

Installation checklist

for ALEXYS Analyzers with Clarity software

180.0011W, Edition 3, 2024



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Symbols

Explanations of symbols & labels on the device or in user manual:

The following symbols are used in this guide:



The danger sign warns about a hazard. It calls attention to a procedure or practice which, if not adhered to, could result in injury or loss of life.

Do not proceed beyond a danger sign until the indicated conditions are fully understood and met.



The warning sign denotes a hazard. It calls attention to a procedure or practice which, if not adhered to, could result in severe injury or damage or destruction of parts or all of the equipment. Do not proceed beyond a warning sign until the indicated conditions are fully understood and met.



The caution sign denotes a hazard. It calls attention to a procedure or practice which, if not adhered to, could result in damage or destruction of parts or all of the equipment. Do not proceed beyond a cautions sign until the indicated conditions are fully understood and met.



The biohazard sign draws attention to the fact that use of biological materials, viral samples and needles may carry a significant health risk.



The attention sign signals relevant information. Read this information, as it might be helpful.



The note sign signals additional information. It provides advice or a suggestion that may support you in using the equipment.

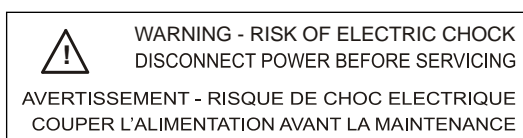
Safety practices

The ALEXYS installation may only be performed by a qualified service engineer trained by the manufacturer. The following safety practices and protective measures are intended to ensure safe operation of the instrument.



Electrical hazards

Never open a device when it is connected to an electrical power source! Removal of protective panels on the instrument can result in exposure to potentially dangerous voltages which may lead to **severe injury or loss of life!** The instrument may only be opened by authorized service engineers of the manufacturer or a company authorized by the manufacturer.



Solvents

Organic solvents are highly flammable. Since capillaries can detach from their screw fittings and allow solvent to escape, it is prohibited to have any open flames near the analytical system.

If a leakage occurs, turn of the power of the instrument and remedy the situation immediately. Regularly check for leaks and clogged LC tubing and connections. Do not close or block drains or outlets. Do not allow flammable and/or toxic solvents to accumulate. Follow a regulated, approved waste disposal program. Never dispose of such products through the municipal sewage system.



Toxicity:

Organic solvents are toxic above a certain concentration. Ensure that work areas are always well-ventilated! Wear protective gloves, safety glasses and other relevant protective clothing when working on the device! Use proper eye and skin protection when working with solvents. Additional safety requirements or protection may be necessary depending on the chemicals used in combination with this equipment. Make sure that you understand the hazards associated with the chemicals used and take appropriate measures with regards to safety and protection.

General precautions

Use of this product outside the scope of this guide may present a hazard and can lead to personal injury.



Spare parts and service availability

Manufacturer provides operational spare parts of instruments and current accessories for a period of five years after shipment of the final production run of the instrument. Spare parts will be available after this five years period on an 'as available' basis.

Manufacturer provides a variety of services to support her customers after warranty expiration. Repair service can be provided on a time and material basis. Contact your local supplier for servicing. Technical support and training can be provided by qualified chemists on both contractual or as-needed basis.

CHAPTER 1

Introduction

This document is intended as a **general master check-list** to guide the technical engineer through the process in preparation of and during an installation of an ALEXYS Analyzer. This document will highlight the most efficient order of actions and refers to the installation sections of the user manuals for details. This document also contains a section (Appendix I) with details for Clarity software installation.



This document is by no means a replacement of the installation sections described in the user manuals supplied with the system.

CHAPTER 2

Preparing for installation

IQ

A printed copy of an Installation Qualification document (pn. 180.0024) is provided with each ALEXYS Analyzer (and available for download from our website). This document is a guideline, sign-off document and checklist covering important details of the installation and content of the training/instruction that has to be given to the end user.

A completed and signed IQ document will serve as an objective proof that the installation was completed successful and was carried out to the satisfaction of both parties.

