

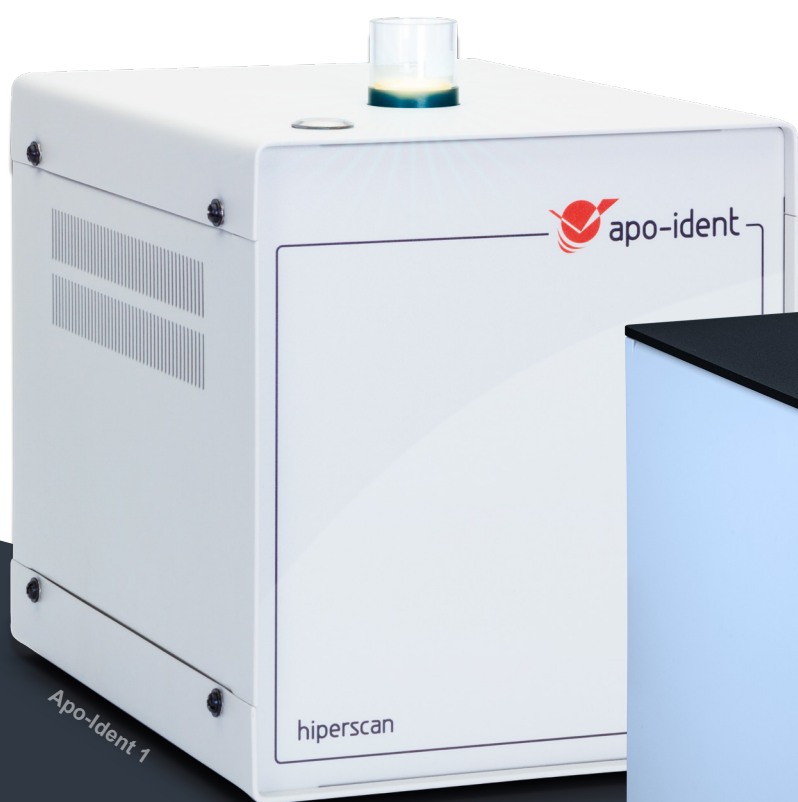


Operating manual

for the NIR analysers

Apo-Ident 1 and Apo-Ident 2

based on version 2.4



Quick start guide	3
1. First steps	5
1.1. Safety instructions	5
1.2. Software installation	5
1.3. Connecting the analyser	6
1.3.1. Connecting Apo-Ident 1	6
1.3.2. Connecting Apo-Ident 2	6
1.4. Starting the program	8
1.5. Apo-Ident settings	8
1.5.1. Report settings	8
1.5.2. WLAN / LAN settings	10
1.5.3. Settings for the Ident module	10
1.5.4. Software upgrades	10
1.5.5. Label printer settings	10
1.5.5.1. Brother label printer	10
1.5.5.2. DYMO LabelWriter 450	12
2. Measurement	13
2.1. APIs & excipients (solid) and narcotic substances (solids) clearly identifiable using Apo-Ident	13
2.1.1. Measurement with the sample insert for small amounts of substance	14
2.2. APIs & excipients (semisolid/liquid) clearly identifiable using Apo-Ident	15
2.3. Special features of substances with inconclusive test results	17
2.4. Special features of substances that cannot be tested with Apo-Ident	18
2.5. Substance management	19
2.6. Cleaning/use of sample cups, transfectance insert and sample insert	20
3. Additional functions	21
3.1. Percentage of agreement + setpoint	21
3.2. Display of the difference line between reference and sample spectrum	21
3.3. Search function (query) by substance, expiration date or other criteria	21
3.4. Display of the validation documents	22
3.5. Data backup	22
3.6. Identification details (ranking list)	23
3.7. Help	23
3.8. Info	24
4. Explanation of terms	25
5. Technical specifications and disposal	26
5.1. Technical specifications of Apo-Ident 1	26
5.2. Technical specifications of Apo-Ident 2	27
5.3. Disposal	28

1. Starting the program

Start the program „QuickStep Apo-Ident“ by double-clicking on the desktop icon. The Apo-Ident user interface opens.

Note: If the internal unit temperature is too low, a warm-up program is started automatically. When the temperature of at least 20°C is reached, the system is ready to start.

2. Selection of the configuration profile

Choose your stored pharmacy under Configuration profile, if you have more than one configuration profile.

Note: Our detailed instructions on page 7 explain how to create a configuration profile.

3. Selection of the substance

Under **Substance**, enter the name of the substance to be tested in the search field, e.g. Sodium citrate. Now the classifier is displayed, in this case “APIs & excipients, solid”, the name of the substance and the Latin name.

Note: The software shows suggestions to you as you enter the first few letters. You can choose the correct substance from the suggested options.

Help: If the NIR analysis can provide an unambiguous result for the selected substance, the search field will turn green. All information on colour coding can be found on page 12.

4. Measuring by substance category

4.1. APIs & excipients (solid) and narcotic substances (solid)

Start measurement

First place your **sample cup containing the substance** (filling height 4 mm) and the **adapter ring** on the measurement point. Start the measurement process by clicking on the blue button next to **Measuring** or by pressing the measurement button (lights up green) directly on top of the device.

Note: Some substances can also be identified with smaller quantities. The appropriate procedure can be found in our detailed operating instructions on page 13.

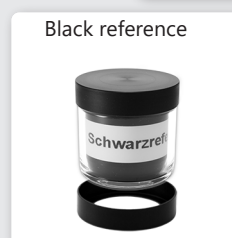
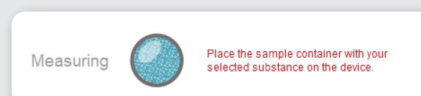
Referencing

After the first substance measurement, you will be asked to place the reference standards onto the measurement point. Follow the instructions of the software and first place the black reference, followed by the white reference on the measurement point. Start the reference measurements by clicking on the black or white button next to **Measuring**.

Note: Please always use the black adapter ring. The measurement of the references is requested again by the software after approx. 60 min.



Search*	Sodium citrate
Classifier	APIs & excipients, solid
Name	Sodium citrate
Latin	Natrii citras
Validation	Available



4.2. APIs & excipients (semisolid/liquid)

Transflectance reference measurement

Start with the transflectance reference measurement. Place the clean **transflectance insert** with the feet pointing downwards in a clean, **empty sample cup**. Using the adapter ring, place the cup, with the transflectance insert, onto the Apo-Ident device's measurement point. Start the **transflectance reference measurement** by clicking on the grey button or by pressing the button directly on the device.

Important: Both the transflectance reference measurement as well as the measurement of the liquid/ointment or emulsion must be carried out with the same measurement transflectance insert and sample cup. Otherwise, identification may not be possible.

Note: After successful transflectance reference measurement, a time frame of 5 min. is provided for starting the substance measurement. If the measurement is not carried out during this period, the transflectance insert reference measurement must be repeated.

Referencing

After the transflectance reference measurement, you will be asked to place the supplied reference standards onto the measurement point. Please follow the instructions on referencing under 4.1. of the Quick start guide.

Start measurement

Place your **sample cup with the substance** and the **transflectance insert** as well as the **adapter ring** on the measurement point. Start the measurement process by clicking on the blue button next to **Measuring** or by pressing the measurement button (lights up green) directly on top of the device.

Note: Make sure that you press the measurement transflectance insert with the feet downwards onto the bottom of the sample cup so that no air bubbles are visible.

5. Result

After a few seconds, the unit shows you whether the substance has been identified.

Note: If the result is negative, please read the further information on non-identification. Check or repeat your measurement procedure accordingly.

6. Report details

After successful measurement, fill in all mandatory fields (marked with a red frame and *) next to the **Sample** as well as **User**. Under **Result**, you may fill in **Comment** and **Additional tests**, if required. Please note that only after filling out all mandatory fields can you create the report.

7. Creating the report

Now you can save the measurement result, view the test report as a PDF file, or print it out.

Note: No matter which function you select, the measurement result will be saved in any case. In addition, you may also print your test label on your label printer.

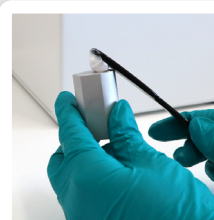
transflectance insert



Measuring



Place the transflectance insert feet facing down in an empty sample container and use them for the next measurement too



Result	Name	Sodium citrate	
	NIR Result	Match	Valuation 100.0% (Limits 98% to 100%)
	Comment		
	Additional tests	(empty)	

Sample	PPN		Manufacturer/supplier*	
	Batch*		Use-by date*	
	Weighing corr			

Protocol	Save	PDF	Print	Label Printer	Test number
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1. First steps

1.1. Safety instructions

Please read the safety instructions carefully.

- Use only the power supply unit or power cord supplied.
- If the power connector cord or the power supply unit is defective or damaged, contact the manufacturer immediately. Operation with a defective power cord or power supply unit may be life-threatening.
- Environmental influences such as high temperatures and high humidity must be avoided, as well as dust, dirt and corrosive gases.
- The installation site should be well ventilated and not exposed to direct sunlight. Install the device on a non-combustible, horizontal surface that does not transmit vibrations.
- Make sure that there is no ingress of objects or liquids into the device. If this happens, immediately unplug the device and contact the manufacturer.
- Do not open the device. There are no user-serviceable parts inside the device.
- Do not operate the device in explosive or flammable atmosphere.
- Apo-Ident is often used for determining hazardous substances. This type of work should be undertaken only by qualified personnel. If you are not absolutely sure, contact your supervisor or a competent expert.

