

**FLUKE®**

**Calibration**

# **COMPASS® for Pressure Version 4.0**

Pressure Calibration Software

The image shows a technician in a blue shirt and safety glasses operating a pressure calibration system. The system includes a computer monitor displaying the COMPASS software interface, a pressure source unit, and a pressure transducer connected to a pressure chamber. The monitor shows a graph of %Span Error vs. Reference Pressure and a table of calibration data. The pressure source unit displays a reading of 0.7892 psi.

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**Universal platform for  
automating pressure calibration**

# Why COMPASS for Pressure

COMPASS® for Pressure is a universal platform for all of your pressure calibration software needs. From piston gauges calibrating individual devices in the cal lab to transfer standards characterizing racks of sensors in production, COMPASS provides an off-the-shelf software tool to maximize the automation of your calibration and testing processes.

COMPASS for Pressure's industry leading pressure calibration software enables you to advance from individual automated hardware components to a fully automated calibration system—quickly, and without consuming your internal engineering resources. COMPASS software, and the expert assistance available from the support specialists at Fluke Calibration, remove the unknowns often associated with getting automated systems online.

COMPASS for Pressure integrates calibration functions with pressure-specific dependencies that are missing from more generic software packages. And now, COMPASS software also enables users to export test data directly to the same MET/BASE database used by the MET/CAL® Plus Calibration Management System. Users can now manage their inventory, calibration location, maintenance and customers through MET/TRACK® software. This allows the benefits of COMPASS software's specialization in pressure calibration to be enjoyed while maintaining the link to your organization's overall calibration management system.

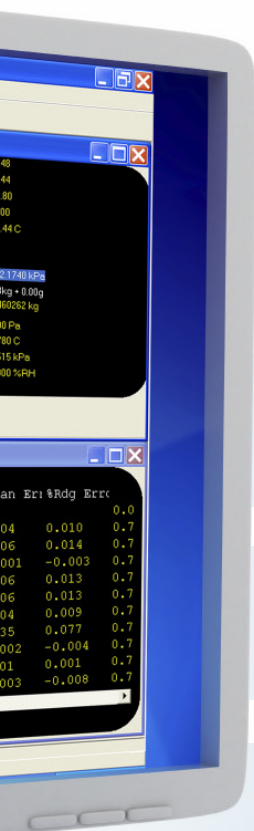


COMPASS software enables you to advance to a fully automated pressure calibration system quickly and easily.



## What's new in Version 4.0?

- Auto-detect support for Ruska references
- Seat-based licensing for economical expansion to multiple users
- Integrated support of Ruska Autofloat controllers and piston gauge monitors
- Fully automated calibration and adjustment of Fluke 700 pressure modules when used with a Fluke controller reference.
- Import of existing WinPrompt metrological information into COMPASS
- Export to MET/TRACK® software now supports multiple standards and customizable prompts



**1** The number and arrangement of windows shown can be created during any test and saved for automatic use later.

**2** A customizable data grid populates with multiple pieces of data as the points are taken.

**3** Individual windows can be displayed for each device in the system. Fluke Calibration reference devices are supported automatically, with all relevant outputs displayed.

**4** Test data can be plotted during or after each test. Choose from multiple pre-set plot types or customize and save your own. Insert any plots directly into calibration reports.

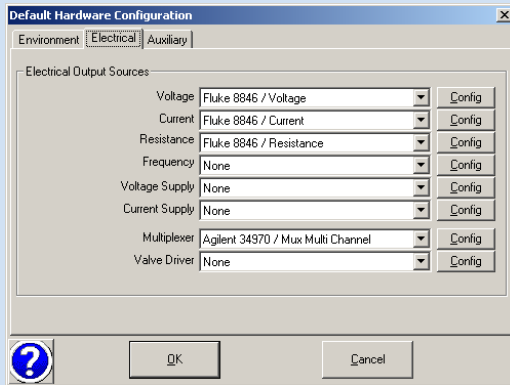
**5** The DUT/reference comparison window displays the live values and discrepancies between the reference device and each device under test. Multiple DUTs/UUTs can be tested and displayed simultaneously.

**6** Status bar keeps the user informed about the steps being performed. Color coding helps you monitor overall test progress from across the room.

