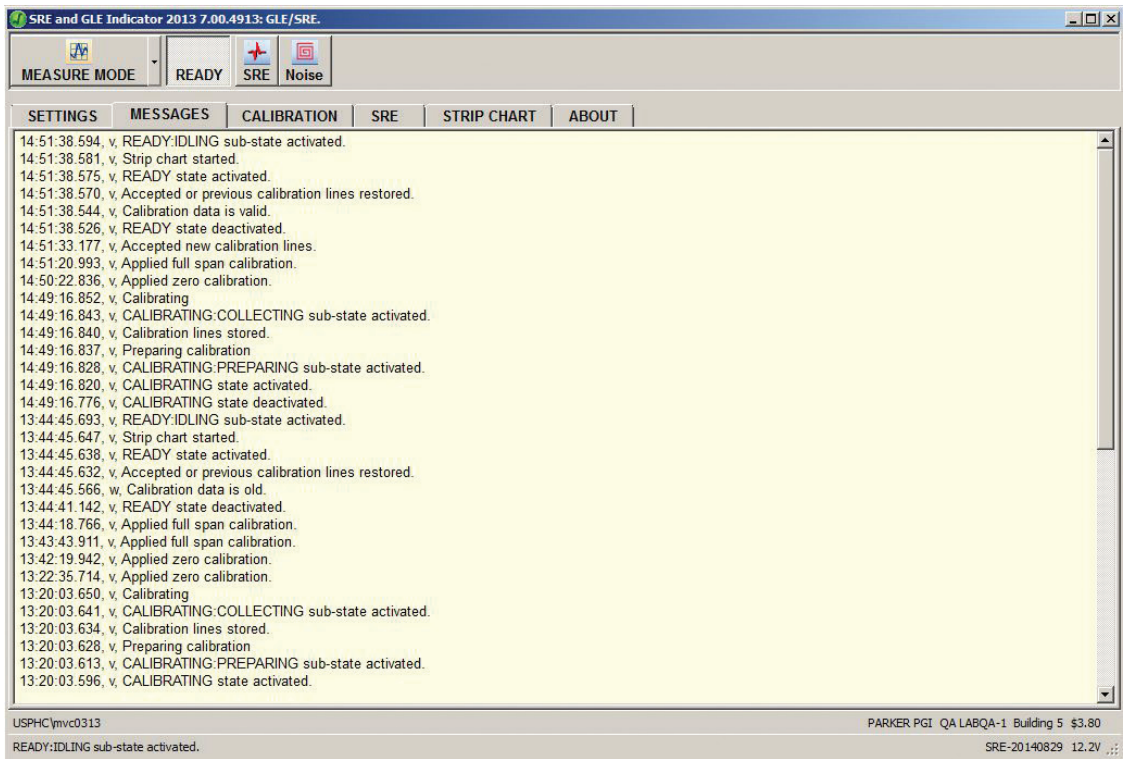


The SRE Options tab will show three additional tabs for DP Signal Chart, Spectrum Chart, and Filters. Use the DP Signal Chart tab to set the X and Y axis for the DP chart. Use the Spectrum Chart tab to set the X and Y axis for the spectrum chart used in the test reports. Use the Filter tab to modify the test reports where known and/or permanent noise conditions exist. If a filter is selected, the operator must enter the necessary frequencies and transition band Hz.

SETTINGS > OPTIONS > GLE OPTIONS Tab

The GLE Options tab will show two additional tabs for the DP Chart and the GLE Chart. Use these to set the X and Y axis for each chart.

MESSAGES Tab

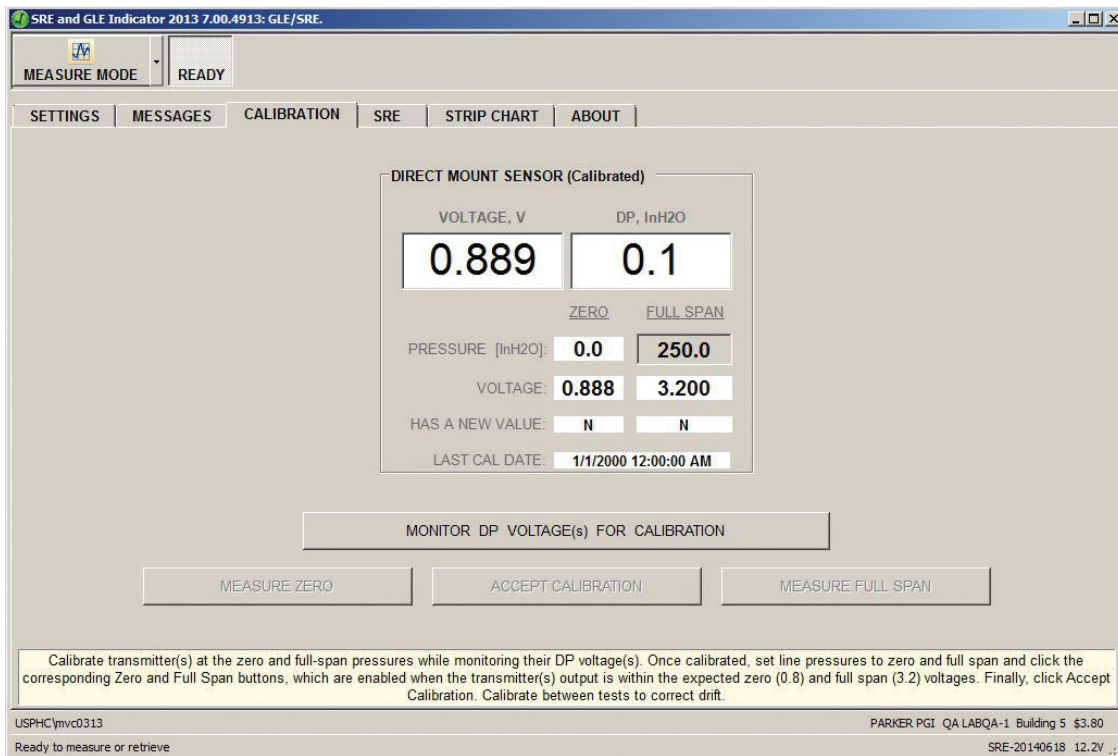


The Messages tab will track important program and operation data so trouble shooting can be preformed if there is a problem.