1.2. Software installation

- Connect the provided USB flash drive to your PC.
- Drag the "Apo-Ident" folder to your desktop and open the „Current Software“ folder in it. Start the installation by double-clicking on QuickStep_*.exe. Read and accept the licence conditions. Follow the set-up wizard.
- Next, double-click on the IdentModul_*.exe file. Read and accept the licence conditions. Follow the set-up wizard.
- Thereafter, if the installation is correct, you will get an update certificate displayed. Save the certificate in the folder "Apo-Ident/ Update certificates" with specification of the version or the date.

Important: *If you would like to use the Apo-Ident 2 as a standalone device, it is not necessary to install the software. The current version is already installed on the computer integrated device.*

1.3. Connecting the analyser

1.3.1. Connecting Apo-Ident 1

Apo-Ident 1 requires a power connection and computer/laptop (for system requirements see page 25) with Apo-Ident software installed.

Follow these steps:

- Insert the power cord into the IEC socket on the back side of the device and connect it to an earthed socket of the 230V mains supply (The analyser also works on any other common mains supply with earthed plug with 100 V to 240 V~ and 50/60 Hz).
- Connect Apo-Ident to a USB port on the PC/laptop using the USB cable supplied. On Apo-Ident 1, the USB port (type B) is located on the back side of the device.
- Switch on the analyser. The main switch is also located on the back side.
- The signal lamp in the control button on the top of the device lights up in red colour. Apo-Ident is now ready for use.



1.3.2. Connecting Apo-Ident 2

Apo-Ident 2 requires a power connection and optionally computer/laptop (for system requirements see page 26) with Apo-Ident software installed. Connect the power supply unit supplied (100 V to 240 V~ and 50/60 Hz) to a mains socket using an IEC and then plug the small round plug of the desktop power supply unit into the socket marked 12V IN on the back side of the device.



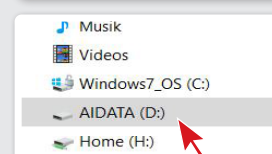
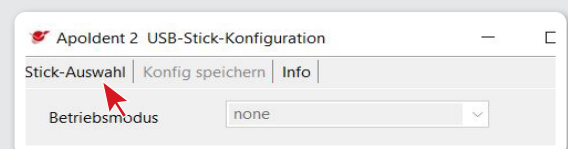
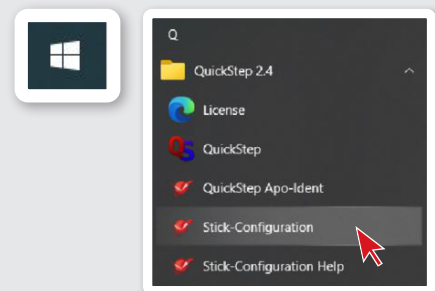
Connection via USB cord

Use the USB cable supplied to establish connection with a USB port on your PC/laptop to the USB type B port on the back side of the Apo-Ident device. Switch on the device with the toggle switch on the back side of the device. The signal lamp in the control button on top of the device lights up in red colour. Apo-Ident is now ready for use.

Setting up the wifi function

In order to be able to use the Apo-Ident via wifi, it is necessary to set up a one-time configuration via USB flash drive in advance. Insert the USB flash drive supplied for this purpose into a socket on your PC. Open the **Start menu** of your PC at the bottom left of the task bar and select **Flash drive Configuration** under **QuickStep 2.4**. A new window opens in which you can configure the WLAN settings.

First go to the **Flash drive selection** button and open the USB flash drive you have just connected, labelled **AIDATA**. After opening it, the current configuration is displayed.



Select the **wlanclient** operating mode. To modify the entries, click on the large input field and make the following changes:

[Pharmacy1]

ssid=**Insert your WLAN name (e.g. Fritzbox) here**

psk=**Insert your WLAN password here**

You can make this setting for up to 4 pharmacies. Click on **Save config** at the top to complete the settings.

Remove the USB flash drive from the PC and insert it into one of the black ports on the back side of your switched-off Apo-Ident. Switch on the device and wait until the green light on the back side of the device lights up continuously. Start the **QuickStep Apo-Ident** software on your PC. The program starts with the configuration set on the flash drive. The footer of the user interface shows you the mode with which you are connected to Apo-Ident. Apo-Ident is now ready for use.

Note: Please keep the USB flash drive connected while using Apo-Ident.

Setting up as a standalone device

In order to be able to use the Apo-Ident as a standalone device, it is necessary to set up a one-time configuration via USB flash drive in advance. Insert the USB flash drive supplied for this purpose into a socket on your PC. Open the Start menu of your PC at the bottom left of the task bar and select Flash drive Configuration under **QuickStep 2.4**. A new window opens in which you can configure the WLAN settings.

First go to the **Flash drive selection** button and open the USB flash drive you have just connected, labelled **AI-DATA**. After opening it, the current configuration is displayed. Select the **Standalone** operating mode.

Establish the connection to your WLAN by clicking on the large input field and modifying the following entry:

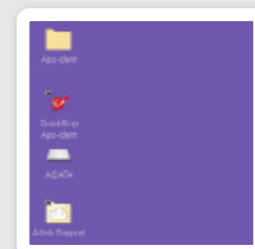
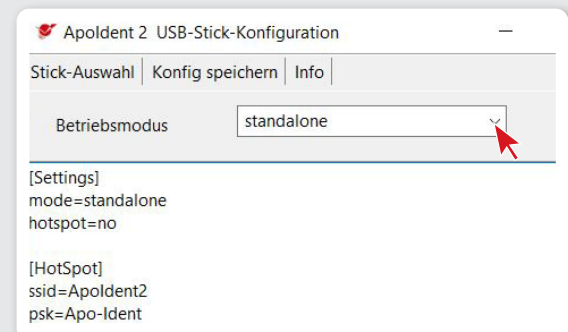
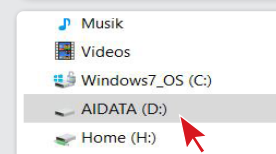
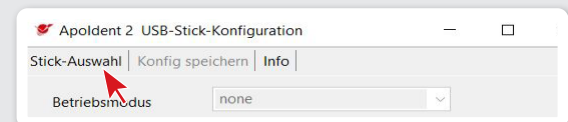
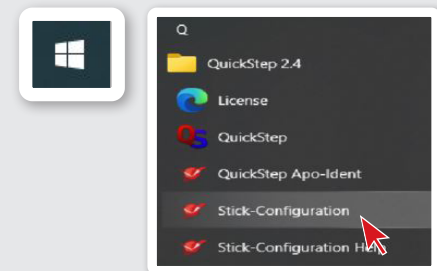
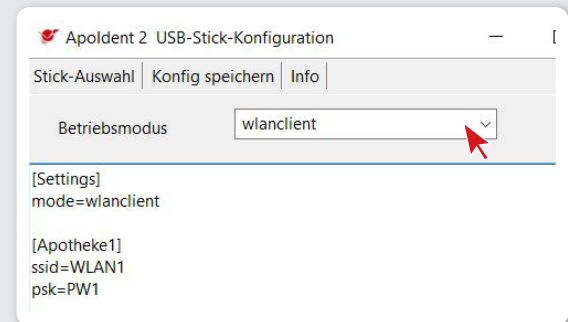
[Pharmacy1]

ssid=**Insert your WLAN name (e.g. Fritzbox) here**

psk=**Insert your WLAN password here**

You can make this setting for up to 4 pharmacies. Click **Save config** at the top to complete the settings.

Remove the USB flash drive from the PC and insert it into one of the black ports on the back side of your switched-off Apo-Ident. Connect Apo-Ident to a monitor and a keyboard or mouse. For this purpose, various connection options are available on the back side of the Apo-Ident device. Switch on the device and wait until it has booted.



1.4. Starting the program

Start the program "QuickStep Apo-Ident" by double-clicking on the desktop icon. The Apo-Ident user interface opens.

Note: If the internal unit temperature is too low, a warm-up program is started automatically. When the temperature of at least 20°C is reached, the system is ready for operation.

1.5. Apo-Ident settings

When the program is started for the first time, the settings open automatically. By default, a demo profile is saved, which is used for presentations. **However, you cannot create valid test reports with the demo profile!**

1.5.1. Report settings

Settings > Report Settings > To create your own profile, click on the Configuration profile button on the right side of the "+" sign.

Enter the name of your pharmacy as the profile name and confirm with **<OK>**.

Another window will open asking you to enter your licence key.

***Note:** If you use Apo-Ident in more than one pharmacy, you need a separate licence key for each pharmacy and you have to create a separate configuration profile for each pharmacy.*

For new customers, the licence key is inserted by our sales staff at the time of delivery.

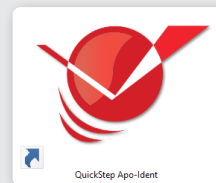
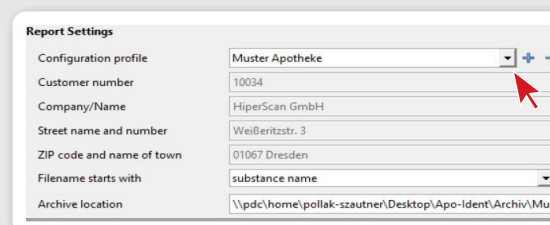
Thereafter, you will find it on the desktop as a PDF under 'Licence documents' in the 'Apo-Ident' folder or on the USB flash drive supplied.

You will need your licence key again in the following cases:

- Re-installation
- Change of computer

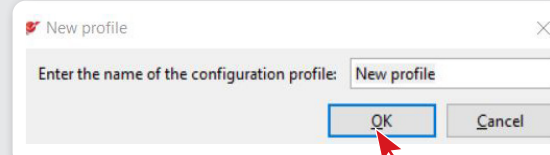
If you have misplaced your licence key or need support, please contact our customer service on telephone 0351 212 496 33 or via e-mail to kundenservice@apo-ident.de.