## Software features:

- Designed specifically for pressure calibration applications
- Runs complete, automated calibration sequences on single or multiple units under test (UUTs), including leak testing and pretest exercising
- Can include multiple temperatures and/or pressure settings
- Compatible with transfer standards, piston gauges and data acquisition hardware from all manufacturers
- Readily adapts level of automation to available hardware and UUTs
- Calculates in-and-out-of-tolerance conditions; reports linearity and hysteresis for each UUT
- Creates standard test data files that are easily imported into Microsoft® Excel and other software tools; also outputs to an external database
- Advanced onboard report editor with simple template editing to produce customized calibration reports in Microsoft Word® format
- Security options on hardware setups, data files and reports to assist in compliance with FDA 21 CFR Part 11
- Multiuser, networkable application and database; incremental seat licences available
- Supported by a detailed manual
- Expert applications and configuration assistance available
- Available in two versions with features, functions and cost to best fit your needs

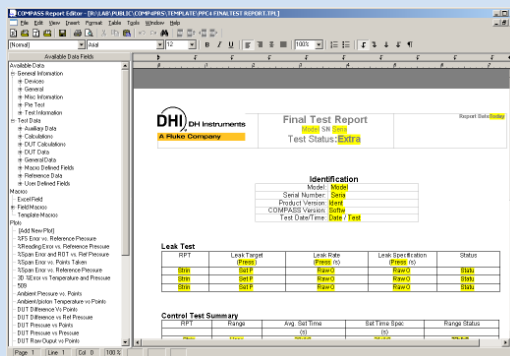
# Software overview



COMPASS software allows flexibility to fit your hardware setup.



Real-time visual monitoring of piston gauge parameters with ready/not ready indication is possible in COMPASS when used with interfaceable devices.



COMPASS Report Template lets you customize your calibration reports quickly and easily.

COMPASS Software is structured around device/unit under test (DUT) and test definitions. DUT definitions identify devices to be tested with all their characteristics. Test definitions define test sequences and all the details of test execution.

The pressure reference devices, data acquisition equipment and auxiliary measurement and control devices that are available to COMPASS software are set up and stored in a hardware database to be selected by the function(s) they perform. Fluke Calibration (DH Instruments, Ruska or Pressurements) devices and many commonly used data acquisition products are already set up as examples to simplify the implementation of actual test hardware. When running COMPASS software, hardware selections can be changed without programming or interfacing skills.

## Flexibility to fit your hardware setup

COMPASS can run either scripted test definitions or free form with real time hardware selections, pressure setting and user initiated data acquisition. In either case, exhaustive test parameters and data are stored in a comprehensive data file.

Extensive plotting features allow test results to be visualized and evaluated within COMPASS software with a variety of 2D and 3D plots. Test data files are in standard ASCII, delimited format, so they are very easily imported into other analytical tools such as spreadsheets, if desired.

The COMPASS Report Editor provides advanced reporting capability within COMPASS software with easy-to-use, customizable templates.

## Piston gauge support

COMPASS for Pressure software supports Fluke Calibration PG7000 and 2400 Series as well as third party piston gauges. Characteristics of multiple platforms, piston-cylinders and mass sets are stored. All parameters affecting piston gauge measurements (piston-cylinder temperature, piston position, piston rotation rate, environmental conditions, reference vacuum) can be read automatically from any interfaceable device; set to default values; or entered manually when running. COMPASS software works in mass-to-pressure or pressure-to-mass mode and provides the user with instructional prompts during test execution.

COMPASS for Pressure enables automated piston flotation and mass handling where supported by Fluke Calibration piston gauge hardware. Full support of Ruska Autofloat controller and piston gauge monitors is integrated into COMPASS, offering WinPrompt software users an opportunity to upgrade to the modern, fully functional platform of COMPASS.

## Advanced report editor

COMPASS software's integrated Report Editor provides advanced but easy-to-use reporting capabilities. The custom template creation feature gives nearly unlimited customization capability. Operation has the familiar look and feel of Microsoft Word, and reports can be saved in MS Word format. You can also use the editor to interact with Microsoft Excel files.



### Customers say...

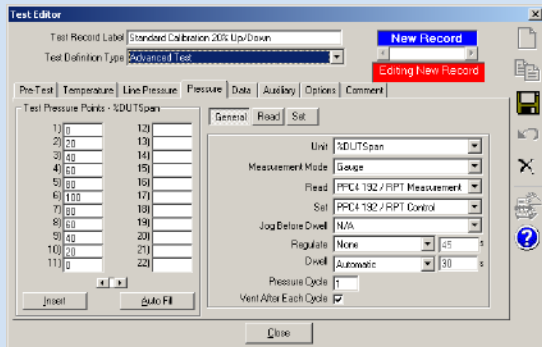
"COMPASS is an extreme time and money saver that I would—and have—recommended to anyone with pressure work."

