Rainin PipetteX

Version 4.2

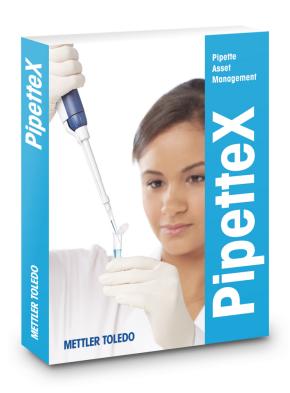




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Table of Contents Rainin PipetteX

1 About this Guide

This guide provides instructions for installing Rainin PipetteX. Before installing the application, it is recommended that you read the related chapters in this document.

1.1 Intended Audience

This guide is intended for those who have access to the Rainin PipetteX.

1.2 Explanation of Conventions

The following conventions are used throughout this guide to emphasize important concepts:

Elements of instructions

Instructions always contain action steps and can contain prerequisites, intermediate results, and results. If an instruction contains more than one action step, the action steps are numbered.

Preparation

Prerequisites that must be fulfilled before the individual action steps can be executed.

Action steps

- 1 Action step 1
 - → Intermediate result
- 2 Action step 2
- → Result

Rainin PipetteX About this Guide

2 Introduction

2.1 Audience

This document is intended for users who are responsible for running system administration operations. We recommend that only people with the necessary knowledge and corresponding training perform the system installation.

Please read this manual carefully and thoroughly before installing PipetteX. Ensure you are familiar with all components within the system. You must be familiar with the database tools and hardware components.

2.2 Purpose of this Document

This document provides installation and maintenance information for PipetteX. We recommend that before installation, upgrade, or maintenance of the software you read the related chapters in this document.

2.3 Related Documents

For more information, visit https://www.mt.com/rainin-sstanddocs. Here you will find more tutorials and other documentation or videos.

- https://www.mt.com/smartcheck
- EasyScan LAN / EasyScan USB
- EasyScan TM USB
- EasyScan Flex

2.4 End User License Agreement (EULA)

The software in this product is licensed under Rainin PipetteX End User License Agreement (EULA) for software, available at https://www.mt.com/eula. When using this product you agree to the terms of the EULA.

2.5 Disclaimer

This document may contain inaccuracies or errors of substantive or typographical nature. METTLER TOLEDO does not assume any responsibility or risk for your use of the information provided in this document. Nothing in this document shall be construed as a guarantee or warranty, either express or implied (including without limitation warranties as to merchantability or fitness for a particular purpose). The software described herein may be dependent on various external factors and configurations, such as system configuration, customer data, and operator control.

The implementation of the products this document relates to may vary consequently, the suitability of specific product configurations and applications must be determined by the customer and is not warranted by METTLER TOLEDO. If you rely on the information or any advice, opinion, or statement in this document, you are doing so at your sole risk. To allow improvements, the information in this document is subject to change.

2.6 Use of Third-Party Licenses

PipetteX uses standard components from third parties. An overview of third-party licenses can be found on http://www.mt.com/licenses.

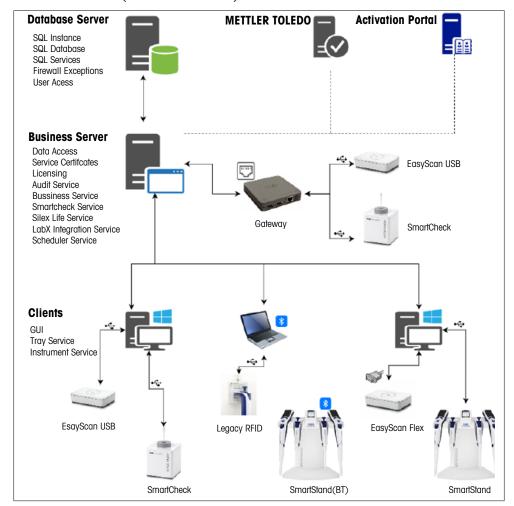
Introduction Rainin PipetteX

3 PipetteX System Overview

PipetteX can be installed within your organization either as a standalone or as a distributed system. When installed as a distributed system, all the asset details are stored in a centralized location (database) and all the PipetteX clients available in the network can view and share all the assets.

PipetteX software consists of four main components:

- Client UI Application (User Interface Component)
- Background Application (Windows Service Component)
- Business Server (Windows Service Components for Business Server, SmartCheck, LabX Integration Service, Scheduler Service, Silex Virtual Link Lite & Audit Trail)
- Database Server (Microsoft SQL Server)



PipetteX

Client application

The client application is the main interface through which you can view the assets and other instruments connected to your PC. You can configure the way PipetteX behaves using this application.

Background application

The background application resides within the client application on your PC and automatically runs even when the PC is not logged in. The status will be indicated with an X in the Windows taskbar. The background application maintains the connection to the RFID readers and the database through the Business Server. It logs data received from the connected readers regardless of whether you are logged in or not.

To view data stored in the database, the client application has to be open, and depending on your user rights, information can be looked at. The collected data are shown in different views and tables.

5

- Dashboard
 - Graph
 - Event viewer
- Assets

Rainin PipetteX PipetteX System Overview

- Manual & Electronic
- Manual
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 - XSE/XPE/XPR/XSR balances
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Business Server

6

The Business Server runs automatically in the background when the PC is running. This component can be run either on the same PC (standalone) or a different PC (distributed system). The Business Server acts as a bridge between the database server and the client applications installed across the network. The following components are installed along with the Business Server:

- PipetteX Audit Service
- PipetteX DB Utility Scheduler Service
- PipetteX Instrument Service
- PipetteX Scheduler Service
- PipetteX LabX Integration Service
- PipetteX SmartCheck Service

The Business Server periodically connects to the METTLER TOLEDO server and:

- Retrieves a new pipette models available in the market.
- Certificates of pipettes for which service or calibration is done through METTLER TOLEDO along with other details.

The Business Server also validates your license subscriptions.

PipetteX System Overview Rainin PipetteX

4 Preparing the System Installation

4.1 System Requirements

PipetteX can be installed either as a **standalone system**, where all the components along with the database are available on the same PC, or as a **distributed system**, where each component resides on a different PC. PipetteX clients can be installed on multiple PCs connected to a Business Server.

4.1.1 Computer

The following tables show the minimal and optimal hardware requirements for running PipetteX. However, the hardware requirements depend heavily on the number of connected readers/type of readers and the operating rate of the readers along with the network capabilities.

If the CPU supports Hyper-Threading, you can double the available cores when calculating the hardware requirements. A dual-core CPU would therefore be counted as a guad-core.

4.1.1.1 Standalone system

Computer	Minimum	Optimum
CPU	2 GHz Dual Core	3 GHz Quad Core
RAM	8 GB	16 GB
Display Resolution	1280 × 768	1920 × 1080
Hard Disk	20 GB free space	40 GB free space
Operating System	Windows 10 - 64 bit (update ≥21H2)	Windows 10 - 64 bit (update ≥21H2)
Installed Components	PC Client, Instrument Service, Business Service, Audit Service, SmartCheck Service, MS SQL Server 2014 SP3	PC Client, Instrument Service, Business Service, Audit Service, SmartCheck Service, MS SQL Server 2022

For standalone systems, all the components (Database, Business Server, and Client) will be installed in the same PC.

4.1.1.2 Distributed system

Database Server

Computer	Minimum	Optimum	
CPU	2 GHz Dual Core	3 GHz Quad Core	
RAM	16 GB	32 GB	
Display Resolution	1280 × 768	1280 × 1024	
Hard Disk	50 GB free space	100 GB free space	
Operating System	Windows Server 2016	Windows Server 2019	
SQL Server	MS SQL Server 2014 SP3	MS SQL Server 2022	

PipetteX Business Server

Computer	Minimum	Optimum	
CPU	2 GHz Dual Core	3 GHz Quad Core	
RAM	16 GB	32 GB	
Display Resolution	1280 × 768	1280 × 1024	
Hard Disk	10 GB free space	20 GB free space	
Operating System	Windows Server 2016	Windows Server 2019	
Installed Components	Business Service, Audit Service, SmartCheck Service	Business Service, Audit Service, SmartCheck Service	

PipetteX Client

Computer Minimum Optimum		Optimum
CPU	2 GHz Dual Core	3 GHz Quad Core
RAM	8 GB	16 GB

Computer	Minimum	Optimum
Display Resolution	1280 × 768	1920 × 1080
Hard Disk	20 GB free space	40 GB free space
Operating System	Windows 10 - 64 bit (update ≥21H2)	Windows 10 - 64 bit (update ≥21H2)
Installed Components	PC Client, Instrument Service	PC Client, Instrument Service

For distributed systems, we recommend installing the Business Server on a PC/server hardware that is always ON, as it will be constantly polling the METTLER TOLEDO server to synchronize asset and service data.

4.1.2 Supported operating systems

The following list shows the supported operating systems of PipetteX.

Operating Systems

	Service Pack	Editions	32bit	64bit
Windows 10	21H2	Customer, Business, Education		•
Windows 10	21H2	Long Term Service Channel (LTSC)		•
Windows 11	21H2	Customer, Business, Education		•
Windows 11	21H2	Long Term Service Channel (LTSC)		•
Windows Server 2016		Essential, Datacenter, Standard		•
Windows Server 2019		Essential, Datacenter, Standard		•
Windows Server 2022		Essential, Datacenter, Standard		•

4.1.3 Supported SQL servers

PipetteX will install an instance of Microsoft SQL Server 2022 Express Edition to create a database if your PC does not contain an Instance **PipetteX**.

The users can also connect to an already existing Microsoft SQL Server. Details on how to connect to an existing database server are included in [Distributed System ▶ Page 22].

The following list shows the supported SQL servers of PipetteX.

SQL Servers

	Service Pack	Editions	32bit	64bit
SQL Server 2014	SP3	Standard, Enterprise & Express	•	•
SQL Server 2016	SP2	Standard, Enterprise & Express		•
SQL Server 2017		Standard, Enterprise & Express		•
SQL Server 2019		Standard, Enterprise & Express		•
SQL Server 2022		Standard, Enterprise & Express		•

i Note

• The Express edition has limitation for individual database size up to max 10 GB.

4.1.4 Additional Requirements

You need to disable the **Hibernate** and or **Standby** options on the PC that are running on the Business server, as PipetteX does not support the **Hibernate** and **Standby** modes. You will find more information, on how to deactivate the **Hibernate** and **Standby** modes under: http://support.microsoft.com/kb/920730/en

4.1.5 Additional Software Installed

The following third-party software is required by PipetteX to run. This will install the necessary components automatically.

Additional Software

Name	Version	Installed by PipetteX
.Net Framework	4.8	•
SQL Server Express 2022	2022	•

i Note

• The Microsoft Message Queuing (MSMQ) feature will be turned on by the PipetteX installer. In case of failure, you can enable it manually, then continue with installation.

4.1.6 Readers

PipetteX supports the following RFID readers with the corresponding configuration. The readers must fulfill the requirements to operate with PipetteX.

RFID Reader Devices

	Firmware	USB	Serial	Ethernet	Bluetooth
SmartStand	1.1.1.1	•			•
EasyScan USB	1.1.0.1 0.0.0.0.0	•			
RFID Reader (Legacy)		•			
FlexScan Reader	1.0.2.21		•		

i Note

Driver installation required (Creating Virtual COM)

4.1.7 Balances and gateways

PipetteX supports the following instruments with the corresponding configuration. The instruments must fulfill the requirements to operate with PipetteX.

Devices

	Firmware	USB	Serial	Ethernet	Bluetooth
XPE Balance	2.20			•	
XSE Balance	2.21			•	
XPR Balance	2.0.401	•		•	
XPR-E Balance	2.0.503.19	•		•	
XSR Balance	2.0.501	•		•	
SmartCheck	2.0.3	•+			
Silex Gateway	1.4.0			•	

⁺ Communication via USB as well as through Gateway

i Note

To avoid a PC restart, disconnect the Silex gateway from any PipetteX client before upgrading the Business Server.

4.1.8 Virtualized environments

Device readers supported by PipetteX are not tested in virtualized environments. However, if the instructions for connecting/redirecting USB/Bluetooth devices in a virtual environment are followed, PipetteX should run correctly.

Note

If the Business Server is installed in a virtual environment, the Business Server must be running for it to connect with and retrieve asset details from the METTLER TOLEDO server.

Virtualization PipetteX Installation Device		Device Connection	Comments	
Software	Standalone	Distributed	& Data Transfer	
Oracle: Virtual Box	Not verified	Not verified	Not verified	Use the built-in port forward option in VBox. Refer short setup instructions below.

Virtualization	PipetteX Installation		Device Connection	Comments	
Software	Standalone	Distributed	& Data Transfer		
Microsoft: Hyper-V Manager	Verified	Verified	Not verified	The use of third-party tools like the one specified below allows us to connect with supported devices in virtualized environments, COM port in Virtual Machine.	
VMWare: Workstation	Not verified	Not verified	Not verified	The use of third-party tools like the one specified below allows us to connect with supported devices in virtualized environments, COM port in Virtual Machine.	

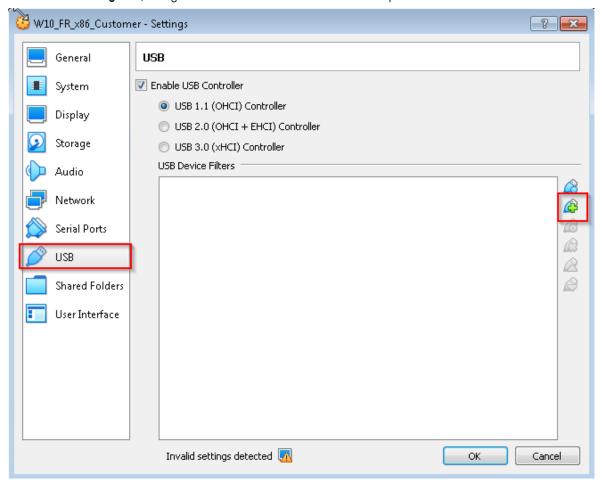
Oracle Virtual Box Settings – COM Port Forward

Preparation

■ Ensure the Virtual Box extension pack is installed/enabled

Action steps

- 1 Plug in the devices, EasyScan USB or SmartCheck in the Host Server, where Virtual Box was installed.
 - → System will list the ports in the device manager of Host Server
- 2 Launch the virtual environment with supported operating system.
- 3 From the **Settings** tab, navigate to **USB** section and add the relevant port.



➡ When the tray service is running in the virtual environment, the pipette system will display the auto-detect popup to add the devices to the application.

4.1.9 Supported Active Directory configurations

PipetteX supports the following Active Directory (AD) configurations-domain formats:

- prefix.domain.com
- domain.com
- domain.Forest.suffix.com

4.1.10 Supported languages

PipetteX, SmartStand, XPE/XSE, and XPR/XSR support a different list of languages. Mixed languages do not negatively affect any system. The following languages are supported:

Languages

Language	PipetteX	SmartStand	XPE/XSE	XPR/XSR
Chinese (simplified)	•			•
Chinese (traditional)	•			•
Czech				•
English	•	•	•	•
French	•		•	•
German	•		•	•
Hungarian				•
Italian				•
Japanese	•			•
Korean	•			
Polish				•
Portuguese	•			•
Russian				•
Spanish	•		•	•

4.2 Pipettes

PipetteX supports Rainin RFID pipettes (manual, electronic, single/multichannel) as well as non-RFID pipettes (any brand).