Filename starts with > Here you can select whether the "Primary substance name" (English) or, if available, the "Latin substance name" should be used in the file name of the test report.

Report Settings

Configuration profile	Muster Apotheke	+ -
Customer number	10034	
Company/Name	HiperScan GmbH	
Street name and number	Weißeritzstr. 3	
ZIP code and name of town	01067 Dresden	
Filename starts with	substance name	
Archive location	\\pdc\home\pollak-szautner\Desktop\Apo-Ident\Archiv\Mu	



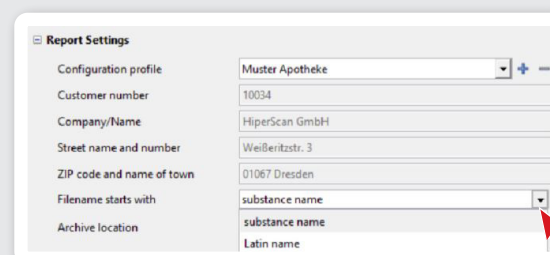
New profile

Enter the name of the configuration profile:



Import licence key

Please enter license key:



Report Settings

Configuration profile	Muster Apotheke	+ -
Customer number	10034	
Company/Name	HiperScan GmbH	
Street name and number	Weißeritzstr. 3	
ZIP code and name of town	01067 Dresden	
Filename starts with	substance name	
Archive location	Latin name	

Archive location > If a profile is created, the software automatically saves the archive (test reports) on the desktop under *Desktop/Apo-Ident/Archiv/Profile_Name1*

If a second profile is created, the software also saves the second archive under *Desktop/Apo-Ident/Archiv/Profil_Name2*

This ensures that several profiles are not saved in one and the same archive and that no errors occur while retrieving the archive.

Note: During the initial installation by our sales staff, the folder structure "Apo-Ident" is created for you, which integrates the archive. If you would like to change the destination for saving files, first move the entire "Apo-Ident" folder from your desktop to the new storage location. This may be a local drive or a network drive on your PC. You can change the archive directory by clicking on the folder symbol under "Profile storage location" in Settings, Report settings. In the "Select archive directory" window that opens, select the appropriate drive on the left and the desired folder on the right where you want to move the "Apo-Ident" folder. Closing the settings window will transfer your changes. In the menu bar, you can use the "Archive" button to check whether the new path has been accepted.

Note: When using Apo-Ident 2 as a standalone device, we recommend saving the data on the USB flash drive AIDATA supplied along with it. In this way, you can move test reports to other storage locations (e.g. Laboratory PC) at any time.

Report version for > Use this function to choose the language or form of the test report for the selected profile. The setting affects the report header as well as the label printing and display of the ranking list (PDF).

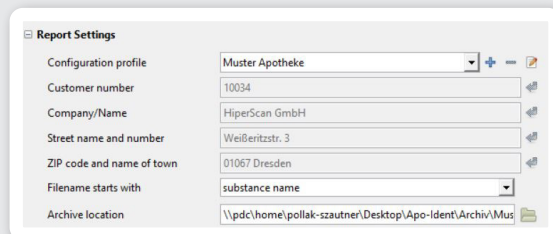
BAK Marking > When this function is enabled, the BAK Marking is displayed in the software, as well as in the test report and on the test label. Move the mouse over the coloured dots in the software and you will receive a recommendation regarding the protective clothing that you should wear when handling the selected substance.

Show difference of back projection > see 3.2.

Complementary test as mandatory field > see 2.3.

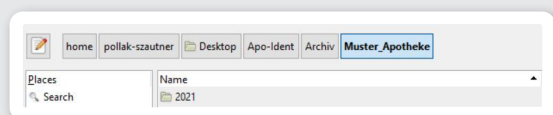
Print validation within protocol > see 3.4.

Note: If after measuring and saving the report, you notice that the report version needs to be changed, the measuring has to be repeated after changing the necessary settings.



Report Settings

Configuration profile	Muster Apotheke
Customer number	10034
Company/Name	HiperScan GmbH
Street name and number	Weißeritzstr. 3
ZIP code and name of town	01067 Dresden
Filename starts with	substance name
Archive location	\\pdc\home\pollak-szautner\Desktop\Apo-Ident\Archiv\Mus

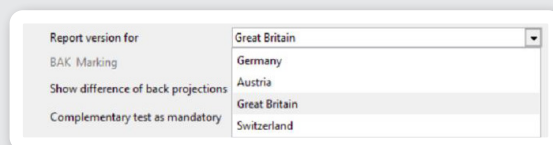


home pollak-szautner Desktop Apo-Ident Archiv **Muster Apotheke**

Places Search

Name

2021



Report version for

BAK Marking

Show difference of back projections

Complementary test as mandatory

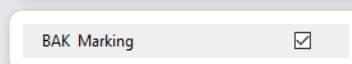
Great Britain

Germany

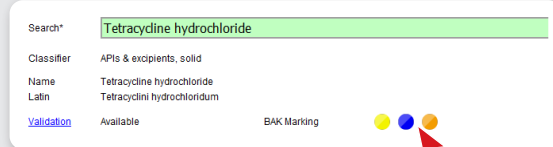
Austria

Great Britain

Switzerland



BAK Marking ☒



Search* Tetracycline hydrochloride

Classifier APIs & excipients, solid

Name Tetracycline hydrochloride

Latin Tetracyclini hydrochloridum

Validation Available BAK Marking

Yellow dot, Blue dot, Orange dot

1.5.2. WLAN-/LAN-settings

Please leave these settings as they have been pre-configured. The configuration instructions for WLAN/LAN is provided in **Section 1.3.2**.

1.5.3. Settings for the Ident module

Please leave these settings as they have been pre-configured (identification: "Local Ident Module").

1.5.4. Software upgrades

Apo-Ident is able to automatically search the internet for new software updates. If you would like to use this function, set a tick in the **<Search automatically new software>** checkbox. As soon as a new software version is been found, you will be notified about it via a pop-up window and prompted to install it. Under **<Search with delay in days>**, you can specify the delay after which the installation should be started, at the earliest after 14 days, at the latest after 60 days.

You can also check for updates manually. Click **<Help>** and **<Check for upgrades>**. You will be shown immediately whether a new update is available.

Note: A prerequisite for the automatic search for software updates is using a Windows PC that is connected to the Internet.

1.5.5. Label printer settings

1.5.5.1. Brother label printers

Installing the drivers

First install the drivers. You will find these on the USB flash drive supplied along with the device under *Useful items/Brother drivers*. Select your model and start the application D_SETUP.exe. Follow the installation instructions. Alternatively, you can find the latest drivers online at the [Brother Solution Centre](http://www.brother.com).

Setting up in the Apo-Ident software

If you have installed the drivers successfully, you can now choose your printer from the **Standard label printer** list (Brother QL-700 or older models) under **Label Printer Settings**.

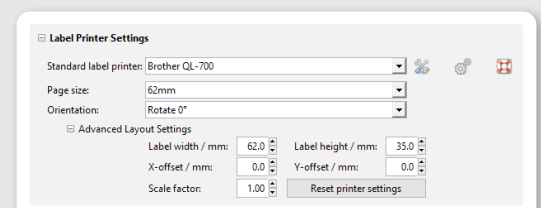
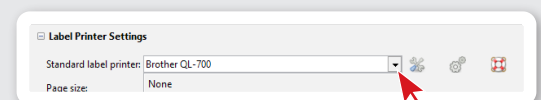
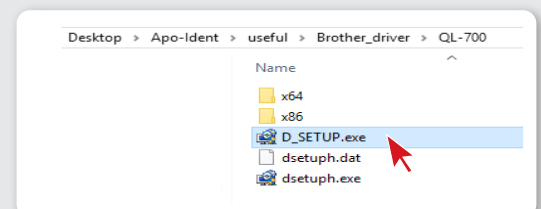
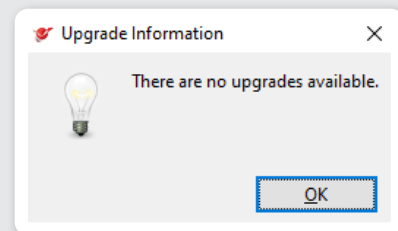
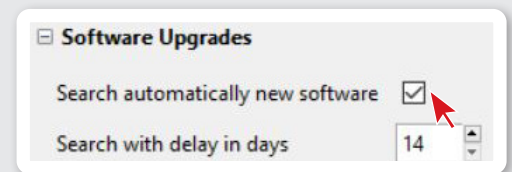
Continuous Paper Settings DK-22205

Choose the following settings:

- Page size: 62mm
- Orientation: Rotated by 0°

Advanced Layout Settings:

- Label width / mm: 62,0
- Label height / mm: 35,0
- X-offset / mm: 0,0
- Y-offset / mm: 0,0
- Scaling factor: 1,00



Now click on the left tool icon "Open printer settings". Change the following settings in the dialogue window that opens:

- Paper Size: 62mm
- Length: 35.0
- Belt feed: 3.0
- Alignment: Portrait format
- Quality: Prioritise print quality 300 x 300 dpi

Click first on **<Apply>** and then confirm with **<OK>**. You are now back in the settings of the Apo-Ident software.

Note: You can check your settings by starting a test print. To do this, click on the middle icon "Print test label".

If your test print was successful, click **<Close>**. Your settings are accepted and saved.