- ❑ Familiarize yourself with its contents, perform the installation according to the guides given herein, and fill in the Installation Qualification document during the installation.

OQ

A printed copy of an Operation Qualification (OQ) document (pn. 180.0023x) is provided with the DECADE Elite (and available for download from our website). This document describes the OQ tests and is used for sign-off.

A completed and signed OQ document will serve as an objective proof that the detector is performing within specs after having been on transport.

- ❑ Familiarize yourself with its contents, perform the tests according to the guides given herein, and fill in the OQ document during the installation.

PQ

A Performance Qualification (PQ) is an optional procedure and the required part and items for a PQ are **not a standard included** with each ALEXYS Analyzer. If a PQ is required by the customer as part of the installation at the customers site, PQ items have to be ordered in addition and in advance of an installation. See the info on our website for details about PQ.

Info to send to a customer in advance of an installation

PC requirements document

The ALEXYS Analyzer does not have a personal computer as a part. **A PC has to be organized separately by the customer.** A list with specific requirements for a PC (PC requirements; pn. 195.7000) is available for download from the website and has to be sent to the customer in advance of the installation.

Installation requirements document

Before installation, the laboratory where the system is going to be installed should have a certain set of chemicals, consumables and facilities to run the analysis of interest.

A general document (pn. 180.7070C) with a list of specifications and requirements is available for all ALEXYS Analyzers. For some ALEXYS Analyzers that have a specific application associated with it, an additional requirement documents is available that lists the application specific requirements. We regularly update/add new documents when new applications have been developed; check the website for the latest versions!

Download the latest versions from our website

Check www.antecscientific.com/requirements for the latest versions of the required preparation documents, download them from the website, verify the contents and forward them to the customer.

- Forward the relevant documents to the customer well in advance of an installation

Lab bench space requirement

- The system has to be installed on a bench that has enough mechanical strength to hold at least 90 kg (198 lbs).
- The free bench space required for an ALEXYS Analyzer is 75 cm deep, 100 cm high and 110 cm wide, plus space for the PC and some space around the system to prevent obstruction of the fans.

Laboratory environment

Parameter	Requirement
Operating temperature	10 – 35 °C
Operating humidity	20 – 80%, non-condensing

Software download

To assure that the system will be installed with the most recent software version available we recommend to

- ❑ download a copy of the relevant software (Table 1) from the Antec website shortly before installation to a transportable disk.

<https://antecscientific.com/support/documents-and-downloads/software>

Table 1. List of software programs recommended for download before an installation of an ALEXYS system.

Software program/driver	pn	website	
Clarity	195.0035	AntecScientific	Acquisition and data processing software for ALEXYS
Dialogue Elite	175.9007	AntecScientific	Service software and direct control over DECADE Elite
AS110 Service manager	191.0000	AntecScientific	Service software and direct control over AS110

Documents for installation

When preparing for an installation, we advise to

- ❑ familiarize yourself with the contents of the IQ document, the specific user manuals and this checklist document.

In the tables below all relevant user manuals and installation manuals are listed. ALEXYS systems are shipped with digital manuals only; there will be no printed documents with a few exceptions.

Table 2. Part numbers and titles of the manuals that are shipped in print with each ALEXYS Analyzer.

pn	Title
180.0011A	ALEXYS installation checklist
171.0023	IQ OQ for D2 Elite Lite and ROXY
180.0024	ALEXYS IQ manual
180.7001W	LC connections installation guide

Table 3. Part numbers and titles of current user manuals.

pn	Title
175.0010	DECADE Elite user manual
191.0010	AS110 user manual
194.0010	P6.1L pump user manual
102.0010a	Flexcell user manual
250.7010	Flexcell metal WE flattening-polishing kit
116.0014	SenCell Quick-start guide
116.0010	SenCell flow cell user manual
250.7022	Computer settings

CHAPTER 3

Installation

Unpacking

General guidelines

- ❑ Start with checking the exterior of the transport boxes and inform the transport company immediately in case of visible damage.
- ❑ Store the transport boxes as they have custom fit cushions and may be needed again.
- ❑ For each instrument check the contents of accessory kits etc. using the supplied checklist to assure it is complete
- ❑ Install each instrument according to the instructions of its user manual
- ❑ Check that all parts are undamaged.
- ❑ Write down the part number and serial number of each unpacked unit in the IQ document.