4.3 Pipette Verification

4.3.1 Balances

PipetteX supports retrieving routine test reports from XPE, XSE, XPR, XPR-E, and XSR balances connected through network. Support for a RS232/serial connection directly from the balance is not available. Refer to the table below to set up a QuickCheck verification station.

	XPE analytical balance	XPR analytical balance*
Balance**		
Volume to be tested		
≤10 µl	30105893 XPE26 (0.0015mg)	30355476 XPR26 (0.001mg)
	30105897 XPE26DR (0.01-0.005mg)	30355530 XPR26DR (0.01-0.001mg)
>10-10′000 μl	30087653 XPE205 (0.01mg) 30087700 XPE205DR (0.1-0.01mg)	30355411 XPR205 (0.01mg) 30355415 XPR205DR (0.1-0.01mg)
Cables and accessories		, · · · · · · · · · · · · · · · · · · ·
USB-RS232 converter cable incl f/f converter	30364315	N/A
Optional LAN port for balance	11132515	N/A

	XPE analytical balance	XPR analytical balance*		
Evaporation trap				
SmartCheck trap 50 mL (for XPE/R205)	30215436	30215436		
Evaporation trap 10 mL (for XPE/R26)	11140041	11140041		
RFID reader (desktop model)				
EasyScan Flex Reader RS232	30215407	N/A		
EasyScan Flex Reader USB	N/A	30416173		
RFID tags/cards				
Smart Tag RFID labels 50pcs	30101517	30101517		
Smart Tag RFID labels 200pcs	30101518	30101518		
Method Card 5pcs	30300929	30300929		
Method Card 25pcs	30300930	30300930		

^{*} Released in 2021. Please check feature availability in your country. No rights can be obtained from this document.

4.3.2 SmartCheck

The SmartCheck is an easy-to-use pipette verification instrument. By default, it will measure to 5% tolerance. Hooking it up to PipetteX allows you to do several things.

Connected via USB (standalone case)

Connect to SmartCheck to perform any of the 2 actions below. Afterwards, disconnect the SmartCheck from PipetteX and place it back on the bench.

- Change the tolerance of the SmartCheck (change it to any value between 3-10%).
- Change the firmware of SmartCheck.

Connected via USB (connected case)

Connect a SmartCheck to a PC that has PipetteX on it and leave it connected via USB. In addition to the above, you can also:

- Start the Pipette Verification from PipetteX and measure against pipette specific tolerances. Get the verification report automatically assigned to the document history of the pipette (only for the paid license)
- With an EasyScan Flex USB reader, you can turn any PC into an automated pipette verification station.
- Hold an RFID enabled pipette over the reader, have the SmartCheck set itself to the correct tolerance for the pipette.
- · Check the pipette and the report will be automatically captured in the software.

Connected via a USB-LAN gateway (autonomous case)

Automate your pipette verification process without the need for a PC at the bench. Hookup a SmartCheck and an EasyScan LAN reader to your network and verify any pipette without touching the PC. Note that you will need to install the Silex Gateway in your network environment.

4.3.3 Smart tags

PipetteX supports Smart Tags affixed to non-RFID pipettes (both Rainin and non-Rainin).

4.3.4 Method cards

PipetteX supports Rainin Method Cards for use in conjunction with non-RFID pipettes to store routine test method parameters.

4.4 System Backup

Users are solely responsible for assuring that the SQL database and all data related to PipetteX is backed up in a timely manner.

^{**} Balance recommendation according to ISO8655-6 2002(E), section 4.1

PipetteX comes with a simple database backup utility installed. It is recommended that you use PipetteX DB Utility over other tools like SSMS to take and restore DB backups. PipetteX DB Utility is capable of doing auto backups, but it is your responsibility to schedule the backups accordingly.

The DB utility tool saves the PipetteX version when taking a backup and ensures that the database is properly migrated to the correct schema when it is restored. For more information and instructions, download the User Manual at www.mt.com/rainin-sstanddocs.

▶ PipetteX Support Site

5 Installing the PipetteX Software

PipetteX can be installed as a **Standalone System** where all the components are installed and made available on the same PC, or as a **Distributed System** where every component can be installed in a different PC based on your requirement.

Note

Make sure that the PipetteX service account requires below mentioned permission before installing.

Windows permission

Logon as Service privilege is needed and it should be member of Domain(usually it will have privileges to search, authenticate and authorize other AD users.)

net.tcp namespace permissions

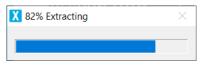
The PipetteX service account also requires permission on the following net.tcp namespaces to create the needed services. These namespaces may have to be added in the exceptions list if there are security related restrictions using Firewall or VPN.

- net.tcp://ServerName:58889/IPipetteXAuthenticationService
- net.tcp://ServerName:58889/IEasyDirectPAMService
- net.tcp://ServerName:58889/IEasyDirectPAMInfoService
- net.tcp://ServerName:58889/ICompatibilityService
- net.tcp://ServerName:58889/IEasyDirectPAMLabxService
- net.tcp://ServerName:58889/IEasyDirectPAMSchedulerService

Follow the instructions below to install PipetteX:

Action steps

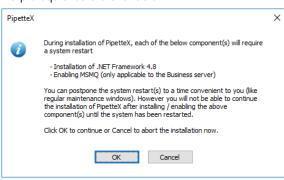
- 1 Run the PipetteX installation **PipetteX Setup.exe** as an administrator.
 - → Installation will first check for prerequisites and try to install all the required and missing third party components and Windows services, which are necessary for PipetteX to run.

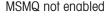


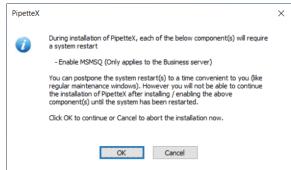


The wizard will inform you about system restart(s) if any of the mandatory prerequisites are not available and ask for your confirmation (see screenshot below) to proceed with the installation.

No prerequisites are available

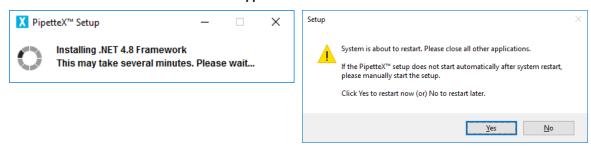






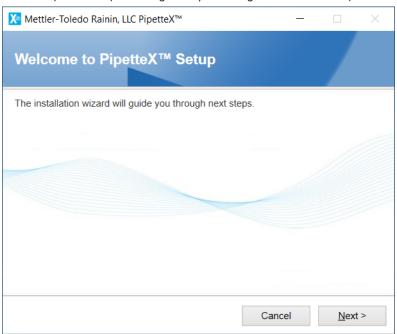
Similarly message content will list only .Net components, if the .Net version alone is not available. If the PC hardware or server does not have .Net 4.8 installed, PipetteX will install it and the user must restart the PC to proceed.

While installing .Net 4.8 on an active server running other software applications, note that .Net 4.8 in an active server also handles other software applications.



After the required components are installed, installation of PipetteX starts automatically. If the installation does not start automatically (after re-start), then run the setup again.

2 The PipetteX setup wizard guides you through installation of PipetteX.



- 3 Click Next.
 - → The End-User License Agreement window is displayed.



4 You must accept the **End-User License Agreement** and click **Next** to proceed with installation.

5 Select one of the systems (standalone or distributed).



By selecting **Standalone system**, all the components are installed in the same PC and your PC is self-sustained.

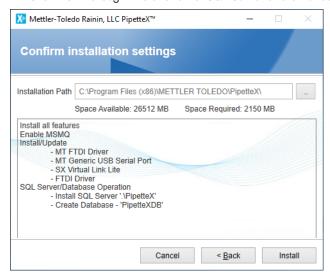
By selecting **Distributed system**, all the components are installed across the network.

5.1 Standalone System

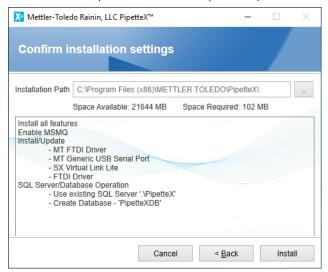
After selecting **Standalone system**, follow the steps below:

Action steps

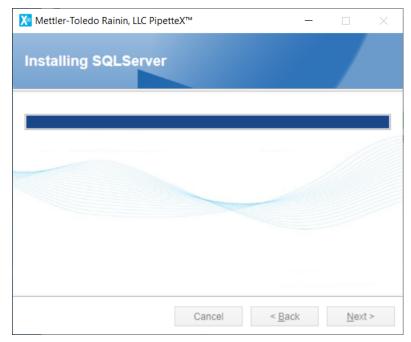
1 Click **Next** to begin installation of SQL Server and other components, including drivers.

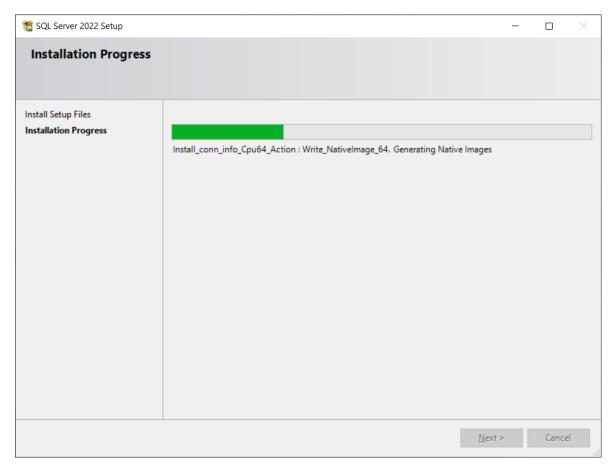


2 If the PipetteX SQL server is already installed on your PC, this installation does not create an additional instance of PipetteX. All of the components (Business Server, client, etc.) is installed on the same PC.

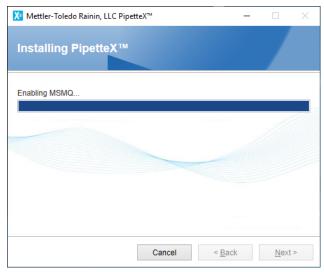


- → On installation, associated data and log files are created and updated in C:\Program Files (x86)\METTLER TOLEDO\PipetteX.
- 3 If the SQL server is already installed, then PipetteX skips the SQL instance alone and other components are installed.

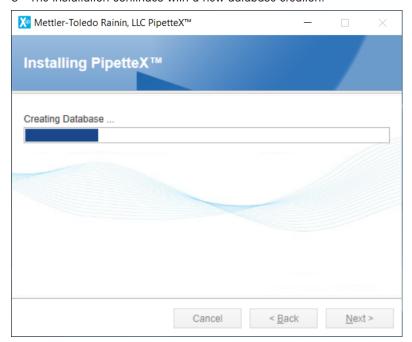




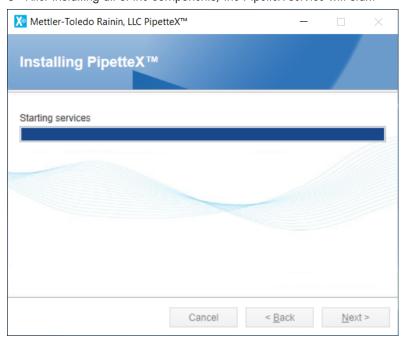
4 You must enable MSMQ. If not, the installer will enable the MSMQ and start installing the other components.



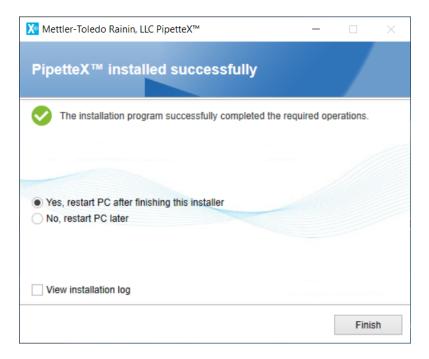
5 The installation continues with a new database creation.



6 After installing all of the components, the PipetteX service will start.



→ On successful installation, the screen below is displayed.



5.1.1 Supporting information

Make sure the components listed below are available after successful installation. You can find services by typing in "services" in the windows search bar.

Services

- PipetteX Audit Service
- PipetteX DB Utility Scheduler Service
- PipetteX Instrument Service
- PipetteX Scheduler Service
- PipetteX LabX Integration Service
- PipetteX SmartCheck Service
- PipetteX Business Service

Firewall Ports

Control Panel\All Control Panel Items\Windows Firewall --> Advanced Settings Inbound Rule

- PipetteX Business Service Discovery IN (UDP) 3702
- PipetteX Business Service_IN (TCP) 58889
- PipetteX SmartCheck Service IN (TCP) 58890
- PipetteX Instrument Service_IN (TCP) 58888
- PipetteX LabX Integration Server_IN (TCP) 51138
- PipetteX LabX Integration Client IN (TCP) 51159

Outbound Rule

- PipetteX Business Service Discovery_OUT (UDP) 3702
- PipetteX Business Service_OUT (TCP) 58889
- PipetteX SmartCheck Service_OUT (TCP) 58890
- PipetteX Instrument Service_OUT (TCP) 58888
- PipetteX LabX Integration Server_OUT (TCP) 51138
- PipetteX LabX Integration Client_OUT (TCP) 51159

Message Queue

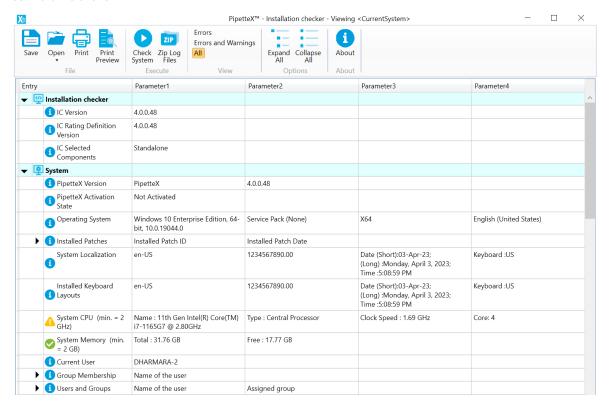
Control Panel\System and Security\Administrative Tools --> Computer Management --> Services and Applications --> Message Queuing --> Private Queues --> pamactivitylog

^{*}Services run using Logon As user, Network Service.

^{*}Default firewall ports are added during the installation.

5.1.2 Installation checker

The Installation checker tool delivered with PipetteX helps to identify errors and warnings that are open after the software installation.

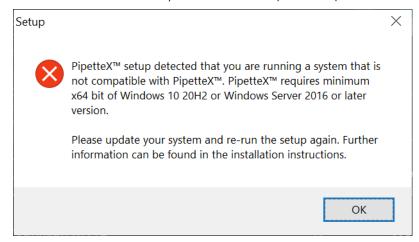


5.1.3 Installation on x86 systems

The following conditions are applicable only for ${\bf Standalone}\ {\bf system}:$

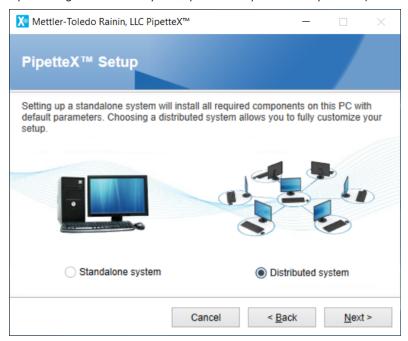
- By default, the installer comes with an SQL server that supports only x64 systems. Hence fresh installation
 is not supported in x86 systems.
- If SQL server is already available on your PC, it is possible to install or upgrade PipetteX.