Settings for single labels DK-11201

Choose the following settings:

- Page Size: 29 mm x 90 mm
- Orientation: Rotated by 90°

Advanced Layout Settings:

- Label width / mm: 29.0
- Label height / mm: 89.9
- X-offset / mm: 0.0
- Y-offset / mm: 0.0
- Scaling factor: 1.00

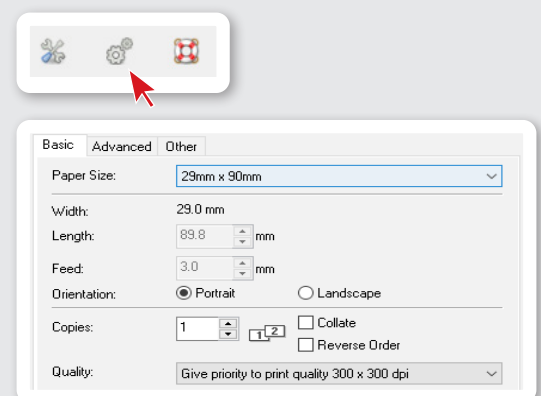
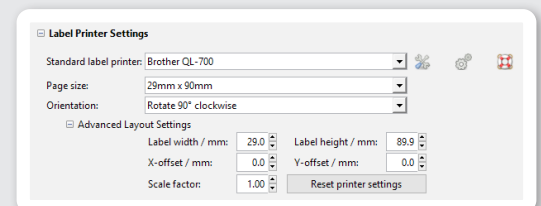
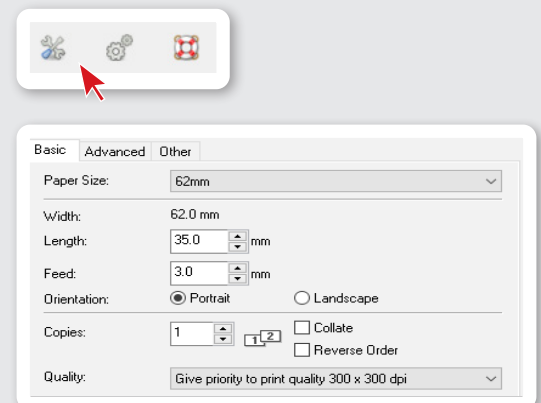
Now click on the left **tool icon** "Open printer settings". In the dialogue window that opens, modify the following settings:

- Paper size: 29 mm x 90 mm
- Alignment: Portrait format
- Quality: Prioritise print quality 300 x 300 dpi

Click first on **<Apply>** and then confirm with **<OK>**. You are now back in the settings of the Apo-Ident software.

Note: You can check your settings by starting a test print. To do this, click on the middle icon "Print test label".

If your test print was successful, click **<Close>**. Your settings are accepted and saved.



1.5.5.2. DYMO LabelWriter 450

Installing the driver

First install the driver. You will find these online at the [DYMO Support Center](#). After installing the printer driver, connect the printer to your PC.

Setting up in the Apo-Ident software

If you have installed the drivers successfully, you can now choose your printer from the default label printer list under **<Label Printer Settings>**.

Settings for single labels 99012

Choose the following settings:

- Default label printer: DYMO LabelWriter 450
- Page Size: 99012 Large Address
- Orientation: Rotate 0°

Advanced Layout Settings:

- Label width / mm: 35.8
- Label height / mm: 88.4
- X-offset / mm: 0.0
- Y-offset / mm: 0.0

Scaling factor: 2.20

Now click on the left tool icon **<Open printer settings>**. Change the following settings in the dialogue window that opens:

- Orientation: Landscape
- Page Order: Front to back

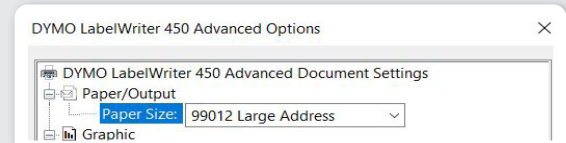
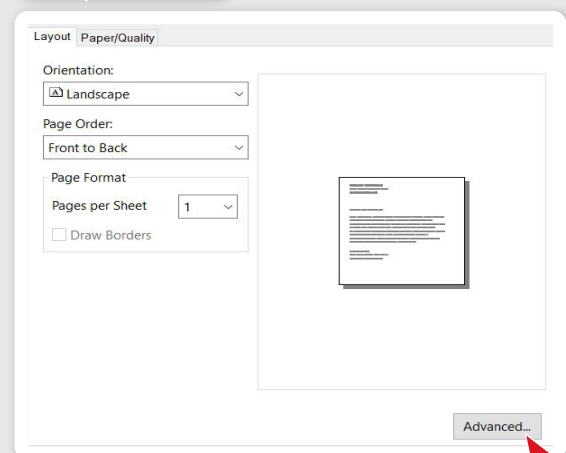
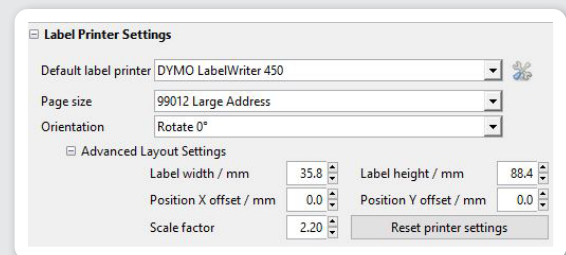
Click **<Advanced>** to make the following setting:

- Paper/Output: 99012 Large Address

Click first on **<OK>** and then confirm with **<OK>**. You are now back in the settings of the Apo-Ident software.

You can check your settings by starting a test print. To do this, click on the middle icon **<Print test label>**. If your test print was successful, click **<Close>**. Your settings are accepted and saved.

Note: These instructions only apply to the label printer DYMO LabelWriter 450 with labels 99012. With other DYMO models (e.g. Turbo, Twin Turbo, etc.) the label settings may differ.



2. Measurement

Under **Substance**, enter the raw material to be tested in the search field. The search field recognises both English and Latin substance names.

Note: The software shows suggestions to you as you enter the first few letters. You can choose the correct substance from the suggested options.

Green dot: The substance is unambiguously identifiable if there is a green dot in front of the name. After entering the substance, the search field turns green. → **Section 2.1. / 2.2.**

Yellow dot: For substances with a yellow dot in front of the name, only an ambiguous test result can be obtained, i.e. the identity is limited to a few options. After entering the substance, the search field turns yellow. → **Section 2.3.**

Red dot: The substance cannot be identified by Apo-Ident. However, these substances are predefined in order to document the results of other tests in the test report. After entering the substance, the search field turns red. → **Section 2.4.**

Grey dot: In substance administration, you can create substances yourself to create a test report for user-defined substances and document the results of other tests. These substances cannot be identified by Apo-Ident. After entering the substance, the search field turns grey. → **Section 2.5.**

2.1. APIs & excipients (solid) and narcotic substances (solids) clearly identifiable using Apo-Ident

Start measurement

First place your **sample cup containing the substance** and the **adapter ring** on the measurement point. Start the measurement process by clicking on the blue button next to **Measuring** or by pressing the measurement button (lights up in green colour) directly on top of the device.

Excursus "Correct filling of the sample cups (solid substance)":

Fill about 4 mm of the substance to be tested into the sample cup. Make sure that the base of the sample cup is covered evenly. The transfectance insert is not used for solid substances.

Note: Some substances can also be identified using smaller quantities. See Section 2.1.1. for instructions.

Search*	Sodium citrat
Substance	<div> <div>●</div> <div>Sodium citrate</div> </div> <div> <div>●</div> <div>Arts or excipients; solid</div> </div>
Classifier	
Name	Sodium citrate
Latin	Natrii citras
Validation	Available

Search*	Cooling cream
Substance	<div> <div>●</div> <div>Cooling cream DAB</div> </div> <div> <div>●</div> <div>Cooling cream DAB 6 (stabilised, contains rose oil)</div> </div>
Classifier	
Name	Cooling cream DAB
Latin	Unguentum leniens
Validation	Available

Search*	Acidum phosphoricum
Substance	<div> <div>●</div> <div>Acidum phosphoricum 25 %</div> </div> <div> <div>●</div> <div>Acidum phosphoricum concentratum</div> </div>
Classifier	
Name	Phosphoric acid 25%
Latin	Acidum phosphoricum 25 %
Validation	Not available

Search*	Example
Substance	<div> <div>●</div> <div>Userdefined Substances</div> </div>
Classifier	
Name	Example
Latin	n/a
Validation	Not available

Measuring



Place the sample container with your selected substance on the device.

Referencing

After the first substance measurement, you will be asked to set up and measure the reference standards. Follow the instructions of the software and first place the black reference, followed by the white reference on the measurement point. Start the reference measurements by clicking on the black or white button next to **Measuring**.

Note: Please always use the black adapter ring. The measurement of the references is requested again by the software after approx. 60 min.

Output of the result

After a few seconds, the device shows you whether the substance has been identified.

Note: If the result is negative, please display detailed information on non-identification. Check or repeat your measurement process accordingly.

Measurement specifications

After successful measurement, fill in all mandatory fields (marked with a red frame and *) next to the **Sample** item as well as the **User**. The fields **PPN**, **Weighing correction factor**, **Comment** and **Additional tests** can be filled in if required.

Creating the protocol

Now you can save the measurement result, view the test report as a PDF file, or print it out.

Note: No matter which functions you select, the measurement result will be saved in any case. In addition, you may also print your test label on your label printer.


2.1.1. Measurement with the sample insert for small amounts of substance

Some substances in the APIs & excipients (solid) and Narcotic substances (solids) categories can also be identified using smaller quantities. To do this, you need the **sample insert** and the associated **white reference for the sample insert**.


An overview of all substances that can be measured with the sample insert can be found under **<Help - Subscribed substances with sample insert>**.


Enter the substance due to be tested with the sample insert in the search field. The check box **Use sample insert** appears on the right-hand side of **Measuring**. Click on the box if you are using the sample insert.