CALIBRATION Tab

To provide the best possible test results a calibration is required each time the program is started. To perform the calibration a method of applying a known pressure source to the transducers will be required.

NOTE: Over-pressuring the Validyne transducer will result in damage to the transducer. This damage may require a complete repair of the transducer and could require extensive down time to return the transducer to the manufacture for complete repair. Make sure all operators and technicians are properly trained and instructed in proper operations of this test equipment to prevent damage and personal injury.



CALIBRATION Procedure: SRE

With the program running and the transducer connected to a known pressure source, go to the Calibration tab and click on the “Monitor DP Voltage(s) for Calibration” button.

SRE and GLE Indicator 2013 7.00.4913: GLE/SRE

MEASURE MODE: READY

SETTINGS | MESSAGES | CALIBRATION | SRE | STRIP CHART | ABOUT

DIRECT MOUNT SENSOR (Calibrated)

VOLTAGE, V	DP, InH2O
0.887	-0.1

ZERO FULL SPAN

PRESSURE [InH2O]	ZERO	FULL SPAN
	0.0	250.0
VOLTAGE	0.888	3.200

HAS A NEW VALUE: N N

LAST CAL DATE: 1/1/2000 12:00:00 AM

MONITOR DP VOLTAGE(S) FOR CALIBRATION

MEASURE ZERO | ACCEPT CALIBRATION | MEASURE FULL SPAN

Calibrate transmitter(s) at the zero and full-span pressures while monitoring their DP voltage(s). Once calibrated, set line pressures to zero and full span and click the corresponding Zero and Full Span buttons, which are enabled when the transmitter(s) output is within the expected zero (0.8) and full span (3.2) voltages. Finally, click Accept Calibration. Calibrate between tests to correct drift.

USPHC\mvc0313 | PARKER PGI QA LABQA-1 Building 5 \$3.80

Ready to measure or retrieve | SRE-20140618 12.2V

The following screen will appear:

SRE and GLE Indicator 2013 7.00.4913: GLE/SRE

CALIBRATING

SETTINGS | MESSAGES | CALIBRATION | SRE | STRIP CHART | ABOUT

DIRECT MOUNT SENSOR (Calibrated)

VOLTAGE, V	DP, InH2O
0.888	0.0

ZERO FULL SPAN

PRESSURE [InH2O]	ZERO	FULL SPAN
	0.0	250.0
VOLTAGE	0.888	3.200

HAS A NEW VALUE: N N

LAST CAL DATE: 1/1/2000 12:00:00 AM

RELEASE TO END CALIBRATION

MEASURE ZERO | ACCEPT CALIBRATION | MEASURE FULL SPAN

Calibrate transmitter(s) at the zero and full-span pressures while monitoring their DP voltage(s). Once calibrated, set line pressures to zero and full span and click the corresponding Zero and Full Span buttons, which are enabled when the transmitter(s) output is within the expected zero (0.8) and full span (3.2) voltages. Finally, click Accept Calibration. Calibrate between tests to correct drift.

USPHC\mvc0313 | PARKER PGI QA LABQA-1 Building 5 \$3.80

Calibration is active. Select a calibration span button. | SRE-20140618 12.2V

Using the P855 Validyne Transducer

With a known pressure source, apply 0.00" of pressure to the HIGH SIDE of the Validyne transducer. When the transducer output is stable, press the transducer "C" button. This will cause the transducer output to be $0.806 \pm \text{Vdc}$. The transducer output may be slightly different but this is expected and acceptable.

Next, apply full span differential pressure to the HIGH SIDE of the Validyne transducer. The full span calibration range is located on the Calibrate tab in the Full Span window. When the transducer output is stable, press the transducer "C" button. This will cause the transducer output to be $3.200 \pm \text{Vdc}$. The transducer output may be slightly different, but this is expected and acceptable.

Repeat both zero and span calibration until the transducer is calibrated without required adjustment on both zero and full span readings. The Validyne transducer has interactive zero and span calibration curves, therefore adjusting one will cause a shift in the other.

Apply 0.00" of pressure to the HIGH SIDE and then press the Measure Zero button on the CALIBRATE screen. This will cause the program to read the voltage output of the Validyne transducer as 0.00" and cause the differential pressure reading to be 0.00".

Next, apply full span differential pressure to the HIGH SIDE of the Validyne transducer and then press the Measure Full Span button on the CALIBRATE screen. This will cause the program to read the voltage output of the Validyne transducer as full scale and cause the differential pressure reading to be full scale.

To complete the calibration click on the "Release To End Calibration" button and accept to save the calibration. This window will show that the New Values are both "Y". These New Values must be "Y" to perform any tests.

Prior to performing any test the transducer must be adjusted for line pressure conditions. To perform this, install the transducer on the orifice connections with the equalizer valve in the open position and then isolate the line pressure on both sides of the transducer. To prevent overpressure damage, insure that the transducer is installed properly and pressure is introduced slowly on both sides of the measuring diaphragm. With the isolated line pressure and 0.00" differential pressure, press the "C" button on the transducer. This will shift the calibration curve to measure accurately the true zero differential pressure under current line pressure conditions.

NOTE: The Validyne P855 transducer has an additional button marked "X". This button is for shifting the output range. It is not necessary to use this button for the SRE or GLE. It is recommended that this button be covered to prevent accidental operations. If the "X" button is depressed you can press again to restore default output range.