You can select a distributed system to install all PipetteX components on a single PC.



5.2 Distributed System

By selecting a distributed system, you can fully customize your setup.



i Note

- Only PipetteX-specific components and their associated services are removed when you uncheck the
 components during the modification operation. The third-party components like SQL Instance, Drivers, .Net,
 and MSMQ are not reverted, even if it was installed with PipetteX components.
- During modification operation, the existing firewall ports are not cleared. Only new firewall ports are added for the new component.

5.2.1 SQL server instance installation

To create a new SQL instance and to access over the network, follow the steps below:

i Note

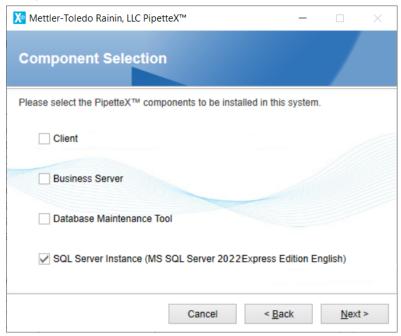
 If you would like to use any of the existing SQL servers (either existing "PipetteX" or other named instances), then ignore this section. During "Business Server" installation, the system will ask you to fetch the existing SQL instances.

Action steps

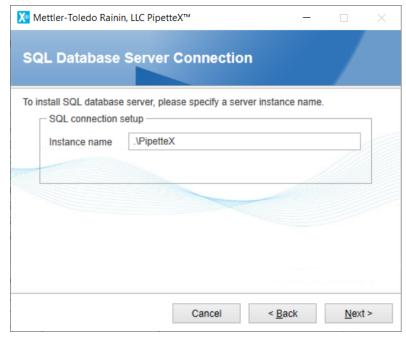
1 Select the **SQL Server instance** option.

Note

The Database Maintenance Tool option should be checked only when the PC hardware already contains the PipetteX database. Since it is a fresh installation, no database exists. Hence, the option is unchecked.

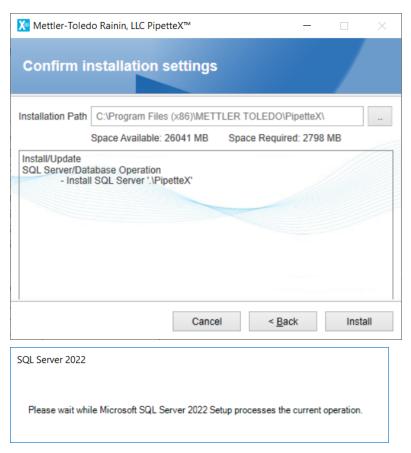


2 The screen below shows where you can specify the **Instance name**. Otherwise, the default name "PipetteX" is used for the new SQL server.

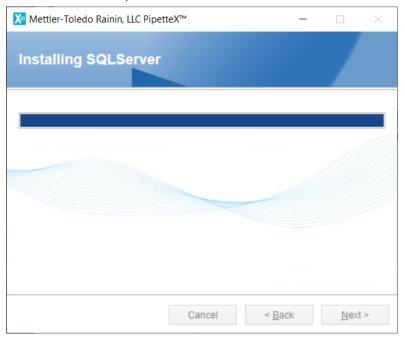


3 Click Install.

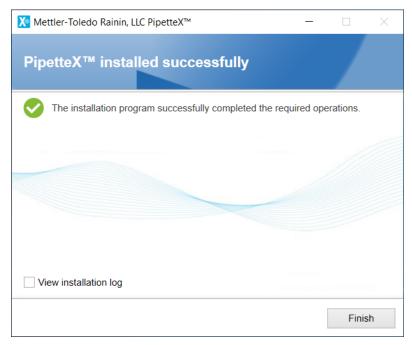
→ You agree to create SQL server as specified in the confirm installation settings page.



→ The SQL server proceeds with the installation.



4 After successful installation, restart the server (if prompted).



i Note

- Prerequisite installation of .Net 4.8 is not installed already.
 - Restart mandatory, whether it's a PC client or server.
- PipetteX installation: MSMQ (Message Queuing) not enabled already (installed along with Business Server).
 - Restart mandatory, installation is rolled back.
- SQL installation cannot proceed due to pending restart (installed along with SQL).
 - Restart mandatory, SQL Error code 2067919934.

5.2.1.1 Supporting information

Ensure the components listed below are available after successful installation of SQL instance.

Services

- SQL Server (PIPETTEX)
- SQL Browser

Note

Services run using Logon As user Network Service and Local Service respectively.

If there are any restrictions on viewing this SQL server configuration manager or running the SQL services on the computer, it is recommended to check with the IT team to resolve this.

SQL Protocols

Control Panel\System and Security\Administrative Tools \rightarrow Computer Management \rightarrow Services and Applications \rightarrow SQL Server Configuration Manager \rightarrow SQL Server Network Configuration \rightarrow Protocols for PipetteX. Status \rightarrow Enabled for all protocols.

Firewall exceptions

Firewall exceptions are added automatically when installed using the PipetteX Installer. For existing SQL instances, refer Configure the Windows Firewall to allow SQL Server access.

i Note

The service detail and SQL protocols above are specific to the new "PipetteX" instance created by the
installer. If you are using an existing instance, ensure the services are up and running, permissions are
granted on relevant protocols and firewall exceptions are set.

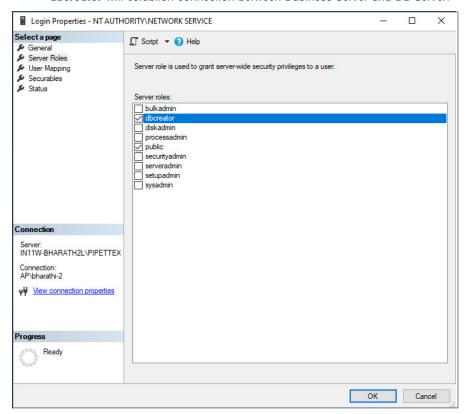
5.2.2 Business server installation

For a distributed setup, you must involve an IT administrator, as domain admin rights may be required to configure the server.

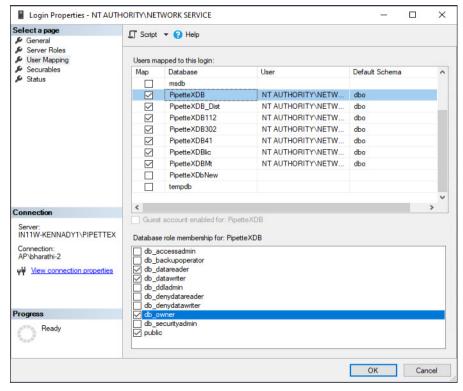
Note

A Business Server installation is possible even if the service account does not have "SYSADMIN" access.

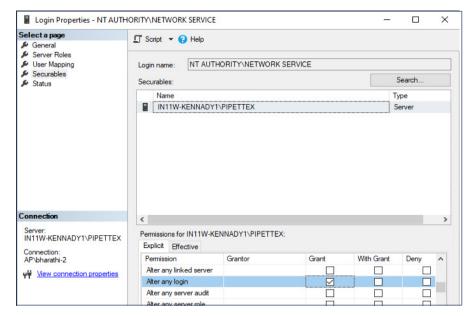
- The below permissions must be available for the user running the Business Server.
 - dbcreator will establish connection between Business Server and DB Server.



dbowner will backup and restore the database using third-party tools.



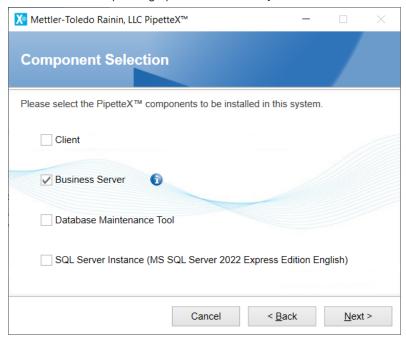
- Alter any Login to modify and repair the business server installation.



Follow the steps below to install the **Business Server**:

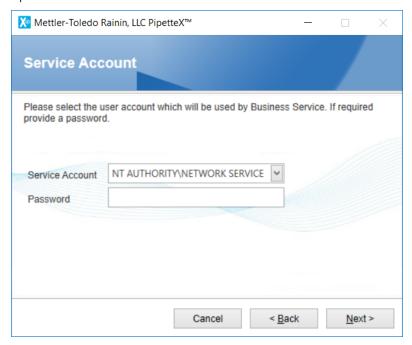
Action steps

1 Select the corresponding option from the **Component Selection** screen.

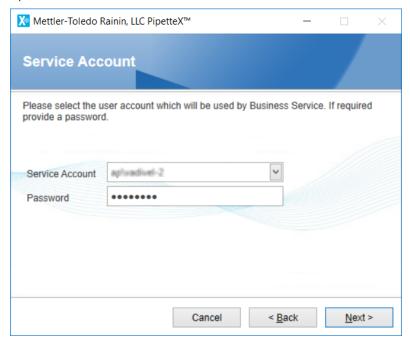


- 2 Click Next.
 - → The Service Account screen is displayed where you can either:
- Select NTAUTHORITY\NETWORK SERVICE from the Service Account drop-down.
 Or
- Enter the domain user or service account with Admin privileges for the SQL server to make the business server run seamlessly and also authentication rights in AD/LDAP to allow AD/LDAP login.

Option 1 - Default service account



Option 2 – Domain user who has relevant access to SQL server

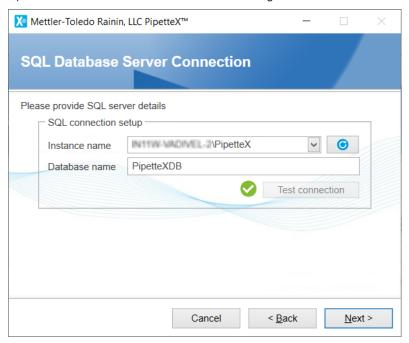


3 Click Next.

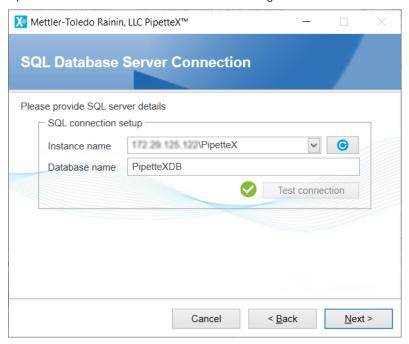
- → The **SQL Database Server Connection** screen is displayed.
- Select the SQL Server instance, or modify the instance name if the SQL Server is installed on a different subnet. Use computer name or IP address for this.
- If the SQL Server instance is installed with SQL authentication, then provide the authentication details to grant full access to the database.

There are two options to continue, either to specify the **PC name** or the **IP address** where the SQL instance exists:

Option 1 - Connect with the Database Server using PC name details



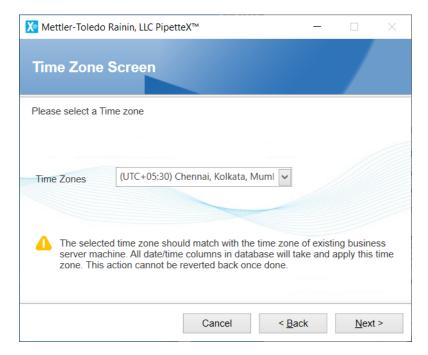
Option 2 - Connect with the Database Server using IP details



i Note

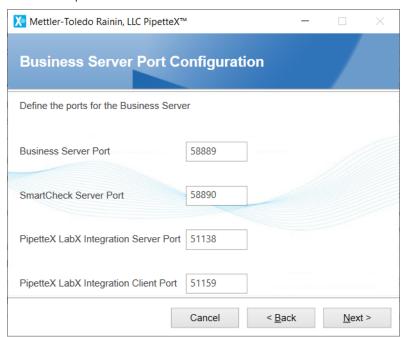
You must successfully test the connection with the specified instance before proceeding. If the connection fails, check the error message by hovering over the fail icon in the tooltip.

- 4 Click Next.
 - → The **Time Zone Screen** screen is displayed
- Select a time zone from the **Time Zones** drop-down.



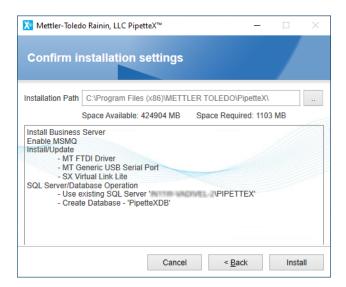
5 Click Next.

- → The Business Server Port Configuration screen is displayed
- Enter the ports for the Business Server.



6 Click Next.

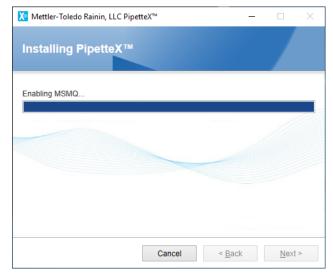
→ The Confirm Installation Settings screen is displayed



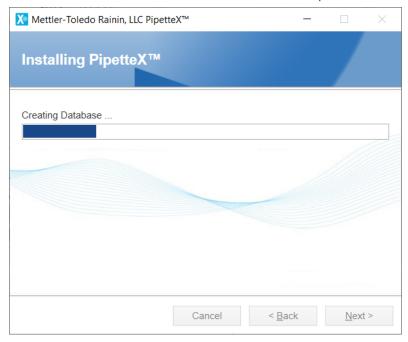
7 Click Install.

i Note

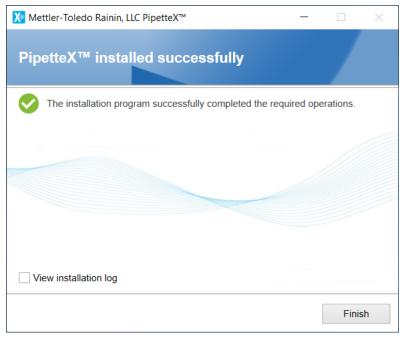
- The line item **Enable MSMQ** will be displayed only when the feature is not enabled in the hardware.
- Select any one of the options mentioned above to install the business server component. Installation starts with enabling MSMQ feature in the PC hardware as SQL instance exists already on the remote server.



8 The installation continues with the creation of a new "PipetteXDB" database in the selected SQL instance.

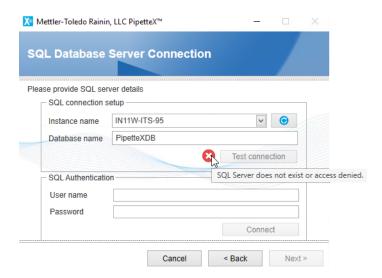


- 9 The installer then proceeds with installing the Business Server and associated components.
- After successful installation, restart the server if prompted.



i Note

- If you encountered an error during the installation of the Business Server (even after correctly configuring the settings), it may be due to the SQL Server not having the SQL authentication mode enabled. You can configure this settings in the Windows registry.
- Refer to Update SQL Authentication modeon how to update the registry entries.



5.2.2.1 Supporting information

Ensure the components listed below are available after successful Business Server installation.