Black reference




White reference



Measuring 

Measuring 

Result



Name

Sodium citrate

NIR Result

Match

Comment

Valuation

Additional tests

100.0% (Limits 98% to 100%)

(empty)

Sample

PPN

Batch*

Weighing corr

Manufacturer/supplier*

Use-by date*

Protocol

Save

PDF

Print

Label Printer

Test number

Substance

Search*

Testosterone

Classifier

APIs & excipients, solid

Name

Testosterone

Latin

Testosteronum

Validation

Available

Sample

PPN

Batch*

Weighing corr

Manufacturer/supplier*

Use-by date*

Measuring



Place the sample insert container with your selected substance on the device.

Use sample insert

First place your **sample cup with sample insert** and the **substance** with the **adapter ring** on the measurement point. Start the measurement process by clicking on the blue-black button next to **Measuring** or by pressing the measurement button (lights up in green colour) directly on top of the device.

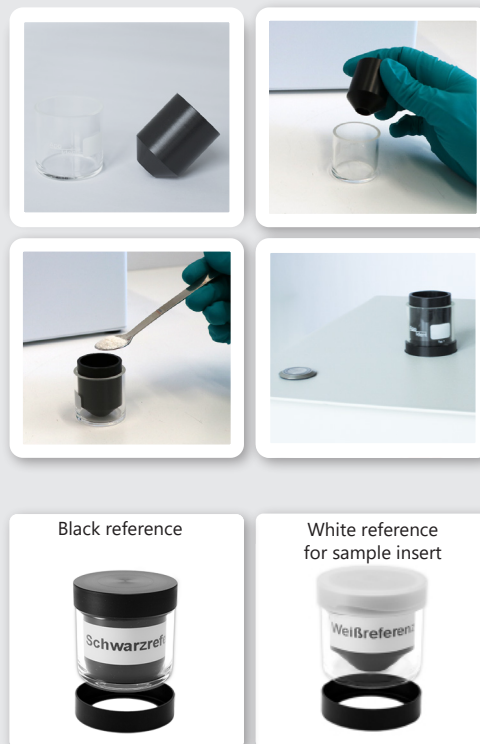
Excursus "Correct filling of the sample cups with the sample insert": The sample should be filled into the sample insert up to a height of approx. 4 mm.

Referencing

After the first substance measurement, you will be asked to set up and measure the references. Please use the black reference and the **white reference for sample insert**, otherwise non-identification will occur.

Note: The measurement of the references is requested again after approx. 60 min. by the software automatically.

After a few seconds, the device shows you whether the substance was identified. Then proceed as usual.



Black reference



White reference for sample insert



2.2. APIs & excipients (semisolid/liquid) clearly identifiable using Apo-Ident

Transflectance reference measurement

Start with the transflectance reference measurement. Place the clean **transflectance insert** with the feet pointing downwards in a clean, **empty sample cup**. Together with the **adapter ring**, now place the cup with the transflectance insert on the measurement point of the Apo-Ident. Start the **transflectance reference measurement** by clicking on the grey button or by pressing the button directly on the device.

Important: Both the transflectance reference measurement as well as the measurement of the liquid/semisolid substance must be carried out with the same transflectance insert and sample cup. Otherwise, non-identifications may occur.

Note: After successful transflectance reference measurement, a time frame of 5 min. is provided for starting the substance measurement. If the measurement is not carried out within this period, the transflectance insert reference measurement must be repeated.

Referencing

After the transflectance reference measurement, you will be asked to set up and measure the reference standards.

Please follow the instructions on referencing under 4.2. of the Quick start guide.



Measuring



Place the transflectance insert feet facing down in an empty sample container and use then for the next measurement too

Start measurement

Place your **sample cup with the substance** and the measurement transfectance insert as well as the **adapter ring** on the measurement point. Start the measurement process by clicking on the blue button next to **Measuring** or by pressing the measurement button (lights up green) directly on top of the device.

Excursus "Correct filling of the sample cups (semisolid substance)": After the transfectance reference measurement has been completed, remove the transfectance insert from the sample cup and hold it the feet pointing upwards. Using a spatula, take an approximately hazelnut-sized amount of the previously homogenised substance and scrape it on one of the straight edges of the transfectance insert.

Put the empty sample cup over it and spread the substance over the entire surface. Finally, press the transfectance insert into the substance until all three feet visibly touch the bottom of the cup. Make sure that there are no air bubbles under the transfectance insert.

Excursus "Correct filling of the sample cups (liquid substance)": After the transfectance reference measurement has been completed, remove the transfectance insert from the sample cup. Pour a small amount of homogenised liquid into the cup so that the bottom is completely covered. Place the transfectance insert in the sample cup with the feet pointing downwards. A part of the substance should visibly rise up between the sample cup and transfectance insert. Lift the cup up quite high and check that there are no air bubbles under the measurement transfectance insert.

Result

After a few seconds, the device shows you whether the substance has been identified.

Note: If the result is negative, please display detailed information on non-identification. Check or repeat your measurement process accordingly.

Measurement specifications

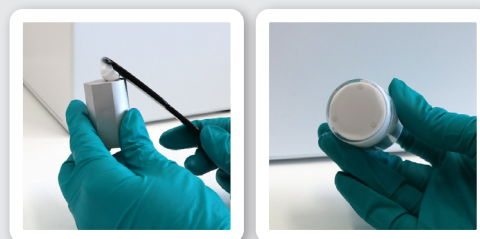
After successful measurement, fill in all mandatory fields (marked with a red frame and *) next to the **Sample** item as well as the **User**. If necessary, the fields **PPN**, **Comment** and **Additional tests** can be filled in.


Please note that only after filling out all mandatory fields can you create the report.

Creating the report





Now you can save the measurement result, view the test report as a PDF file, or print it out.

Note: No matter which functions you select, the measurement result will be saved in any case. In addition, you may also print your test label on your label printer.




Result	Name	Sodium citrate	Match	Valuation	100.0% (Limits 98% to 100%)
	NIR Result				
	Comment				
	Additional tests				(empty)

Sample	PPN	Manufacturer/supplier*
	<input type="text"/>	<input type="text"/>
	Batch*	<input type="text"/>
	Weighing can	<input type="text"/>

Protocol	Save	PDF	Print	Label Printer	Test number
					

2.3. Special features of substances with inconclusive test results

Important: For unique identification, an **complementary test is necessary**. Potential suggestions for an additional test are provided under **Help**. Please note, however, that these are suggestions. The pharmacist is responsible for assessing which additional tests need to be carried out to ensure adequate certainty. → **Section 3.7**.

To the right of the selected substance, click on the warning sign  for more information.

Click on **<Display as PDF>** if you want to print this information.

Start measurement

Proceed as usual with your measurement (see section 2.1. or 2.2.)

After successful measurement, fill in all mandatory fields (marked with a red frame and *) next to the Sample item as well as the **User**. The fields **PPN**, **Weighing correction factor** and **Comment** can be filled in if required. Carry out an additional test and document it. The documentation of the additional test can also be done in the software, see below.

Excursus "Settings for complementary tests": Complementary test for substances that cannot be unambiguously identified is pre-configured as mandatory. You can change this setting at any time. To do this, under **<Settings>**, choose the option **<Report Settings>** and remove the tick from **"Complementary test as mandatory"**.

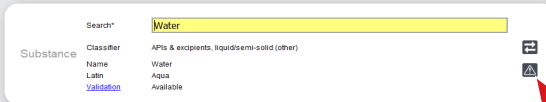
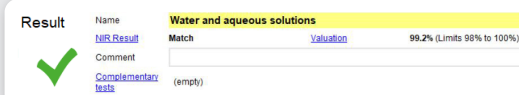
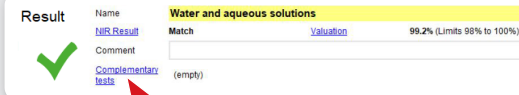
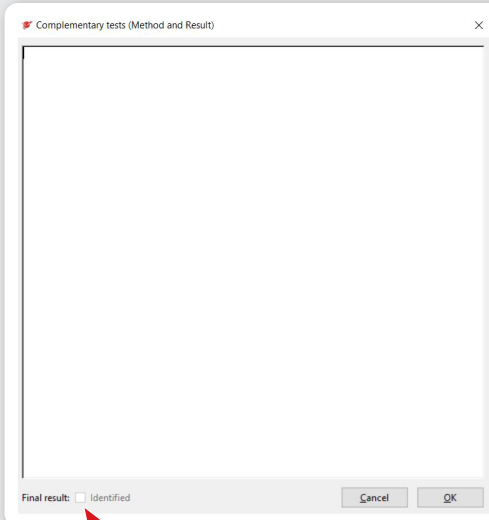
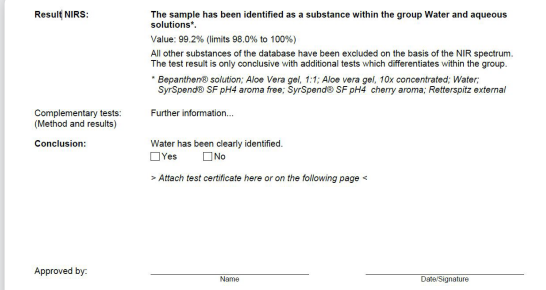
Using the software to document additional tests

The additional test and the test result can be entered in the software via **Complementary tests**.

If the result of the additional test is available at the time of the measurement, you can do this by clicking on the check box **<Identified>** in the footer of the dialogue field. With **<OK>** your entries are accepted. The text input and the final result then appear directly on the test report.

Handwritten entry of the result on the printed report

If the additional test is performed later on, methods and the final test result will be manually noted on the printed test report afterwards. Do **not** tick **<Identified>** checkbox in this case.