NOTE: Because of the extreme accuracy and speed of the Validyne transducer measurement error can be introduced if the transducer is calibrated in a different plane than when testing. In addition, when calibrating and performing a SRE or GLE test the system for measuring differential must not have any leaks.

GLE SRE IOM

Instruction, Operation & Maintenance Manual

The screenshot shows the 'CALIBRATING' mode of the SRE and GLE Indicator software. The interface includes a menu bar with 'SETTINGS', 'MESSAGES', 'CALIBRATION', 'SRE', 'STRIP CHART', and 'ABOUT'. The main display area is titled 'DIRECT MOUNT SENSOR (Calibrated)' and shows the following data:

VOLTAGE, V	DP, InH2O
3.194	249.3

Below this, there are two columns of calibration data:

ZERO	FULL SPAN
PRESSURE [InH2O]: 0.0	250.0
VOLTAGE: 0.892	3.200

Additional status information includes: 'HAS A NEW VALUE: Y', 'LAST CAL DATE: 1/1/2000 12:00:00 AM', and a 'RELEASE TO END CALIBRATION' button. At the bottom, there are three buttons: 'MEASURE ZERO', 'ACCEPT CALIBRATION', and 'MEASURE FULL SPAN'. A text box at the bottom provides instructions: 'Calibrate transmitter(s) at the zero and full-span pressures while monitoring their DP voltage(s). Once calibrated, set line pressures to zero and full span and click the corresponding Zero and Full Span buttons, which are enabled when the transmitter(s) output is within the expected zero (0.8) and full span (3.2) voltages. Finally, click Accept Calibration. Calibrate between tests to correct drift.'

System information at the bottom: 'USPHC\mvc0313', 'PARKER PGI QA LABQA-1 Building 5 \$3.80', 'Applied zero calibration.', 'SRE-20140829 12.2V'.

STRIP CHART Tab

The screenshot shows the 'MEASURE MODE' of the SRE and GLE Indicator software. The interface includes a menu bar with 'SETTINGS', 'MESSAGES', 'CALIBRATION', 'SRE', 'STRIP CHART', and 'ABOUT'. The main display area is titled 'Analog Input Time Series' and shows a graph with two data series:

- Direct [Volts]:** A blue line fluctuating around a value of approximately 3.2.
- Supply [Volts]:** A red line fluctuating around a value of approximately 2.5.

The x-axis is labeled 'Time[Seconds]' and ranges from 0.0 to 3.5. The y-axis is labeled 'Direct [Volts]' and 'Supply [Volts]' and ranges from -4 to 5. A status bar at the bottom right of the graph area shows '3.366 V'. A message at the bottom left says 'Acquisition started'. System information at the bottom: 'USPHC\mvc0313', 'PARKER PGI QA LABQA-1 Building 5 \$3.80', 'READY:IDLING sub-state activated.', 'SRE-20140829 12.2V'.

The Strip Chart tab displays the transmitter and supply monitoring voltages. Note the program reads an attenuated value of the supply voltage and displays the scaled value on the status bar.



Installing the SRE Indicator for Testing

Connect the Validyne transmitter to your orifice fitting with the manifold and tubing supplied. Make sure the + sign on the transmitter is connected to the high pressure side of the orifice fitting. It is recommended that the SRE Indicator be installed using full open valves that do not reduce the response time or otherwise interfere with the actual differential pressure measured by the transducer.

NOTE: Over pressuring the Validyne transducer will result in damage to the transducer. This damage may require a complete repair of the transducer and could require extensive down time to return the transducer to the manufacturer for complete repair. Make sure all operators and technicians are trained and instructed in proper operations of this test equipment to prevent damage and personal injury.

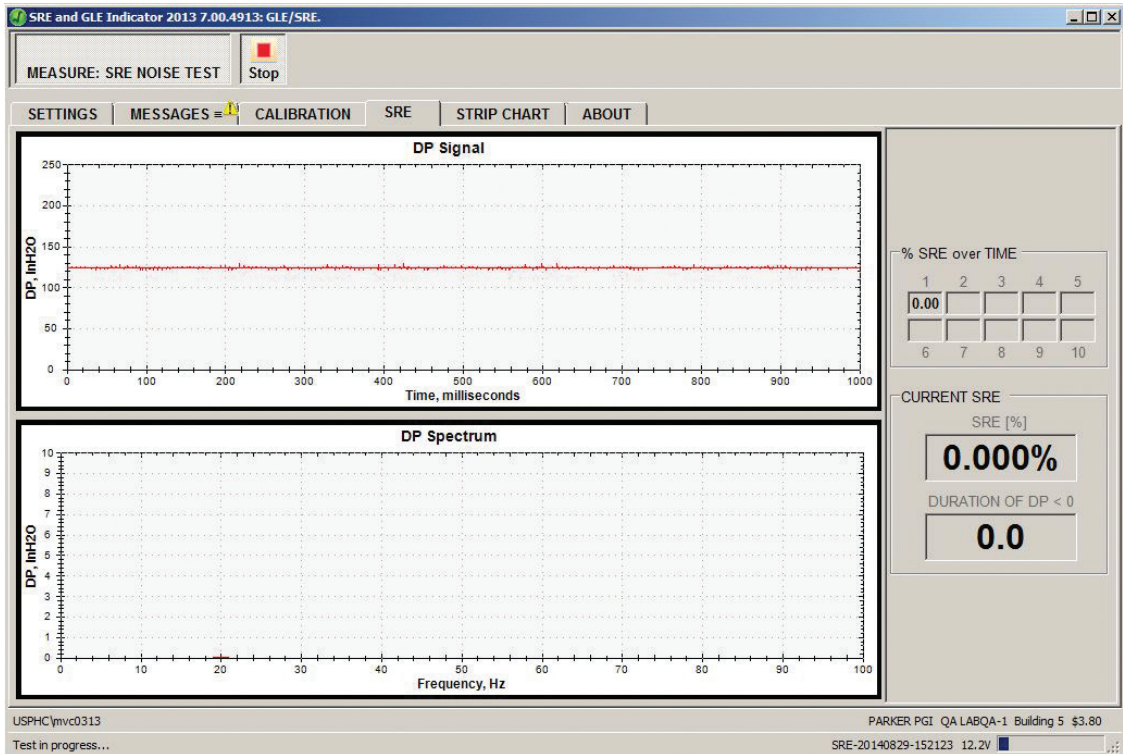
Connect the Validyne transmitter to the interface cable. Next, connect the cable to the interface box.