Services

- PipetteX Audit Service
- · PipetteX DB Utility Scheduler Service
- PipetteX Instrument Service
- PipetteX Scheduler Service
- PipetteX LabX Integration Service
- PipetteX SmartCheck Service

Firewall Ports

Control Panel\All Control Panel Items\Windows Firewall or Windows Defender Firewall depending on the Windows version --> Advanced Settings

Inbound Rule

- PipetteX Business Service Discovery_IN (UDP) 3702
- PipetteX Business Service_IN (TCP) 58889
- PipetteX SmartCheck Service_IN (TCP) 58890
- PipetteX LabX Integration Server_IN (TCP) 51138
- PipetteX LabX Integration Client_IN (TCP) 51159

Outbound Rule

- PipetteX Business Service Discovery_OUT (UDP) 3702
- PipetteX Business Service_OUT (TCP) 58889
- PipetteX SmartCheck Service_OUT (TCP) 58890
- PipetteX LabX Integration Server_OUT (TCP) 51138
- PipetteX LabX Integration Client_OUT (TCP) 51159
- *Firewall ports are added based on the user input provided during the installation.

Message Queue

Control Panel\System and Security\Administrative Tools \rightarrow Computer Management \rightarrow Services and Applications \rightarrow Message Queuing \rightarrow Private Queues \rightarrow paractivitylog

5.2.3 Database maintenance tool installation in database server (optional)

Along with other features, the **Database Maintenance Tool** is used to backup and restore your database.

■ Note

- The tool must be installed on to the same PC where the database is installed.
- The Database Maintenance Tool also works for the user with:

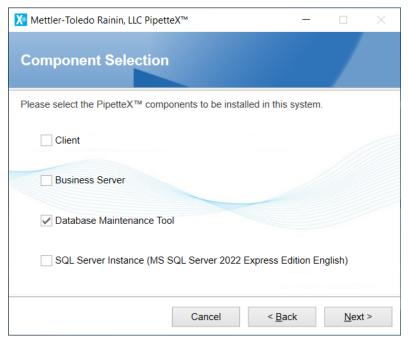
^{*}Services run using the **Logon As user** you specified during installation (e.g., Network Service or designated user who has relevant access to the database).

- "DBOWNER" access for the database
- "DBCREATOR", "Alter any login" and "View Server state" access for the instance

Option 1: Before installing Database Maintenance Tool, consider using a database created in any of the existing SQL Instance

Action steps

1 Select the **Database Maintenance Tool** check box and click **Next**.

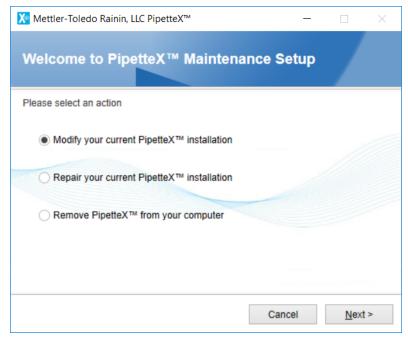


i Note

The **Database Maintenance Tool** option should be checked only when the PC hardware already contains a PipetteX database.

Option 2: When installing the Database Maintenance Tool, consider using a database created in the PipetteX instance

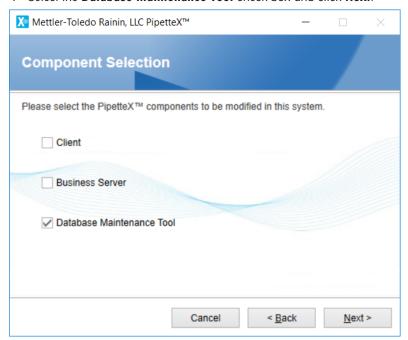
2 Select the Modify your current PipetteX installation check box.



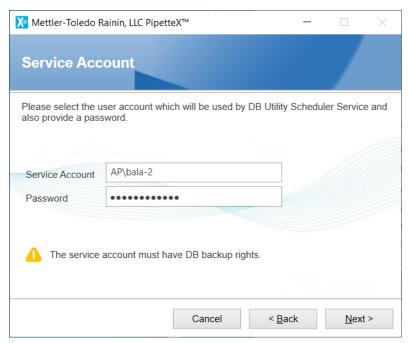
3 Click Next

Installing the PipetteX Software Rainin PipetteX

4 Select the **Database Maintenance Tool** check box and click **Next**.

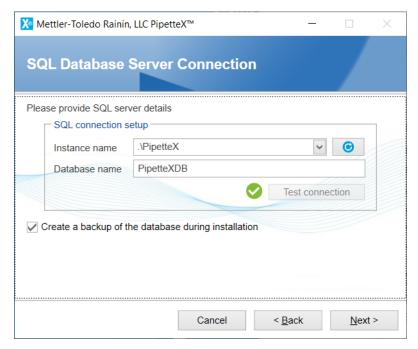


5 Provide the service account information - **Service Account** and **Password**.



Continue with any of the options provided above. The installer checks for SQL instance and a valid database instance before you can install this tool.

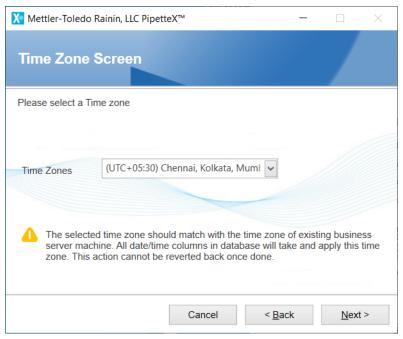
6 Select the database instance from the Instance name drop-down list.



i Note

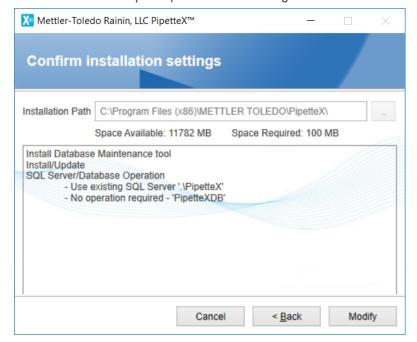
As a follow-up to the distributed installation specified, the "PipetteX" instance created above as the reference. If you are using an existing instance, ensure the relevant instance is selected.

7 Select a time zone from the **Time Zones** drop-down list.

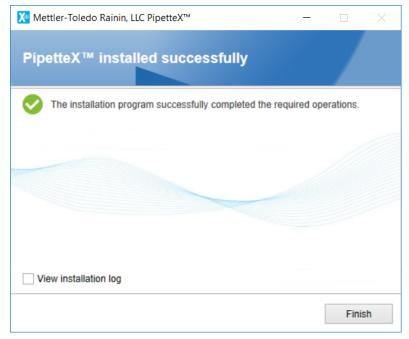


8 Click Next

→ Once the valid SQL instance and the database are selected and the test connection is successful, the installer allows you to proceed with installing the Database Maintenance Tool.

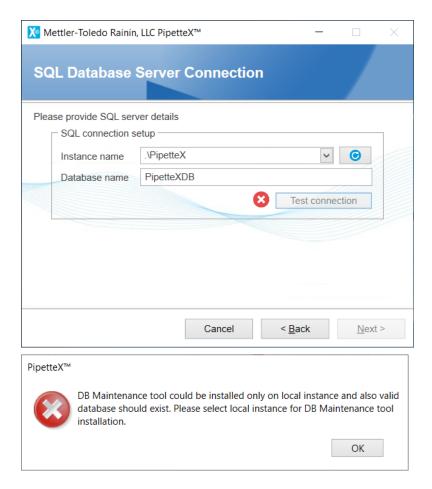


9 Click Modify.



i Note

If no valid database exists in the selected SQL instance, the installation wizard will notify you that the test connection has failed. The error message dialog box below appears when you click the error icon.

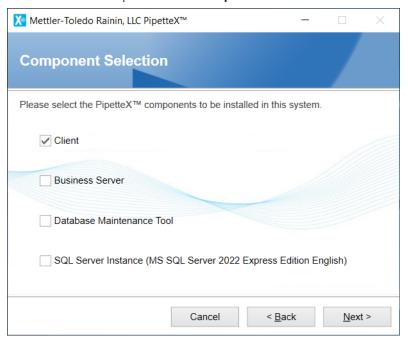


5.2.4 Client component installation

Follow the instructions below to install the PipetteX Client onto your PC:

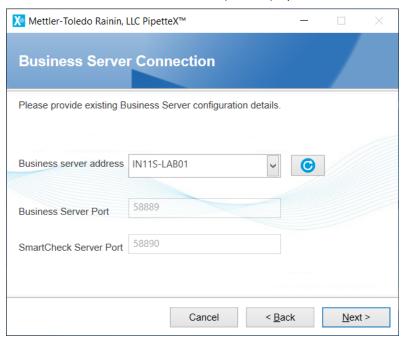
Action steps

1 Select the **Client** option from the **Component Selection** screen.

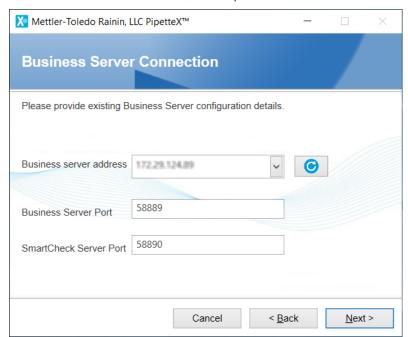


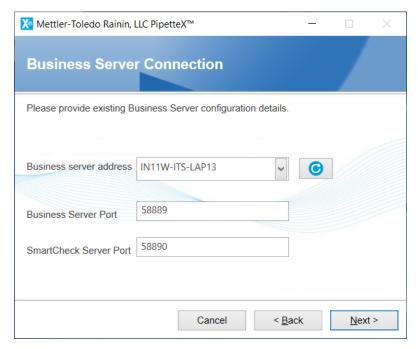
2 Click Next.

Option 1: You will be prompted to choose the **Business Server address** from the screen below. The installation wizard, by default, fetches the firewall ports defined in Business Server for communication, while we select a Business Server from the list. The firewall ports displayed in this case are not editable:



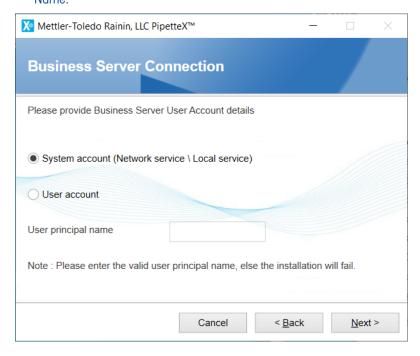
Option 2: If the Business Server is not listed for any reason, you must enter the Business Server name or its IP address to continue. In this case, it is your responsibility to provide the correct firewall ports during the Business Server installation. If not, this may lead to installation failure.





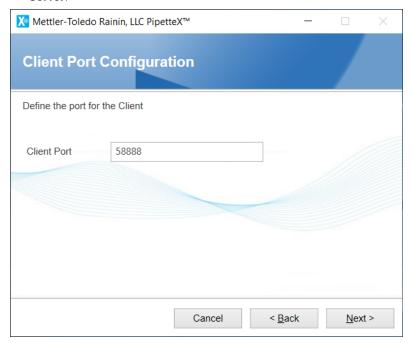
i Note

- You can have multiple Business Servers existing in the network, hence the need to choose the correct one.
 Once selected, you cannot change the Business Server. To change the Business Server, you need to return the installation wizard and choose the appropriate Business Server.
- 3 Select one of the following Business Server account:
- System account Select this option only when Business Server is running using Log On As Network service or Local service. You can find the service information by typing services in the windows search bar. The Services window appears as shown in the image below.
- User account In Windows Active Directory, a User Principal Name (UPN) is the name of a system user in an email address format. e.g, john.doe@domain.com consists of the user name (logon name), separator (the @ symbol), and domain name (UPN suffix). A UPN is not the same as an email address.
 If you select User account, enter the User principal name. For more information, see User Principal Name.

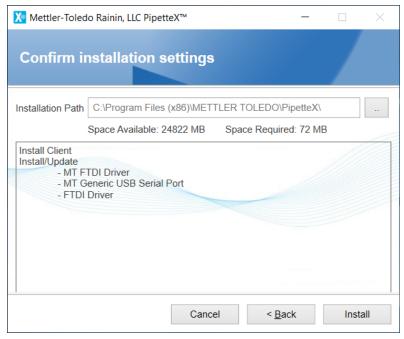


4 Click Next.

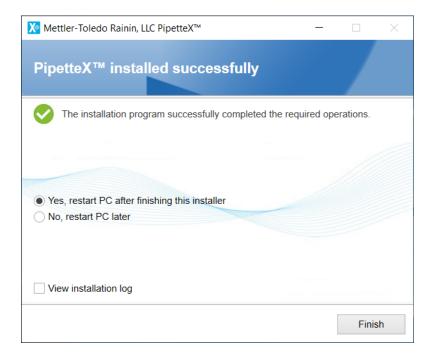
5 The screen below shows the user has specified the client port 58888 to communicate with the **Business Server**.



6 Confirm the installation of the client component and relevant device drivers. Click Install.



7 After successful installation, restart your PC if prompted.



5.2.4.1 Supporting information

Ensure the components listed below are available after successful client installation:

Service

PipetteX Instrument Service

*Service run using Logon As user as Network Service.

Firewall Ports

Control Panel\All Control Panel Items\Windows Firewall or 'Windows Defender Firewall' depending on the Windows version --> Advanced Settings

Inbound Rule

• PipetteX Instrument Service_IN - 58888

Outbound Rule

PipetteX Instrument Service_OUT - 58888

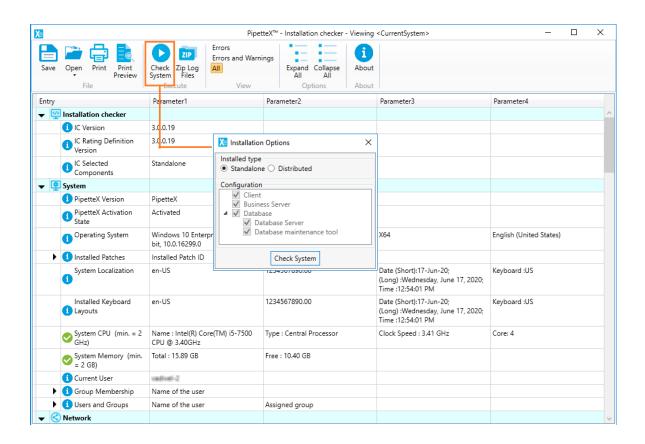
*Firewall ports are added based on the user input provided during the installation.

5.2.5 Installation Checker

The Installation Checker tool that is delivered as part of the PipetteX application is part of the distributed installation and helps to identify errors and warnings that are open after the distributed software is installed.

Note

Launch the Installation checker tool as an Administrator, otherwise the tool may not function properly.



5.3 Upgrading your Existing PipetteX

5.3.1 Upgrade from EasyDirect PAM 1.x to PipetteX 3.x

If you are migrating from EasyDirect PAM 1.x, read through the scenario below to define your path of migration. Otherwise, continue to section [License Activation and Management > Page 54].

