

ReadMe vControl 1.1 SP1

Introduction

This document contains important information about vControl v1.1 SP1. Please read carefully before using or installing the software. Our [Knowledge Portal](#) or the vControl application software manual (402665) has additional information on vControl and other Veya related topics.

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1. What's new in vControl 1.1 SP1

In vControl 1.1 SP1 we have many exciting new features and a lot of bugfixes. Here a list of the main new features:

- Support for IAM (identity access management)
- New license for RUO instruments for Assurance features (sample tracking & user management)
- New commands for teaching the worktable ("Scan Worktable" & "Scan Location")
- New commands for stacking tip boxes ("Replace Empty Tip Box")
- New Options in Liquid Classes to en- or disable liquid level detection for aspiration and dispense individually
- New dispense options in liquid classes for wet dispense without liquid level detection
- Ability to dispense excess volume back to source in order to reduce dead volume
- New Editor in config section for OneView
- Variable to allow more accurate runtime calculation
- And many more

2. Important Information – Read before upgrading!

With vControl 1.1 SP1, a new feature was introduced where liquid properties are now part of the dependency of a liquid class. If an export of a script prior to V1.1 SP1 exists, please do the following after upgrading:

Applicable for all scripts (independent of application):

- 1) When importing an import/export.zeia file, the file "LiquidProperties.config" under "external files" needs to be removed (if present)

Applicable only for NAP scripts:

- 2) Import provided NAPLiquidProperties.zeia that contains the liquids needed for the NAP application package
- 3) Open all NAP related Liquid Classes. Trigger some changes and revert to being able to save them - > Dependency to Liquids will be created and saved in the Liquid Class.
- 4) Now create a new export of the NAP Scripts (if applicable) -> The NAP Liquids are now added to the Export as dependency

Maintenance Methods found on the Master Media

To start using these maintenance methods, please import the correct .zeia file provided in the Import Library on the master media. After importing, the maintenance methods will appear in System Care in TouchTools.

The maintenance methods have been set up using the base worktable file provided by default in vControl. If this worktable file is imported, the base worktable will be overwritten. If the worktable should not be overwritten, it is possible to import the system care methods without the base worktable and then create a new worktable which contains a sealing block. This new worktable must then be assigned to the system care methods.

Disclaimer: These Methods are not validated.

For further information, please refer to the Operating Manual, or contact Tecan.

Sequential liquid level Detection

Liquid level detection is handled sequentially (tips 1-4 then 5-8). This is to ensure optimal liquid level detection performance.

3. Considerations if not having a Tecan Standard PC

Considerations before installation

Operating system

The minimum requirements to run vControl can be found in Chapter 4.1 Computer Requirements of the vControl Application Software Manual (402665). To guarantee a good performance, Tecan

recommends using an Intel processor (CPU) of the 11th generation or higher. Using a CPU of a lower generation is also possible, but performance should be verified. Scheduler applications require more computing power, and it is recommended to use an Intel i9 of the 11th generation or higher.

DeckCheck Computer Requirements

All Veya instruments have DeckCheck camera(s) integrated in the chassis. DeckCheck commands may be integrated in methods to check prior to a run that the worktable has been set up correctly. The DeckCheck feature can be disabled in Configure System. DeckCheck might not work properly when using a separate graphics card, a graphics chip integrated into the processor must be used instead. The speed of the DeckCheck command execution depends on the PC hardware configuration. **Please note that the PC requires a separate ethernet port to receive the camera signal via an ethernet cable.**

Registering the IoT client

Information on how to register the IoT Client can be found here:
<https://www.tecan.com/knowledgeportal/digital-solutions#introspect-how-to>

General considerations

vControl uses Windows components, especially the .NET library. Please make sure to regularly upgrade to the latest .NET security and quality updates to prevent a negative impact on vControl.

Anti-virus software and vControl

Tecan recommends refraining from actively scanning hard drives or memory while a run is in progress in vControl. If a virus scan must be executed during a run, exclude the following directories and their subdirectories from the scan:

```
C:\Program Files (x86)\Tecan  
C:\Program Files (x86)\Common Files\Tecan  
C:\ProgramData\Tecan
```

Touch monitor configuration

For more information on touch monitor configuration, refer to the ReadMe for DisplayLink driver in the Touch Screen Driver folder on the vControl installation medium.

4. Good to Know & general information

The following section contains noteworthy information on the usage of vControl.

3D Sim Configuration Files

When installing vControl, the installer will provide all the necessary configuration files needed to use vControl with 3D Sim. These do not have to be installed separately with the 3D Sim Installation. In

case those are needed for troubleshooting purposes for service these configuration files can be found here:

ProgramData -> Tecan -> VisionX -> InstrumentConfigurations -> VControl_Configuration

Teaching – Do not teach with open doors

When teaching is executed on a Veya instrument with an open door, the accuracy will be reduced. This is due to the speed of the arms being reduced to 30% to comply with the safety concept of Veya. To increase the accuracy while teaching, please close the door when the arms are moving.