Connect the interface box cable to the transducer interface box. Use the provided USB cable to connect the transducer interface box to the operator's computer. The transducer interface box's power is provided from the USB port on the computer. The program and hardware may require the computer to be connected to an electrical supply to insure necessary power to complete the tests. The USB interface card has an electronic serial number that must be verified by the program. This function is provided with the purchase of a site license.



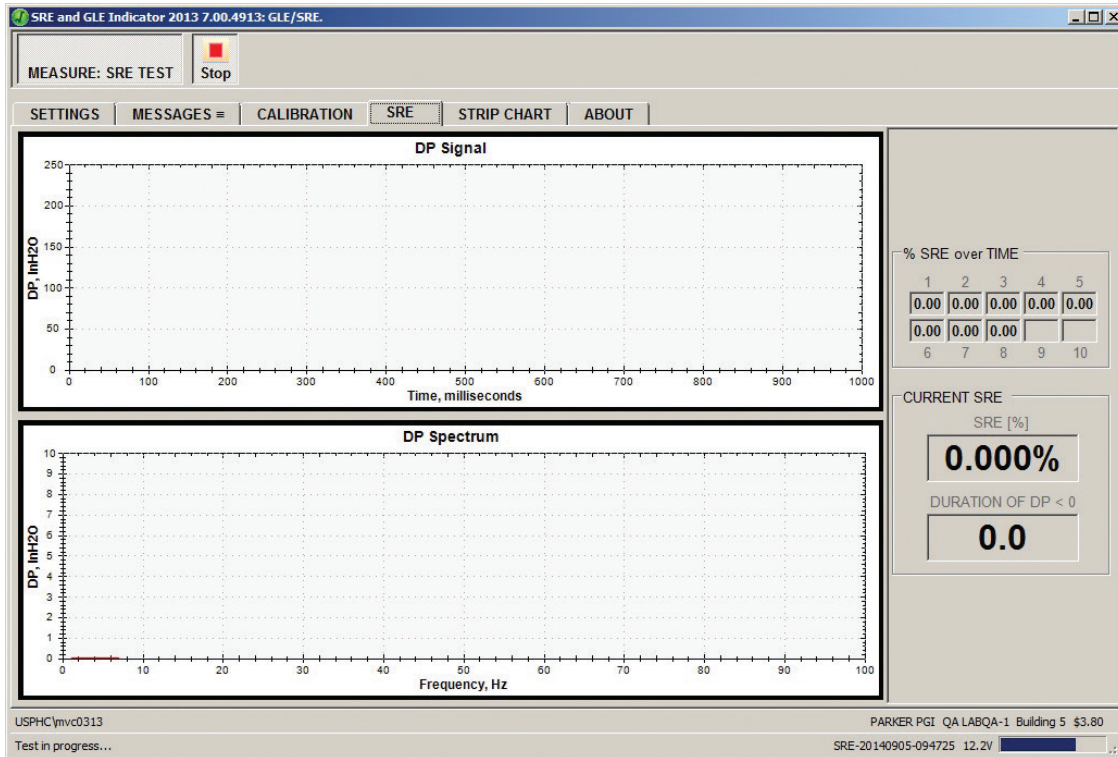
Noise Test

It may be important to perform a noise test to indicate the presence of any stray AC noise that could affect the SRE test results. Apply a signal of 150" to 200" test pressure to the transmitter and click the Noise button, then click Start to begin the test. Filters can be used to eliminate any noise that may exist.



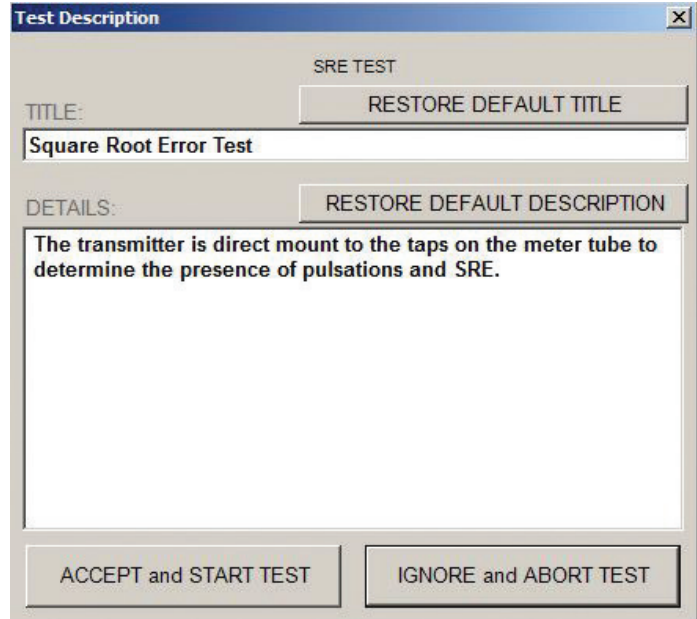
Running the SRE Indicator for Testing

It is important to re-zero the transducer under actual line pressure. With the Validyne transducer manifold equalizer valve in the open position, crack either the upstream or downstream valve to allow line pressure to be trapped under the transducer diaphragm. Close off both valves and press the “C” button on the Validyne transducer. This will zero the transducer under line conditions to ensure an accurate test.