Upgrade path	PipetteX setup before upgrade	Recommended license for PipetteX	Actions required
1.x to PipetteX 3.x			Action steps 1 Export all asset information from your 1.x installation, using the export functionality on the asset tab. You cannot export the data from the address tab or users tab. If you have a large database, contact METTLER TOLEDO before continuing. 2 Remove EasyDirect PAM 1.x, including the database. 3 Install PipetteX. 4 Activate your license. 5 Import all your assets using the import functionality of PipetteX.
	Standalone and >200 assets and/or >5 more connected SmartStands	Connected version (either Site license or Unlimited license). You can decide for standalone or distributed installation	Action steps 1 Export all asset information from your 1.x installation, using the export functionality on the asset tab. You cannot export the data from the address tab or users tab. If you have a large database, contact METTLER TOLEDO before continuing. 2 Remove EasyDirect PAM 1.x, including the database. 3 Ensure you purchase the correct license key. 4 Install PipetteX. 5 Activate your license. 6 Import all your assets using the import functionality of PipetteX.

5.3.2 Upgrade from EasyDirect PAM 2.x to PipetteX 4.x

You cannot upgrade directly from EasyDirect PAM 2.x to PipetteX 4.0.1, or later versions. To upgrade to any of these versions, you must first upgrade to PipetteX 4.0.

i Note

PipetteX versions earlier than 3.0 are not supported.



NOTICE

Distributed systems

For those that have deployed EasyDirect PAM 2.x as a server-client system, follow the steps below.

To upgrade from EasyDirect PAM 2.x to PipetteX 4.0, follow the steps below:

Action steps

1 To download any PipetteX version between 3.x and 4.0, contact your local METTLER TOLEDO representative.

Installing the PipetteX Software

- 2 Create a backup of your database (you can use the DB utility tool for this or run a backup with your SQL tools), see the section Database Utility.
- 3 Go to your business server environment and run the Pipettex Setup.exe file and choose to run:
 - a. The Business server component
 - b. The Database component
 - c. To install the Silex Virtual Link lite component on your business server. See the section Gateway for more information on the Silex Virtual Link lite component
- 4 Update every connected client by running the PipetteX Setup.exe file and choose to run the client part.
- 5 Reconnect every client to your business server using the wizard of PipetteX.
- EasyDirect PAM application will be migrated to PipetteX.

Once PipetteX 4.0 is installed, the application automatically checks for new updates every day (if connected to the internet), informs you, and lets you install any available updates. You can also manually check if the latest version of PipetteX is available from the **About** window.

i Note

- When installing PipetteX 4.0, the existing database will be automatically upgraded (if applicable).
- The Timezone selection pop-up appears during the upgrade from 2.x to 4.0.
- After upgrading from EasyDirect PAM 2.x to PipetteX 4.0, proceed with upgrading to PipetteX 4.0.1 or above.

Distributed Setup:

- Before you initiate the software upgrade process in a distributed setup, ensure the latest setup file of PipetteX is available in the Business Server and all the client hardware (see C:\Users\Public\Mettler Toledo\EasyDirect PAM\Updates).
- After a successful upgrade, all existing user configurations (e.g., language settings, column chooser, user roles, notifications, methods, or auto export configuration) set in the previous version may change.
 You must configure it again in the new software version.

5.3.3 Upgrade from PipetteX 3.x to PipetteX 4.x

You can upgrade from PipetteX 3.x to PipetteX 4.x by downloading the software from http://www.mt.com/pipettex and running the .exe file. Your PipetteX 3.x application should automatically migrate to PipetteX 4.x.

It is strongly advised to back up your database and read the breaking changes (in the installation wizard) before running the upgrade.

i Note

- Ensure you have appropriate DB backup rights.
- Ensure you update the business server first, followed by the client-server to use PipetteX.
- The Timezone selection pop-up appears during the upgrade from 3.x to 4.x. The Timezone selection does not appear when upgrading from 4.x to higher versions.

Action steps

- 1 Download PipetteX 4.x.
- 2 Make a backup of your database (you can use the DB utility tool for this or run a backup with your SQL tools). See the section Database Utility.
- 3 Go to the business server environment, run the Pipettex Setup.exe file and choose to run:
 - a. the business server component
 - b. the database component
 - c. install the Silex Virtual Link lite component on your business server. See section Gateway for more information on the Silex Virtual Link lite component
- 4 Update every connected client by running the PipetteX Setup.exe file and choose to run the client part.
- 5 Reconnect every client to your business server using the wizard of PipetteX 4.x.

5.4 Troubleshooting

Problem 1: MSMQ requires a PC restart to enable its component, if not enabled already

Installation may not have been successful because the audit service for PipetteX can only be restarted if MSMQ is enabled. You can find details in the log files specified below:

- MSIPipetteX_%.log [Path: "C:\Users\Admin\AppData\Local\Temp"]
 Error 1920. The service "PipetteX Audit Service" failed to start. Verify that you have sufficient privileges to start system services.
- PipetteX.AuditLog.Service.Host [Path: "<Installation Directory>\Logging"]
 Message: Windows service OnStart: The Type Initializer for "System.ServiceModel.Channels.Msmq" caused an exception.
- Solution: PC restart is mandatory

Problem 2: Installation failed due to a SQL error code -2067919934

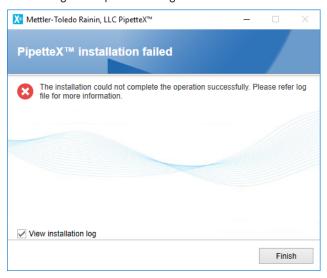
Installation of the new SQL instance using the installation wizard will not be completed when a PC restart event is pending due to any previous installation.

Solution: PC restart is mandatory

Problem 3: Your PC has EasyDirect software installed, and you have deleted an older version of PipetteX and tried to install a newer version

Installation failure can occur due to a conflict between PipetteX and EasyDirect software, both of which rely on the **Windows Management Instrumentation** service. This conflict can lead to a quota violation.

PipetteX.Service.SA.Host.log [Path: "<Installation Directory>\Logging"]
 Message: Exception message: Quota violation



• Solution: Either restart the "Windows Management Instrumentation" service from services.msc (or) restart the PC manually and retry the installation.

Problem 4: The date and time format of the test report do not match the PC date and time

In PipetteX standalone condition, when there is any update in PC date and time, the change is not reflected automatically in PipetteX test reports.

Solution: Restart your PC twice to synchronize the date and time between PC and PipetteX.

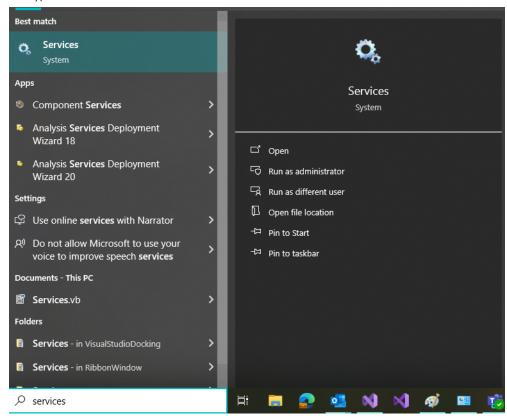
Problem 5: Installation failed with message "Unable to start/stop Instrument service"

Installation failure can occur depending on the service startup type selected.

Solution: You can follow the steps below to complete the installation:

Action steps

1 Type "Services" in the Windows search bar and select **Run as administrator**.



2 Check **SQL Server (PipetteX)** and set the startup type from **Automatic (Delayed Start)** to **Automatic** by right-click on the "service" → **Properties** → **Change Startup type**.



- If the startup type is still Automatic (Delayed Start), then restart the WMI (Windows Management Instrumentation) Service on both the client and server, depending on the setup.
- If the Instrument Service is stuck in the "Starting" state and did not get removed after installation failure, change the startup type to "Manual" and restart the PC. If this does not work, disable the instrument service and restart the PC again.

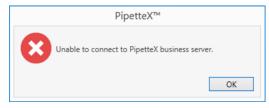
Problem 6: Installation failed due to "DB Scheduler service" failed to start.

Installation failure can occur depending on the user permission to make a database backup.

• Solution: Ensure you have permission on the database to make a backup and perform installation again. For more information about permission, see the [Business server installation ▶ Page 25] section.

Problem 7: Unable to connect to PipetteX business server

After successful installation, PipetteX can give below error:



Solution: You can follow the steps below to connect to PipetteX business server

1 Open "Services" window and check if all the PipetteX services are running properly (see the third and fourth columns).



2 Ensure **SQL Server (PipetteX)** and **SQL Server Browser** services are running.

SQL Server (PIPETTEX)	Provides storage, processin	Running	Automatic	Network Service
SQL Server Agent (PIPETTEX)	Executes jobs, monitors SQ		Disabled	Network Service
SQL Server Browser	Provides SQL Server connec	Running	Automatic	Local Service

3 Restart WMI (Windows Management Instrumentation) Service.

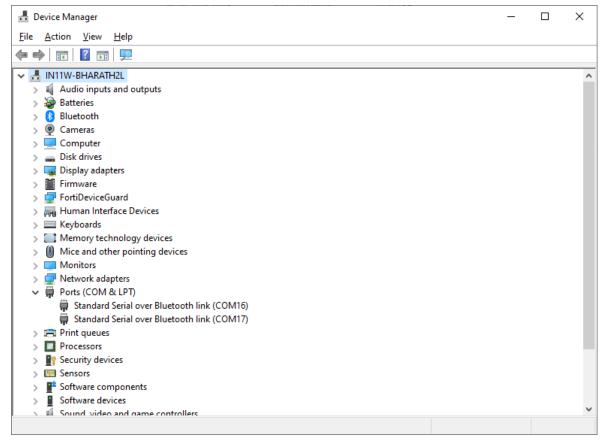
Problem 8: USB instruments like SmartCheck or EasyScan are not getting recognized by PipetteX

You may observe that your EasyScan or SmartCheck is not detected in PipetteX. One reason could be the Windows power setting option.

- Solution: Restart the "PipetteX Instrument Service", then start the "PipetteX Tray", and reconnect the instruments by unplugging and plugging them back into the USB port.
- If the **Device Manager** detects instruments, then change the power settings as follows:

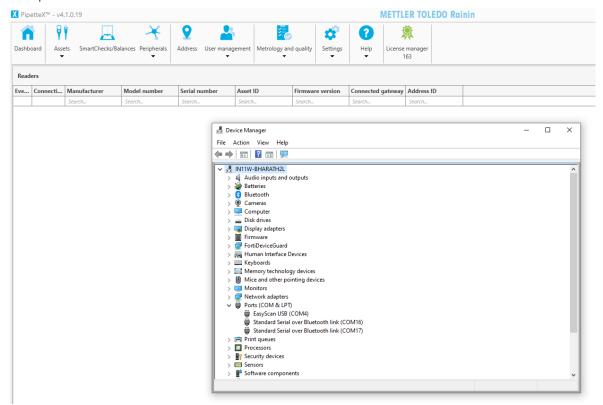
Action steps

1 No USB device in the device manager at the beginning.



Installing the PipetteX Software

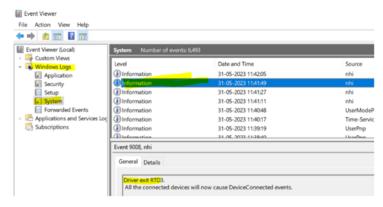
2 After you plug in the instrument, you will see that the device is recognized inside **Device Manager** but not in PipetteX.



3 Check the event logs. You will see two information events under **System** logs.

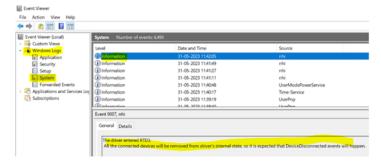
Event 1: Driver exit RTD3

All the connected devices will now cause DeviceConnected events.



Event 2: The driver entered RTD3

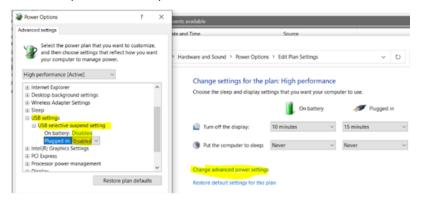
All connected devices will be removed from the driver's internal state, so DeviceDisconnected events are expected.



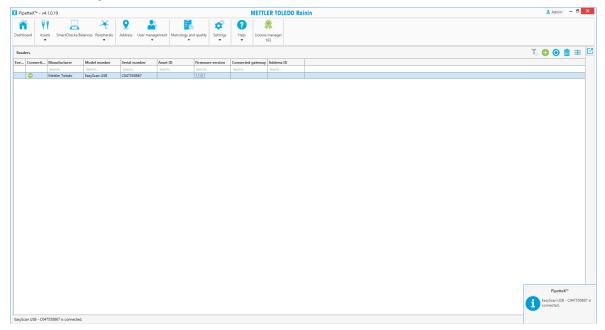
If you see the above events, then the below solution must be applicable:

1 Navigate to Control Panel > Hardware & Sound > Power Options > Edit Plan Settings.

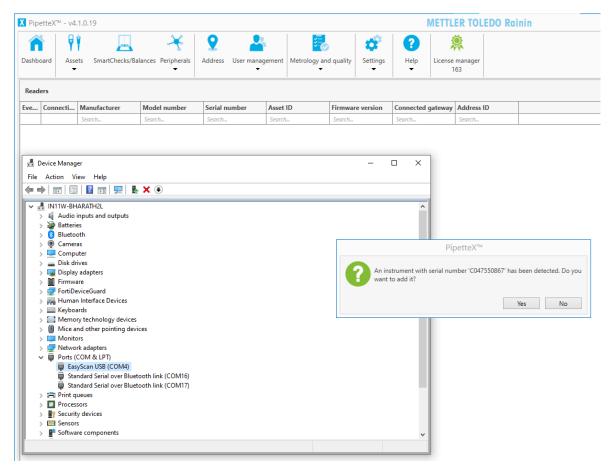
- 2 Select Change advanced power settings.
- 3 Expand the **USB Settings** drop-down.
- 4 Expand the **USB selective suspend setting** drop-down.
- 5 Select **Disabled** from the drop-down for **On battery** and **Plugged in**.
- 6 Click **Apply**, then **OK** to save the settings. You may need to restart your PC.



• If you plug in the device, you can see the tray notification (bottom right corner) and EasyScan USB in the device manager.



• The instrument is detected, and the following pop-up appears.



If you do not see the option to change the USB settings, follow the Microsoft document to enable it, and then
try the above steps again using Why no USB Settings in Advanced Power Settings?

Problem 9: Issues in connection or synchronization between PipetteX and GPSS

If the customer environment has site restrictions, add the URL to firewall exceptions and perform a ping test to check if the GPSS URL's mentioned below are accessible.

- Master Service Data:
 - https://gpss.mt.com/GPSSAPI/MasterDataWebServicesV3.svc
- Pipette Service Information:
 - https://gpss.mt.com/GPSSAPI/PipetteServiceInformationWebServicesV3.svc

Sometimes the connectivity issues may be due to web security certificates validity. Usually, this certificate is pushed automatically from GPSS.

Check your IT team is able to solve this issue or else contact GPSS support.

5.5 Logging in for the First Time

Preparation

If you have never logged in to PipetteX before or you still have to set up PipetteX for the first time, you must follow the manual sign-in procedure.