Instrument assembly schematics

- ❑ First open the **ALEXYS LC connections kit** and take the schematic LC drawing out as a guide where each instrument is placed relative to the other.

Unpacking order of instruments/parts



Make sure that the placement of the instruments will not obstruct the air flow of fans in the equipment because this could impair the cooling capability (pump and autosampler: back-side, detector: bottom).

- ❑ Unpack the **DECADE Elite** and place it on the bench.
- ❑ Unpack **TR 110** (if purchased) and place on the bench.
- ❑ Unpack the **injector** and place it on the bench or on the TR110 (in case of AS110 autosampler) or mount on the correct side panel (electrical valves)
- ❑ Unpack the **pump(s)** and place it (them) on the bench.
- ❑ Unpack the **eluent tray** and place it on top of the pump.

Powering up

Power cables

- ❑ Each instrument's ship kit contains a EU and US style power cable; organize enough alternative power cables in advance if necessary.



When it is necessary to use a different mains cable than supplied, make sure that the cable meets all relevant safety and EMC requirements (CE, CSA and UL). The manufacturer is not liable if power cords are used that do not meet the relevant safety and EMC requirements.

Connecting the power cables and powering on

- ❑ Make sure the power button of the instrument is set to OFF before making a connection.
- ❑ **DECADE Elite detector** – power it on, and manually set the oven temperature to 35 °C (the OQ test setting)
- ❑ **AS110 / AS6.1L autosampler** – first remove the transport tape securing the sample trays inside the sample compartment, then power it on.
- ❑ **P6.1 pump** – remove the stoppers from the pump head and install the pump piston wash tubing and piston wash solution (see 'LC connections installations guide') before powering on the pump.

Digital communication between ALEXYS and computer

LAN

For software control over the ALEXYS Analyzer, a dedicated local area network (LAN) has to be created with the 'LAN connection kit' (pn. 250.0180) provided as part of the shipment.

- ❑ Verify if the PC specifications and operating system are in compliance with the PC requirements document (p/n 195.7000). Adapt the PC energy saving settings and virus scanner settings where necessary.
- ❑ Follow the instructions in the LAN connection kit install guide (pn. 250.7018) to set the correct IP address to the LAN-port.

- ❑ Use the cables from the LAN connection kit to connect with the LAN switch box. Do not use the LAN cables from the instrument's individual ship kits!

Clarity software control over the ALEXYS system

Clarity software

- ❑ Install the Clarity software according to the instructions given in 'Appendix I' of this document.

Antec pre-configured Clarity files

- ❑ Install the Clarity software according to the instructions given in 'Appendix II' of this document.

Check and adjust the pre-configured Clarity method files

Before actually using the methods and sending the settings to the instruments, the settings have to be checked carefully, confirmed and understood.



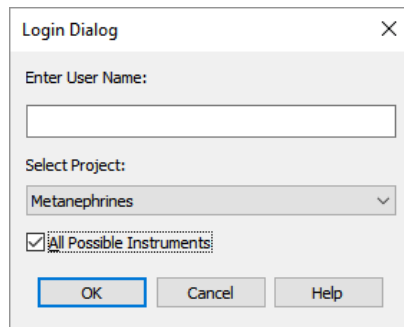
Only "Send method to instrument" after having installed the whole system, having checked the method settings and running with the correct mobile phase.

- ❑ Start the Clarity software program with the dedicated Clarity short-cut key with the ALEXYS application name (not with the 'Clarity' key as this evokes the default settings).



If for any reason the 'Cancel' button was chosen, close down and restart Clarity again to make all the preconfigured links functional.

