SOFTWARE

CHROMATEC ANALYTIC

BUILD 4.0

INSTALLATION INSTRUCTIONS

214.00045-51I

SOFTWARE FOR LINUX AND WINDOWS

Revision 08.10.2026

TABLE OF CONTENTS

1 Introduction 5
1.1 Characteristics and functions of the software 6
1.2 Features of software deployment 9
1.2.1 Software deployment on an offline computer 12
1.2.2 Deploying the Software on the network 12
1.3 System Requirements 13
1.3.1 Computer Requirements 13
1.3.2 Acceptable server operating systems 14
1.3.3 Acceptable client operating systems 14
1.4 Composition of the software 15
2 Installing the software 16
2.1 Installation package 16
2.2 Installation on Linux 16
2.2.1 Terminal and Midnight Commander 16
2.2.2 Superuser mode 17
2.2.3 Backup user data 18
2.2.4 Copying installation files 18
2.2.5 Installation procedure 19
2.2.6 Data migration 20
2.2.7 Additional settings for client-server mode 20
2.2.8 Useful Linux commands 21
2.2.9 Installation errors 22
2.3 Installation on Windows 22
3 NIST installation 26
3.1 Installation on Linux 26
3.1.1 WINE installation 26
3.1.2 WINE setting 27
3.1.3 NIST installation 27
3.1.4 Installation of the service for working with the library 27
3.1.5 Checking the operation of MS Search 27
3.2 Installation on Windows 28
4 RuDesktop installation 29
4.1 Installation on Linux 29
4.2 Installation on Windows 30
4.3 RuDesktop using 30
5 Launching the client software 31

5.1 Home page address in browser....31
5.2 Login....31
5.3 Solving startup problems....33
5.3.1 Restarting services on Linux....35
5.3.2 Restarting services on Windows....35
6 License agreement....36
6.1 Software License....36
6.2 License scope....36
6.3 Description of other rights and restrictions....36
6.4 Software Update....37
6.5 Copyright....37
6.6 Limited Warranty....37
7 Information about the manufacturer....38

1 INTRODUCTION

Chromatec Analytic software 214.00045-51 is designed to control the operation and diagnostics of chromatographs and complexes based on them:

- Crystal 2000M
- Chromatec-Gasochrom 2000
- Chromatec-Crystal 5000
- Chromatec-Crystal 7000 industrial
- Chromatec-Crystal 9000
- Chromatec-Crystal HPLC 2014

SDO "Chromatec" Chromatographs of different models and years of production are running the following processor modules:

Processor module	**Instrument model**
PM31	"Crystal 2000M" Gas chromatograph, s/n 2022501
PM3	"Chromatec-Crystal 5000" Gas chromatograph, s/n 253101
	"Chromatec-Crystal 9000" Gas chromatograph, s/n 291301
	"Chromatec-Crystal HPLC 2014"
	Mass spectrometer detector
PM2	"Chromatec-Crystal 5000" Gas chromatograph, up to s/n 253101
	"Chromatec-Crystal 7000" Gas chromatograph (industrial)
	"Chromatec-Crystal 9000" Gas chromatograph, up to s/n 291301
	"Chromatec-Gasochrom 2000" Gas chromatograph (portable)
	"Crystal 2000M" Gas chromatograph, s/n 4400
	Data acquisition unit
	Gas flow formation unit

The PM 1 processor module, which was produced before June 2004, is not supported by Chromatec Analytic 4.0 software.

The software provides the collection and processing of chromatographic data, as well as chromatograph performance verification procedure.

1.1 Characteristics and functions of the software

Software compatibility with operating systems:

- Various Linux distributions, including Russian ones (Astra Linux, Alt Linux, Rosa Linux, RED OS). It is possible to use other distributions – Ubuntu, Mint, Debian, Manjaro, etc.
- Windows 10 and 11.

The software package can be installed:

1. on a single computer that is not connected to the network,
2. in a peer-to-peer computer network,
3. in a computer network with a central server,
4. on the Internet.

At the same time, variants 2-4 implement a client–server software deployment method, in which parameters, methods and data recorded by several devices are placed in a single database hosted on a laboratory server.

Also in variants 2-4, it is possible for users to access data from various computers within a local network through user accounts.

Option 1 also uses user accounts.

Types of data intended for centralized storage on a laboratory server:

- hardware settings,
- parameters of the measuring method,
- measurement data,
- data processing results.

Software access on the client computer, software interface:

- Work with the software is carried out using a web browser. No other programs are required.
- Program interface language (optional): Russian, English, Chinese.

Software Administration:

- It is possible to create an unlimited number of accounts with flexible configuration of user roles and privileges that differentiate access levels to various software functions.
- User accounts are protected by individual usernames and passwords.
- Automatic logout is performed when the operator is inactive for a long time.
- All user actions and events that have occurred with the equipment in accordance with GLP requirements are automatically audited. The audit is always active, you do not need to turn it on specifically.
- The data is protected from modification by third-party software. The level of protection of the software against intentional or unintentional changes is confirmed by the certificate of the description of the type of measuring instrument and corresponds to the level "High" according to P 50.2.077-2014. The functions are implemented in accordance with the requirements for the competence of testing laboratories GOST ISO/IEC 17025-2019.
- It is possible to conduct IQ-OQ-PQ qualification of software (as well as Chromatec equipment).
- It is possible to use a secure HTTPS data transfer protocol.

- When software is installed on a computer network, the update procedure is carried out centrally, i.e. there is no need to update the software at each workplace.
- Conversion of user data (chromatograms and methods) from version 3 to version 4 is possible.
- It is possible to update the software for free from the manufacturer's website.
- If there is an Internet connection at the workplace, licenses for special calculations are activated instantly.

Metrologically significant modules:

- The same metrologically significant modules are used as in the Chromatec Analytic 3 version. As a result, the software complies with the certificates issued for version 3 (common hardware management modules are also used).
- Implemented easy access to metrologically significant modules for checking their hash codes by third-party software. In addition, hash codes are controlled by the built-in Chromatec Analytic tools.
- When converting chromatograms from version 3 to version 4, all calculations produce the same results.

Documentation and support:

- A context-sensitive multimedia help is available to the user, containing more than 50 videos that speed up the process of learning software.
- The library contains operational documents for all Chromatec equipment and software.
- Search is available for the entire library at once.
- Implemented quick access to documentation on diagnostics of analytical problems and ways to solve them.
- If there is an Internet connection at the workplace, news about software updates and documentation are available.

Instrument management:

- Implemented software control and monitoring of all operating parameters of the chromatograph.
- Simultaneous and independent data collection from several chromatographs and several detectors is possible and it is possible to work with various applications without interrupting the measurement and processing process.
- The number of simultaneously recorded signals is not programmatically limited and is determined only by the specific configuration of the equipment.
- Automation of a series of analyses is available with flexible settings of the time and conditions for performing each analysis with automatic processing and output of results, both with and without operator participation.
- The ability to send diagnostic information to developers by email.
- Maintenance regulations.
- The function of fixing retention times (RTL – retention time lock) is implemented, which allows changing chromatographic columns without changing the processing method.
- Graphical diagnostics of changes in the parameters of chromatograph nodes over time, not only at the analysis stage, but also in the intervals between analyses.
- When working with MSD, the built-in library of optimal ions (SIM ions) is used.

Chromatogram processing:

- Chromatogram processing and calculation of analysis results are carried out in one program without running additional programs.
- Batch (group) processing of chromatograms has been implemented (unlike Chromatec Analytic 3, this is a regular functionality, not an extension).

- It is possible to view and process chromatograms, output the result after the release of the peaks of interest, without waiting for the end of the analysis.
- Implemented automatic noise detection and peak detection on the chromatogram.
- Detection and identification of an unlimited number of connections is available.
- Multipoint calibration with an unlimited number of levels is available.
- Averaging of analysis results and control of convergence of quantitative analysis results is available.
- Quantitative calculation by various methods is possible (simple normalization, normalization with absolute and relative correction coefficients, external standard, internal standard — classical method and least squares method, absolute calibration — classical method and least squares method).
- Overlaying of chromatograms on each other is available.
- Manual correction of peaks on the chromatogram is available. At the same time, its result is recorded in the audit log.
- Detector signal filtering is available. At the same time, the original "raw" data always remains unchanged.
- Drift compensation is available on the chromatogram.
- A quick visual assessment of the shape and marking of peaks for the selected group of chromatograms is available.
- The software contains algorithms for automatic identification of peaks on two channels when using parallel detection of a sample on two columns with phases of different polarity.
- The results of processing a group of chromatograms are displayed in a summary table.
- It is possible to create custom formulas.
- Data can be exported to formats: XLSX, CSV, TXT, JSON, CDF.
- Data export to LIMS is possible.
- Flexible layout of the page layout using your logos and user data is possible in the analysis report.
- Significantly expanded the functionality of the report in comparison with previous versions of Chromatec Analytic.
- It is possible to implement a digital signature in PDF reports (signature of measurement results).
- A graphical representation of the measurement history is available.
- The possibility of introducing various additional calculations into the software for the customer's tasks by agreement.