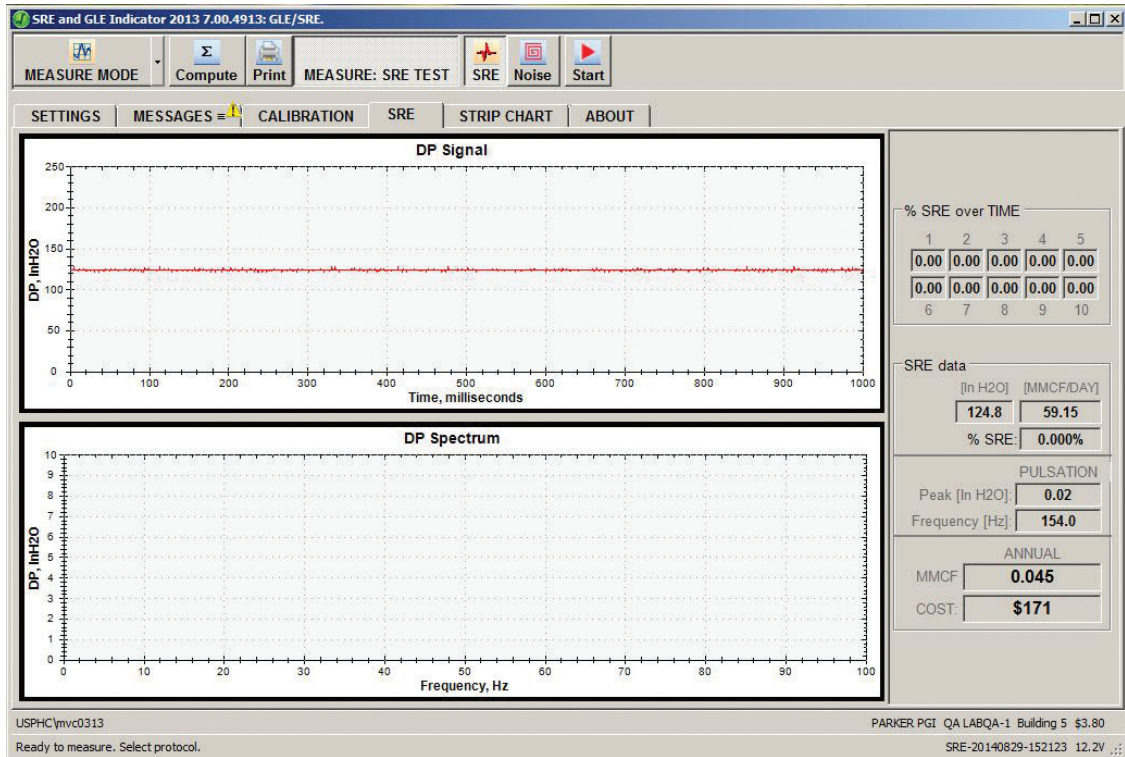


Collecting New Data: SRE

After connecting the hardware and calibrating the transducer, the operator can perform either a SRE or a Noise test. The Noise test will detect any noise that will affect the SRE test results. After selecting either a SRE or Noise test and clicking on the Start button, the following screen will appear. This screen allows the operator to enter test detail information. This can be used for capturing field conditions during the test or other additional information that may assist in analysis.



After starting an SRE test the following screen will show the progress of the test. The “% SRE over time” boxes in the upper right hand side are used to display the %SRE at time segments equal to 1/10 of the test period. The upper graph show the differential pressure. The bottom graph shows the frequency and magnitude of any detected pulsations. By using the right mouse button the operator can change the ranges of either chart, as well as the graph scale.



Installation of GLE Test System



Installing the GLE Indicator for Testing

Connect the Validyne transmitters using the Direct Mount Systems by mounting the two Validyne transmitters to the co-equal adapter bar.

NOTE: Make sure the High Side on both transmitters are facing the same direction (i.e., the same side of the bar).

Make sure the + sign on the transmitter is connected to the high pressure side of the orifice fitting.

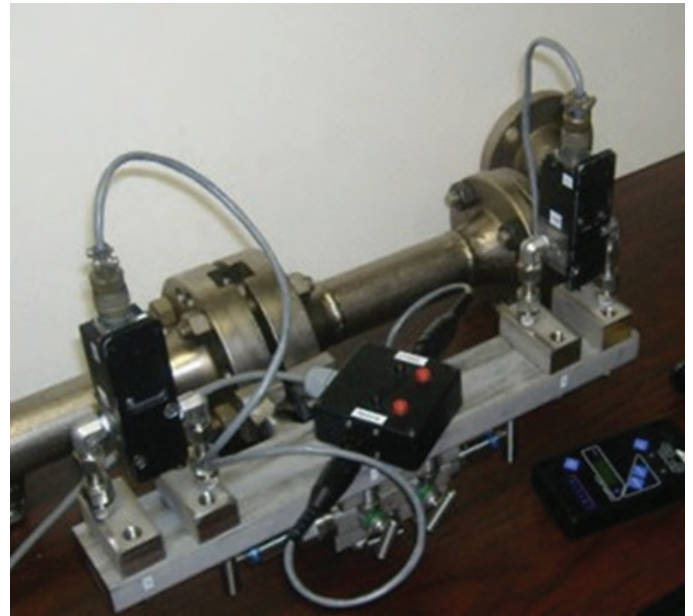
Install the stabilized connectors on the orifice fitting and continue with the five valve manifold. It is recommended that the GLE Indicator be installed using full open valves that do not reduce the response time or otherwise interfere with the actual differential pressure measured by the transducers.

NOTE: Over-pressuring the Validyne transducer will result in damage to the transducer. This damage may require a complete repair of the transducer and could require extensive down time to return the transducer to the manufacturer for complete repair. Make sure all operators and technicians are trained and instructed in proper operations of this test equipment to prevent damage and personal injury.

Connecting Cables

Connect the Validyne transmitters to the interface cable. Next, connect the cable to the interface box. Connect the interface box cable to the transducer interface box. Use the provided USB cable to connect the transducer interface box to the operator's computer.