Action steps

- 1 Manual sign-in is possible using the desktop shortcut X or from the start menu **METTLER TOLEDO** > **PipetteX/PipetteX with Login**.
- 2 Use "Admin" (capital A) for both User ID and Password.
- 3 It is recommended to change the password of the default admin account.
- 4 Consider your account and password policies. For more information, see section Security.
- 5 If you have activated SSO under **Settings** > **Settings** (with policies) > **Security**, you can start setting up the SSO user accounts for future log-ins.

6 Separate Driver Installation

6.1 USB Drivers

6.1.1 SmartStand

When you connect the SmartStand to the PC via USB cable, the PC automatically recognizes the required device driver. If the automatic driver installation does not work, download the driver from Drivers and install it.

After downloading the driver from the site, run the installation before connecting the SmartStand. A reboot might be required after the driver installation.

Note

You need to wait until the drivers are installed successfully. Then you will get a status notification on the driver installation. Once the drivers are installed successfully, unplug, and plug in the USB cable again for the PipetteX to detect the SmartStand.

6.1.2 EasyScan Flex

Connecting the EasyScan Flex using a serial cable does not require driver installation.

When using a USB Serial cable, use a null modem/gender changer adapter and that the drivers of the USB Serial cable are installed before plugging in the cable the first time.

After successful driver installation, you will see an additional (virtual) COM Port in your windows system.

A reboot may be required after the driver installation.

Note

In some PCs, after recovering from Sleep/Hibernate (particularly when using a docking station), the port does not work properly though the port is still available. You must unplug and then plug in the cable for communication to resume.

6.1.3 Bluetooth dongle

Either the built-in Bluetooth from your laptop or a supported USB-BT dongle can be used to communicate with SmartStands. For a dongle, we recommend using dongle LM506 which is available from METTLER TOLEDO. Dongles tested successfully with PipetteX:

- LM506 (Broadcom stack)
- ASUS USB-BT400 (Broadcom stack)
- Trendnet TBW-106UB (CSR with Win stack)
- Startech USBBT1EDR4 (CSR with Win stack)
- LAIRD ST820 (TDK with Win stack)

Drivers for USB-BT dongles come with the dongle. If necessary, you can find the driver for the LM506 USB-BT dongle here: http://www.lm-technologies.com/downloads/software/

After successful driver installation, you will see an additional (virtual) COM Port in your windows system. A reboot might be required after the driver installation.

6.1.4 Silex Gateway

The Silex Gateway connected via Ethernet is recognized since the required device driver is installed by the PipetteX installer where the Business Server component is installed.

Limitation

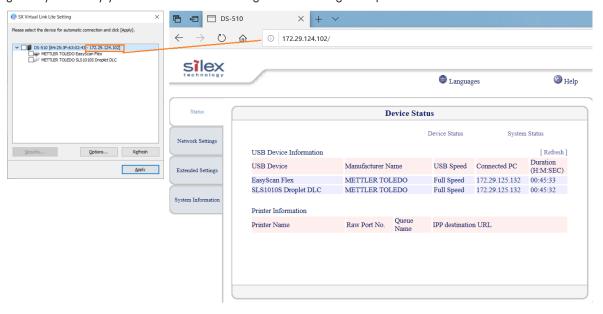
The PC will force a restart when the Silex Lite app is installed above the Silex Desktop app either manually or through PipetteX installer.

- The PipetteX installer contains only the Silex Lite app and its driver. The Silex Desktop app is not part of the
 provided installer. Therefore, a force reboot will not happen in a new PC.
- If the PC used for the PipetteX installation is pre-installed with Silex Desktop app, then you should uninstall the component before PipetteX installation. Otherwise, PC will force a restart after PipetteX installation.
- If you try to install Silex Desktop app over the PipetteX installation, then the third-party software itself will prompt for a restart option.

Separate Driver Installation Rainin PipetteX

Configuration

Silex Lite (SX Virtual Link Lite, installed as part of PipetteX) itself provides the user an option to configure gateway devices (refer screenshot below). In addition, if the end user is required to install the Silex Desktop app, we recommend having it on a separate PC (rather than installing it with PipetteX). Configure the Silex gateway. This way you can avoid the PC forcing a restart during the PipetteX installation.



6.1.5 SmartCheck

When connecting SmartCheck to the PC via USB cable or Silex gateway, windows will automatically recognize the required device installed with PipetteX.

i Note

For the first time, you need to wait until the drivers are installed successfully. Then you will get a status notification on the driver installation. Once the drivers are installed successfully, unplug the USB cable, and plug it again for the PipetteX to detect the SmartCheck.

6.1.6 EasyScan USB

When connecting EasyScan to the PC via USB cable or Silex gateway, windows will automatically recognize the required device installed with PipetteX.

i Note

For the first time, you need to wait until the drivers are installed successfully. Then you will get a status notification on the driver installation. Once the drivers are installed successfully, unplug the USB cable, and plug it again for the PipetteX to detect the EasyScan USB.

Rainin PipetteX Separate Driver Installation

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7 License Activation and Management

7.1 License Management

PipetteX is free for the first 60 days. After 60 days the software user needs to be registered, regardless of whether you are using the free or a paid version. The main screen toolbar shows the activation status of the license:

- The icon

 indicates the license is activated and the remaining days before renewal.
- The icon turns
 n to warn you that the remaining activation period is less than 60 days.
- The icon turns
 when the remaining period is less than 10 days.

After the license expires, the following error message is displayed. After this, data cannot be added or changed.



7.2 License Types

You can try each license edition to test a distributed setup within your organization. You can use the same license key twice, even on different hardware if needed. This option is meant for reinstallation purposes only. Be aware that with the re-use of a key, the installation on the old hardware will be deactivated on the activation portal, and connectivity to the server - in case of a distributed scenario - will be lost for the instance.

Note

You can try each license edition for up to 60 days without activating it.

7.2.1 License editions

There are different license editions, each with its features depending on license type and activation status. You can try out the software for 60 days without activating it using a license key. Functionality for the trial period is restricted: You cannot test the system connectivity for model list downloads or certificate downloads.

	Starter	Site	Unlimited	Optional License
Software:				
Model List				
Always up to date	•	•	•	
Electronic documents*				
Calibration certificates**	M	M I A***	M I A***	
Routine test reports	M	MIA	MIA	
Software setup				
Standalone	•	•	•	
Server		-	•	
Audit Trail				
View audit trail data				•
View archive data				•
Hardware:				
Assets	200	1500	>1500	
SmartStands	5	200	>200	
SmartChecks	5	200	>200	
EasyScan USBs	5	200	>200	
Balances	5	200	>200	

	Starter	Site	Unlimited	Optional License
Gateways	0	200	>200	

^{*} M = Manual I A = Automated

7.2.2 First time vs. renewal license

Each edition has two types of licenses:

- First time license: required to activate your license subscription (valid for 365 days upon activation).
- **Renewal license:** required for each renewal of your existing license (valid for 365 days upon activation). The days left from the first-time license roll-over to the renewal license (if renewing the same edition).

An overview of the different license types you can find below:

First Time		Renewal	Renewal		
Part No.	Description	Part No.	Description		
30475911	PipetteX Key-Start	30478258	PipetteX Renewal Key-Start		
30475913	PipetteX Key-Site	30478260	PipetteX Renewal Key-Site		
30475915	PipetteX Key-Unlimited	30478262	PipetteX Renewal Key-Unlimited		
30587187	PipetteX Key-Audit Trail	30587190	PipetteX Key-Audit Trail		

7.2.3 Distributed vs. standalone

For the license (re-)activation, there are a few important nuances between a distributed and standalone setup.

(Re-)activation of license

- **Standalone**: activation of the license key is done on the PC that PipetteX is running. The key is connected to the hardware ID of the PC.
- **Distributed**: activation of the license key is done on the PipetteX Business Server. No activation is needed on client level (once the business server component is installed and the client points to the activated business server).

i Note

PipetteX license can be activated from any client connected to the Business Server since the Business Server component alone will not have a user interface to activate the license.

Connectivity

- Standalone: none
- Distributed: provided when an active internet connection exists for the Business Server. When reinstalling
 the same license key on a new PC or system, connectivity drops on the old system and is activated on the
 new system.

7.2.4 Upgrading or downgrading licenses

If you want to upgrade or downgrade your license, you should do it when your current license is about to expire. You can change before the license end date, however, the days left on the old license will not roll over to your new license. Ensure you purchase the first-time license part number of the down or upgrade of your license (not the renewal part number).

The user effect of downgrading or upgrading your license is described below. The activation portal creates a new system registration in combination with your new license. If you do not renew your old license in either case (down- or upgrade), the old license will expire at the end of its effective period and will be deactivated on the activation portal.

^{**} Availability country dependent

^{***} NFS license shall receive certificate until an asset is registered with a full license (Site/Unlimited)

Upgrade paths (PipetteX 3.x)

Upgrade path	PipetteX setup before upgrade	Actions required
Start -> Site, Start -> Unlimited	≤200 assets (local only) and/or ≤5 connected SmartStands	Action steps 1 Remove the old license key in license manager 2 Add a new license key in license manager 3 Activate your license 4 Continue using PipetteX
Site -> Unlimited	≤1,500 assets	Action steps 1 Remove the old license key in license manager 2 Add a new license key in license manager 3 Activate your license 4 Continue using PipetteX

Downgrade paths (PipetteX 3.x)

Downgrade path	PipetteX setup before downgrade	Actions required
Site -> Start, Unlimited -> Start	≤200 assets and/or ≤5 connected SmartStands	Action steps 1 Remove the old license key in license manager 2 Add a new license key in license manager 3 Activate your license 4 Continue using PipetteX
	>200 assets and/or >5 connected SmartStands	In your new setup you will only be able to manage 200 assets in PipetteX and no more than five connected SmartStands. You will lose the central server aspect and automatic certificate retrieval. Refer to the license edition table [License editions > Page 54] to see which functionality you will lose. To continue:
		Action steps 1 Define which assets you continuously want to manage with PipetteX
		Download the data, including any certificates you might have, of all assets that you no longer want to from PipetteX
		3 Delete these assets from PipetteX so you meet the 200 assets threshold
		4 Delete the number of SmartStands to meet the threshold of 5 SmartStands
		5 Uninstall PipetteX but do not remove your database
		6 Activate PipetteX with the start license key
		7 Continue using PipetteX

Downgrade path	PipetteX setup before downgrade	Actions required
Unlimited -> Site	≤1,500 assets and/or ≤200 connected SmartStands	Action steps 1 Remove the old license key in license manager 2 Add a new license key in license manager 3 Activate your license 4 Continue using PipetteX
	> 1,500 assets and/or > 200 connected SmartStands	In your new setup you will be able to manage 1,500 assets on PipetteX and no more than 200 connected SmartStands. Refer to the license edition table in section [License editions > Page 54] to see which functionality you will lose. To continue:
		Action steps
		Define which assets you continuously want to manage with PipetteX
		2 Download the data, including any certificates you might have, of all assets that you no longer want to manage from PipetteX
		3 Delete these assets from PipetteX so you meet the 1,500 assets threshold
		4 Delete the number of SmartStands to meet the 200 SmartStands threshold
		5 Uninstall PipetteX but do not remove your database
		6 Activate PipetteX with the start license key
		7 Continue using PipetteX

7.2.5 Combining or reassigning licenses

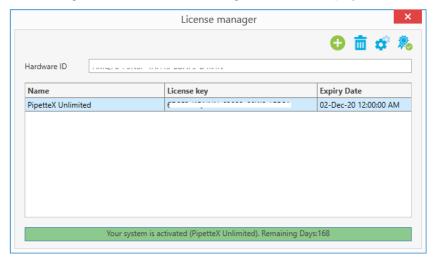
Contact Rainin technical support if you:

- Have purchased several licenses that need to be combined under one activation portal sign-in account.
- Need an existing license to be re-assigned to a new activation portal sign-in.

7.3 How to access the (re)activation process?

For both first-time activation after installing or renewing an existing license, the same (re)activation process is followed. Accessing the license activation process differs slightly between a first-time activation and a renewal. For first-time activation, the license activation process is part of the installation (continue to the section [License activation during first-time installation > Page 58]).

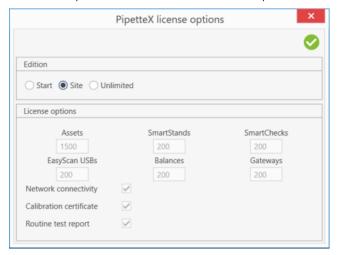
To access the activation process after a successful installation, click on the icon in the main screen toolbar. The following screen with all of the licensing information is displayed.



- Add a new license by clicking on the icon.
- Remove an existing license by clicking on the iii icon.
- The license can be activated by clicking on the \$\mathbb{8}\$ icon, a wizard is displayed to guide you through the license activation process.

i Note

You can have only one base (Start I Site I Unlimited) license information in the list before you can activate.
 In addition, you can add the optional license for "Audit Trail" in the license manager screen. Activation of base + optional license combination is also possible from PipetteX.

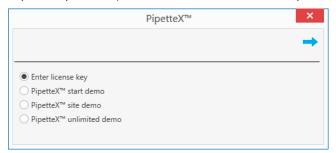


- View the license information by clicking on the properties.
- You change the edition during the demo period or view the licensing details.

7.4 License activation during first-time installation

After installing PipetteX and running it for the first time, you will be prompted to activate the license or to run the application as a demo for a fixed period to evaluate the software.

The following window appears when you start the application for the first time. You can enter the valid license key which you have purchased, activate the license or you can evaluate the software for the next 60 days.



7.4.1 Activating a license using automatic method

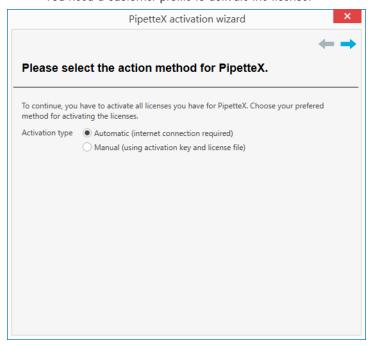
Preparation

You must have an active internet connection to activate your license automatically.

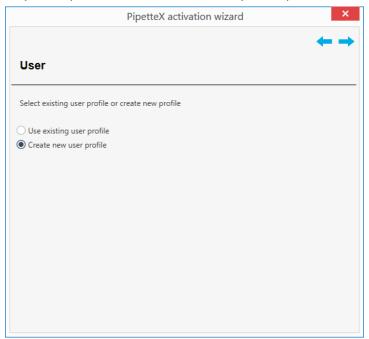
Action steps

1 Select the **Automatic (internet connection required)** option and click on the \Longrightarrow icon.

The wizard will then move to the next step as follows: You need a customer profile to activate the license.

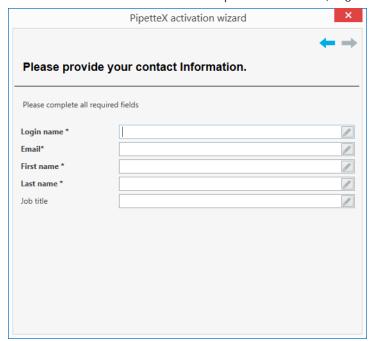


2 If you already have a METTLER TOLEDO software licensing portal profile, select the Use existing user profile option or select Create new user profile option.