1.2 Features of software deployment

Chromatec Analytic is organized using a client-server architecture, that is, it consists of two parts – client and server::

- The user interacts with the client part of the software through a web browser. The client part of the software looks like a website, and in fact it is.
- The user does not interact directly with the server part of the software, it provides calculations, storage of "raw" and processed data, settings, reports.

Data exchange between the server and client parts is carried out over the HTTP protocol.

The user does not have direct access to the data and settings files, cannot change or delete them bypassing Chromatec Analytic.

The server administrator has some of these rights.

A **client** is a program, in our case a web browser, in which the Chromatec Analytic graphical interface is displayed. In a broader sense, a client can be called a computer that the operator is working on, if the server part of the software is not installed on this computer**.**

Depending on the tasks and infrastructure capabilities of the user, the software can be deployed in two ways:

- Installation on a stand-alone computer. Acceptable for laboratories with one workplace. In this case, the server part of the software is installed on the same computer on which the client will be running.
- Installation on a separate computer or server on a local network. If several workplaces need to be organized in a laboratory (or several laboratories), then Chromatec Analytic software will be used most effectively when combining these workplaces into a local network.

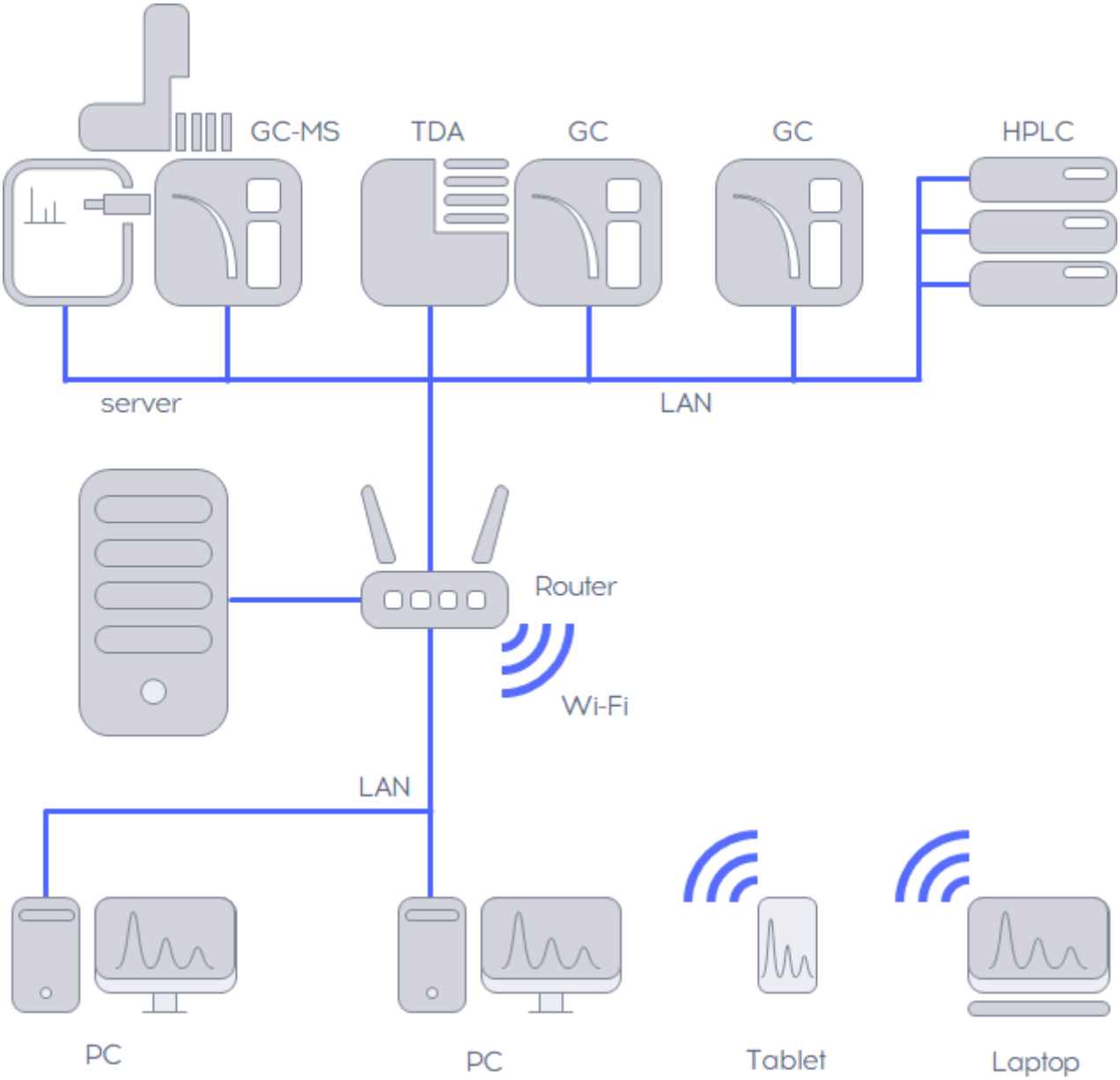


Figure 1.1 – Example of a local network organization

Often, a **server** is understood as a separate corporate computer assembled from special components, controlled by a special server operating system, even located in a special room.

This is not quite true. Not every server is organized in this way, but **everyone is on the network with other computers**.

A dedicated server is desirable, but not required.

Special powerful computers are used as servers to ensure greater reliability and security of data storage, for uninterrupted operation, but in principle any of the computers on the network can be used as a server.

As server is understood **not only as a computer, but also as a special software running on it**, to which clients turn to receive data.

In the figure below, you can see that the **client + server** software can be run on every standalone computer that is not included in the local network.

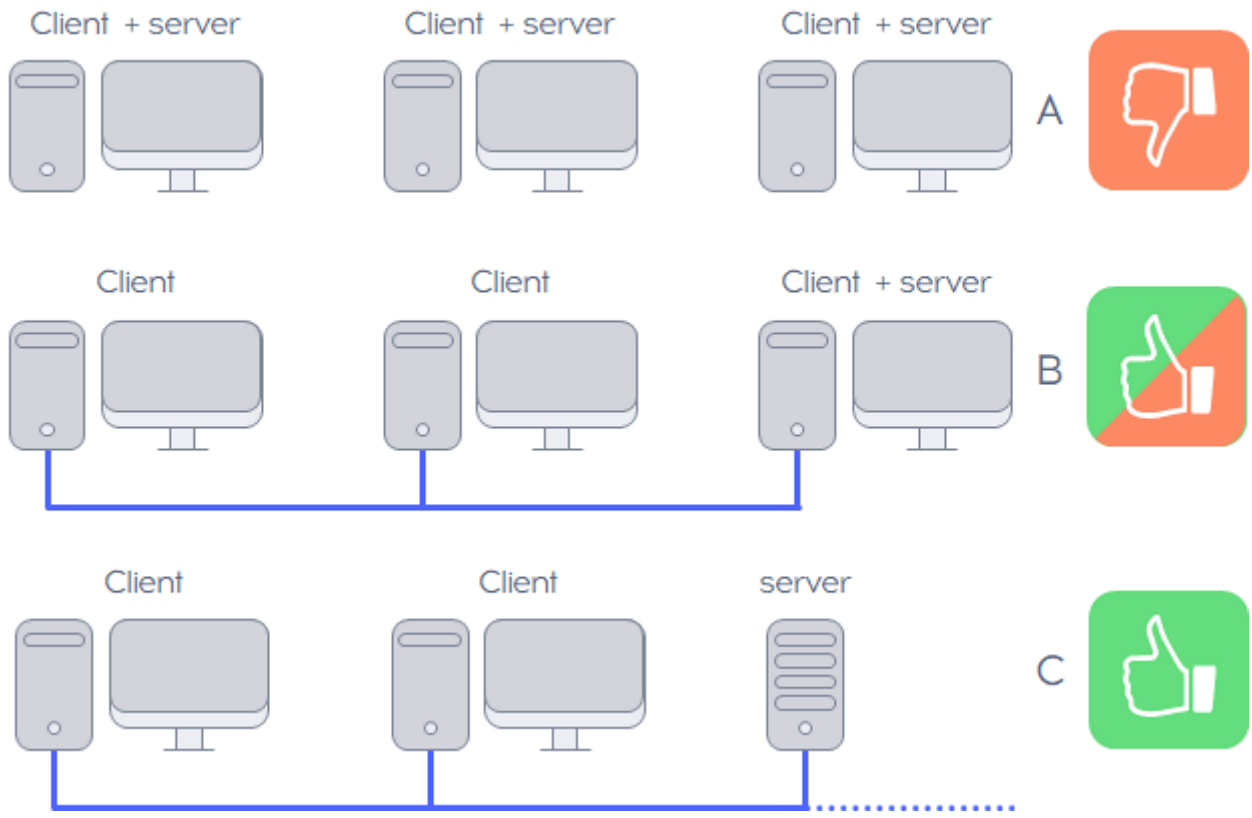


Figure 1.2 – Recommended organization of several workplaces

- **Option A** – if there are several workstations (several computers) in your laboratory, all of them are designed to work with chromatographic equipment, but they are not connected to a local network – installing Chromatec Analytic on each such computer separately is ineffective. It is recommended to combine them into a local network.
- **Option** B – if your company does not have a server, but there is a local network – we can use one of the computers of this network as a server. However, it is necessary to understand that on this computer the processor will experience an increased load and more RAM will be used. It may be uncomfortable to do some other work on such a computer. It is advisable to allocate it only to ensure the work of Chromatec Analytic.
- **Option C** is the most preferred.