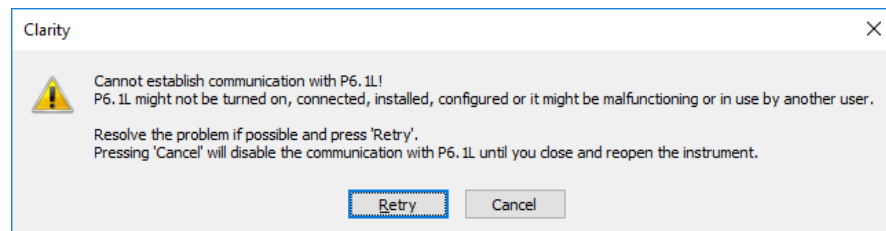
- ❑ Click on the 'Login' dialog' box in the middle of the system picture, and make sure to check the 'All possible Instruments' checkbox every time you log into the instrument.



- ❑ Open, check and update all the tabs in each method where necessary.

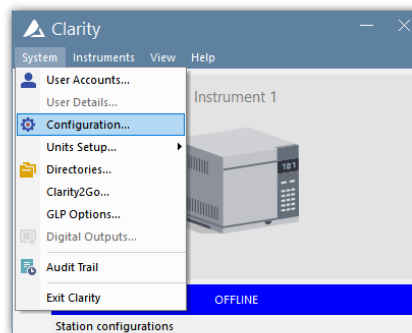
Updating the pump serial numbers in the Clarity preconfigured files before first use

If the default pump serial number is not updated to that of the connected pump, this will prompt the following dialogue box:

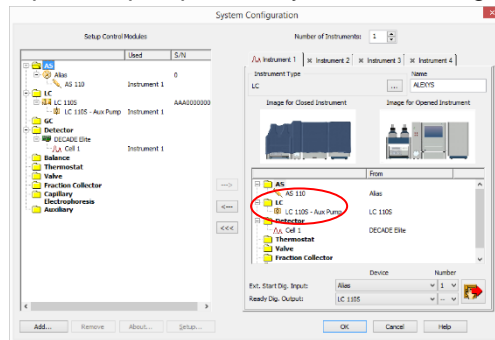


The update for the pump serial number should be done at the level of the driver:

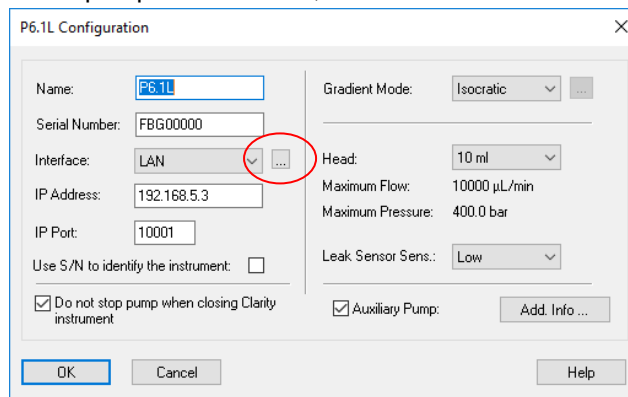
- ❑ Start up the software using the dedicated Clarity short-cut key with the ALEXYS application name.
- ❑ From the Main window, open the system configuration window (System/Configuration).



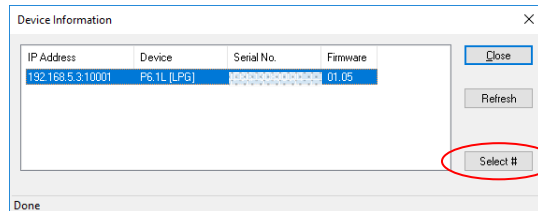
- ❑ Open the pump driver by double clicking it.



- ❑ In the pump driver screen, double click on the '...' button.



- ❑ Click the 'Select #' button to update the serial number.



- ❑ Close all the Clarity windows by clicking Close or OK
- ❑ Close Clarity software (which saves the changes)

The ALEXYS Analyzer is now under control of the Clarity software.

