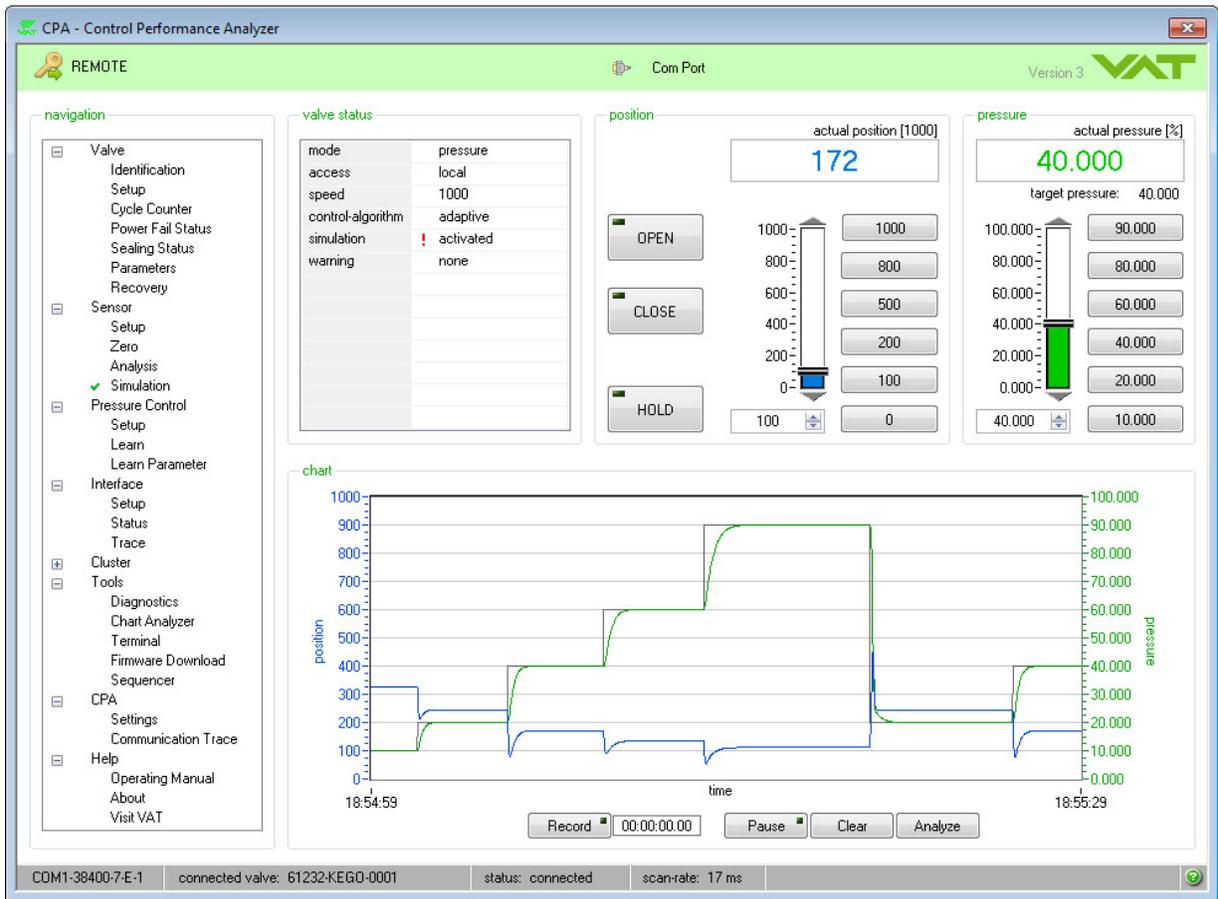


Control Performance Analyzer 3

Release 2.1.5

Installation Instruction

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Imprint

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Printed: September 2023 in (wherever you are located)

Publisher

VAT Vakuumentile AG, CH-9469 Haag, Switzerland

Production

VAT Vakuumentile AG, CH-9469 Haag, Switzerland

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1 Introduction

Version	Release
3	2.1.5



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1.1 Use of product

Use this product for computers operated by:

- Microsoft Windows® 7
- Microsoft Windows® 8
- Microsoft Windows® 10

This software provides control functions for VAT-control valves with D-Sub service connector:



Using this software, basic functions like “setup of controller”, “open valve”, “close valve”, “learn”, “up-download of learned data” can be executed, and many convenient functions like “monitoring pressure/position”, “analysis of pressure control performance”, “communication monitor”, etc) are available.

1.2 Technical data

This CPA software requires:

- 500 MB disk space
- 512 MB RAM
- RS232 serial com port or USB-to-RS232 converter (recommended with FTDI chip) / PCMCIA Card
- 1024x768 minimum resolution for the display
- Administrator rights for your PC
- Service cable refer to: «[Connect Valve to PC](#)»

This software has a self-detecting function which recognizes the type of the connected valve. According to this information, corresponding functions, screens and menus are provided.

2 Installation

Control Performance Analyzer is available as download form VAT homepage:

<http://www.vatvalve.com/customer-service/informations-and-downloads/control-performance-analyzer>

Note: Save the Zip file CPA and the CPA Installation Instruction on your PC.

2.1 Installation onto your PC

Note: This software can only be installed, if the “logged-on” user owns Administrator privileges.

If you are not able to install this program, please contact your System Administrator or Help Desk.