1.2.1 Software deployment on an offline computer

Chromatec Analytic can be installed on stand-alone computers with Linux and Windows operating systems.

Section 1.3 describes the requirements for the computer and the server and client operating systems.

Section 1.3.2 lists the recommended browsers.

1.2.2 Deploying the Software on the network

If a local network is used, Chromatec Analytic is hosted on a computer (server) with a Linux operating system.

It is **not recommended** to use Windows as a server operating system.

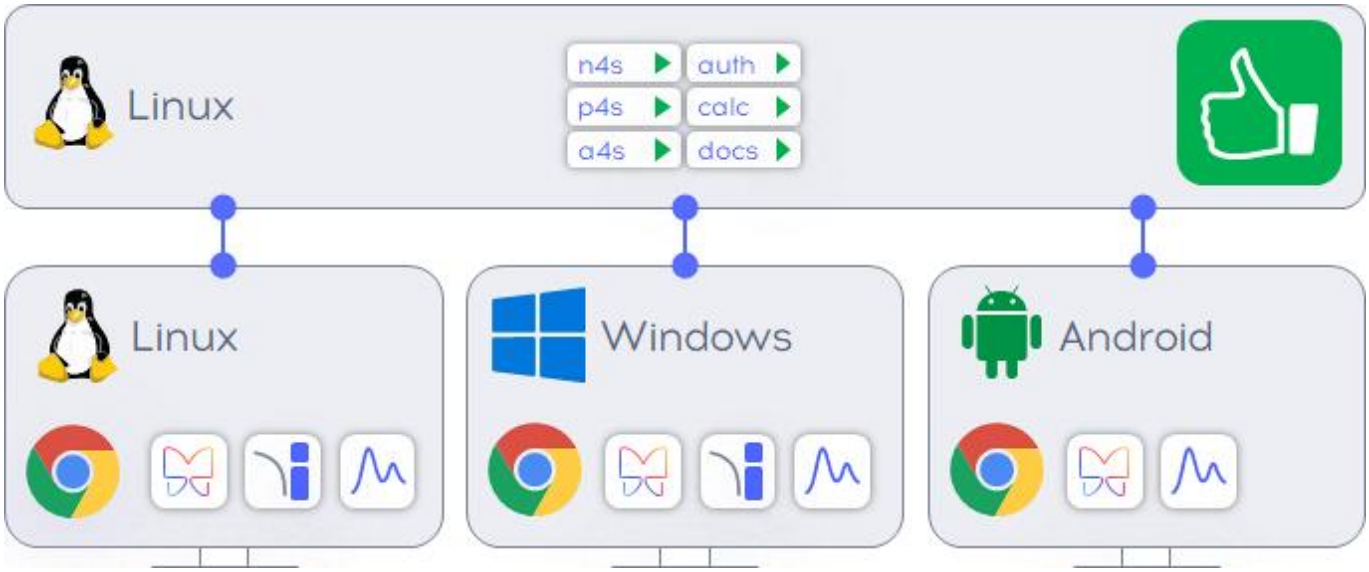


Figure 1.3 – Chromatec Analytic is installed on the network, on a server with Linux OS

On devices with Android, you can process chromatograms, but it is impossible to control the chromatograph and execute analyses.

Client computers can run any operating system, provided that it has a web browser that supports the HTML5 standard.

Section 1.3 describes the requirements for the computer and the server and client operating systems.

Section 1.3.3 lists the recommended browsers..

1.3 System Requirements

1.3.1 Computer Requirements

As shown in the figure above, Chromatec Analytic software can be deployed both on a single computer and on several connected to the network.

All necessary software modules are installed on the server. Among other things, they include a database where analysis results, reports and settings are stored.

Table 1.1 – Minimal computer requirements

Category	**Value**
RAM client, GB, not less	16
RAM server, GB, not less	8*
Intel or AMD processor manufactured not earlier than	2014
Monitor resolution, not less	1024×768
Disk space for software placement, GB, no less	10
Disk space for data storage, GB, not less	100
Number of Ethernet adapters in the computer	2[3]

* If the software is installed on an autonomous computer, then it is both a server and a client. In this case, the requirements for the client computer are relevant.

Since there are a large number of processor models that differ in characteristics, it is assumed that it is allowed to use the least productive processor from among those produced in the specified year to work with the software.

[3] he Ethernet adapter integrated into the motherboard of the computer should be used to connect to a local network and the Internet. The chromatograph must be connected to a separate Ethernet adapter. This allows you to avoid connection breaks.

In addition to all of the above, you will need a mouse manipulator, a printer for printing reports and free ports on your computer (LAN, USB or COM) to connect chromatographic equipment.

1.3.2 Acceptable server operating systems

 Astra Linux

 Alt Linux

 RED OS

 Windows 10

 Windows 11

The use of Ubuntu, Mint, Debian, Manjaro and other Linux operating systems is also allowed, but Chromatec does not test for them.

1.3.3 Acceptable client operating systems

- Linux (Astra Linux, Alt Linux, RED OS, Ubuntu, Debian, Mint, Manjaro).
- Windows 7 and higher.

A web browser must be installed on the client computer. Chromatec Analytic software works in all modern browsers:

 Google Chrome not lower than version 100

 Chromium

 Chromium-Gost

 Yandex Browser

 Opera

 Microsoft Edge

 Mozilla Firefox not lower than version 100

The software works most reliably on browsers based on the **Chromium** engine. These are all of the above, except Mozilla Firefox.

The Mozilla Firefox browser is allowed to be used, but it is **not recommended** due to the not always adequate display of web pages and the fundamental unwillingness of the developers of this browser to implement some mouse events.

Internet Explorer is **not supported!**

Only a very small part of user data (some user interface settings) will be stored on the client computer. This data does not take up much space and does not impose any specific requirements on the client's disk space.

In fact, the characteristics of the client computer should be such as to allow you to comfortably view videos on the Internet without delay. This will be enough for Chromatec Analytic to work as well.

For the convenience of technical support, it is strongly recommended to provide access to the Internet for the client computer.

If you have Internet access, you should install additional software for remote diagnostics on the client computer – RuDesktop.

1.4 Composition of the software

Chromatec Analytic 4 software is based on a micro-service architecture. It consists of several modules, services developed by SDO "Chromatec" or representing third-party freely distributed open-source software.

Chromatec Analytic 4 does not include proprietary software that requires additional licensing.

Chromatec Analytic includes the following main applications:

- Navigator. Operator's desktop, help system, audit, administration.
- "Control Panel". Control of chromatographs and auxiliary equipment.
- "Analytic". Working with the database, creating reports.

All of the above applications have a client and server side.

In addition, it includes the following services:

- Authorization service.
- Calculation service (contains metrologically significant modules).
- Auxiliary diagnostic and logging service.

2 INSTALLING THE SOFTWARE

2.1 Installation package

The installation package with Chromatec Analytic software is delivered on a USB drive. It can also be downloaded from the Chromatec website.

There are two folders on the USB drive:

- linux
- windows

Each of them can contain several installation files with the .sh extension. Examples of the installation file name:

- analytic4-linux-2026-09-02.sh
- analytic4-windows-2026-09-02.exe

As you can see, there is a date in the name of the installation file. If there are several installation files on the USB drive, it is recommended to install the latest one by date. Earlier versions are included in the installation package for security reasons. In case there are errors in the latest build, then you should install an earlier one.

2.2 Installation on Linux

2.2.1 Terminal and Midnight Commander

To install the software on Linux, we will use the Terminal and Midnight Commander programs.