Starting up the application with manual control over the instruments

The Clarity window 'Device Monitor' gives direct control over the individual instruments when connected to Clarity. This window is useful when the pump has to be purged or when the initial wash command has to be given to the autosampler.

Liquid connections

Drain tubing

Make sure that all drain tubings are connected:

- On the frontside of the solvent tray to the bottom panel of the pump front, and a tube to a waste container below the system.
- Two drains on the front of the AS 110 autosampler OR
- One drain on the side of the AS6.1L autosampler.

The main source of liquid from drains will be the wash solvent and condensation water from the autosampler.

Flow path

Follow the instructions in the 'LC connections installation guide' (pn 180.7001W) to build the LC flow path:

- Install the liquid flow path as depicted in the schematic drawing up to the injector.
- Open the Clarity Device monitor from the instrument window (from the menu: Monitor/Device monitor; or use the icon)
- Execute 'Initial wash' to remove air from the flow path of the autosampler.
- Apply the passivation procedure with nitric acid including the cleaning step with water for LC system with metal parts or rinsing procedure for bio-inert system (see 'General requirements for installation of ALEXYS system' pn 180.7070C). Use the Clarity Device Monitor Window for direct control over the pump and autosampler.
- Make sure to flush the lines with the correct solutions before attaching the column (see column care instruction).

Column

- Run mobile phase for at least 16 hours (overnight) through the column to flush and equilibrate it before installing the flow cell.

Flow cell

- Follow the instructions in the flow cell manual to install the cell in the flow path.



Do NOT turn ON the cell if it is not yet flowing through with mobile phase.

Clarity training

To make the customer acquainted with the Clarity software, a presentation about the **concept** of Clarity and a **hands-on training document** is available on our website:

<https://antecscientific.com/support/tutorials/software-tutorials>

- ❑ The Clarity hands-on training manual (pn. 195.7010) helps to learn working with this software.
- ❑ The example-chromatograms for hands-on training are available from the 'Clarity Antec Analyzers.zip' (for installation see Appendix II).

A P P E N D I X I

Installation of Clarity acquisition software



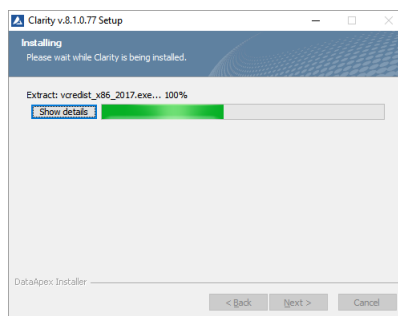
General guidelines

Do **NOT** insert the Clarity dongle before the Clarity installation process is completely finished!

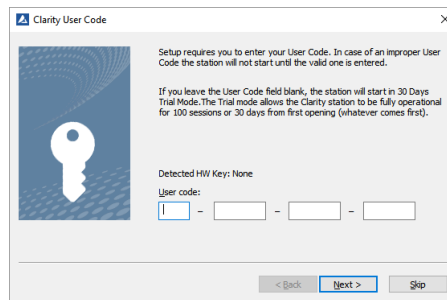
- ❑ In case of a first time install of the Clarity, there is the option to leave the User/activation code blank, in which case the user has a fully functional Clarity station with all existing modules active for 30 days/100 sessions.
- ❑ Make sure to install the Clarity version that is recommended by Antec (see our website). There may be newer versions available through the DataApex website, but these versions may not yet have been officially approved/tested by Antec.

Instructions

- ❑ Start the installation using the exe-file for Clarity installation.
- ❑ Accept the default settings:
 - location for Clarity software (the C-drive of the computer)
 - location for data
 - AD convertor (none).
- ❑ The software installation can take a few minutes.