2.4. Special features of substances that cannot be tested with Apo-Ident

Not identifiable: Substances that cannot be identified by Apo-Ident, e.g. because they do not have adequate signature in the NIR, are marked immediately after (partial) entry of the name (there is a red dot in front of the name, and after the entry the search field turns red, and a notice window appears).

A different test method is required to identify this substance. Nevertheless, a report without measurement can be created via the Apo-Ident software. To do this, click **<OK>** and complete the mandatory information on the substance.

Entering the identity test using the software

The method of identity test and the test result can be entered in the software via [Identity test](#).

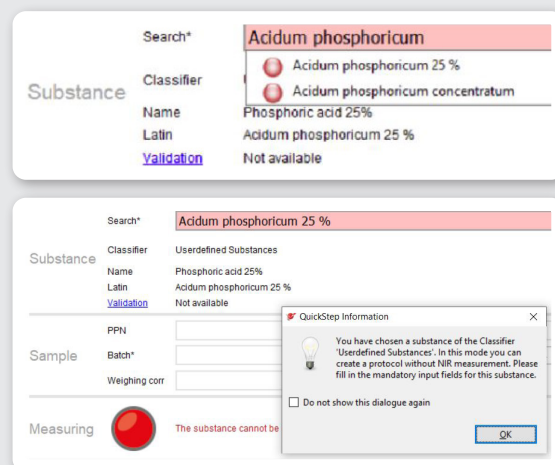
If the result of the identity test is already available at the time that the report is created, it can be documented by clicking on the check box **<Identified>** at the bottom of the dialogue field. Click **<Close>** to accept your inputs.

The text input and the final result then appear directly on the report (also see Section 2.3.)

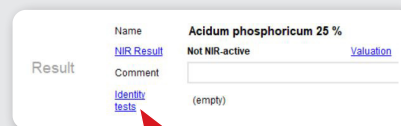
Handwritten entry of the result on the printed report

If the Identity test is performed later on, the method and final test result has to be manually noted on the printed test report afterwards. Do **not** tick **<Identified>** checkbox in this case.

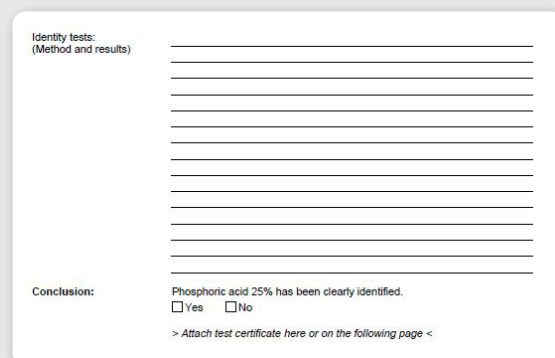
Excursus "Settings for Identity test": The identity test for non-identifiable substances is set as mandatory. You can change this setting at any time. To do this, under **<Settings>** select the option **<Report settings>** and remove the tick from **"Complementary test as mandatory"**.



The screenshot shows the 'Substance' search interface. The search field contains 'Acidum phosphoricum'. A dropdown list shows suggestions: 'Acidum phosphoricum 25 %' (marked with a red dot), 'Acidum phosphoricum concentratum', 'Phosphoric acid 25%', and 'Acidum phosphoricum 25 %'. The 'Validation' status is 'Not available'. Below this, the 'Sample' section has fields for 'PPN', 'Batch*', and 'Weighing corr.'. A 'Measuring' button is shown with a red dot and the text 'The substance cannot be'. A 'QuickStep Information' dialog box is open, stating: 'You have chosen a substance of the Classifier "Userdefined Substances". In this mode you can create a protocol without NIR measurement. Please fill in the mandatory input fields for this substance.' It includes a checkbox 'Do not show this dialogue again' and an 'OK' button.



The screenshot shows the 'Result' entry form for 'Acidum phosphoricum 25 %'. It has fields for 'NIR Result' (set to 'Not NIR-active'), 'Comment', and 'Identity tests' (set to '(empty)'). A red arrow points to the 'Identity tests' field.



The screenshot shows a printed report template. The 'Identity tests: (Method and results)' section has a table with 10 rows for handwritten entry. The 'Conclusion' section has a checkbox 'Phosphoric acid 25% has been clearly identified.' with 'Yes' and 'No' options. Below it, there is a line for 'Attach test certificate here or on the following page <'. The 'Conclusion' section also includes a line for 'Attach test certificate here or on the following page <'.

2.5. Substance management

You may use the substance administration to manage additional substances or to create new ones, which, in fact, cannot be tested via NIR, but for which you can create reports. Moreover, you can define which additional substances are available for selection for classical identity test.

The **<Substance Management>** are provided above in the menu bar.

The **Substance Extension Editor** window opens. The substance administration **must** be individually adjusted for each configuration profile.

Predefined additional substance

Substances not identifiable using Apo-Ident, but which are often requested, are predefined by default. With all selected substances, you can create a report without NIR measurement with the Apo-Ident software (see Section 2.4.).

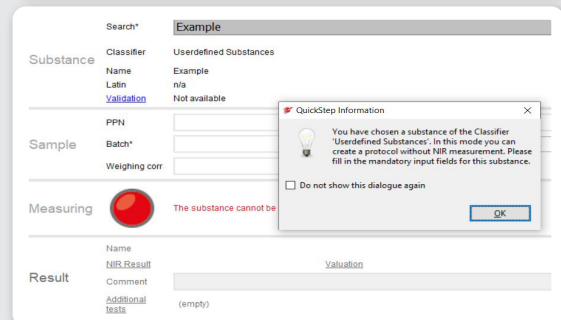
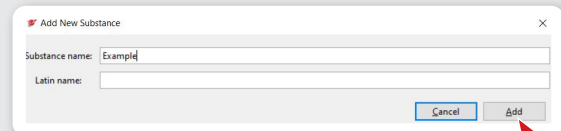
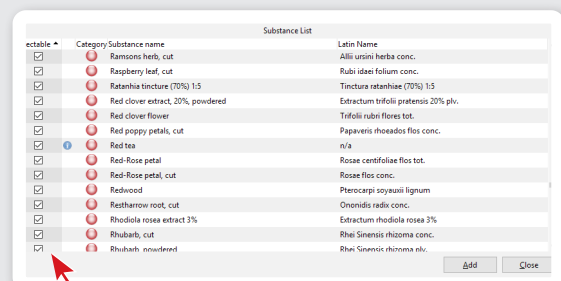
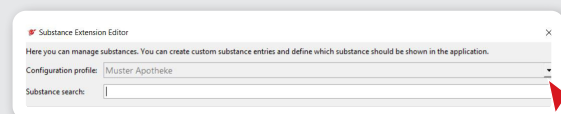
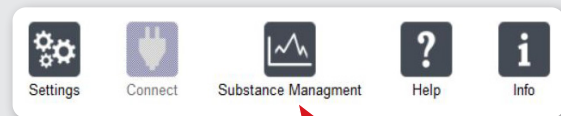
If a substance is not required in order to create the report, it can be deselected by removing the selected tick mark. As soon as the substance is required again, the tick mark can be set again.

The blue information circle next to the tick marks displays alternative English and alternative Latin substance names.

Self-defined additional substance

Under **<Add>**, you may create new substances for which you would like to create test reports. The substance name must be specified; the Latin name is optional. After clicking again on **<Add>**, the newly created substance appears with a grey dot in the substance list. **<Close>** the window.

Now, you can also create a report without measurement for the self-defined substance (proceed as given in Section 2.4.)



2.6. Cleaning/use of sample cups, transfectance insert and sample insert

Sample cups

- Pre-clean sample cups with a paper towel after the measurement
- After measuring ointment and emulsion bases, pre-cleaning of the sample cups with 70% isopropyl alcohol is recommended
- Cleaning with rinsing agent, warm water and a soft cloth
- Next, rinse the sample cups with purified water and rub them dry with a lint-free cloth
- Before using the sample cups, sterilise them with 70% isopropyl alcohol and dry them with a disposable cloth

Before measuring, particularly check that the bottom of the cup is clean and not greasy. No water marks should be visible.

If you decide to use the sample in the compounding, please check whether the microbiological purity of the sample cup and the measuring transfectance insert are also guaranteed.

Transfectance insert

- Scratches between the transfectance insert feet or strong discolouration can influence the identification. Please handle the transfectance insert with care.
- Never clean the transfectance insert with pot scrapers, spatulas or other tools
- No cleaning in the dishwasher!
- Roughly wipe the transfectance insert with a paper towel after measurement
- Cleaning with rinsing agent, warm water and a soft cloth
- Next, rinse the transfectance insert with purified water and rub it dry with a lint-free cloth
- Before using the transfectance insert, sterilise it with 70% isopropyl alcohol and wipe it dry with a disposable cloth

Sample insert for measuring small quantities of substance

- After the measurement, remove any powder residues from the sample insert by gently tapping the sample cup
- Cleaning with rinsing agent, warm water and a soft cloth
- Then rinse the sample insert clear with purified water and rub it dry with a lint-free cloth
- Before using the sample insert, clean it with 70% isopropyl alcohol and let it dry

Measurement point / sample window

Please ensure that the measurement point (sample window) of the Apo-Ident is kept clean.

For cleaning, we recommend a cloth soaked in 70% isopropyl alcohol.

3. Additional functions

3.1. Percentage of agreement + setpoint

The agreement of the sample spectrum with the saved reference spectrum is displayed as a percentage. Behind this, the permissible range of the assessment (setpoint) is shown. If the sample spectrum is beyond the permissible range, the substance is shown as **"No match"** and indicated as unidentified.

By clicking on **NIR Result** you can have the measured spectrum displayed.