Teaching – Procedure

With vControl V1.1 SP1 a new teach command is introduced called “Scan Worktable”, which can be used to teach the complete worktable, i.e. all SLAS-format sites/locations on the workdeck to adjust for x, y and z-coordinates. The former teaching procedure in the editors is still available and can be used when teaching only single locations. However, there is also a new command called “Scan Location”, which can be used to teach an individual and specific site on the workdeck. For more information, please consult the vControl manual (402665)

Device Placement with more than one instance of a driver

The following steps shall be followed when placing multiple devices, such as incubators, using Device Placement. Not following these steps can lead to incorrectly placed devices, or their respective Direct Commands not being shown.

1. Duplicate the driver and configure it as needed in Configure System.
2. Duplicate the device carrier and assign it to the correct driver which was duplicated.
3. Set the correct slot ID of the driver in Configure System.
4. Place the carrier onto the worktable.
5. Execute the Device Placement.

Automatic Teaching for non-standard nests like ODT, CPAC-PCR and Teleshake – PCR

For non-standard nests like ODT, CPAC-PCR, Teleshake-PCR, automatic teaching is now also possible with V1.1 SP1. The carriers have been modified to contain a specific site for the teaching plate to account for the different z-heights of the teaching plate versus the PCR plate.

If still using the old definitions (prior to V1.1 SP1) please consider that automatic teaching is not leading to correct values in z and hence manual teaching is required.

Background is that PCR plate sits at a different height than the teaching plate, as it sinks in.

If a single consumable will be used on the sites or consumables with the same height are used, the following simple workaround can be used:

1. Create a copy of the teaching plate
2. Adapt the height of the copied teaching plate to match the height of your consumable(s)
3. Use modified teaching plate for teaching the concerned sites. **CAUTION:** do not use the modified plate for other positions. Only use the standard teaching plate there.

In case multiple consumables with different heights are used on the sites, the following procedure needs to be followed:

1. Create a modifiable copy of the concerned device
2. Create specific sites for the teaching plate and labware with the correct z-offsets. Allow plates only to be placed on their correct sites.
3. Perform automatic teaching on modified devices.

Only Tecan tips can be used in vControl

The default disposable tip definitions contain an attribute “Tecan” in section *Miscellaneous* -> *Vendor*. Duplicating definitions hinders a user to use the attribute Tecan in this field. If this is not present, the tips can't be selected in all the Pipetting commands.

Using 2 different liquid classes for aspirate and dispense – only pressure data from aspiration liquid class is used (129384)

vControl supports using of 2 different liquid classes for aspirate and dispense. However, pressure tank settings are only used from the liquid class defined in the aspiration step. This is because the pressure preparation is only performed before the aspiration step and not before the dispense step.

DeckCheck: Error while taking images (129716)

Using the DeckCheck driver can lead to an error being reported while taking reference images. This happens sporadically and pressing Retry will resolve the issue, as usually the second time it works.

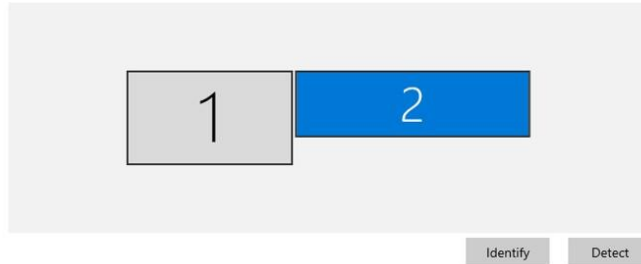
OneView size not correct

OneView is configured to only show when the aspect ratio is 32:9, hence the display resolution needs to be set to 1920x540. Furthermore, the refresh rate needs to be configured to 59.989 Hz

Display

Rearrange your displays

Select a display below to change the settings for it. Press and hold (or select) a display, then drag to rearrange it.



Display

Scale and layout

Change the size of text, apps, and other items

100% (Recommended)

[Advanced scaling settings](#)

Display resolution

1920 × 540 (Recommended)

Display orientation

Landscape

Multiple displays

Multiple displays

Extend these displays

☐ Make this my main display

[Advanced display settings](#)

[Graphics settings](#)

Advanced display settings

Choose display

Select a display to view or change the settings for it.

Display 2: cvt_rb1

Display information

 cvt_rb1
Display 2: Connected to Intel(R) UHD Graphics 630

Desktop resolution	1920 × 540
Active signal resolution	1920 × 540
Refresh rate (Hz)	59.989 Hz
Bit depth	8-bit
Color format	RGB
Color space	Standard dynamic range (SDR)

[Display adapter properties for Display 2](#)

Refresh Rate

Choose the refresh rate for your display. A higher rate provides smoother motion, but also uses more power.