The transducer interface box's power is provided from the USB port on the computer. The program and hardware may require the computer to be connected to an electrical supply to insure necessary power to complete the tests. The USB interface card has an electronic serial number that must be verified by the program that was furnished with the purchase.



Calibration Setup

To provide the best possible test results, a calibration is required each time the program is started. To perform the calibration a method of applying a known pressure source to the transducers will be required.

NOTE: Over pressuring the Validyne transducer will result in damage to the transducer. This damage may require a complete repair of the transducer and could require extensive down time to return the transducer to the manufacturer for complete repair. Make sure all operators and technicians are trained and instructed in proper operations of this test equipment to prevent damage and personal injury.

CALIBRATION Tab for GLE Set Zero

Using a known pressure source and the same procedure as described in the SRE section, perform a zero and span calibration for both the direct and remote mount transmitters.

The screenshot shows the 'SRE and GLE Indicator 2013 7.00.4913: GLE/SRE' software window. The 'CALIBRATING' tab is active, with sub-tabs for 'SETTINGS', 'MESSAGES', 'CALIBRATION', 'SRE', 'GLE', 'STRIP CHART', and 'ABOUT'. The 'CALIBRATION' sub-tab is selected.

Two sensor calibration panels are displayed:

- DIRECT MOUNT SENSOR (Calibrated):**
 - VOLTAGE, V: 0.870
 - DP, InH2O: -0.4
 - ZERO: 0.0, FULL SPAN: 250.0
 - PRESSURE [InH2O]: 0.0, 250.0
 - VOLTAGE: 0.874, 3.162
 - HAS A NEW VALUE: N, N
 - LAST CAL DATE: 9/5/2014 9:46:36 AM
- REMOTE MOUNT SENSOR (Calibrated):**
 - VOLTAGE, V: 0.874
 - DP, InH2O: 0.3
 - ZERO: 0.0, FULL SPAN: 250.0
 - PRESSURE [InH2O]: 0.0, 250.0
 - VOLTAGE: 0.871, 3.220
 - HAS A NEW VALUE: N, N
 - LAST CAL DATE: 9/4/2014 1:50:54 PM

Buttons at the bottom include: MEASURE ZERO, ACCEPT CALIBRATION, MEASURE FULL SPAN, and a large 'RELEASE TO END CALIBRATION' button.

Instructions at the bottom of the window: "Calibrate transmitter(s) at the zero and full-span pressures while monitoring their DP voltage(s). Once calibrated, set line pressures to zero and full span and click the corresponding Zero and Full Span buttons, which are enabled when the transmitter(s) output is within the expected zero (0.8) and full span (3.2) voltages. Finally, click Accept Calibration. Calibrate between tests to correct drift."

Status bar: USPHC\mvc0313 PARKER PGI QA LABQA-1 Building 5 \$3.80 Calibration is active. Select a calibration span button. SRE-20140905 12.2V

Set Span Calibration

CALIBRATING

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DIRECT MOUNT SENSOR (Calibrated)

VOLTAGE, V: **3.162** DP, InH2O: **250.0**

ZERO FULL SPAN

PRESSURE [InH2O]: **0.0** **250.0**

VOLTAGE: **0.874** **3.162**

HAS A NEW VALUE: **N** **N**

LAST CAL DATE: **9/5/2014 9:46:36 AM**

REMOTE MOUNT SENSOR (Calibrated)

VOLTAGE, V: **3.214** DP, InH2O: **249.4**

ZERO FULL SPAN

PRESSURE [InH2O]: **0.0** **250.0**

VOLTAGE: **0.871** **3.220**

HAS A NEW VALUE: **N** **N**

LAST CAL DATE: **9/4/2014 1:50:54 PM**

RELEASE TO END CALIBRATION

MEASURE ZERO

ACCEPT CALIBRATION

MEASURE FULL SPAN

Calibrate transmitter(s) at the zero and full-span pressures while monitoring their DP voltage(s). Once calibrated, set line pressures to zero and full span and click the corresponding Zero and Full Span buttons, which are enabled when the transmitter(s) output is within the expected zero (0.8) and full span (3.2) voltages. Finally, click Accept Calibration. Calibrate between tests to correct drift.

USPHC\mvc0313 PARKER PGI QA LABQA-1 Building 5 \$3.80 SRE-20140905 12.2V

Re-zero Under Line Pressure



Setting up the GLE Indicator for Testing

It is important to re-zero the transducers under actual line pressure. With the Validyne transducer manifold equalizer valve in the open position, crack either the upstream or downstream valve to allow line pressure to be trapped under the transducer diaphragm. Close off both valves and press the “C” button on the Validyne transducers. This will zero the transducers under line conditions to ensure an accurate test.

Installation of GLE Transmitters for Test

When calibration is complete, remove the remote transducer from the co-equal bar and connect it to the transmitter, computer, or chart recorder where it will be located. Use the extension cable for connection to the junction box.