3.2. Display of the difference line between reference and sample spectrum

If required, you can display the difference between the sample spectrum and the reference spectrum in the graph of the test report (only possible with a positive spectrum). Please note that the right-hand scale is used for the difference line in order to make the differences clearly visible.

To do this, under **<Settings>** select the option **<Report Settings>** and set a tick mark for **"Show difference of back projections"**.

3.3. Search function (query) by substance, expiry date or other criteria

This function allows you to re-display and re-print reports or labels.

To do this, click on **Query** in the menu bar. The Archive Query opens.

If necessary, set the configuration profile for the search query above. Under the **Substance** tab, enter the name of the substance (or the test number or PPN) whose test reports you would like to search for. Click on **<Execute>**. All test reports containing the specified search text are displayed.

To search for the expiration date, click on the **Use-by Date/ Shelf Life** tab and enter the relevant dates.

After executing the query, you can select the substance in question in the results window and display information about the measurement or the report.

Under the **Advanced** tab, you can also search for the user, supplier or a batch number.

In the **timestamp** query, you may, for example, select all measurements for query starting from 01/01/2010.

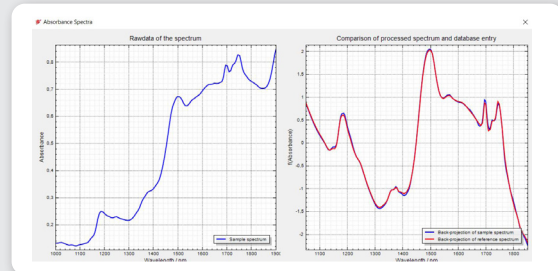
Result

Name: **Sodium citrate**

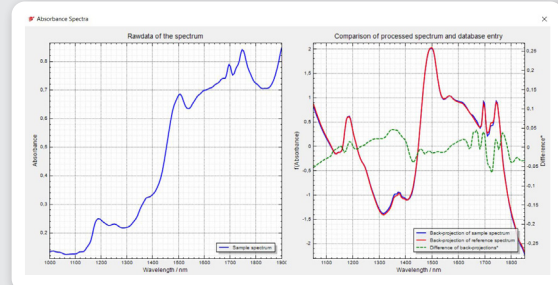
Match: **Match** Valuation: 100.0% (Limits 88% to 100%)

Comment: (empty)

[Additional tests](#)



Graphic without differential display



Graphic with differential display

Archive Query

Substance: **Use-by Date/ Shelf Life: Advanced**

Search for substance with given name, test number or PPN.

Substance name, test number or PPN:

Execute

Archive Query

Substance: **Use-by Date/ Shelf Life: Advanced**

Advanced Archive Query

Substance name:

Test number:

PPN:

Operator name:

Manufacturer/Supplier or batch number:

Comment:

Timestamp: 01 January 2010 to 31 December 2025

Use-by date/ Shelf life: January 2010 to December 2025

Execute 8 matches found.

Primary Name	Latin Name	Manufacturer/Supplier	Batch Number	Test number	PPN	Timestamp	Use-by Date/ Shelf
Nanaminze, gesch.	Menthae Nana folium conc.	Ceilo	1235464	210517-154146	17/05/2021 15:41:46	January 2022	
Natriumcitrat	Natrii citras	Ceilo	123456123	210517-152911	17/05/2021 15:29:11	January 2022	
Natriumcitrat	Natrii citras	Ceilo	1234563	210525-162226	25/05/2021 16:22:26	January 2021	
Natriumcitrat	Natrii citras	Ceilo	123456	210504-141949	04/05/2021 14:19:49	January 2023	
Natriumcitrat	Natrii citras	Ceilo	12356	210422-132449	22/04/2021 13:24:49	February 2023	
Phosphoric acid 25%	Acidum phosphoricum 25 %	Ceilo	1235249	210726-113501	12345	26/07/2021 11:35:01	January 2021
Tetracyclinhydrochlorid	Tetracyclini hydrochloridum	Ceilo	123456	210503-153745	123456	03/05/2021 15:37:45	January 2021
Water	Aqua	Ceilo	1234564896	210726-112933	123567	26/07/2021 11:29:33	January 2021

Information Show Report Print Report Print Label

Save Copy to ... Close

Exporting the query results in CSV format

The results of the query can be saved in CSV format by clicking on **<Save>**. Then open it in a CSV-enabled program (e.g. MS Excel) to print out the list or use it for further processing.

Copy files to individual storage locations

(e.g. on a USB flash drive)

If you would like to copy the selected files to an individual location, please click on the **<Copy to...>** button and select the desired storage location. All data matching the search criteria is copied.

3.4. Display of the validation documents

Click on **<Help>**, **<Validation documents>** at the top of the menu bar. Now select the appropriate validation document.

After entering the substance to be tested, you can also open the validation document directly via the Apo-Ident user interface. To do this, click in the **Substance** area on **Validation**.

The validation information on the database entry of tested substances is given in the test report. You can change this default setting. To do this, under **<Settings>** select the item **<Report Settings>** and remove the tick mark from **"Print validation within protocol"**.

3.5. Data backup

To send your measurement reports to the Apo-Ident customer service or to save them for the purpose of data backup, click on **<Help>** at the top of the menu bar and select **<Data backup>**. You can now choose whether you would like to perform a **<backup>** or export data for our **<Customer Service>**.

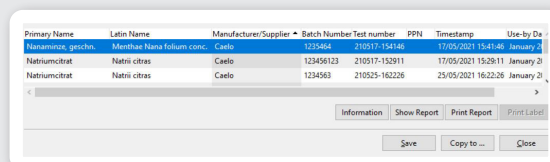
If you want to change computers, it is advisable to make a backup (export including log files, licence key, profile). The backup contains the settings, archive(s) and profile(s).

Click on **<Save>**. By default, the appropriate zip archive is saved on the desktop.

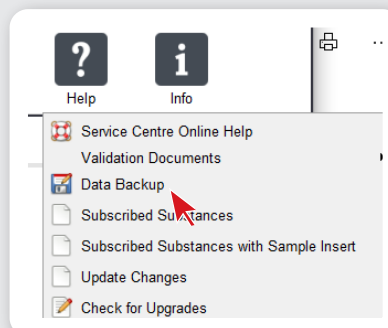
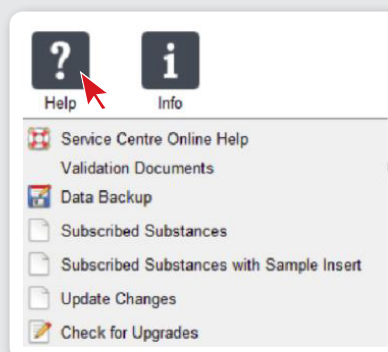
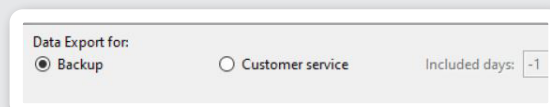
When you export the data for customer service, your spectra are compressed and saved in a ZIP file. You can set the number of measurement days for which you would like to combine and send or save as follows:

- -1 = all days
- 0 = only LogFiles
- 1 = 1 day
- 2 = 2 days
- etc.

Click on **<Save>**. By default, the appropriate zip archive is saved on the desktop. You can now send the data to us via e-mail to kundenservice@apo-ident.de.

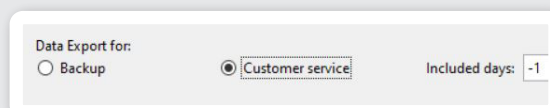


Primary Name	Latin Name	Manufacturer/Supplier	Batch Number	Test number	PPN	Timestamp	Use-by Date
Natriumcitrat	Natrii citras	Caelo	12345678	210517-152911	17/05/2021	15:29:11	January 21
Natriumcitrat	Natrii citras	Caelo	12345683	210525-162226	25/05/2021	16:22:26	January 21

Data Export for:

☒ Backup ☐ Customer service Included days: -1



Data Export for:

☐ Backup ☒ Customer service Included days: -1

3.6. Identification details (ranking list)

Apo-Ident compares the measured spectrum with all samples stored in the reference database. A maximum of 20 results of the highest match can be displayed in the ranking list. To view the ranking list, please click in the result display for the measurement on **Valuation**.

The view with the identification details opens. If you select the **<Show as PDF>** button, you will receive the displayed table in PDF format and can print and file it together with the report.

At the 1st position (rank 1), the reference sample is displayed, which has the **highest compliance with the sample that has been placed**. If the criteria for identification of the substance are met, the substance will be displayed in **green** colour.

This is followed by the **red** marked next reference samples. These are not taken into account directly in the assessment in the sample spectrum. This means that samples of rank 2 or higher cannot lead to a "Match" result since another sample is closer. In case of substances that are grouped together, it must be noted that the name (classification) listed in the ranking list may differ from the substance name. The group name is then displayed (e.g. "Triglycerides").

The view is used for traceability and verification of the identification result by the user.

The list shows the test parameters of the measured sample spectrum obtained with respect to the nearest 20 reference samples. An explanation of individual terms is provided on page 24.

3.7. Help

Under the menu option **<Help>** the software provides various Help options for handling the Apo-Ident confidently.

User Manual > This provides detailed operating instructions for the Apo-Ident analysers.