The "Terminal" is called differently in different operating systems. It is usually available in the main menu

In Astra Linux, this program is called Fly Terminal ".

"Midnight Commander" is a classic two-panel file manager. It is launched from the terminal with the command:

```
mc
```

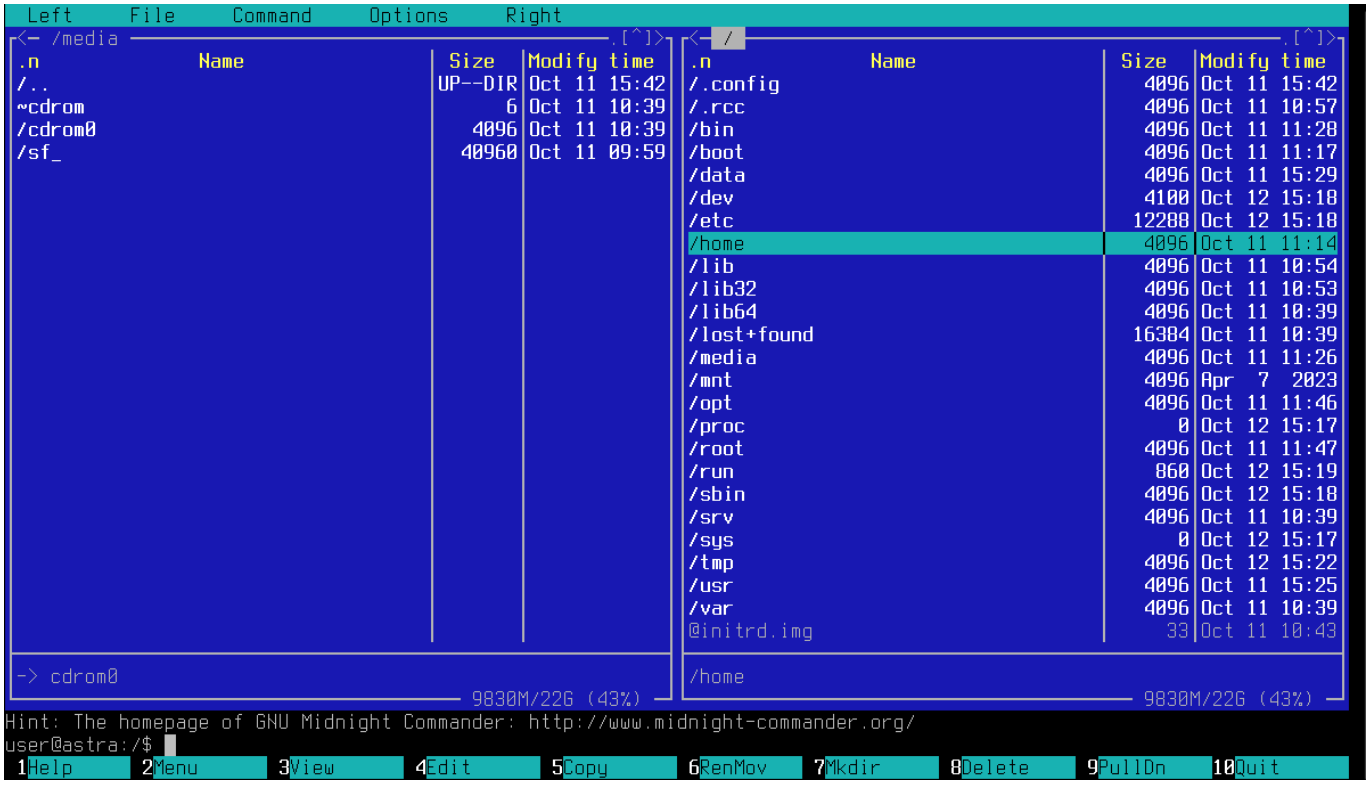


Figure 2.1 – "Midnight Commander"

It is more convenient to navigate through folders using "Midnight Commander", but it is better to switch to the terminal window to enter commands.

It is more convenient to navigate through folders using "Midnight Commander", but to enter commands it is better to switch to the terminal window.

Please note that when running Linux commands, the progress and execution result are displayed in the terminal window. However, if you are working in Midnight Commander, then upon completion of the command the terminal window will change to the Midnight Commander window and you may not have time to see the result.

To switch between the "Midnight Commander" panels and the terminal window, use the keyboard shortcut **CTRL+O**.

2.2.2 Superuser mode

Linux is characterized by such an entity as a **super user**. This is a computer administrator with elevated rights compared to a regular user.

In normal user mode, the terminal line ends with a $ character. For example:

```
user@astra:/$
```

In superuser mode, the terminal line ends with the # character. For example:

```
user@astra:/#
```

Most of the steps to install Chromatec Analytic on Linux will need to be performed as a superuser. To do this, add the **sudo** command (from the words super user do) before the necessary commands.

After entering such commands, the OS will require you to enter the superuser password. Typically, on Linux, it is entered without the characters being typed being displayed on the screen.

For example, you can run the Midnight Commander file manager in superuser mode:

```
sudo mc
```

The operating system may display the following error:

```
имя_пользователя is not in the sudoers file. This incident will be reported.
```

In this case, run the command:

```
su
```

Enter the superuser password.

Next run the command:

```
mcedit /etc/sudoers
```

A text editor will open. Scroll to the end of the file and add this line:

```
имя_пользователя ALL = (ALL) ALL
```

Press **F2** to save the file. A message appears:

```
Имя файла для записи /etc/sudoers
```

Press **ENTER**.

Press **ESC** to close the text editor. The sudo command will now run.

2.2.3 Backup user data

If Chromatec Analytic has already been installed previously, and you are now updating (by installing a new distribution on top of the old one), then it is advisable to first backup the user data.

2.2.4 Copying installation files

If you are installing the software from a USB storage device:

- Open the USB storage device in Midnight Commander.
- Go to the "linux" folder.
- Copy all the installation files to any available folder, such as ~/Downloads.

If you have downloaded the installation file (with the extension .sh) from the website – copy it to any available folder, for example ~/Downloads.

Here ~ means part of the path to the user's home folder.

Navigate to the folder where you copied the installation package.

You need to copy it because the installation from a USB storage device may not be complete. Some Linux distributions prohibit the execution of programs from a USB storage medium.

Please note that if there is an "extra" folder inside the "linux" folder, it must be copied along with the installation file.

2.2.5 Installation procedure

Insert a USB drive with Chromatec Analytic software. The file manager opens:

- Open Terminal.
- Launch "Midnight Commander" with the command:

```
mc
```

- Copy the installation package for a hard drive.
- Place the cursor in the folder where you copied the file.
- Open the console using the keyboard shortcut CTRL+O.
- Enter the command:

```
sudo bash ./analytic-linux-YYYY-MM-DD.sh
```

Please note that here YYYY-MM-DD is the build date of the installation file. For example, the full file name would be analytic4-linux-2026-09-02.sh. This is exactly the name you need to enter in the command.

You will be prompted to enter your account password. Enter it.

The installation begins with the message:

```
### CHECK CONTENT
```

The installation is completed when the following message appears in the terminal:

```
### OK
```

Chromatec Analytic is ready for local work on this computer.

If you want to work with Chromatec Analytic in client-server mode, i.e. access the program from other computers – additional configuration is required.

Then you can get to work – launch the client software.

2.2.6 Data migration

Starting from 2026.07.17, Chromatec Analytic 4 is released **without docker**.

If you already had an earlier version of Chromatec Analytic 4 installed, then the new one, without deleting the previous one, will be installed in a different folder – /opt/analytic4

In this case, the new default data folder will be /var/analytic4

Old data (compounds, chromatograms, methods, reports) will not be deleted, but will need to be copied to a new location.

To do this, run the migration command:

```
sudo bash /opt/analytic4/migrate.sh
```

Next, a question will be asked:

```
Backup projects and continue? [Y/n]
```

Press **ENTER**. Wait until copying finishes. After it is completed, the services will restart and the final message in the console will be ### OK. After this you can continue working.

2.2.7 Additional settings for client-server mode

This setting is performed if Chromatec Analytic will work in client-server mode, that is, the software is installed on one computer (server), and users will connect to it from other computers.

Open the config.env.override file for editing with the command in superuser mode:

```
mcedit /opt/analytic/config.env.override
```

By default it is empty. Add the line:

```
NGINX_ADDR=0.0.0.0
```

By default, Chromatec Analytic runs on port 8888, and this port should be specified in the address bar, for example: http:/192.168.0.243:8888

You can change the port to 80, in which case it will not need to be specified in the address line: http:/192.168.0.243

You must be sure that port 80 is not occupied by any other application or service!