"On the units I'm doing, I probably save 30 to 40 percent of the time I used to spend."

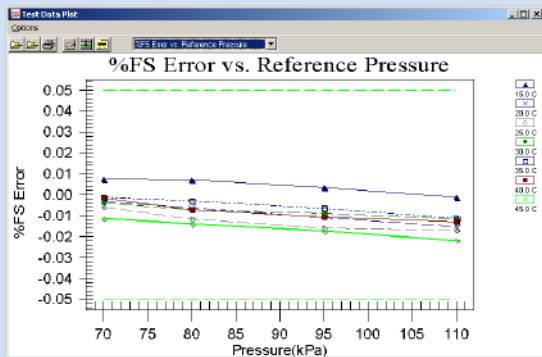
"The ability to multitask is invaluable. The software can take readings from multiple sources at once (i.e. temp, humidity, source pressure and UUT reading) far quicker than I could ever dream to be able to."

"It's very helpful to be able to control standards. It reduces human error via automation. Each test is going to go to the same place each time."

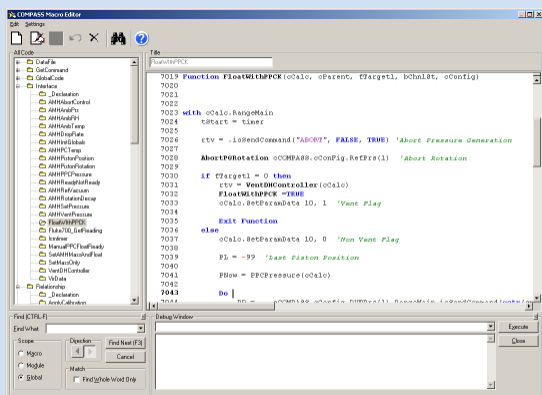
# Two levels of COMPASS software to match your needs



Define manual or fully automated test sequences using COMPASS Test Editor.



Plot test data quickly using standard plot types, or create a custom plot type.



COMPASS Macro Editor provides virtually unlimited options for automation and communication.

## COMPASS for Pressure Enhanced

This most advanced level of COMPASS provides the greatest value to most users. It supports complex tests, including custom user macros within the test sequence and multiple outputs from a single UUT. It includes automated support of third party transfer standards and can communicate with almost any device having an RS-232, IEEE-488 or TCP/IP interface.

COMPASS for Pressure Enhanced includes features for advanced users and applications. These features allow more complex test sequences, which may include operating valves and other auxiliary equipment before/after tests or between points. These capabilities can be used, for example, to switch pressure references during a test, include a shunt calibration, or take a zero absolute pressure point from a vacuum gauge with a vacuum pump connected directly to the UUT.

COMPASS for Pressure Enhanced supports environmental chamber control and/or a line pressure setting device. Test definitions can specify that a pressure sequence be repeated at multiple temperatures and/or line pressures.

COMPASS for Pressure Enhanced includes device macros using Visual Basic® Script to create commands for instruments that do not use simple ASCII character command strings and that may require multi-step communications such as separate initialization and read routines.