2.2 Start Installation procedure

1. "Unzip" the CPA



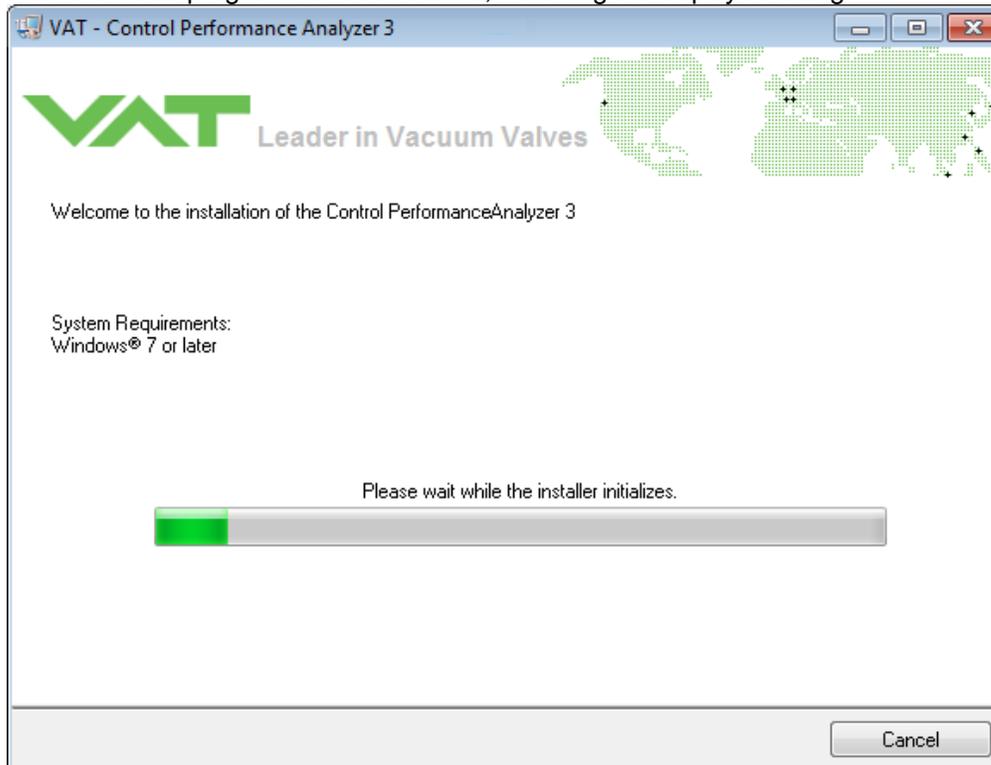
2. "Double-Click" the folder



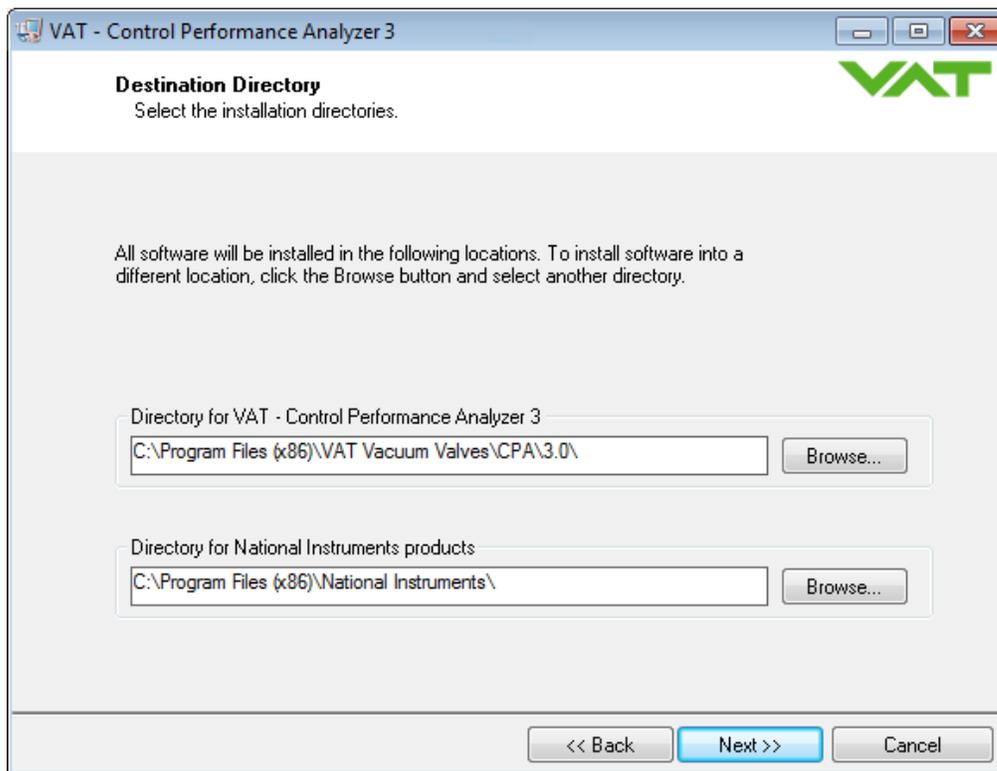
3. "Double-Click" the icon "setup"



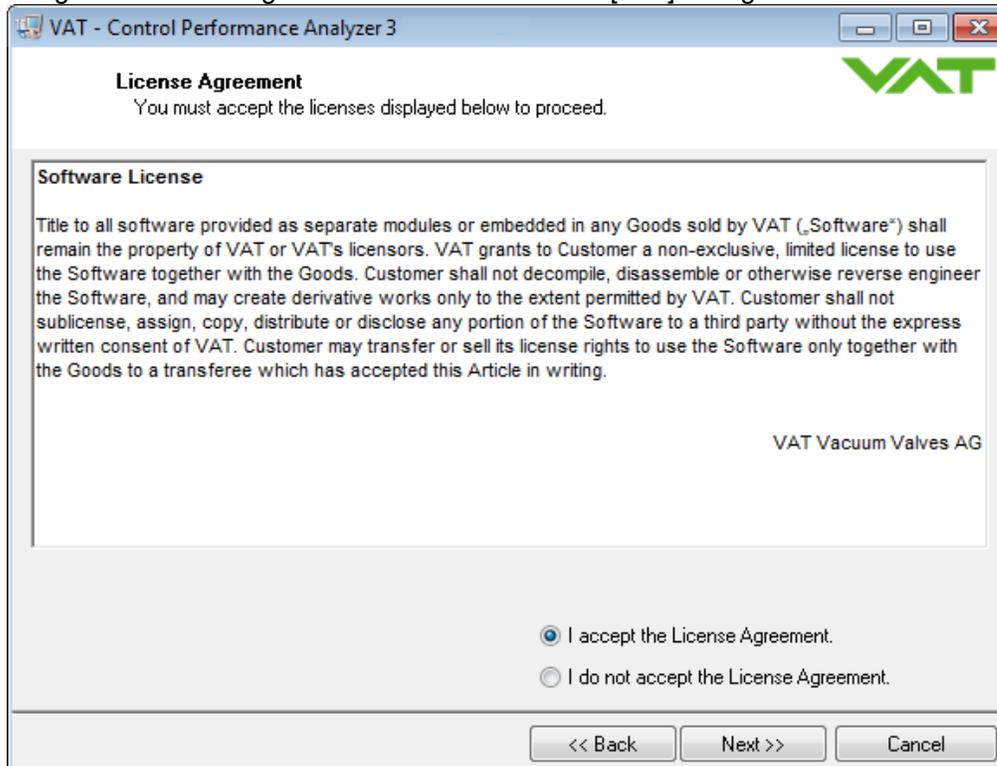
After the install-program has been started, following the displayed dialog:



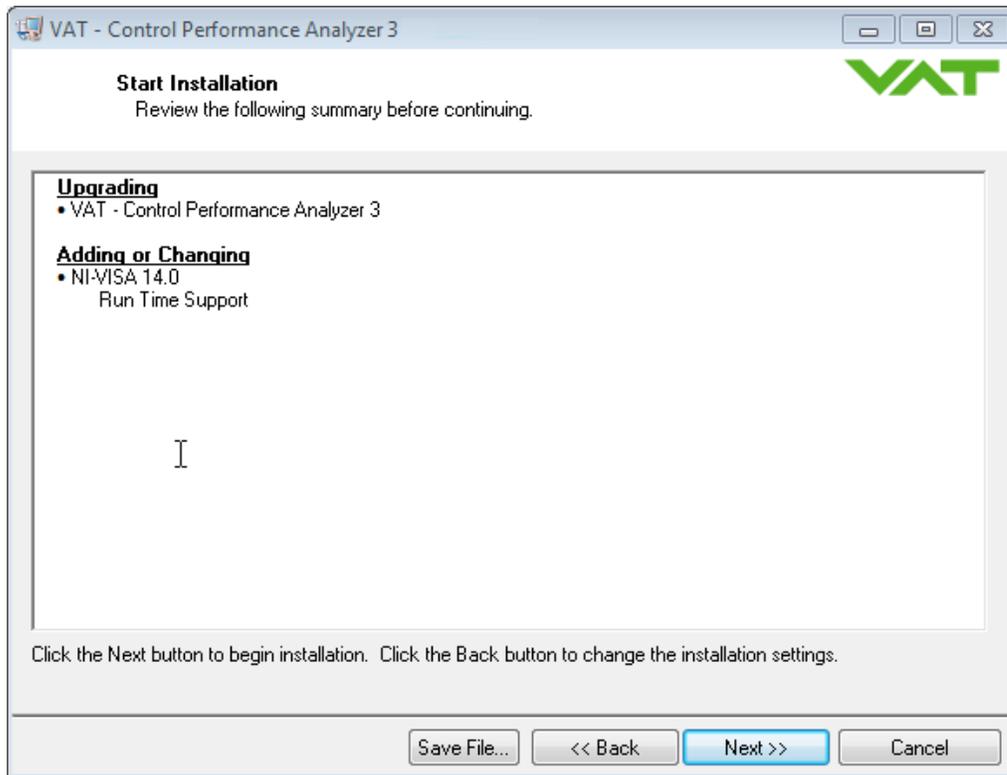
4. Select the primary installation directory and click the button [Next]:



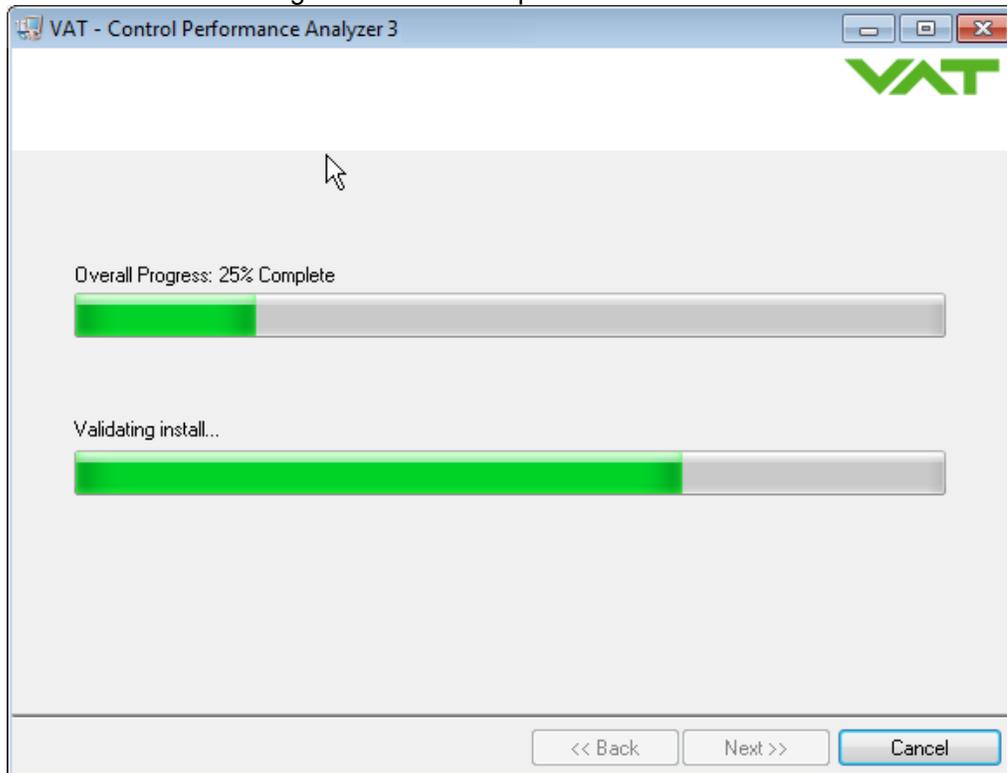
5. Agree the license agreement and click the button [Next] to begin installation:



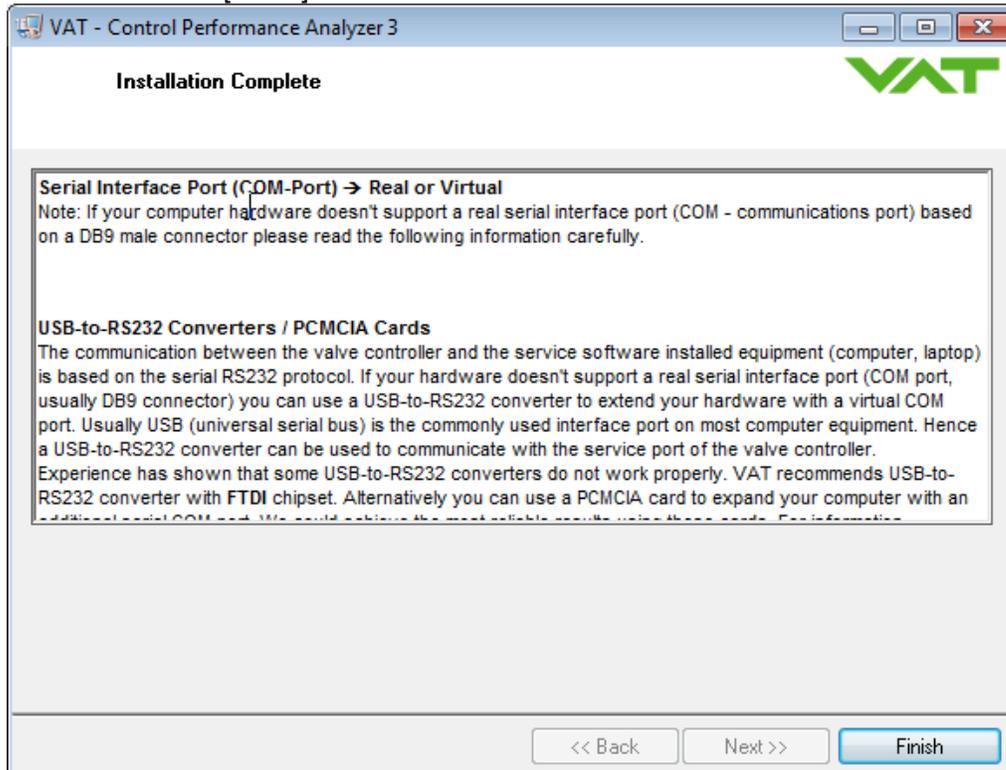
6. Click the button [Next]:



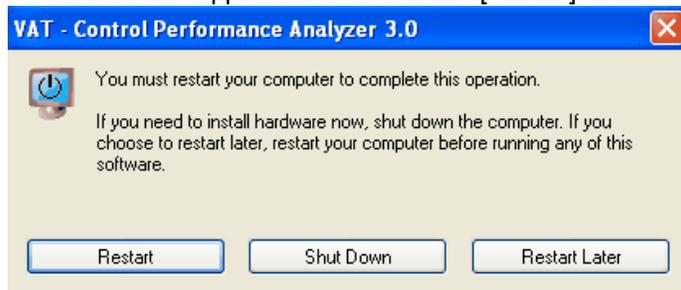
7. Wait until "Overall Progress is 100% Complete":



8. Click the button [Finish]:



9. If this screen appears click the button [Restart] otherwise proceed with step 10:



After restart of your computer the "Control Performance Analyzer" is ready for use.

10. Connect your valve to the PC as described in «[Connect Valve to PC](#)»

3 General

Note:

- The CPA 3 displays always the connected valve automatically.
- All window screen-shoots in this "Operating Manual" are examples!
- The windows of your installed CPA 3 depend to the connected valve and the installed valve firmware.
- The manual of CPA 3 you will find in CPA 3 folder: Help > Operating Manual



or in CPA 3 Status bar. Click [?] to open the Operating Manual.

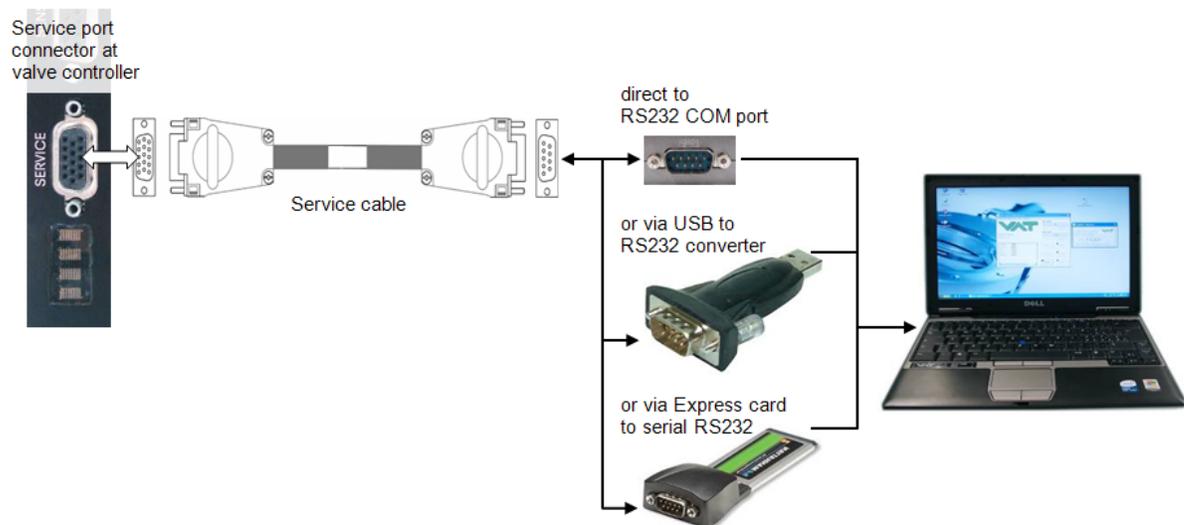


3.1 Connect Valve to PC

Introduction

Connect the valve to your PC via a 'COM port', 'USB to RS232 converter' or 'Express card to RS232'. Use the supplied service cable, see in chapter: «[Spare parts](#)». The maximum cable length is 10m.

Connection overview



Note: If there is no RS232 port available on your computer, please use a 'USB to RS232 converter' (recommended with FTDI chip) or 'Express card to RS232' converter. Please use a converter that is supported by your PC and install the corresponding driver for the converter.

3.2 Start up

Introduction

Check whether the PC is connected via the service port to your valve. Make sure, that the valve is supplied by 24VDC (see cable to connector marked "Power"). The display on the valve shows the version number for a short time and then the letters 'C' and '0', after self test is finished.

You need not do any adjustments for the RS232 port in advance. Setup of the RS232-port for the PC is done automatically by Control Performance Analyzer Software.