To change the port, add the line to the same file:

```
NGINX_ADDR=0.0.0.0
NGINX_PORT=80
```

Press **F2** to save the file.

Press **ESC** to exit the editor.

Next run the command:

```
sudo bash /opt/analytic4/install.sh
```

After the message **### OK** appears in the console, you can continue working.

The server is configured. You can connect to it from other computers on the network.

2.2.8 Useful Linux commands

```
The command line ends with $ Ordinary user
The command line ends with # Super user

{command} --help Get help on a command

cat /etc/os-release Find out the Linux version
cat /etc/astra_version Find out the Astra Linux version

mc Run Midnight Commander
cd Change folder
ls -l List of files and folders in a folder, indicating the owner

sudo mount /{file path .iso} /mnt -t iso9660 -o loop Mount iso
sudo umount /{file path .iso} /mnt Unmount iso

sudo chmod -R 777 * Give files in a folder full access rights[1]
sudo chown {User}:{Group} -R . Recursively change the owner of all files and folders
relative to the current folder (dot at the end)
```

[1] Full permission allow all users to read, write, and run the file. Permissions are set with the chmod command as follows:

- **r** – reading;
- **w** – record;
- **x** – execution;
- **s** – execution as superuser (optional);

There are also three categories of users for whom you can set these file permissions:

- **u** – file owner;
- **g** – file group;
- **o** – all other users.

For example:

- **u+x** – allow execution for the owner;
- **ugo+x** – allow execution for everyone;
- **ug+w** – allow recording for owner and group;
- **o-x** – prohibit execution for other users;
- **ugo+rwx** – allow everything for everyone;

If **rwx** parameters are written in lowercase, they apply to both files and folders.

If **RWX** parameters are written in uppercase, they are folder-specific only.

For example, the following command will recursively turn off the "execute" flag for all files relative to the current folder, but turn it on for subfolders (otherwise the user would lose access to these folders):

```
sudo chmod -R ugo-r, ugo+R
```

2.2.9 Installation errors

Possible installation error:

```
root@astra-65721:/home/user/Documents# bash ./analytic4-linux-2026-09-25.sh ### CHECK CONTENT
tar (grandchild): zstd: The exec function failed with an error: There is no such file or directory.
tar (grandchild): Error is not recoverable: exiting now
tar: Child died with signal 13
tar: Error is not recoverable: exiting now
### ERROR: Content not checked
```

If the error text contains "**tar (grandchild): zstd**", it means that the **zstd** archiver was not found in the system. It may not be present on older Linux systems. For example, it is not available in Astra Linux 1.7.

This archiver is located on a USB storage device with the "Chromatec Analytic" distribution. Locate the zstd file in the linux folder.

You can also download it from the link: https://a4.chromatec.ru/download/a4/zstd

Copy the **zstd** file to the /bin folder

The file must be executable! In Midnight Commander, there is a symbol in front of his name. *

If the file is non-executable, select "File / Chmod" in Midnight Commander. "Next" enable ""launch/search for owner", "launch/search for group", "launch/search for others" options. Click "Install".

Next, repeat the installation of "Chromatec Analytic".

2.3 Installation on Windows

Starting from the build 2025.03.31 "Chromatec Analytic 4" is installed on Windows without a virtual machine.

When installing on a computer where a virtual machine was previously installed, it is no longer used, it can be removed. User data (chromatograms, methods, etc.) will not be deleted.

When using the "Chromatec Analytic 4" for Windows, the protection of user data from changes to third - party software is not implemented (and not planned). Therefore, if you need such protection, use Linux.

- If you install the software from a USB carrier-go to the **windows** folder and run the **analytic4-windows-YYYY-MM-DD.exe** file.
- If you downloaded **analytic4-windows-YYYY-MM-DD.exe** from the Chromatec website – launch it.

Here YYYY-MM-DD is the file creation date. If there are several files, it is recommended to set the latest by date.

- Select the language.
- Click "Next".
- Select "I accept the terms of the agreement" and click "Next" (Figure 2.2).
- Select the "Chromatec Analytic" installation folder and click "Next|. It is recommended to use the default path (Figure 2.3).
- Select the folder where user data will be stored (chromatograms, methods, settings and other resources). By default – "C: \ Analytic 4". Press "Next" (Figure 2.4).
- Select a folder for shortcuts and click "Next". It is recommended to use the default path (Figure 2.5).
- In the next step, select installation options (Figure 2.6).

MS library service. Enable this option if you are going to work with mass spectral libraries.

- Click "Install".

The installation process will begin. After the installation is completed, an icon "Chromatec Analytic 4.0" will appear on the desktop. Use it to launch according to.