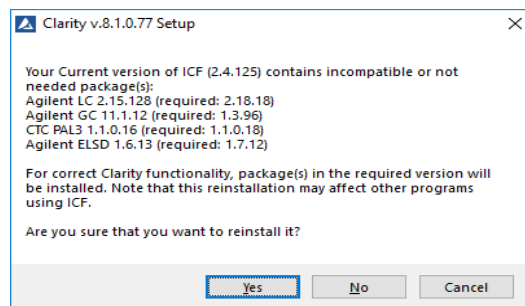


- ❑ When prompted for the User code, insert the hardware key and enter the correct code, which can be found on the front of the box and also inside the paper copy of the Clarity booklet.

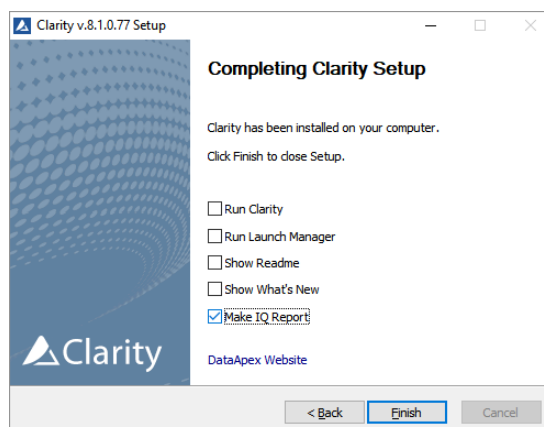


If this step is skipped, the user code can also be entered at a later stage after restarting the Clarity software (Main menu/About/User code).

- ❑ In case a message pops up asking to allow the reinstallation of some driver, select 'Yes'.



- ❑ Accept the additional pop-up requests for installation of drivers during the installation process.
- ❑ At the end of the installation check the "Make IQ report now" box to generate the Clarity IQ report.



- ❑ Print a copy of the IQ report.

Installation Qualification Report

Date	07.08.2016, 12:27
Serial number of application	25646291-189202
User code	17889926201998
Version of application	Clarity version 5. 6.139
Build date of application	02.08.2016, 12:13
Instrument	AI
Extension	none
Country	CZ, CS
Certification file	C:\clarity\ms
Checksum of cert. file	88021174484255
Date of cert. file	02.08.2016, 12:13
User	Lukáš Přibyl
System	Microsoft Windows [Build number 6.0.9200.16385]
Application and hardware checks	Clarity installation wizard tests. Please, run Clarity 5.6.139 obtain a list of all installed Clarity files (2 files)

Installation Qualification Test: Passed

Files

File	Path	Version	Size	File date	Status
aiinstrument\ai\ai.exe	c:\clarity\ai\ai.exe	-	3029	02.08.2016, 12:13	Passed
aiinstrument\ai\ai.exe	c:\clarity	2.2.26.0	35643	02.04.2016, 24:13	Passed
aiinstrument\ai\ai.exe	c:\clarity	2.2.26.0	77134	02.04.2016, 24:13	Passed
aiinstrument\ai\ai.exe	c:\clarity	2.2.26.0	44205	02.04.2016, 24:13	Passed
aiinstrument\ai\ai.exe	c:\clarity\ai\ai.exe	-	36333	02.08.2016, 12:13	Passed
aiinstrument\ai\ai.exe	c:\clarity	1.2.4.3	10344	02.08.2016, 12:13	Passed
aiinstrument\ai\ai.exe	c:\clarity\ai	-	1212	02.08.2016, 12:36	Passed
aiinstrument\ai\ai.exe	c:\clarity	1.2.6.23	77286	02.04.2016, 12:36	Passed
aiinstrument\ai\ai.exe	c:\clarity	-	39462	02.04.2016, 12:13	Passed
aiinstrument\ai\ai.exe	c:\clarity	-	69632	02.04.2016, 12:13	Passed
aiinstrument\ai\ai.exe	c:\clarity	3.0.3.922	69596	02.04.2016, 12:13	Passed
aiinstrument\ai\ai.exe	c:\clarity\ai\ai.exe	-	36004	02.08.2016, 12:13	Passed
aiinstrument\ai\ai.exe	c:\clarity\ai\ai.exe	-	33741	02.08.2016, 12:13	Passed
aiinstrument\ai\ai.exe	c:\clarity\ai\ai.exe	-	33821	02.08.2016, 12:13	Passed
aiinstrument\ai\ai.exe	c:\clarity\ai\ai.exe	-	337	02.08.2016, 12:13	Passed
aiinstrument\ai\ai.exe	c:\clarity	6.1.4.10	18	02.08.2016, 12:13	Passed
aiinstrument\ai\ai.exe	c:\clarity	1.1.1.1	18	02.08.2016, 12:13	Passed

