

Installing PhazeComp 2 on a PC

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Welcome to PhazeComp 2, the most powerful, flexible, and robust PVT (pressure-volume-temperature) program available in the petroleum industry, for compositional phase behavior modeling and fluid characterization.

Installation

If you are reading this, it is assumed that you have downloaded the PhazeComp package for Windows and would like either to install PhazeComp 2 for the first time, to reinstall it, or to install an update. If you have never run PhazeComp 2 on your computer, and everything goes as planned, it will automatically install a 30-day trial license.

Besides this file, you should have the following folders:

- “PhazeComp”
- “PhazeComp Documentation”
- “PhazeComp Examples”
- “License Server”

Follow the numbered steps below to install and initialize PhazeComp. These steps should be performed from the primary account on the computer, although you might need administrator permission for some of them.

1. Copy or move the PhazeComp folder into the “C:\Program Files” folder.
2. Launch PhazeComp.exe from within the “C:\Program Files\PhazeComp” folder.
3. At the “Primary Input File” dialog, click Cancel.
4. At the “Standard Output File” dialog, click Cancel.
5. At the “next line” prompt, enter “eof” (without the quotes).

Before hitting “Return” to close PhazeComp's command window, examine the banner that was written. It will either show an expiration date, or else the words “Demonstration Copy.” If it shows an expiration date 30 days hence, you have successfully installed PhazeComp's 30-day trial license. If it shows a different expiration date, then you already had a valid PhazeComp license on your computer. If it says “Demonstration Copy,” you do not yet have a valid license, for one of the following reasons (which should be indicated in a warning message):

- You are trying to run PhazeComp on a virtual machine. This can be done, but not with the trial license. See the “Licensing PhazeComp on a PC” or “Licensing PhazeComp on a Mac” document for more information.
- You already had a PhazeComp 2 license on your computer but it has expired. Please contact Zick Technologies about acquiring a new license.
- You already have a PhazeComp 2 license but it could not be accessed, for reasons the warning might explain.

- You could not connect to the Internet to install the trial license.
- If you cannot resolve the problem(s) on your own, please email a copy of the warning message(s) to zick@zicktech.com for assistance.

Whether or not PhazeComp is now licensed, continue the installation with the following steps:

6. Hit “Return” to exit PhazeComp and close its command window.
7. Copy or move the “License Server” folder into the “C:\ProgramData\ZickTech” folder, which should have been created when PhazeComp was launched. This step is required only if you plan to use your computer as a license server for floating licenses. Note that in some configurations, the “C:\ProgramData” folder is hidden, in which case you will need to direct File Explorer to Show Hidden Items (via the View menu).
8. Copy or move the “PhazeComp Documentation” and “PhazeComp Examples” folders from the installation package to any preferred location(s). If you would like to make them accessible to any user of the computer, “C:\Users\Public\Documents” would be a good place to store copies. It is suggested that each user copy the “PhazeComp Examples” folder from there to one of their own local folders, where they can run the examples themselves. They might also want a local copy of the “PhazeComp Documentation” folder.

Auxiliary Programs

To take full advantage of PhazeComp, you will also need to install a few auxiliary programs, if you haven’t already. These include:

- A good text editor for creating input files and viewing output files. NotePad++ (<https://notepad-plus-plus.org>) is highly recommended.
- A good spreadsheet program for formatting tabular input and post-processing output files. Microsoft Excel works very well, but there are some open-source alternatives.
- Gnuplot (<http://www.gnuplot.info>). PhazeComp can generate gnuplot input files, which gnuplot can turn into publication-quality plots in PDF format.
- An installation of LaTeX for publication-quality document layout (<https://www.latex-project.org>). PhazeComp can generate LaTeX input files, which LaTeX can turn into structured reports in PDF format, complete with tables, figures, captions, cross-references, and hyperlinks. For Windows, there are two installations from which to choose: TeX Live, or MiKTeX. TeX Live is a complete installation supported by an open source community. MiKTeX is an incremental installation (which installs itself as needed) supported mainly by an individual developer. MiKTeX takes up less disk space, but either will work just fine.
- A good PDF viewer. Microsoft Edge is the default PDF viewer for Windows, and Adobe Acrobat Reader or Adobe Acrobat Pro are viable alternatives, but they both have drawbacks for use with PhazeComp. When using PhazeComp, the PDF plot files and report files will be updated frequently, and neither of the Microsoft or Adobe products will automatically update their views of these files. Instead, consider SumatraPDF (<http://sumatrapdfreader.org>). It’s fast, lightweight, and automatically updates its view of a PDF file whenever that file is updated.

File Extensions

It is also recommended that you change your default handling of file extensions. If you use .phz for PhazeComp input files and make PhazeComp the default application for opening those files, then you can simply double-click on an input file and have it launch PhazeComp. You will then need to right-click a .phz file's icon to edit it with NotePad++ (for example), but you'll typically need to do that only once during each PhazeComp session, as you can keep the file open within NotePad++ and just Save it whenever you're ready to run it through PhazeComp again.

While running, PhazeComp can also “include” other files. The examples use .inc for those files, but they're just plain text files, so you can use any extension you'd prefer. Whatever extension you use, you should make your text editor the default application for opening those files.

PhazeComp always suggests .out for its output file's extension. You can choose a different extension within each Standard Output File dialog box, but that would be tedious and easy to forget, so it's best to keep the .out suggestions and to make your text editor the default application for opening those files.

PhazeComp also creates files with .bot, .ecl, .ssr, .plt, and .tex extensions. All are plain text files, but they have different purposes. The .bot files are tab-delimited files containing information for generating black oil tables. It is recommended to make your spreadsheet program (Microsoft Excel, for example) the default application for opening those files. The .ecl and .ssr files contain black oil tables for Eclipse 100 and Sensor, respectively. It's best if you open those files with your text editor. The .plt files are input files for gnuplot, so it is recommended that you make gnuplot the default application for opening them. The .tex files are LaTeX input files. TeXworks is the LaTeX file editor included with either TeX Live or MiKTeX, so TeXworks is the logical default application for opening .tex files.

You can easily end up with multiple PhazeComp input and output files having the same leaf name but different extensions (Test.phz, Test.inc, Test.out, and Test.bot, for example). To avoid confusing these different files, it is strongly recommend that you view file name extensions in File Explorer (an option under the View menu of any File Explorer window).

Next Steps

If you have successfully installed a license, you are ready to start using PhazeComp. If not, consult the “Licensing PhazeComp on a PC” file in the “PhazeComp Documentation” folder. Once PhazeComp is licensed, it is recommended that you read some of the other files in the “PhazeComp Documentation” folder, beginning with “Getting Started with PhazeComp” and proceeding according to its recommendations.