1. Start the program on your Start-menu > All Programs > VAT Vacuum Valves >



2. After start up is finished, the 'Control Performance Analyzer' displays its start up screen. (example see below)

3. Proceed with: «[Connect CPA to VAT valve](#)»

The screenshot shows the CPA - Control Performance Analyzer software interface. The main window is titled 'CPA - Control Performance Analyzer' and includes a 'LOCAL' mode indicator and 'Com Port' connection status. The interface is divided into several sections:

- Navigation:** A sidebar menu with options like Valve, Sensor, Pressure Control, Interface, Cluster, Tools, CPA, and Help.
- Valve Status:** A table showing parameters: mode (position), access (remote), speed (1000), control-algorithm (adaptive), and warning (none).
- Position:** A display showing 'actual position [1000]' as 100 and 'target position' as 100. There are buttons for 'OPEN' and a numeric keypad.
- Pressure:** A display showing 'actual pressure [mTorr]' as -7. It includes a vertical slider and a numeric keypad.
- Serial Port Selection Dialog:** A modal dialog box with a 'Help' button and 'Enter CPA' button. It contains a 'Software Mode' dropdown set to 'Connect to VAT Valve' and a 'Serial Port Selection' table.

Serial Port	Status	Connected Device
COM1	ready	61534-TEST-MMA1/0001
COM3	ready	none
COM7	ready	none

 Below the table is a checkbox for 'Bootload controller-firmware initially' and a status bar showing 'port scan enabled' and 'VAT Devices: 1'.
- Chart:** A graph showing 'position' on the y-axis (0 to 1000) and 'time' on the x-axis. The time range is from 18:58:35 to 18:59:05. The chart shows a flat line at position 100.
- Bottom Bar:** Contains buttons for 'Record', 'Pause', 'Clear', and 'Analyze'. The status bar at the very bottom shows 'COM1-38400-7-E-1 connected valve: 61534-TEST-MMA1/0001 status: scan scan-rate: 18 ms'.

Note: 'Control Performance Analyzer' check which valve is connected to the PC.

According to the type of valve (S61.2, S651C, S65.1 etc.), slightly different screens and menus are displayed.

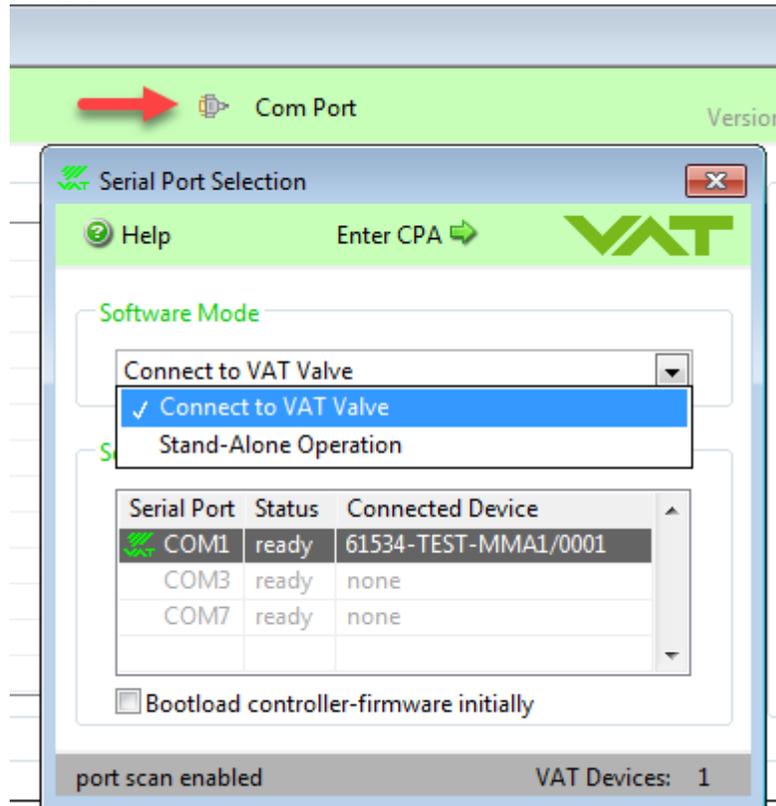
All necessary functions are provided to setup the valve and controller. Parameters are stored to the valve permanently.

3.3 Port Selection

Introduction

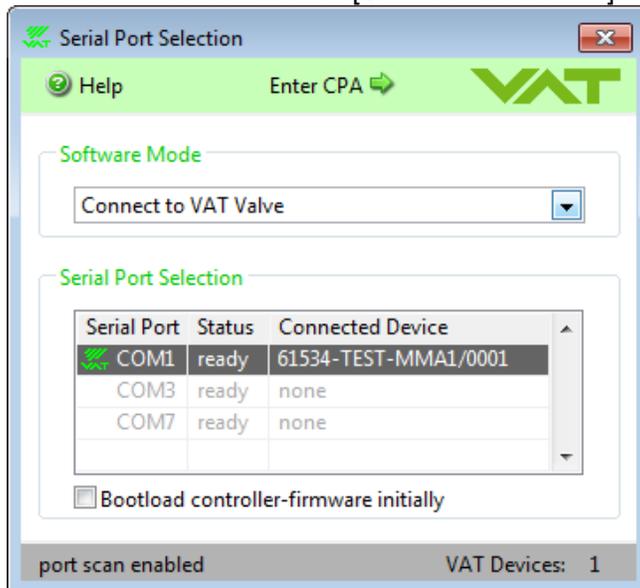
With this function it is possible to change the 'Software Mode'. (Connected to VAT valve or Stand-Alone Operation)