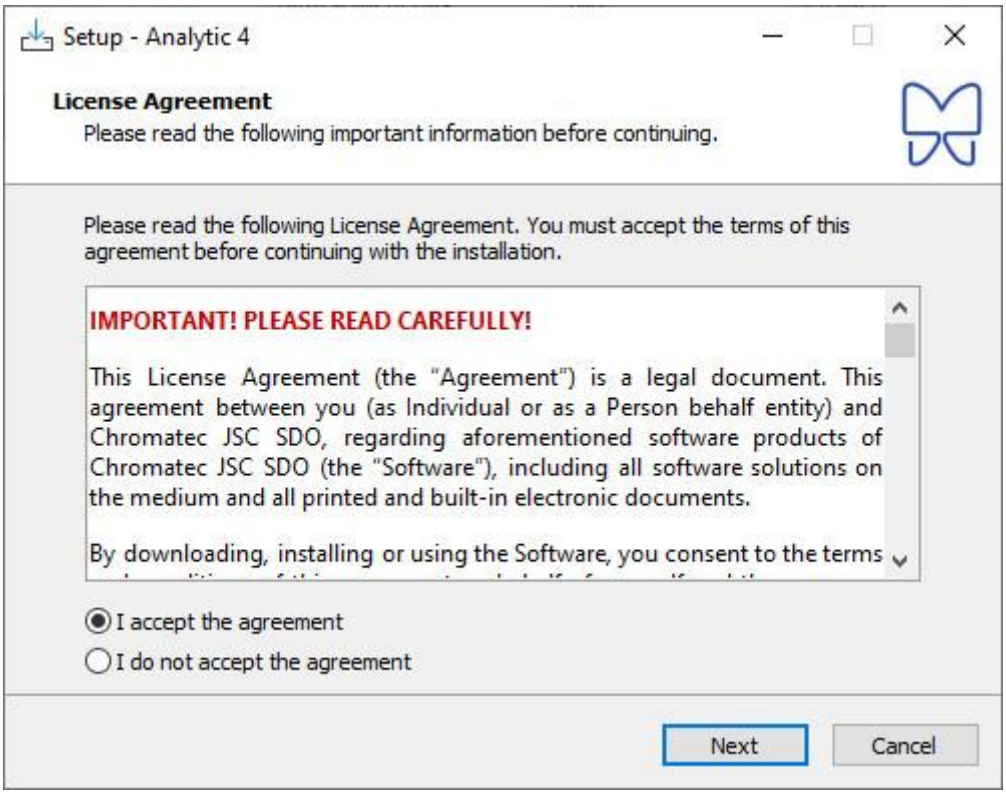


Figure 2.2 – License agreement

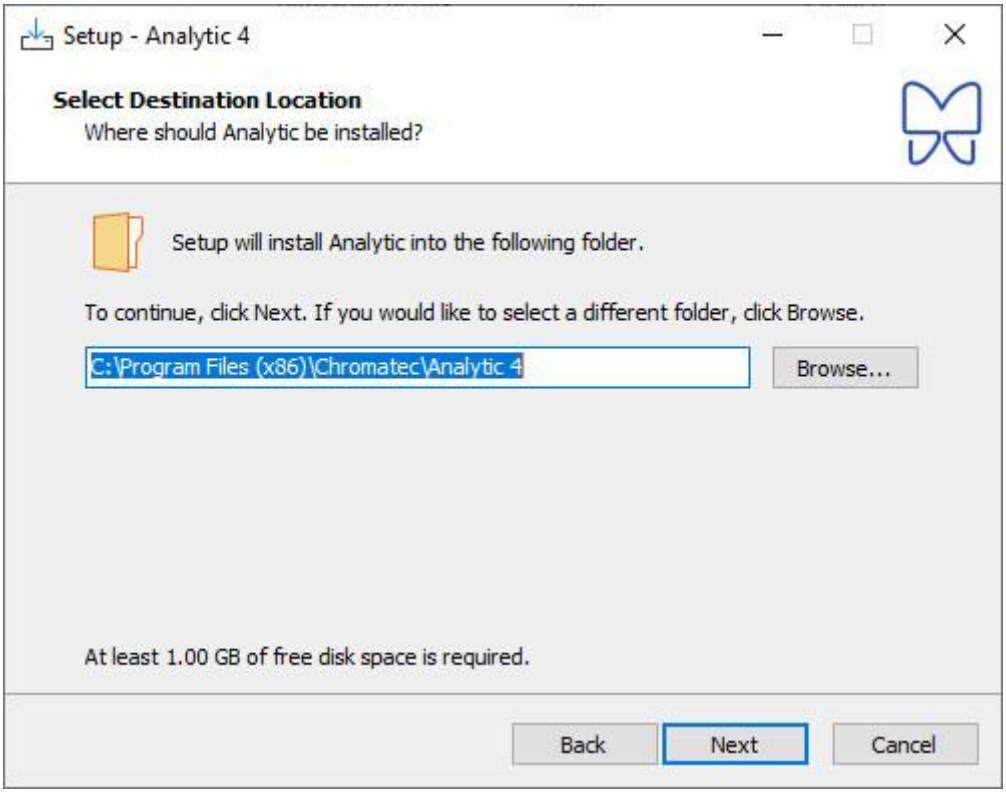


Figure 2.3 – Selecting the installation folder "Chromatec Analytic" on Windows

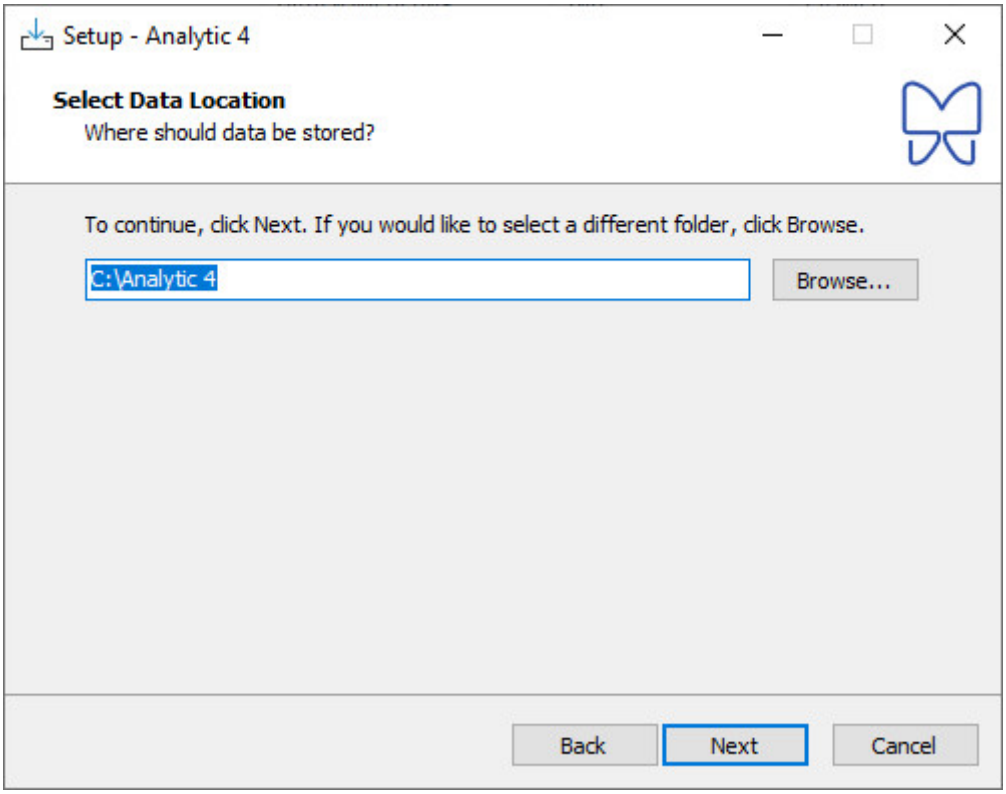


Figure 2.4 – Selecting User Data folder

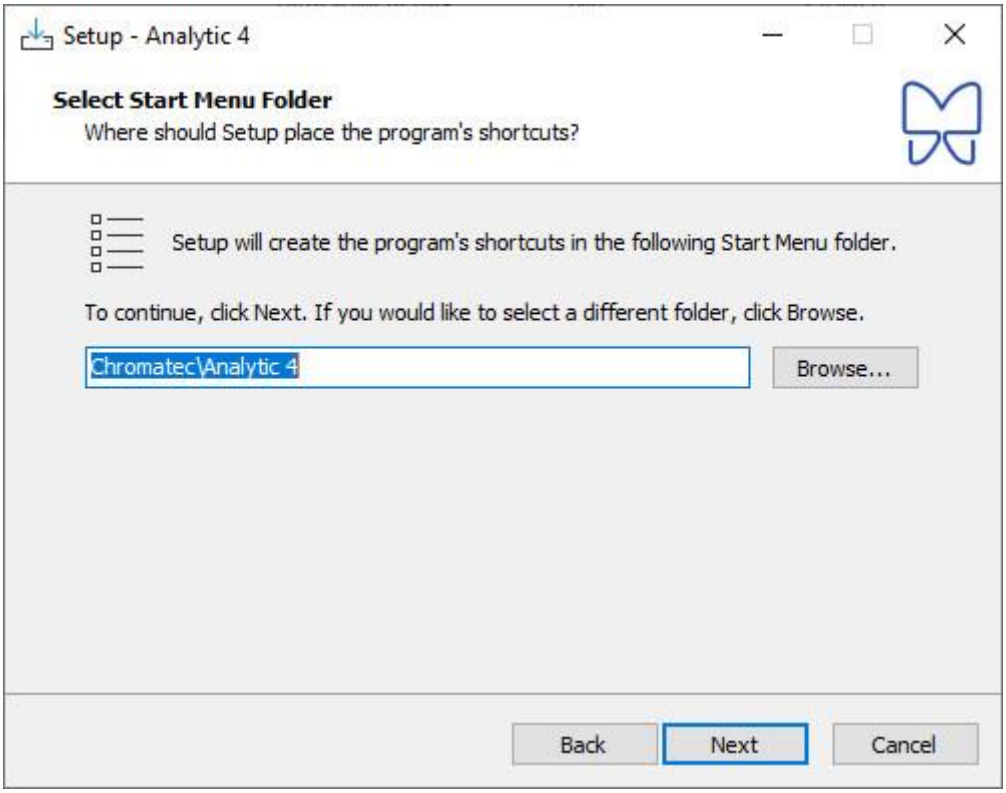


Figure 2.5 – Selecting folder for shortcuts

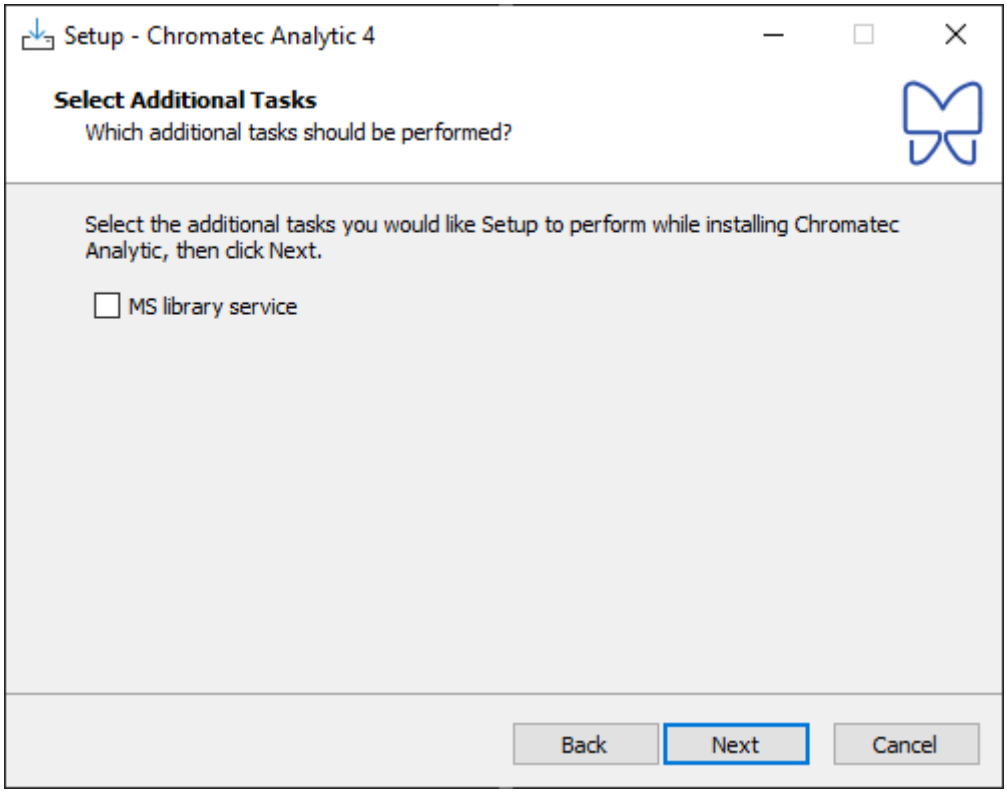


Figure 2.6 – Installation options

3 NIST INSTALLATION

If you are operating a mass spectrometry detector (MSD), you will need the NIST library to process the data.