Installation of Direct Mount Transmitter

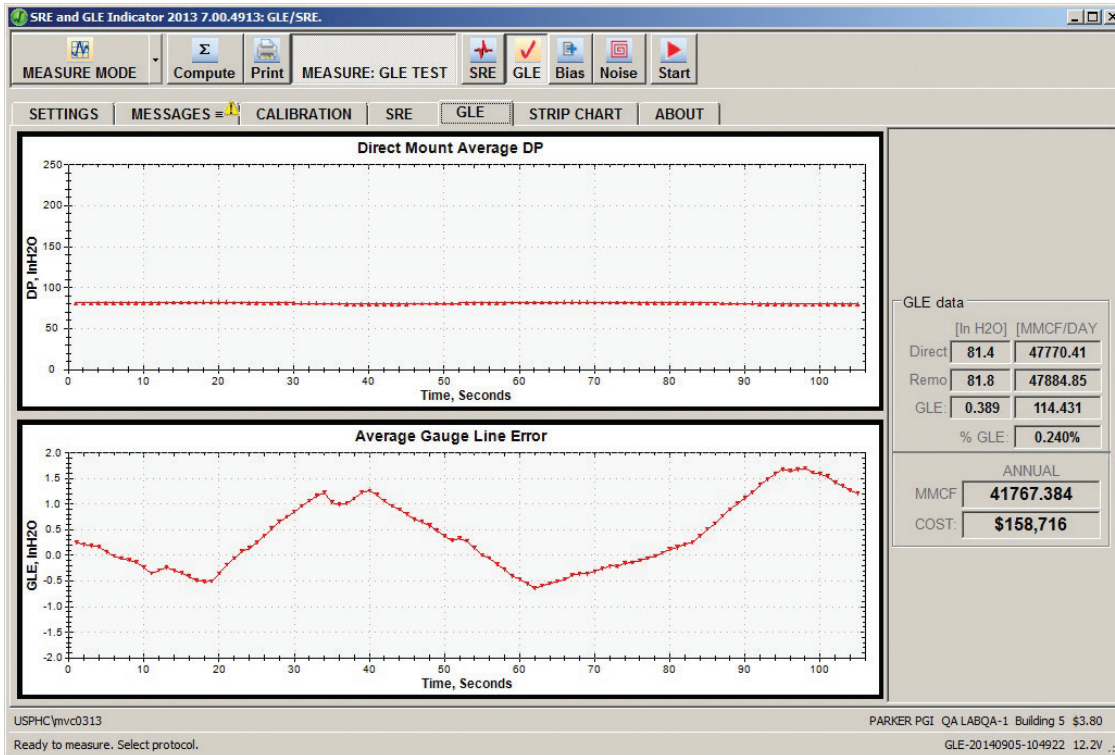
When calibration is complete, remove the direct transmitter from the co-equal bar and mount it directly to the 5-valve manifold that is installed at the orifice fitting. If necessary, use the extension cable for connection to the junction box.



Collecting New Data: GLE

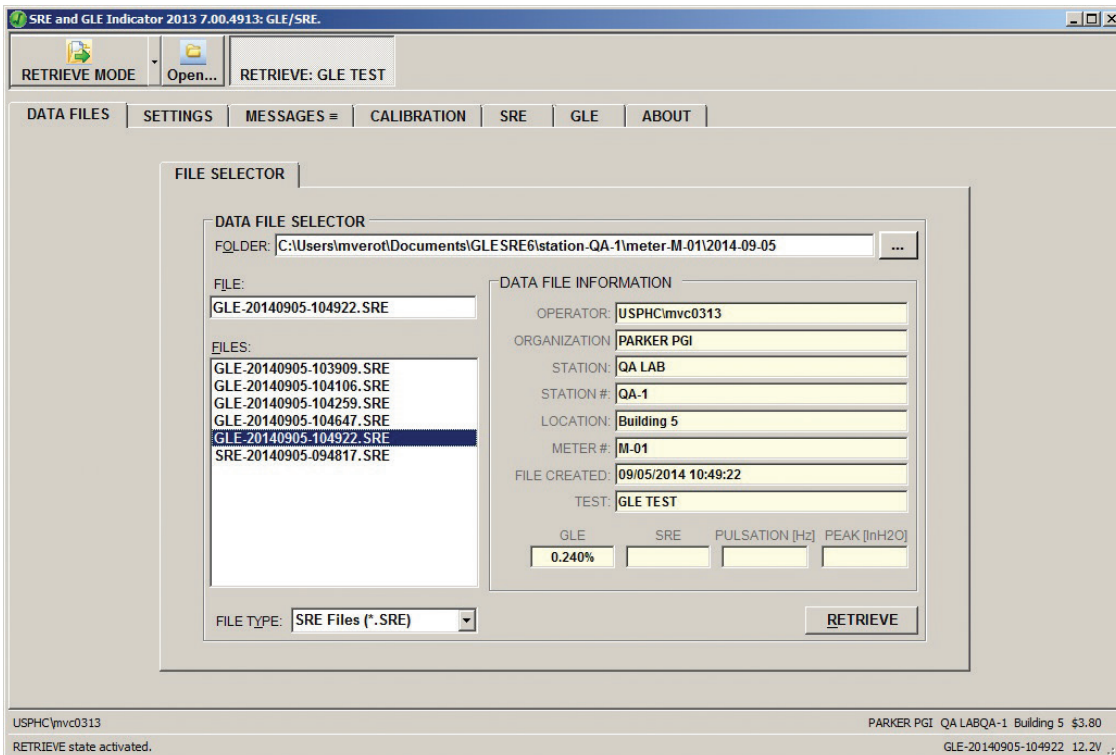
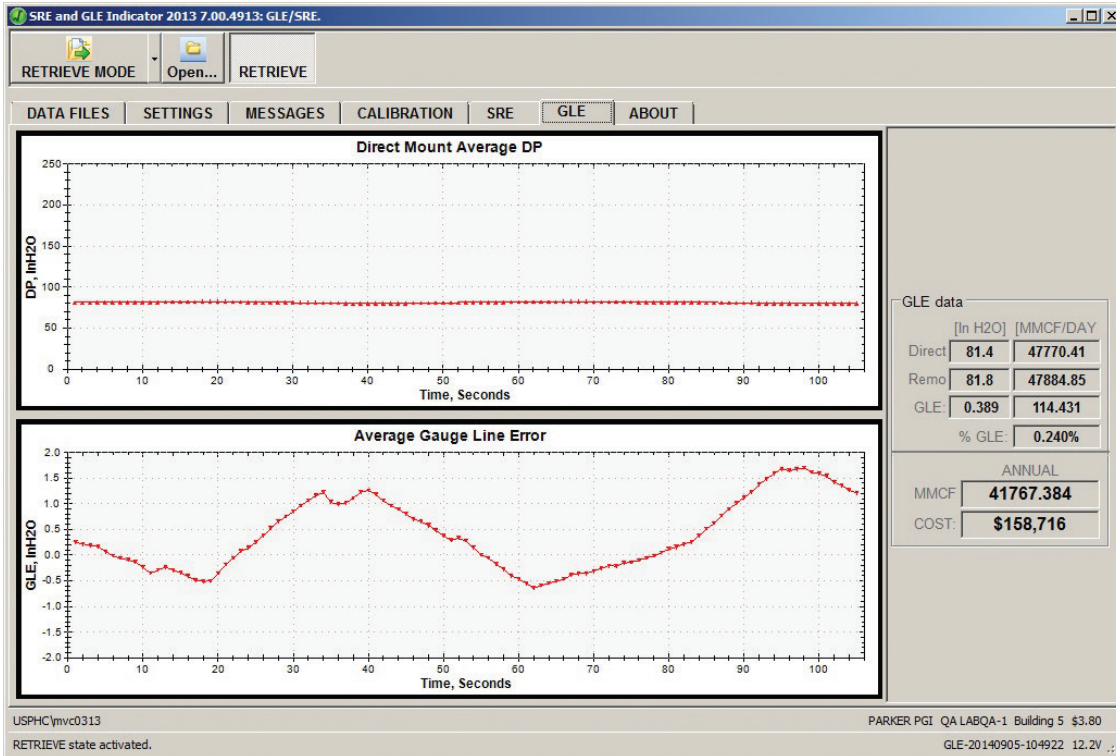
After connecting the hardware and calibrating the transducer, the operator can perform either a GLE or a Noise test. The Noise test will detect any noise that will affect the GLE test results. After selecting either a GLE or Noise test and clicking on the Start button, the following screen will appear.