Window

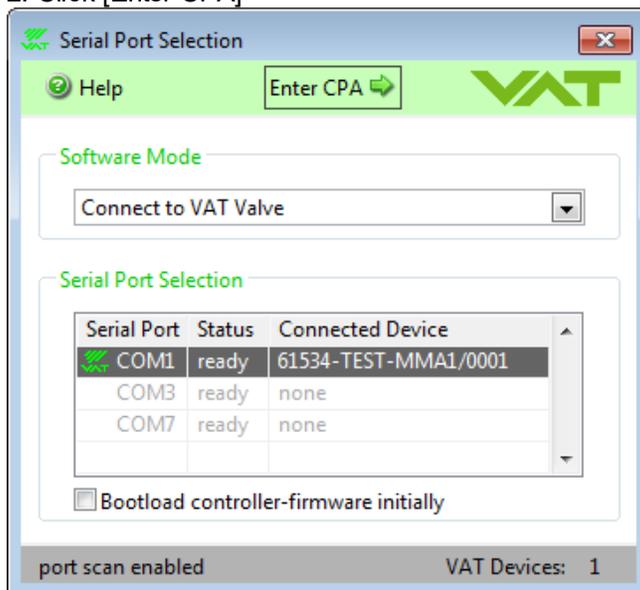


3.3.1 Connect CPA to VAT valve

1. In «Software Mode» select [Connect to VAT valve]



2. Click [Enter CPA]



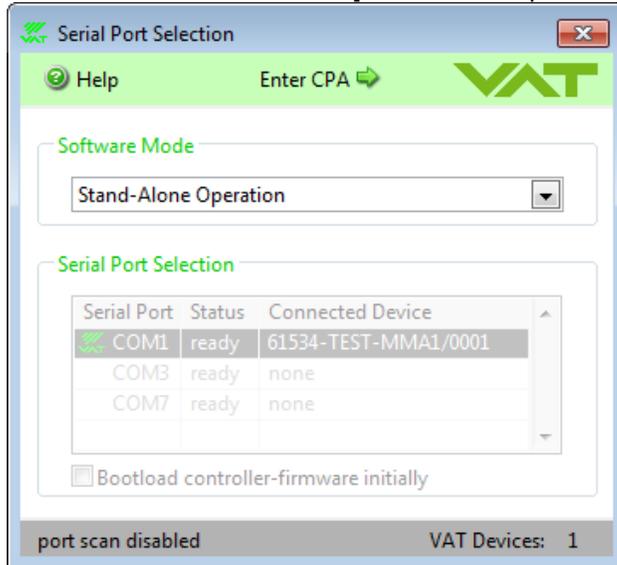
Note: The 'Control Performance Analyzer' is now ready for operation use. Refer to: [«Basic functions – use LOCAL MODE»](#).

3.3.2 Stand alone operation

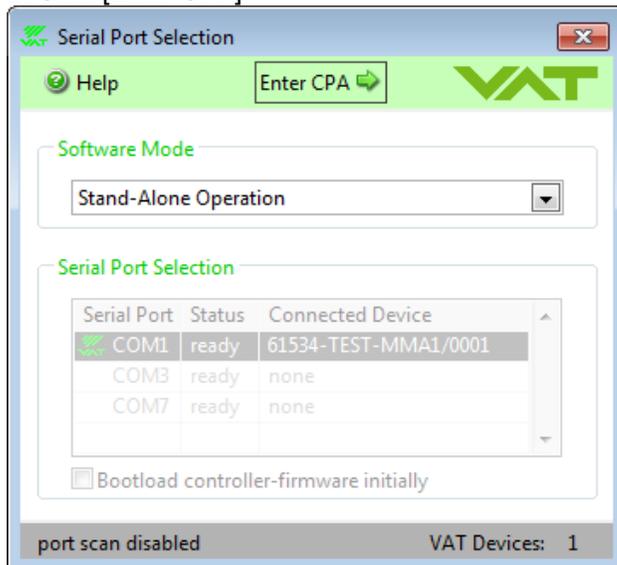
Introducing

In this operation mode it is possible to 'Load' existing data from PC to CPA for checking only. No valve is connected to CPA in this operation mode.