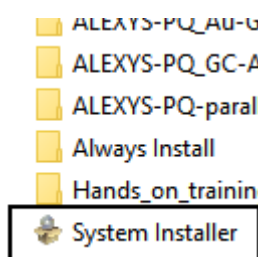
Example of a Clarity IQ report

APPENDIX II

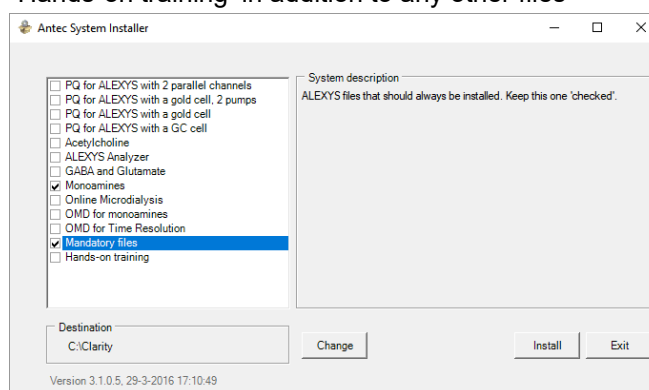
Installation of pre-configured Clarity files

For different applications with ALEXYS LC-ECD analyzers, pre-configured Clarity files are available. The correct set of application-specific files can be installed:

- ❑ A copy of the most recent version of the 'Clarity for Antec Analyzers' can be downloaded from our web-page www.antescscientific.com/detectors-and-analyzers/software/clarity-software
- ❑ Open the folder '195_0035 - Clarity 8 Antec Analyzers 201802' and run the 'System Installer'.



- ❑ Select the right application.
 - The right part of the installer window (Feature description) gives details about to which set of hardware the files apply.
 - More than one application can be selected at this point.
 - Make sure to select the 'Mandatory files' and the 'Hands-on training' in addition to any other files



Be aware that any changes made to the installed files will be overwritten with the original settings when 'adding' other method installers after initial installation.

A P P E N D I X I I I

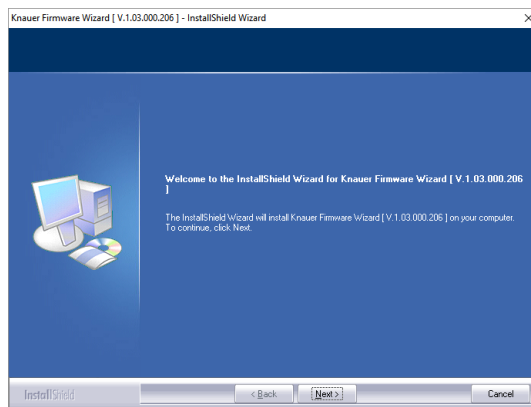
Adjustment of internal pump settings

All new P6.1L pumps are preconfigured to communicate over LAN using IP address 192.168.5.3. A few adjustments to these settings are therefore necessary when installing 2 pumps, otherwise Clarity software cannot communicate with either of them:

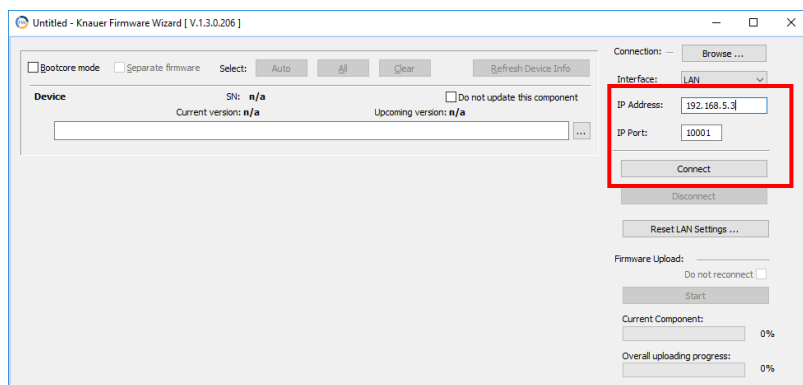
Changing the IP address of a pump

When installing an ALEXYS system with 2 pumps, one of the pumps has to be manually adjusted to have IP address 192.168.5.4 for them to communicate simultaneously with the Clarity software.

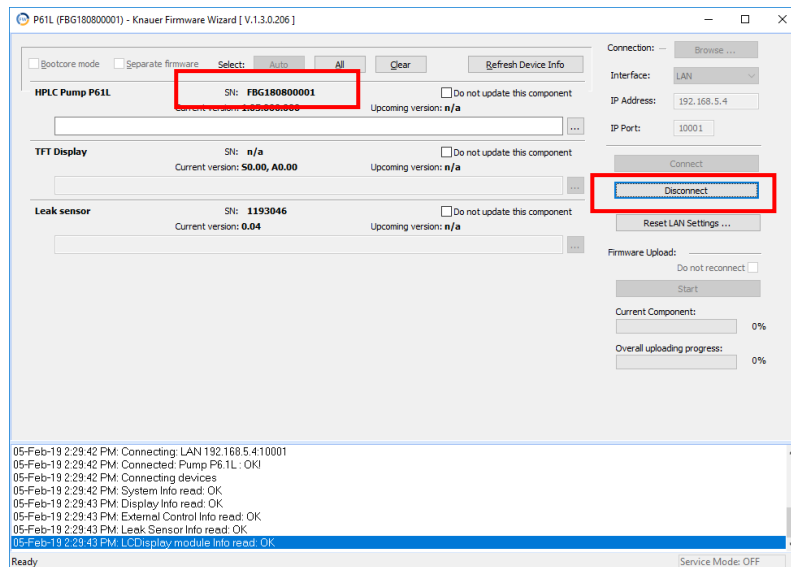
- ❑ Install the 'Knauer Firmware Wizard' software tool to access the internal pump settings (a copy of the installer is on the Antec USB stick, or download from our website).



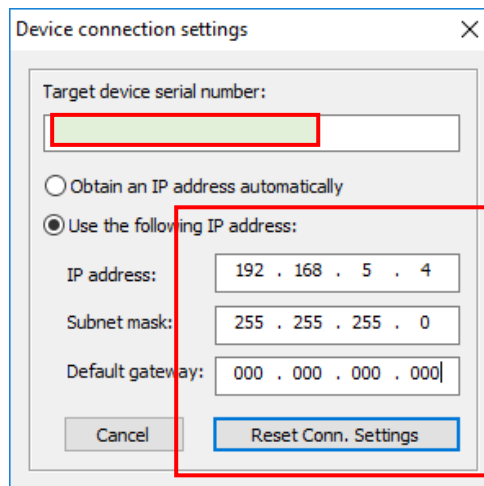
- ❑ Make sure only one pump is connected with a LAN-cable at this point.
- ❑ Start the 'Knauer Firmware Wizard', fill in the current IP address of the pump and click 'Connect'.



- ❑ Note/copy the serial number of the pump and click the 'Disconnect' button



- ❑ With the target pump 'Disconnected' from the software, click the 'Reset LAN settings' button, fill in the serial number of the pump, the new IP address, Subnet mask (255.255.255.0) and default gateway (000.000.000.000).



- ❑ Click the button 'Reset Conn. Setting', and the IP address will be changed.
- ❑ Doublechecking for a successful change can be done with the 'Connect' button after typing the new IP address.