This screen allows the operator to enter test detail information. This can be used for capturing field conditions during the test or other additional information that may assist in analysis.



Process Data from Disk for SRE or GLE

The SRE 6 program can convert a file created from an earlier release of the program. However, once a file is converted to the SRE 6 format it will no longer be useable by any earlier releases of the program. In order to read stored test data, the SRE or GLE program must be in the Retrieve mode. The operating mode icon and pull down is located in the upper left corner of the program window.



Data Editing

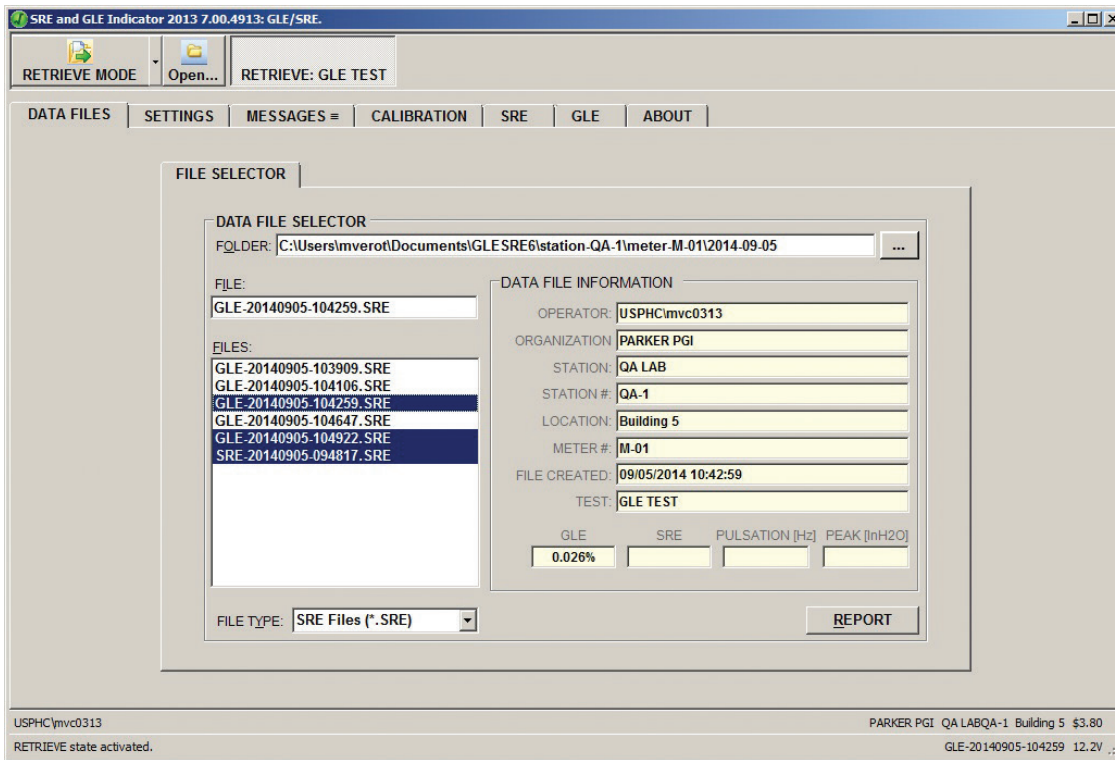
Certain items on the test report are available for editing. The descriptive information or data in the Setting tab, Operator, Organization, Test, and Options tabs will not effect the % SRE results of the test. Items that cannot be changed are “grayed out”. Under the Settings > Meter tab, the operator can change the Average Flow, Differential Pressure and this change will affect the annual volume and cost on the SRE tab and the report. Under the Setting > Station tab, the price of gas will adjust the cost on the SRE tab and the report.

Printing Reports

The operator can print a single or multi report. The software has the ability to print preview the report to the computer screen. This will allow the operator to review a report without a printer attached to the computer. To print a single report of the current loaded file, press the Print icon on the top level.

Multi Reports

To print multi reports selecte Retrieve mode > Open, then select the test files (*.dat) files desired by using either the shift or the control function of Windows. When multi files are selected a Report button is then available.



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Safety Guide – See www.parker.com/safety.

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