1. In «Software Mode» select [Stand-Alone Operation]

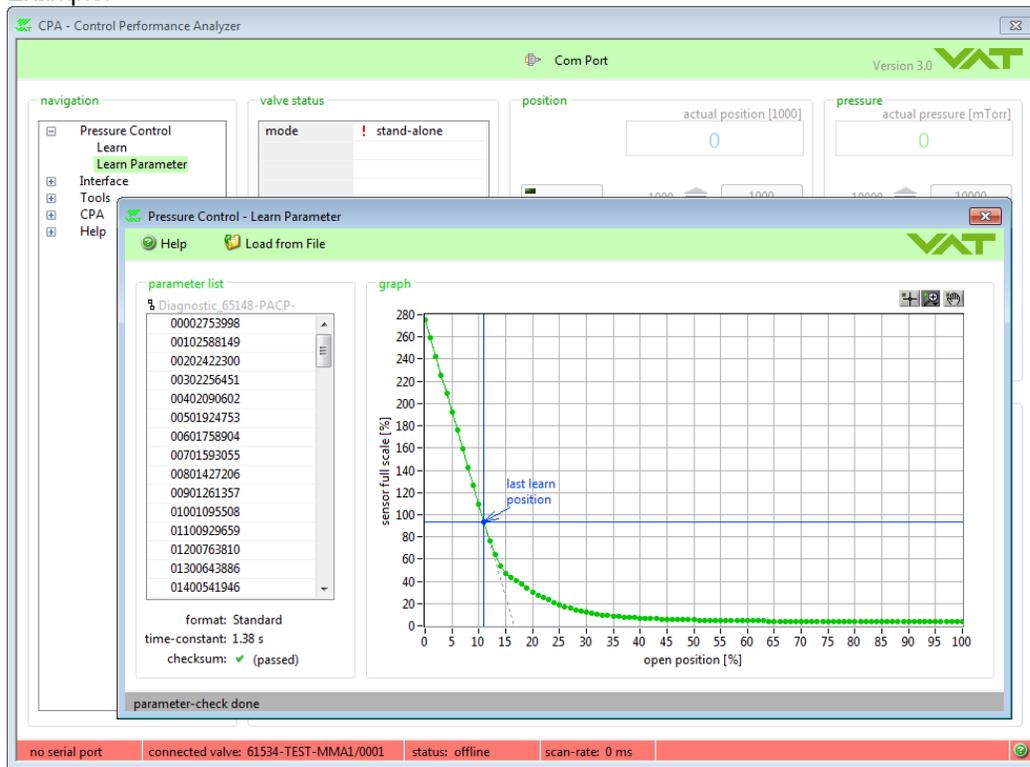


2. Click [Enter CPA]



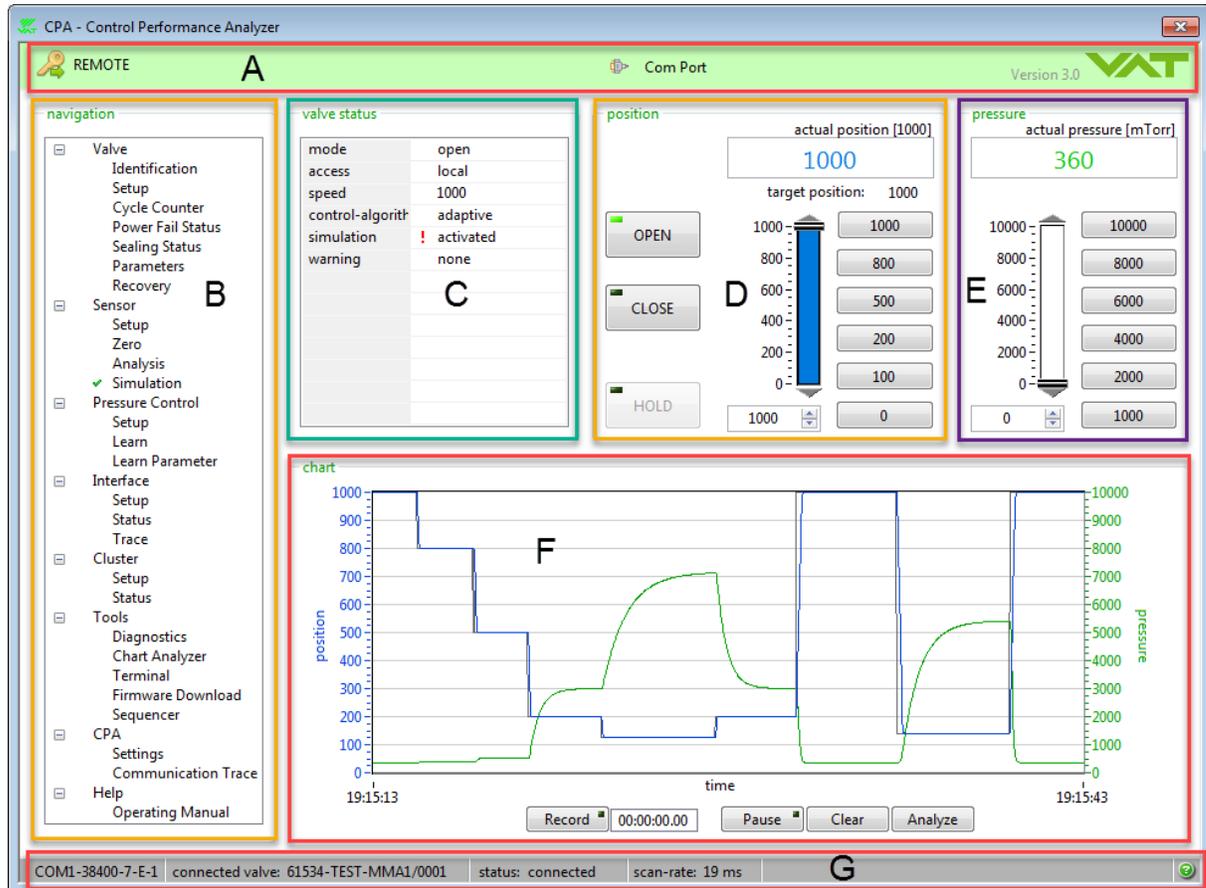
Note: The "Control Performance Analyzer" is now ready for "Stand-Alone Operation" use.

Example:



3.4 Main screen of Control Performance Analyser

Window



Area	Description	Function
A	top bar	REMOTE / LOCAL Port Selection Version - Release
B	navigation	explorer menus, adjustment and control
C	valve status	display the valve status
D	position	monitor, open, close, hold, adjust and save position setpoint
E	pressure	monitor, adjust and save pressure setpoint
F	chart	record / analyze position, pressure in time
G	status bar	display com port, connected valve, connection status and scan-rate

3.5 CPA status bar

Introduction

There are two possible status of CPA. These are described in status bar on bottom of main screen.

Connected to VAT valve:

- Connected (CPA is connected to valve, communication is OK and operation possible)



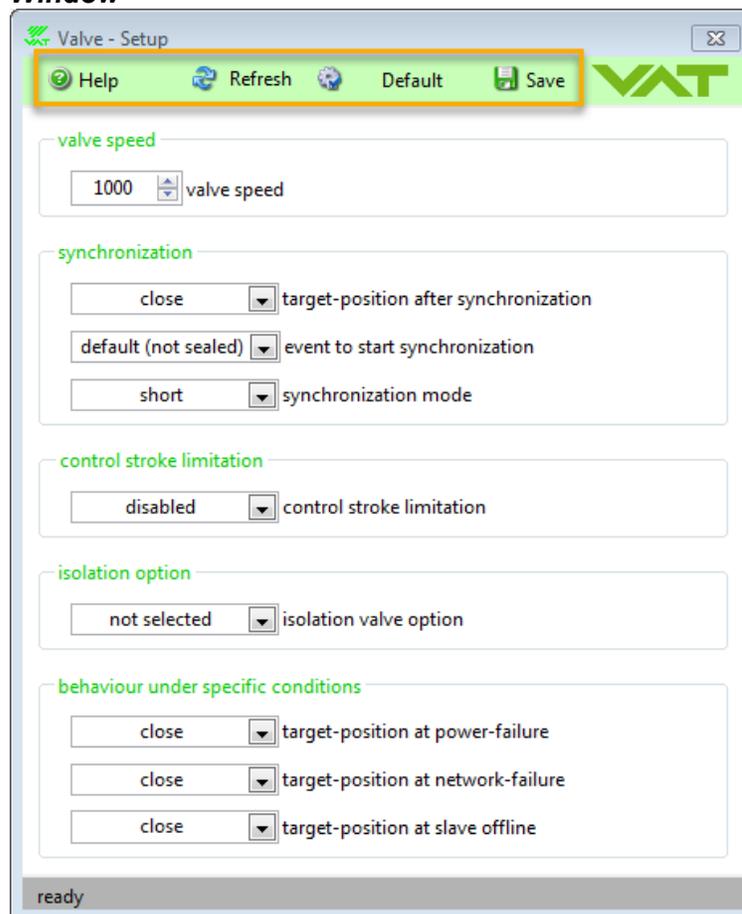
Stand-Alone Operation (only CPA without valve):