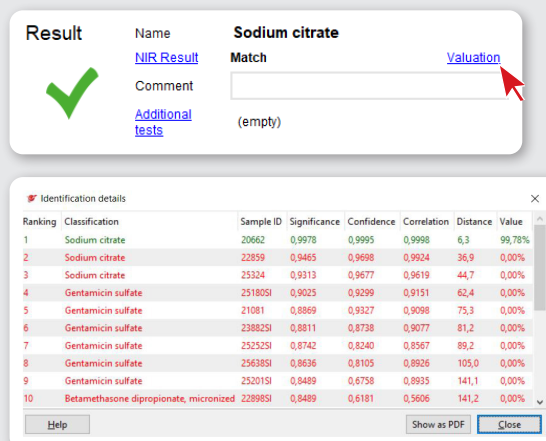
Service Centre Online Help > You are linked to the Apo-Ident Service Centre page. Internet access is absolutely necessary for this. Here you will find current manuals, substance lists and the latest software. Moreover, you can download information material and order forms as well as validation documentation and the open source code.


Validation documents > The validation documents are divided according to substance classes. Here you display the entire document. However, you can also jump directly to the validation report of the respective initial material after each measurement, see **Section 3.4**.

Data backup > see **Section 3.5**.

Complementary tests > If there is a yellow dot in front of the substance to be tested, the substance cannot be unambiguously identified with Apo-Ident. An additional test for ambiguously identity is mandatory (see **Section 2.3**).

Potential suggestions are provided under **<Complementary tests>** for an additional test sorted by substance groups. Please note, however, that these are suggestions. The pharmacist is responsible for assessing which additional tests need to be carried out to ensure adequate certainty.



Result 

Name Sodium citrate

NIR Result [Valuation](#)

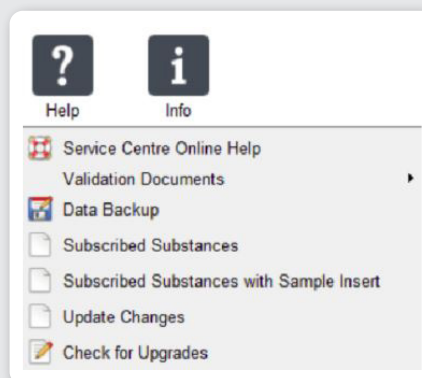
Match [Valuation](#)

Comment (empty)

[Additional tests](#)

Ranking	Classification	Sample ID	Significance	Confidence	Correlation	Distance	Value
1	Sodium citrate	20662	0,9978	0,9995	0,9998	6,3	99,78%
2	Sodium citrate	22859	0,9465	0,9698	0,9924	36,9	0,00%
3	Sodium citrate	25324	0,9313	0,9677	0,9619	44,7	0,00%
4	Gentamicin sulfate	2518051	0,9025	0,9299	0,9151	62,4	0,00%
5	Gentamicin sulfate	21081	0,8869	0,9327	0,9098	75,3	0,00%
6	Gentamicin sulfate	2388251	0,8811	0,8738	0,9077	81,2	0,00%
7	Gentamicin sulfate	2525251	0,8742	0,8240	0,8567	89,2	0,00%
8	Gentamicin sulfate	2563851	0,8636	0,8105	0,8926	105,0	0,00%
9	Gentamicin sulfate	2520151	0,8489	0,6758	0,8935	141,1	0,00%
10	Betamethasone dipropionate, micronized	2289851	0,8489	0,6181	0,5606	141,2	0,00%

[Help](#) [Show as PDF](#) [Close](#)



Help **Info**

- Service Centre Online Help
- Validation Documents
- Data Backup
- Subscribed Substances
- Subscribed Substances with Sample Insert
- Update Changes
- Check for Upgrades

Subscribed substances > This provides an overview of the substances that can be measured with Apo-Ident.

Subscribed substances with sample insert > This includes an overview of the substances that are measurable with the sample insert for small quantities of the substance.

Update changes > The latest update changes will be shown.

Form for recording substances > You have the option to show us your desired substance, which cannot be tested so far with Apo-Ident. Please fill in the document for this purpose and send it to us. We shall check whether it is possible to include the substance.

Check for upgrades > Shows whether new software versions are available.

3.8. Info

Here you can obtain information on the installed version, set up a Teamviewer session under **<Service-Centre>**, or view the **<Certificate>** for the currently installed software.

4. Explanation of terms

Description	Explanation	Estimation
Rank	Determined rank for matching the measurement to be assessed with the reference samples saved in the database	
Classification	Substances or groups of substances that can be clearly distinguished by Apo-Ident. A group of substances represents several substances that are not uniquely separable by Apo-Ident but are available for measurement (e.g. "triglycerides").	These classifications are marked in yellow (ambiguous result).
Sample ID	Identification number assigned by HiperScan GmbH to the reference samples from which the spectra of the Apo-Ident reference database was built. Detailed information on all reference samples are provided in the validation documentation.	
Significance	Measure for the distance of the measurement result related to the mean values of the reference measurements of a sample or classification.	The higher the value (maximum 1), the closer is the measured sample spectra to the saved reference values.
Confidence	Outlier assessment	The higher the value (maximum 1), the better the measured sample spectrum fits into the distribution of the saved reference values.
Correlation	Statistical measure for the similarity of the back projection of the mean value of the saved reference spectra to the back projection of the measured sample spectrum.	The higher the value (maximum 1), the greater is the match of the back projections.
Distance	Measure of distance between the mean value of the saved spectra of a reference sample and the measured spectra in the main component space (Mahalanobis distance).	The smaller the value, the closer is the sample spectrum to the saved reference values.
Assessment	indicates the overall assessment (in terms of the above-mentioned criteria) of the measured spectrum as they are displayed on the screen and the report.	The higher the value (maximum 100%) the closer is the sample to the saved reference values. The minimum value defined for an identification) is 98 %.
Specificity	The specificity of a classification is the true-negative rate. It denotes the proportion of spectra correctly classified as non-identity during validation.	
Detection rate	This is the true positive rate. It denotes the proportion of the spectra classified as zero identity during validation.	

5. Technical data and disposal

5.1. Technical data of Apo-Ident 1

Analysis method	Near infra-red spectroscopy
Spectral range	1000 - 1900 nm
Spectral resolution	10 nm
Diffuse light	< 0,2 %
Measurement time	< 15 s per scan
Detector	InGaAs single detector, not cooled
Wavelength accuracy	± 1 nm (over the entire temperature range)
Wavelength reproducibility	± 0,3 nm (over the entire temperature range)
Photometric reproducibility	± 0,15 % (average of 500 scans at 25 °C)
Photometric linearity	(max/RMS) < 2 % / 1,5 %
Automatic recalibration/unit test	Integrated wavelengths and white standard
Light source	Tungsten-halogen burner
Probe/optical input	Diffuse reflection, measuring spot with 23 mm diameter (powders, scattering solids, with transfectance insert for liquids and pastes)
Dimensions	232 x 210 x 282 mm
Weight	5,2 kg
Interfaces	USB Typ B Slave
Operating temperature	15 - 35 °C
Storage temperature range	-20 bis 60 °C (non-condensing)
Operating voltage	100-240 VAC/50-60 Hz/60 W
Software	QuickStep software for recording and visualising spectra
System requirements	<ul style="list-style-type: none"> • PC with Windows 10 and 11 or Ubuntu Linux Operating System 20.04 • min. 4 GB RAM • min. 1.6 GHz Pentium • 0.5 GB storage space



The device complies with the following EC directives

- EMV Directive 2014/30/EU
- Low-voltage Directive 2014/35/EU
- RoHS-Directive 2011/65/EU

5.2. Technical data of Apo-Ident 2

Analysis method	Near infra-red spectroscopy
Spectral range	1,000 - 1,900 nm
Spectral resolution	10 nm
Diffuse light	< 0,2 %
Measurement time	< 15 sec. per scan
Detector	InGaAs single detector, not cooled
Wavelength accuracy	± 1 nm (over the entire temperature range)
Wavelength reproducibility	± 0.3 nm (over the entire temperature range)
Photometric reproducibility	± 0.15 % (average of 500 scans at 25 °C)
Photometric linearity	(max/RMS) < 2 % / < 1,5 %
Automatic recalibration/unit test	Integrated wavelengths and white standard
Light source	Tungsten-halogen burner
Probe/optical input	Diffuse reflection, measuring spot with 23 mm diameter (powders, scattering solids, with transreflectance insert for liquids and pastes)
Dimensions	185 x 192 x 220 mm
Weight	2,95 kg
Interfaces	1 x USB Typ B Slave
Interfaces of aiLINK	<ul style="list-style-type: none"> • 2 x USB 2.0 type A host • 2 x USB 3.0 type A host • Wifi 2,4GHz / IEEE 802.11ac • 1 x Gigabit Ethernet • 1 x HDMI2.0 Typ A bis 4k/30Hz
Operating temperature	15 - 35 °C
Storage temperature range	-20 to 60 °C (non-condensing)
Operating voltage for Apo-Ident 2	12 VDC - 3,35 A - 45 W
Operating voltage, external power supply unit	100 - 240 VAC/50-60 Hz/60 W
Software	QuickStep Apo-Ident software for recording and visualising spectra
System requirements	<ul style="list-style-type: none"> • PC with Windows 10 and 11 or Ubuntu Linux Operating System 20.04 • min. 4 GB RAM • min. 1.6 GHz Pentium • 0.5 GB storage space



The device complies with the following EC directives

- EMV Directive 2014/30/EU
- Low-voltage Directive 2014/35/EU
- RoHS-Directive 2011/65/EU

5.3. Disposal



According to the European WEEE Directive, electrical and electronic equipment should not be disposed of with household waste. Their components must be recycled or disposed of separately, because toxic and hazardous components may cause sustained damage to health and the environment if disposed of improperly.

In accordance with the Electrical and Electronic Equipment Act (ElektroG), you are obliged to dispose of electrical and electronic equipment properly at the end of their service life. If in your company you have not implemented any procedure for this, HiperScan GmbH will take the device back as the manufacturer.

Please do not hesitate to contact us if you have any questions.



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