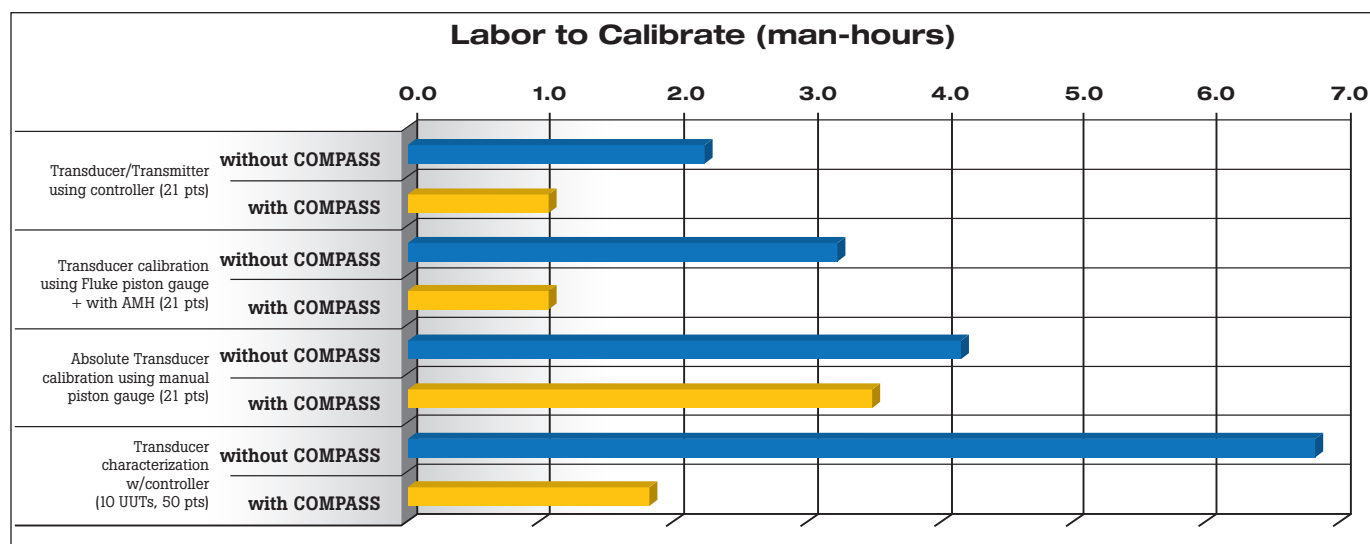
## COMPASS for Pressure Basic

This version was developed for performing basic calibration and testing on UUTs, even those that may have complex outputs. The reference may be any Fluke Calibration pressure standard (7000 series and PPC/RPM controllers and monitors or 2400 series and PG7000) or any manufacturer's piston gauge, deadweight tester, pressure controller or reference. COMPASS for Pressure Basic includes features such as security options and networked operation.



| COMPASS software features   | Basic | Enhanced |
|---|-------|----------|
| Run fully automated tests   | •     | •        |
| Link specific test procedures to specific UUTs  | •     | •        |
| On-board test report editor with customizable templates and reports in Microsoft Word format                  | •     | •        |
| “Drivers” not required to support third party instruments   | •     | •        |
| Export COMPASS data directly to the MET/BASE database, allowing MET/TRACK® software to manage all your assets | •     | •        |
| Automated support of Fluke Calibration controller/calibrators and monitors                                    | •     | •        |
| Automated support of Fluke Calibration and third party piston gauges and deadweight testers                   | •     | •        |
| Advanced data plotting including 3D plots   | •     | •        |
| Enhanced remote interface support to separately initialize, read and control an instrument                    | •     | •        |
| Tracking of setup changes with date and user stamp  | •     | •        |
| User rights management with password protection (for FDA 21 CFR Part 11 compliance)                           | •     | •        |
| Calibration date tracking to prevent out-of-calibration references from being used                            | •     | •        |
| Third party instrument command database included  | •     | •        |
| Outputs comprehensive test parameters and results to an external database                                     | •     | •        |
| Multi-user, networkable application and database with site license available                                  | •     | •        |
| Reference measurement and control may be by separate, automated devices                                       | •     | •        |
| Automated support of third party transfer standards   | •     | •        |
| Microsoft Windows Vista and Microsoft Windows 7 support   | •     | •        |
| Switch pressure references within a test sequence   |       | •        |
| Support of advanced UUTs that may have multiple outputs and/or control pressure                               |       | •        |
| Create test macros to include valve control or other custom remote operations within a test sequence          |       | •        |
| Run test sequences at multiple temperatures and/or line pressures   |       | •        |

## COMPASS productivity chart



### COMPASS use information

COMPASS for Pressure is delivered on an installation CD. It is a proprietary software program with each license intended for single computer use.

#### Minimum computer requirements to run COMPASS for Pressure:

IBM PC or compatible running a 32-bit version of Windows (Windows XP, Vista, or 7 operating system), 500 MHz processor, 256 MB RAM and 50 MB free hard disk space

### Ordering information

Single user program includes one license and must be purchased initially for any stand-alone installation. For additional users of the same COMPASS database, purchase additional seat licenses.

#### COMPASS-P-ENH-SNGL

COMPASS for Pressure, Enhanced, Single User

#### COMPASS-P-ENH-L

COMPASS for Pressure, Enhanced, Additional Seat License

#### COMPASS-P-BAS-SNGL

COMPASS for Pressure, Basic, Single User

#### COMPASS-P-BAS-L

COMPASS for Pressure, Basic, Additional Seat License

Software support services are available from Fluke Calibration sales and support professionals and distributors to configure COMPASS for your specific hardware and testing requirements.



COMPASS for Pressure software works with a wide variety of pressure calibrators, units under test, and auxiliary automation devices.

**Fluke Calibration.** Precision, performance, confidence.™

|            |    |             |          |      |          |
|------------|----|-------------|----------|------|----------|
| Electrical | RF | Temperature | Pressure | Flow | Software |
|------------|----|-------------|----------|------|----------|

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