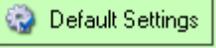
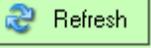
- Disconnected (CPA is not connected to valve, no communication and no operation possible)



3.6 Explanation of Button (window top bar)

Window



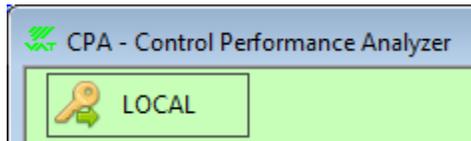
Button	Function
 Save	Save changed settings to valve controller
 Default Settings	Set to default settings
 Refresh	Reload changed settings from valve controller
 Help	Open Online Help for this window
Esc or 	Close the actual window

3.7 Basic functions – use LOCAL MODE

Introduction

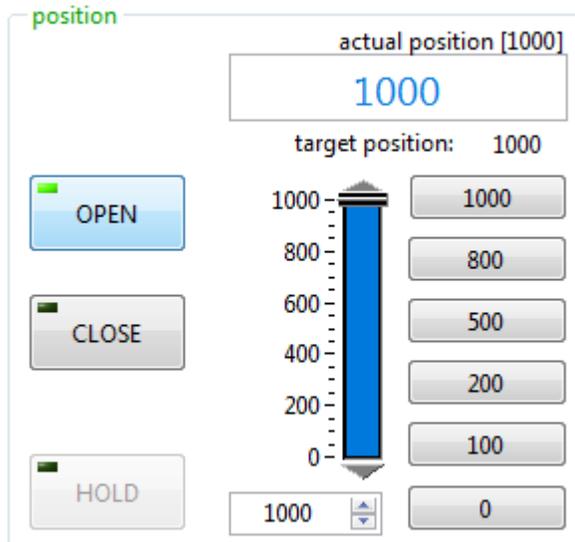
Using the 'Control Performance Analyzer' is only possible, when the valve is the 'LOCAL Mode'.

- Click button [LOCAL]



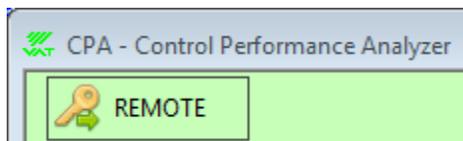
Now the valve can be operated easily via 'Control Performance Analyzer'.

First steps should be [OPEN], [CLOSE] etc.



Note: If LOCAL operation is finished, please switch back to 'REMOTE mode'

- Click button [REMOTE]



4 Help

4.1 Visit VAT

<http://www.vatvalve.com>

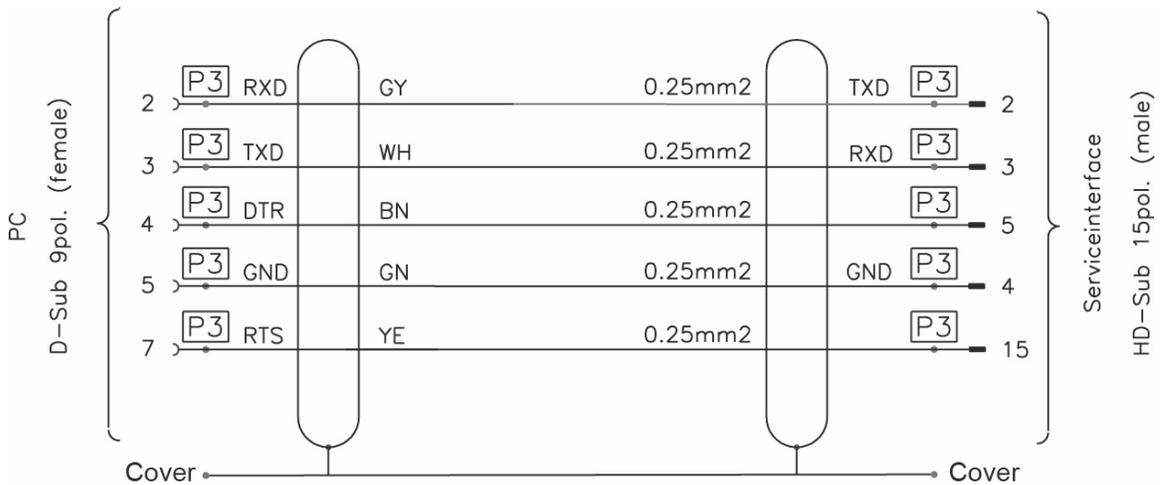
4.2 Spare parts

Introducing

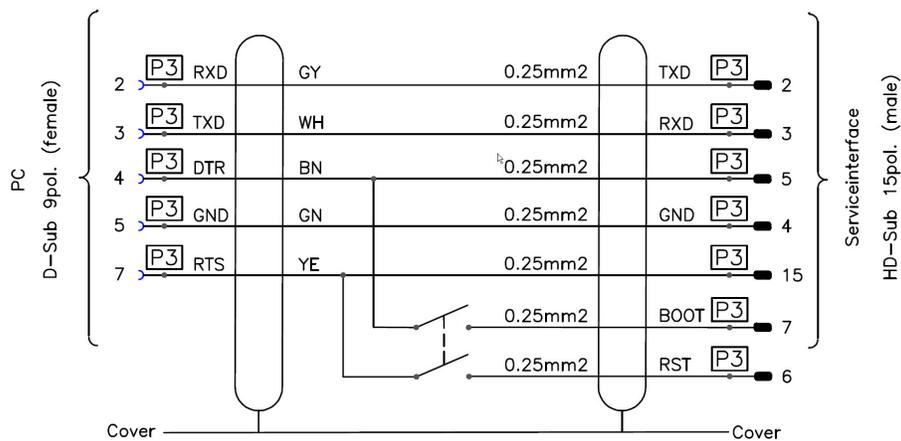
For ordering the 'Service cable' please specify the fabrication number of the valve (see label on valve) when ordering spare parts. This is to ensure that the appropriate spare parts are supplied.

Item	Description	Ordering No.
1	Service cable 2 m (between computer and valve)	230327
2	Service cable 10 m (between computer and valve)	246056

For building the service cable by yourself, please use the following drawing.
You need a 5 line cable, 1 piece D-Sub 9pin female, 1 piece HD-Sub 15pin male (3 rows D-Sub).



Adaption for firmware download (instead of download dongle)



Back Cover