NIST – National Institute of Standards and Technology.

When the MSD is shipped, this library is located in the root of the USB drive, in the nist folder:

3.1 Installation on Linux

3.1.1 WINE installation

The NIST library contains software modules developed for Windows operating systems. There is no implementation of these modules for Linux, so the only way to install NIST software on Linux is to use WINE.

WINE is free software that allows you to run Windows programs on Linux. WINE is a recursive acronym meaning: "Wine Is Not Emulator". Those. WINE is not an emulator or a virtual machine, but an alternative, open implementation of the Windows API.

If Internet is not available, WINE can be installed from a USB drive where "Chromatec Analytic" is located. The package contains WINE for the following operating systems:

- Astra Linux 1.8, 1.7.6, 1.7.5
- RED OS 8.0, 7.3.4
- Alt Linux 10.1

If your operating system is not on this list, install WINE from the Internet or contact "Chromatec" for help – (8262) 68-59-39, soft@chromatec.ru.

To install WINE, go to the nist folder on your USB drive. Next run the command:

```
sudo ./install-wine.sh local
```

Wait for WINE to install. The installation is successful if the following lines appear in the terminal:

```
Wine successfully installed: wine-9.0 (Staging)

DONE
```

3.1.2 WINE setting

Run the command:

```
wine config
```

3.1.3 NIST installation

Now install the NIST library itself:

```
wine nist23-setup/Disk1/setup.exe
```

The NIST installation will begin.

3.1.4 Installation of the service for working with the library

Next, install the additional service "Chromatec Analytic", which is necessary for searching the library:

```
bash ./a4-service/systemd/install.sh
```

Please note that the **sudo** team is not used here!

NIST installation is complete.

3.1.5 Checking the operation of MS Search

To check that MS Search is installed correctly, run the command:

```
wine nistms.exe
```

If the MS Search program window opens, it means the installation was successful.

If the window does not open, follow these steps:

- Delete the **~/.wine** folder (full path: **/home/USER NAME/.wine**).
- Reinstall the NIST library.
- Reinstall the service to work with the library.

3.2 Installation on Windows

Because the NIST library software modules are designed for Windows, there is no need to install any additional software. You can begin installing NIST right away.

Run the file:

```
nist\nist23-setup\run_setup.bat
```

The NIST installation will begin (video similar to the one above for Linux).

Next, install the service required to transfer mass spectra from Chromatek Analytics to NIST; to do this, run the file:

```
nist\a4-service\MSLib-1.2.exe
```

NIST installation is complete.

4 RUDESKTOP INSTALLATION

To conduct consultations on the operation of software, equipment and solve any problems, it is very convenient to use remote diagnostics.

This is the most preferred type of diagnosis, allowing you to quickly solve most problems. To use it, you will need Internet access from your workplace. If you do not have it, we strongly recommend that you contact your management and ask for access, at least temporarily, to resolve the problem.



To provide access to technical support, use the cross-platform RuDesktop program. It provides fast and secure remote access and is included in the Russian software registry.

For these operating systems, RuDesktop does not need to be downloaded; it is included in the Chromatec Analytic 4 installation package:



Astra Linux



Alt Linux



RED OS



Windows 64-бит

4.1 Installation on Linux

RuDesktop is part of Chromatec Analytic. Before installation, the program files should be copied from a USB drive to the computer's hard drive, since some operating systems, such as Astra Linux, will not allow installation from a USB drive.

You should have already copied the files during the installation of Chromatec Analytic.

To install RuDesktop from the installation package "Chromatec Analytic 4":

- Open a terminal and launch Midnight Commander.
- Go to the folder where you copied the Chromatec Analytic installation files.
- Run the command:

```
sudo bash ./install-rudesktop.sh
```

- Wait for the installation to complete. The following lines will appear in the terminal:

```
rudesktop successfully installed

DONE
```

- The RuDesktop item will appear in the Linux main menu. For example, in Astra Linux it will appear in the Internet menu.

4.2 Installation on Windows

- Open the USB drive with Chromatec Analytic software in Explorer.
- Go to the "rudesktop\windows" folder.
- Run the file "rudesktop-x64.msi". In the installation program, click "Next" everywhere.

Once the installation is complete, the RuDesktop shortcut will appear on the Windows desktop.

4.3 RuDesktop using

- Launch RuDesktop.
- Your data will appear in the left panel – ID and password.
- Call Chromatec technical support at +7 (8362) 68-59-32 and dictate the ID and password that you see in the RuDesktop window.

They will connect to your computer and help you solve the problem. You will see all the operator's actions.

The password is generated for one session. After you close the RuDesktop window, no one will be able to connect to your computer remotely. You will see all the actions that the technical support operator will perform on your screen.

5 LAUNCHING THE CLIENT SOFTWARE

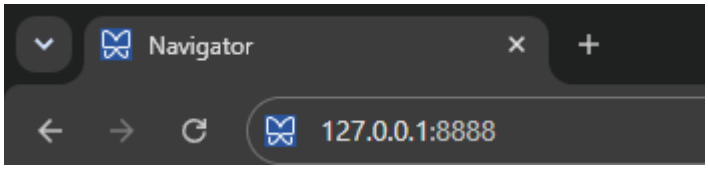
5.1 Home page address in browser

- Launch a valid web browser.
- In the address bar, enter the address of the Chromatec Analytic server. You should figure it out during the software installation process.

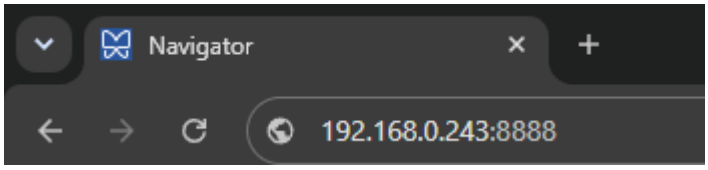
If the client and server are located on the same computer, then the server address is: http://127.0.0.1:8888

The default port is shown here. It can be changed, in which case a new port value should be specified.

If the software is not installed on the current computer, you must find out the server address from the system administrator.



Address if the client and server are located on the same computer



Example of an address if the client and server are on different computers

Fig 5.1 – Typing the address of the Chromatec Analytic server in the browser address bar

For greater convenience, a launch shortcut is created on the desktop in Windows. It will open the main page of “Chromatec Analytic” (Navigator desktop) in the browser installed by default.

In Linux, a similar shortcut named “Analyst Browser” is created in the main menu, in the “Scientific” group.

5.2 Login

The login page loads first.

By default, there are two accounts: administrator and guest.

To log in as a guest, click the corresponding button in the login dialog (see the picture below).

The guest account is restricted in rights. You can freely view documents in the Navigator library, as well as visit some pages of the software, but you cannot change settings, you cannot create or change any data.

When you first start the software, you need to create accounts. To do this, log in with the parameters:

Login: **admin**

Password: **admin**

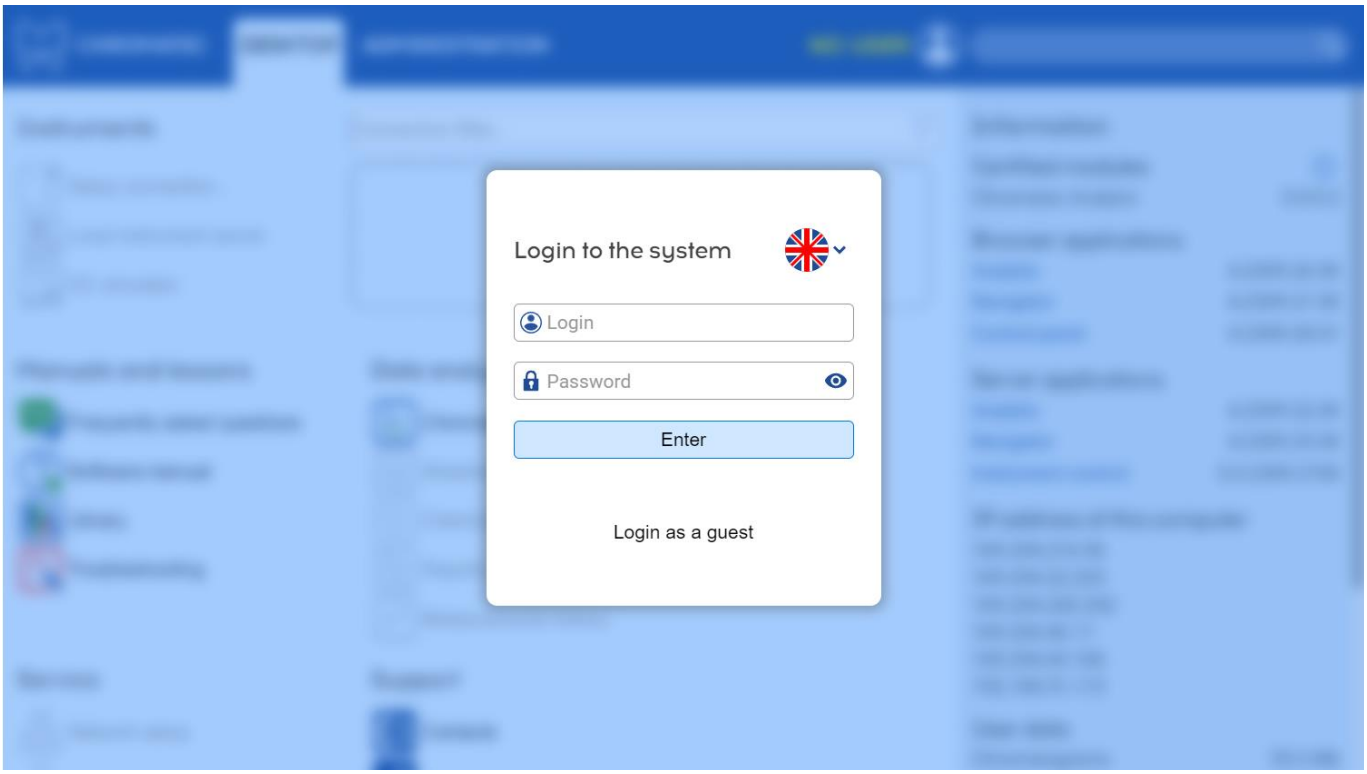


Figure 5.1 – Login page

After logging in, the Chromatec Navigator page will load. You can bookmark it in your browser like any other site. You can make it the browser's home page.

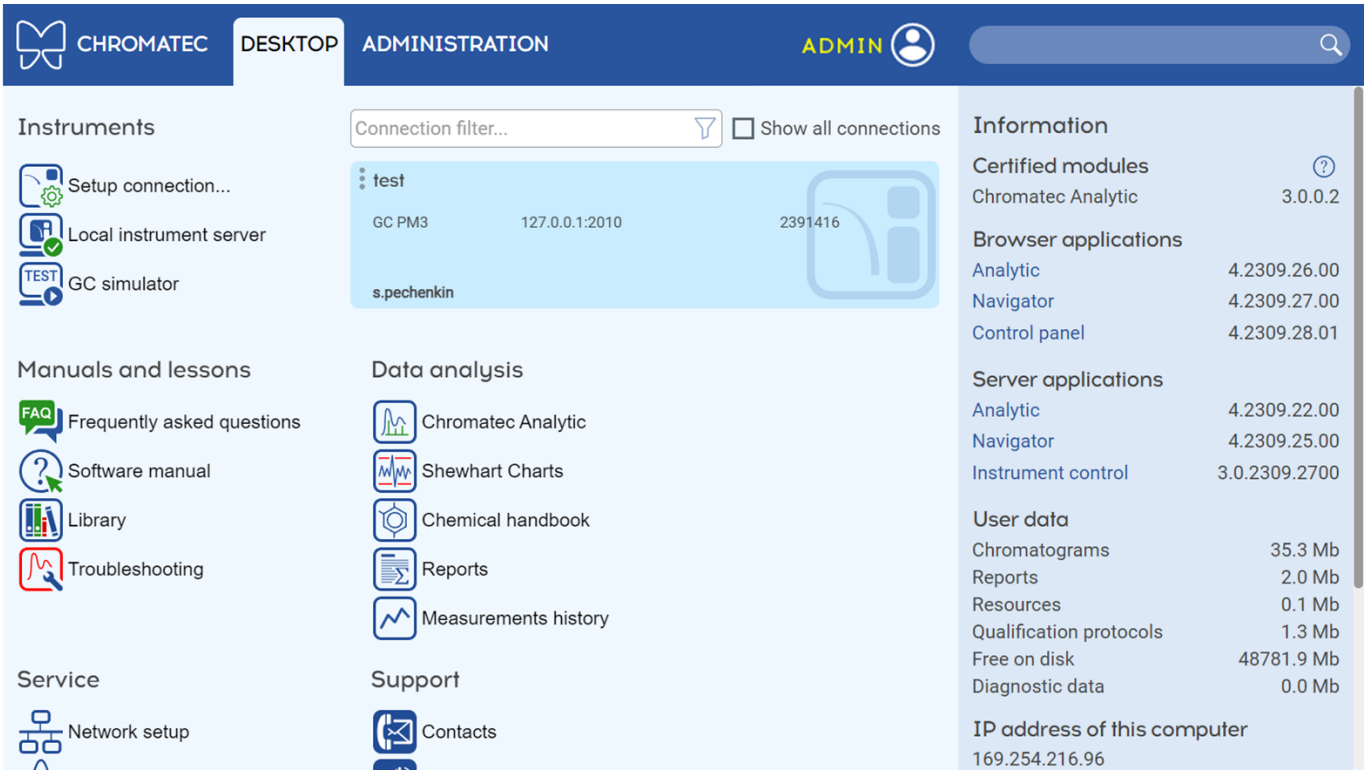


Figure 5.2 – "Chromatec Navigator"

If the installation was successful, but the client application does not start, no errors are displayed on the page, and the page is evenly filled with background color – refresh the browser.

If you receive an error code 502, it means that one or more services are not running. Follow the instructions in the section – Solving startup problems.

After successfully logging in with the admin login and admin password, you will be prompted to create a new user (further see the "Chromatec Analytic" user guide).

If the equipment supply contract includes a computer, then the software is immediately installed on it. The "User" account is created:

Login: user

Password: 12345

5.3 Solving startup problems

If the main page of the program does not load and a 404 error is displayed, this means that the **NGINX** service is not running.

If the login window appears, but an error occurs when entering your login and password, and you are sure that the login and password are correct, the authorization service is probably not running.

If the main page loads, but some error code 502 is displayed, this means that no other services are running. In this case, the information panel for these services will have a dash instead of the build date.

Module build date	
Analytic	2026.04.22.1654
Navigator	2026.04.29.1432
Control panel	2026.04.29.1618
Energetic	2026.02.19.0821
Database service	2026.04.30.1101
Report service	2026.04.30.1101
Calculation service	2023.12.26.1510
Navigator service	2026.04.29.1432
Instrument service	2026.05.04.1351
Authorization service	2025.02.14.1605
Energetic service	2026.02.18.1554



Module build date	
Analytic	2026.04.22.1654
Navigator	2026.04.29.1432
Control panel	2026.04.29.1618
Energetic	2026.02.19.0821
Database service	2026.04.30.1101
Report service	–
Calculation service	2023.12.26.1510
Navigator service	2026.04.29.1432
Instrument service	2026.05.04.1351
Authorization service	2025.02.14.1605
Energetic service	2026.02.18.1554



Figure 5.2 – Services status

In all these cases, a restart of services will be required.

5.3.1 Restarting services on Linux

Open a Terminal.

Enter the command:

```
sudo bash /opt/analytic4/install.sh
```

After restarting the services, the message ### OK should appear in the console.

Open or reload the Chromatec Navigator page in your browser again.

If the problem persists, evaluate the status of services using the command:

```
sudo bash /opt/analytic4/status.sh
```

The console will display the following information:

```
SERVICE                  STATUS           RESTARTS
-------                  ------           --------
analytic4-a4r.service    active           0
analytic4-a4s.service    active           0
analytic4-auth.service   active           0
analytic4-calc.service   active           0
analytic4-e4s.service    active           0
analytic4-log.service    active           0
analytic4-msg.service    active           0
analytic4-n4s.service    active           0
analytic4-nginx.service  active           0
analytic4-panel.service  active           0
```

If the RESTARTS column does not contain zeros, this means that some service cannot start.

In this case, contact the developer for help.: (8362) 68-59-39, soft@chromatec.ru.

5.3.2 Restarting services on Windows


Open the "Start" menu, then the "Chromatec" group.


Select the "Restart Services" option.

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7 INFORMATION ABOUT THE MANUFACTURER

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For correspondent: RF, Mari El, 424000, Yoshkar-Ola, main post office a/Ya 84

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Software Department	(8362) 68-59-39	soft@chromate.ru
Marketing Department	(8362) 68-59-68	68@chromatec.ru