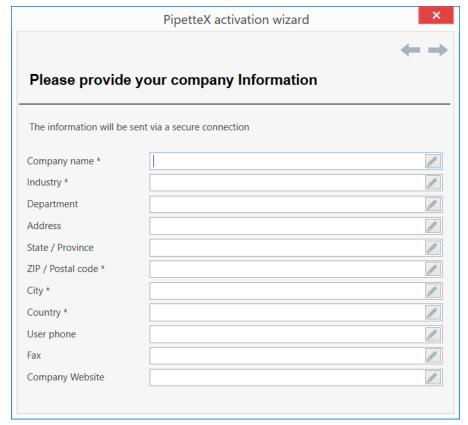


- 3 Enter your contact information.
 - Beware of the following limitations:
 - Login name cannot contain spaces, commas, or semicolons.
 - **Email**: only one e-mail address is allowed. Special characters are limited to dash and underscore (no space, comma, semicolon or other special characters).

- **Industry**: select from the drop-down list (**please choose an option** is not allowed).
- Country: select from the drop-down list (please choose an option is not allowed).
- Password must contain one of the special characters: !\$%()=?*+-



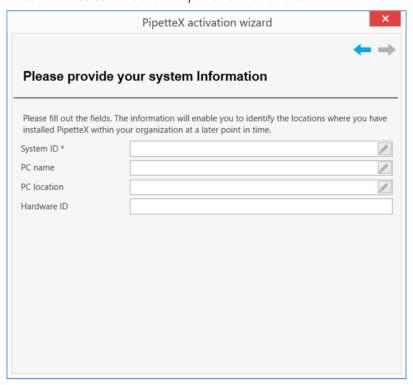
4 **Company** and address details to be specified



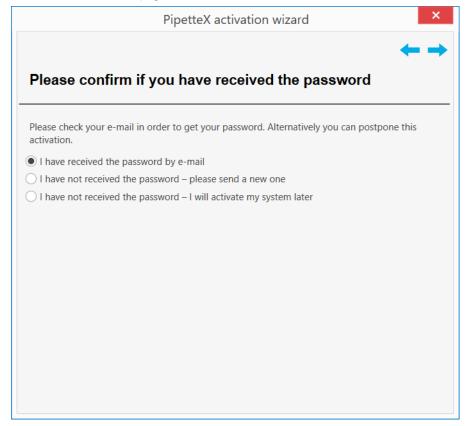
5 **System** information.

i Note

The **System ID**, **PC name**, and **PC location** are for your internal reference purposes so you know where the software has been installed. Any value can be entered.

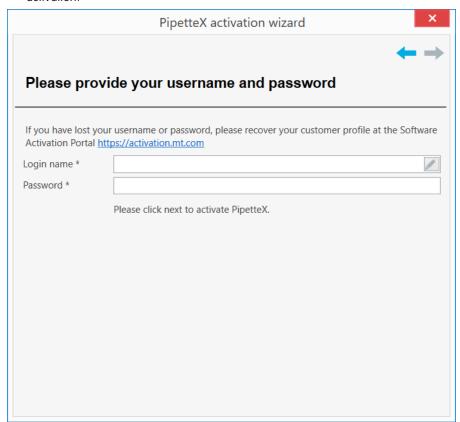


6 After you enter the above information, you will receive a password by email that you have provided in the **contact information** page.

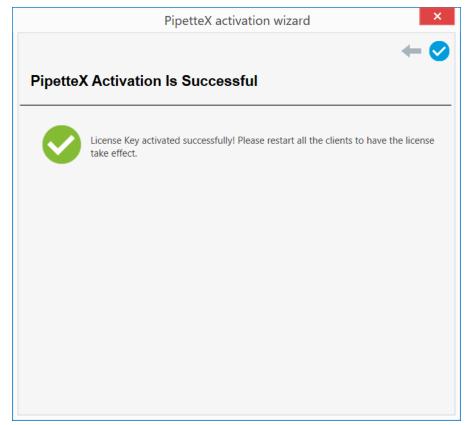


7 If you have received the password, you may proceed with the **I have received the password by e-mail** option. Otherwise, select the appropriate option.

8 Once you have received the password, copy the password, and click on the icon to proceed with activation.



9 Enter the login name and the password in the following screen.



→ Your license is now activated.

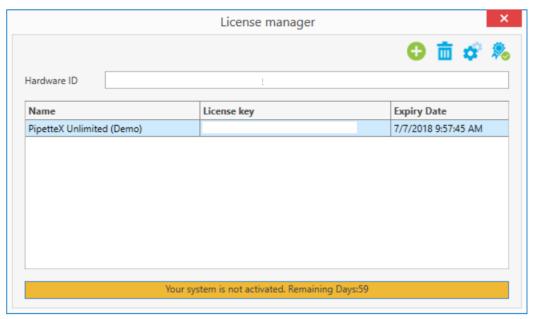
7.4.2 Activating a license using manual method

Preparation

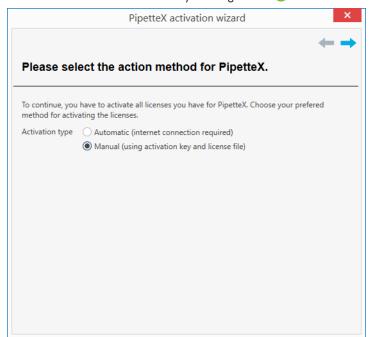
You can activate the license when your PC is not connected to the internet.

Action steps

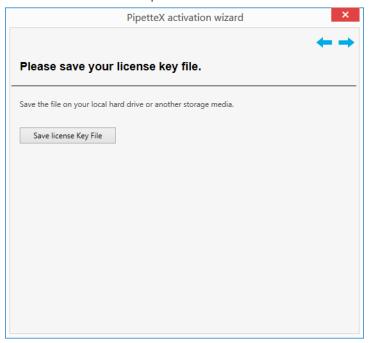
1 Add a new license by clicking on the 🔾 icon. You can remove an existing license by clicking on the 📺 icon.



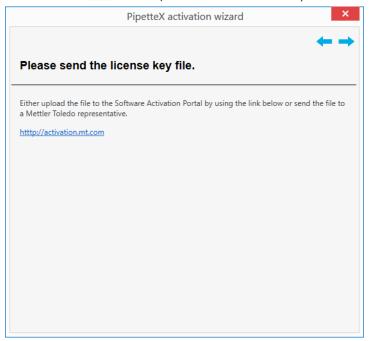
2 The license can be activated by clicking on the 2 icon from the toolbar.



3 Select the **Manual (using activation key and license file)** option and click on the icon. This wizard will move to the next step as follows:

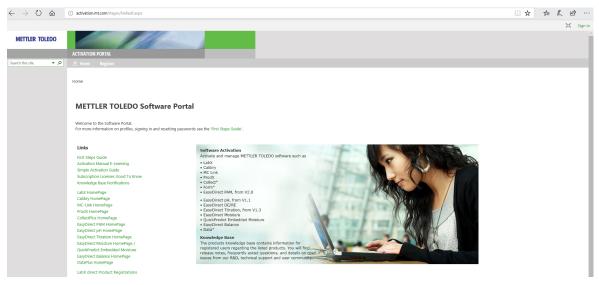


- 4 Click on the Save License Key File button and save the generated license key file to a known location.
- 5 Click on the picon to upload the saved license key file to the activation portal.

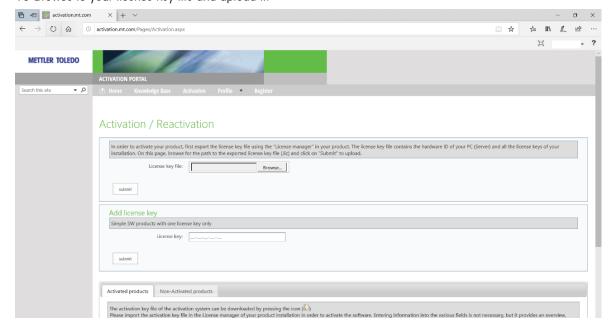


- 6 Copy license key file to a computer with internet access.
- 7 Enter https://activation.mt.com into a browser.

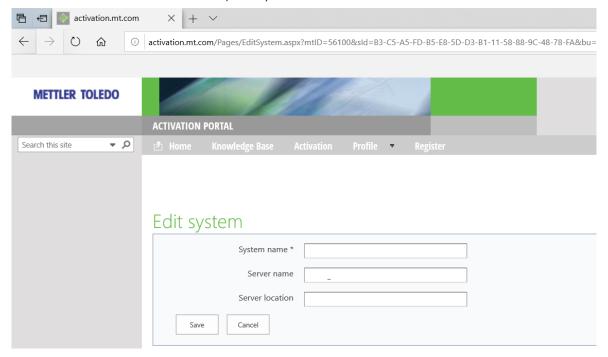
8 Sign in with the credentials of your user account on the METTLER TOLEDO software licensing portal by clicking **Sign in** in the top right corner or register a new user account by clicking **Register** in the menu ribbon.



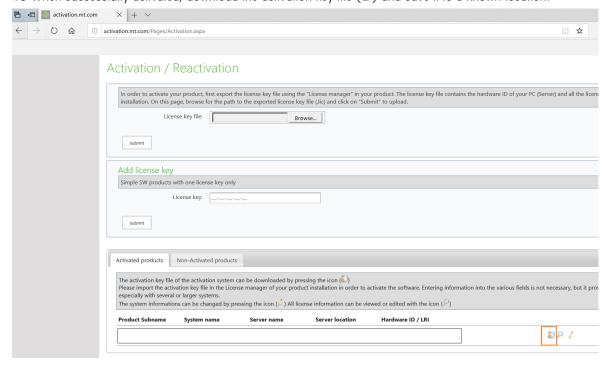
- 9 After you sign in, refer to **Activation**.
- 10 Browse to your license key file and upload it.



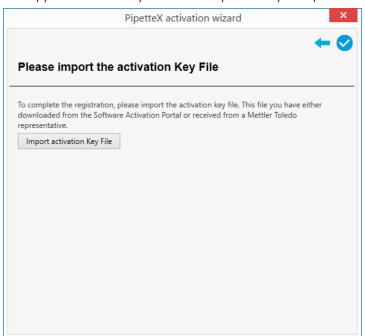
11 Add a system name. The system name is an internal reference for you, so you know on which system you have activated the license. You can optionally fill out the other fields.



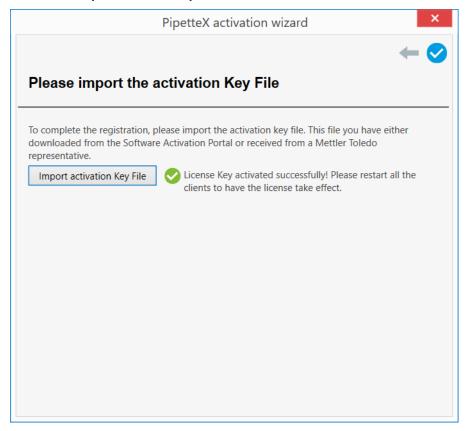
- 12 Select Save, then Cancel.
- 13 When successfully activated, download the activation key file (3) and save it to a known location.



14 Copy the activation key file to the computer with your PipetteX installation.



15 Click the **Import Activation Key File** button and select the file.



Your license is now activated.

7.5 License renewal

The license renewal process is similar to the first-time activation. Ensure you have a **renewal** license key, not a **first-time** license key. Side grade of license edition is possible (Start \rightarrow Site/Unlimited, Site \rightarrow Unlimited) in PipetteX.

7.5.1 License renewal using automatic method

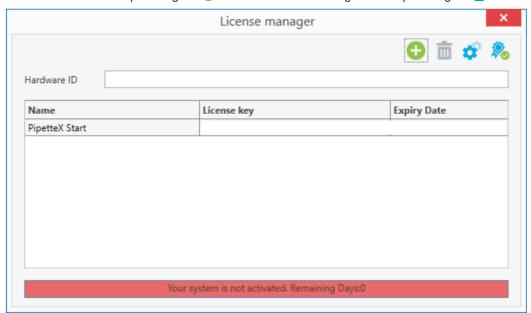
You need to have an active internet connection to renew your license.

The following screen will be displayed when the license activation is expired.

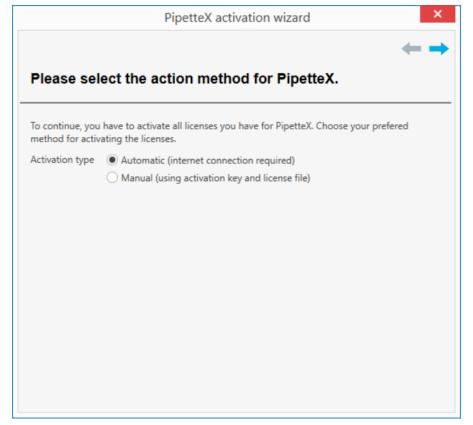


Action steps

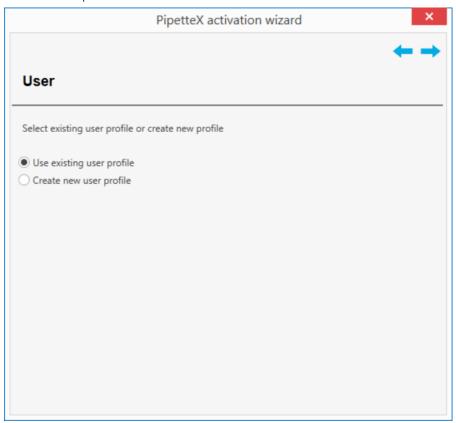
1 Add a new license by clicking the 🛟 icon. Remove an existing license by clicking the 📺 icon.



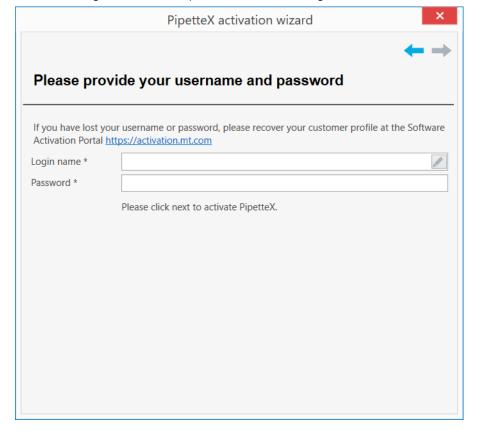
2 You can renew the license by clicking on the 🗸 icon from the toolbar.



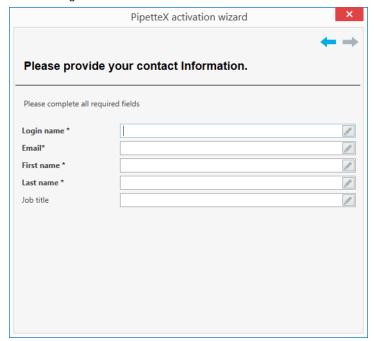
3 Select the **Automatic (internet connection required)** option and click the icon. The wizard moves to the next step.

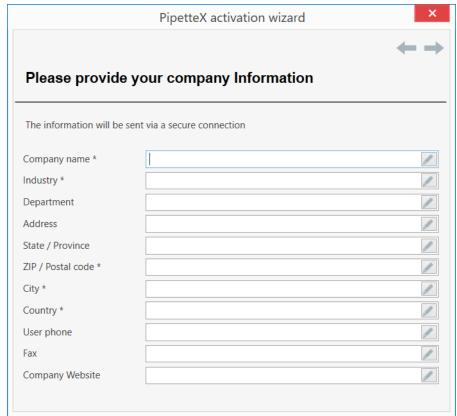


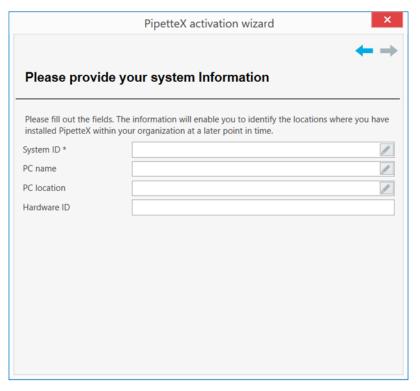
- If you would like to create a new profile, then choose **Create new user profile**. If you already have a profile, choose **Use existing user profile** option and click the icon.
- 5 Enter the login name and the password in the following screen.



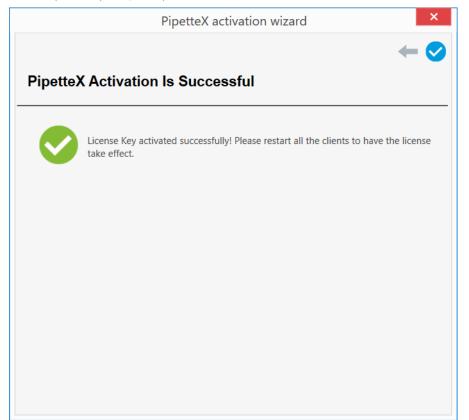
6 You can verify or update your contact information, company information, and system information in the following screens.







7 After you verify or update your information, click the \Longrightarrow icon to activate the license.

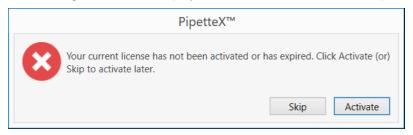


→ Your license is now activated.

7.5.2 License renewal using manual method

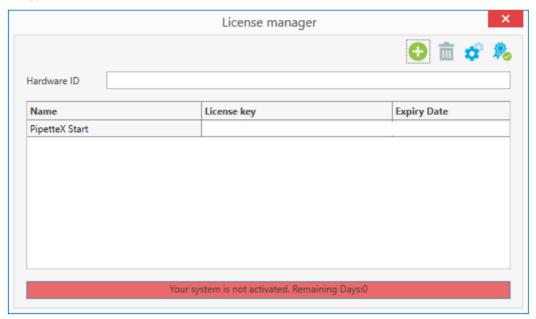
You can renew the license on a PC that is not connected to the internet.

The following screen will be displayed when the license activation is expired.

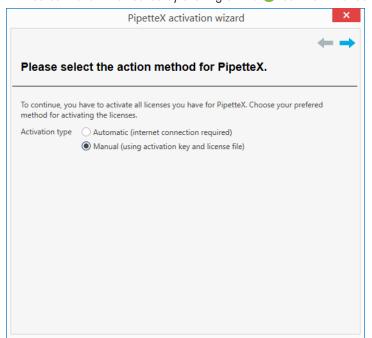


Action steps

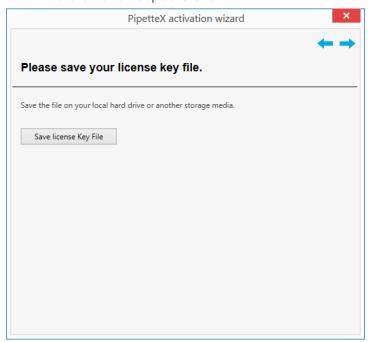
1 Add a new license by clicking on the 🔾 icon. You can remove an existing license by clicking on the 🛗 icon.



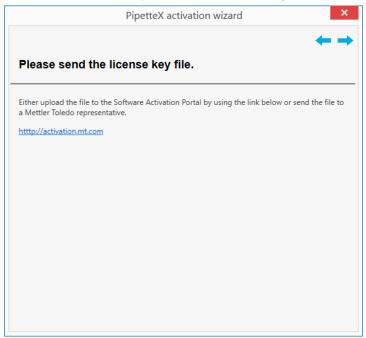
2 You can renew the license by clicking on the 🔾 icon from the toolbar.



3 Select the **Manual (using activation key and license file)** option and click on the icon. This wizard will move to the next step as follows:

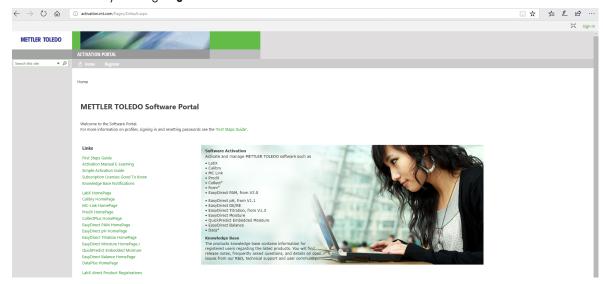


- 4 Click on the Save License Key File button and save the generated license key file.
- 5 Click the icon to upload the saved license key file to the activation portal.

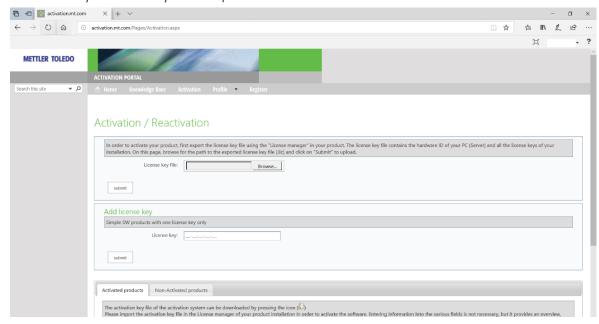


- 6 Copy license key file to a computer with internet access.
- 7 Enter https://activation.mt.com into a browser.

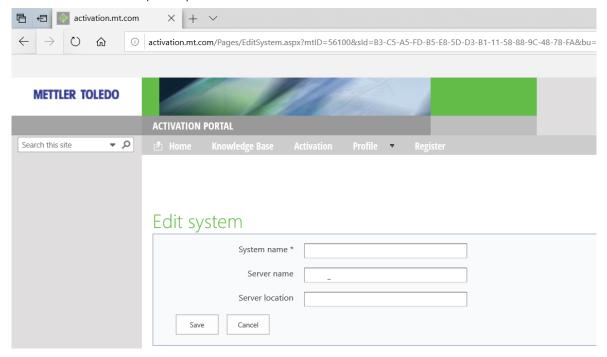
8 Sign in with the credentials of your user account by clicking **Sign in** in the top right corner or register a new user account by clicking **Register** in the menu ribbon.



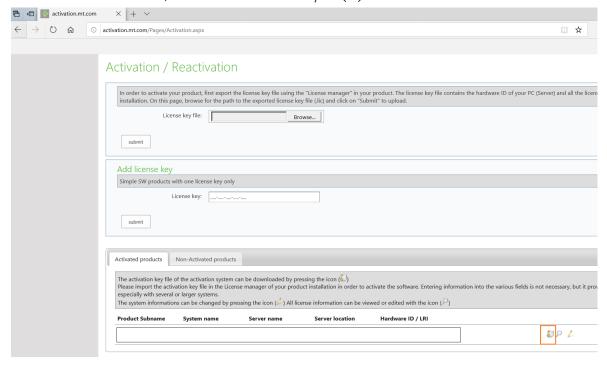
- 9 Once you have signed in, refer to **Activation**.
- 10 Browse to your license key file and upload it.



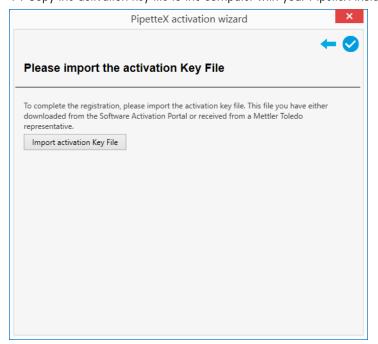
11 Add a system name. The system name is an internal reference to know which system you have activated the license. You can optionally also fill out the other fields.



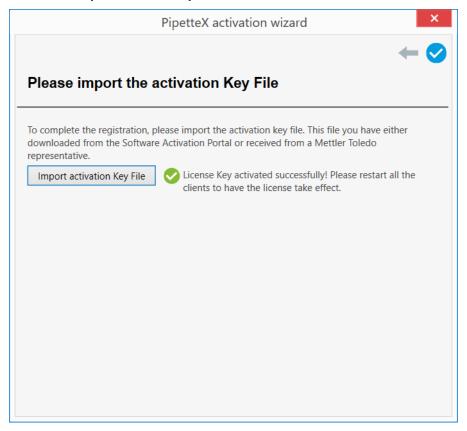
- 12 Select Save, then Cancel.
- 13 After successful activation, download the activation key file (1991) and save it.



14 Copy the activation key file to the computer with your PipetteX installation.



15 Click the **Import Activation Key File** button and select the file.



Your license is now activated.

7.6 Errors and solutions

The errors below are primarily related to errors in the license activation process. If you experience errors during setup, know that most errors are SQL related. Your first resource in this case is the Microsoft SQL support site (http://support.microsoft.com/kb/920730/en). If you continue to have issues, reach out to METTLER TOLEDO support. For further error messages information, consult the "Error Messages" section in the PipetteX Reference Manual http://www.mt.com/rainin-sstanddocs.

Error message	Reason	Solution	
Activation not possible because the hardware has been changed too many times.	This happens when a license key has been activated on different PCs more than twice.	Buy a new license key and activate it.	
Ambiguous system.	This happens when activating a license key that does not comply with PipetteX.	Ensure the license key is entered correctly.	
An error occurred on the Activation Portal. Contact your administrator.	An error occurred on the Activation Portal. Contact your administrator.	Contact your METTLER TOLEDO representative.	
At least one quantity key is missing.	The entered license key does not match with PipetteX.	Ensure the license key is entered correctly.	
Attempted to register backup system but no main system registered.	This happens when the license key is already activated and reactivated on another PC that does not have main system hardware ID in the license activation portal.	Ensure the license key is activated properly in the existing system before changing the hardware.	
Demo key submitted.	This happens because a demo license key is used for activation.	Ensure the entered license key is no a demo key.	
PipetteX license expired. Please activate now.	To continue using PipetteX you need a valid license.	Please contact METTLER TOLEDO to obtain a valid license key.	
Hardware id could not be obtained.	The Business server does not have rights to retrieve the hardware ID from the PC.	Ensure the business server has sufficient access rights.	
Invalid activation key.	The license key is invalid.	Contact METTLER TOLEDO.	
Invalid license file.	The license file is invalid.	Try to recreate the license file and upload again.	
Invalid hardware ID.	The license key has been activated on another PC.	Contact your administrator.	
Invalid product code.	A wrong product code has been used.	Contact METTLER TOLEDO.	
Invalid System ID.	This happens when trying to reactivate a license key on the same PC, but the hardware does not match.	Please check if the hardware ID is correctly displayed in the License Manager Window of PipetteX.	
Invalid Type ID.	License type ID is invalid	Contact METTLER TOLEDO.	
Invalid username or password.	This happens when the username or password for the license activation portal is wrong.	Ensure the username and password is entered correctly.	
Key does not designate a valid license level.	An invalid license level is used.	Contact METTLER TOLEDO.	
Key does not designate a valid license.	An invalid license is used.	Contact METTLER TOLEDO.	
Key is for a different product.	You can only activate PipetteX license keys.	Ensure you have the correct key. Otherwise contact METTLER TOLEDO.	
Level of at least one option key is too high.	The entered license key does not match with PipetteX.	Ensure the license key is entered correctly.	
Level of at least one quantity key is too low.	The entered license key does not match with PipetteX.	Ensure the license key is entered correctly.	
License key already used by another profile.	A license key can only be assigned to one user profile.	Contact your administrator or METTLER TOLEDO.	
License key could not be validated.	License key could not be validated.	Retry the validation process. If not successful, contact METTLER TOLEDO.	

Error message	Reason	Solution	
License key was not issued by METTLER TOLEDO.	An invalid license key was used.	Contact METTLER TOLEDO.	
Login name already exists.	Login names must be unique.	Use a different login name.	
More than one edition license keys has been submitted.	You can only submit one edition of license keys, not several	Choose the license key edition you need and submit that one.	
Multiple keys found that share the same product option.	You should only have one license key with the same type of license activated	Remove license keys with the same type of license and only activate one license key.	
No edition license key has been submitted.	No edition license key has been submitted.	Submit an edition license key.	
Not authorized to register.	This happens when the activation portal user account is not authorized to activate.	Check whether the user account has been created correctly in the activation portal (https://activation.mt.com).	
One or more keys do not have a valid version.	One or more keys do not have a valid version.	Contact METTLER TOLEDO.	
Password strength too weak.	Strong passwords are required.	Password length minimum: 7 characters, including minimum 1 character out of this selection of special characters: !\$%()=?*+-	
Same license key has been submitted twice.	A license key should only be submitted once.	If the issue persists, contact METTLER TOLEDO.	
Software configuration is invalid.	This happens because the license key activation is not matching the PipetteX configuration in the activation portal.	Check if the license key is entered correctly. Otherwise contact METTLER TOLEDO.	
Start edition does not allow server connectivity. Please upgrade if needed.	If you want the calibration certificates to be loaded into PipetteX, you need a paid subscription.	Contact METTLER TOLEDO.	
The account is already used by another profile.	The username is already used by another account in activation portal.	Ensure the entered username is unique.	
The license key is not valid.	The entered license key does not belong to PipetteX.	Ensure the license key is entered correctly.	
Unable to connect activation server.	The activation portal could not be contacted.	Ensure the internet connection is active and your firewall allows a connection to activation portal.	
User profile does not exist.	No user profile exists on the activation portal.	Read the manual or installation guide on how to setup an activation portal account.	
Unable to install SX Virtual Link Lite	This warning is shown after the	This message can be ignored.	
because the server is currently connected.	software update if the Silex gateways are connected with	In future, recommended to	
Restart your computer and try running installation again.	devices during software upgrade.	disconnect the Silex gateways from PipetteX before initiating a software update.	

8 Known Issues

8.1 RFID reader not detected

This occurs, when both LabX Direct Pipette Scan and PipetteX are used simultaneously and LabX Direct Pipette Scan is trying to force close the RFID Reader.

Close the LabX Direct Pipette Scan and unplug the RFID reader, wait for 10 seconds and then plug the RFID reader back into the PC. PipetteX should then be able to communicate with the RFID reader.

This is true of any other applications which may attempt to communicate with the RFID readers.

8.2 EasyScan Flex reader not detected

If you are using the serial COM port on a docking station, PipetteX might not be able to establish a connection. Try to avoid using a docking station or use a USB serial cable instead, which creates a virtual COM on the computer.

8.3 SQL server installation issues

Refer to Microsoft support for various SQL installation issues and their resolutions.

8.4 Font style for non-English manual

The font style **Arial Unicode MS** is used for displaying all of the characters present in the certificate. If Arial Unicode MS font style is not installed, then **#MS San Serif** will be used to display the characters in the certificate.

Rainin PipetteX Known Issues

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To protect your product's future:

METTLER TOLEDO Service assures the quality, measuring accuracy and preservation of value of this product for years to come.

Please request full details about our attractive terms of service.

www.mt.com/service

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For more information

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