Refresh rate

59.989 Hz

vControl and FluentControl software on same PC

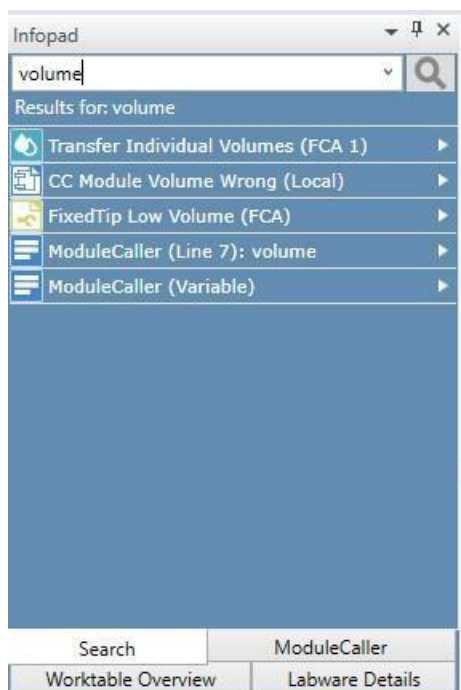
vControl and FluentControl can't be installed on the same PC because the two software partly share the same folder structures and registry paths.

Online Help

When vControl is in edit mode, pressing the <F1> key will open the Online Help. The section relevant to the selected or displayed GUI elements will be shown. Online Help content is identical to the vControl Manual.

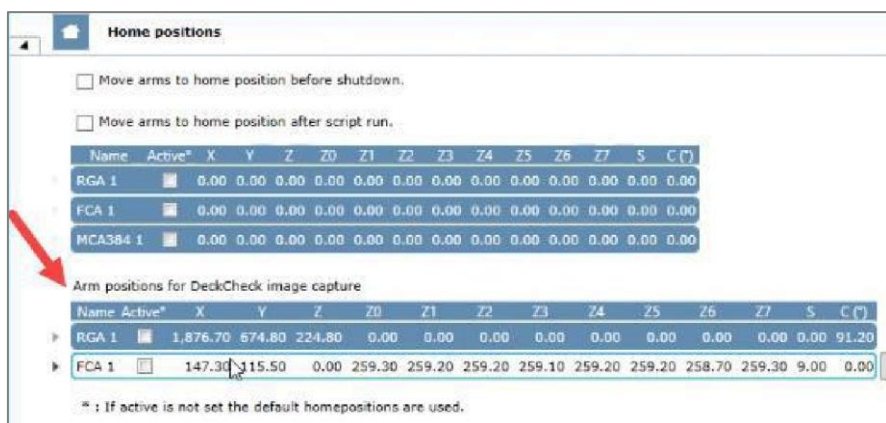
Search function

vControl has a search function in the Infopad. Search results have the same drag and drop behavior as Controlbar elements. The search is active in all currently open Scripts, Modules and the Controlbar.



DeckCheck

If any devices are positioned at the right or left side of the worktable, the arm positions for DeckCheck image capture may need to be modified in Configure System. The default DeckCheck arm positions could be within the bounding boxes of such devices, which would lead to an error at runtime. Positions for the right- and left-most arm can be configured.



Sample Tracking cannot handle duplicate barcodes

If Sample Tracking is used and duplicate barcodes are part of the workflow, make sure they are renamed to be unique before the Labware is registered in Sample Tracking. For example, suffixes or index numbers may be added using the GetAttribute and SetAttribute functions.

Microsoft Remote Desktop Protocol (RDP)

Tecan sporadically receives reports of issues when using RDP with vControl. vControl was not tested with Microsoft Remote Desktop Protocol (RDP) and compatibility is not guaranteed. Issues such as vControl crashes caused by using RDP will not be analyzed and resolved by Tecan product support.

vControl asking for a license even though running in simulation mode (PWI 129302)

This can happen if the same instrument (simulated) has been using as a real instrument before (i.e. application connected to 3DSim in real mode).

When connecting to a real instrument - which 3DSim usually and intentionally represents (starting 3D sim prior to starting vControl)- the SW writes the serial number to a registry key, which is used at subsequent startups and compared against the then connected instrument (real or simulated). After that, the registry key is still present (when not deleted manually or by cleaning the database) and is checked for when the serial number match.

If the serial number of the simulated instrument do not match the real one registered, the SW doesn't check for a license and simply returns "license available".

Loading a script with Sample Tracking commands & no running ST server (115156)

If the communication to the Sample Tracking server cannot be established (e.g. sample tracking not installed, or server mistakenly killed) loading a script with Sample Tracking commands in it can result in a timeout exception. In this case, the I/O state needs to be set to off to load the script.

Conflicts at import for default database entries due to duplication of carrier where labware is configured as allowed location

If a carrier is duplicated, e.g. the 7mm Nest to define a storage position, then all associated allowed labware get a new connector. This is then shown during import as conflict (since the connectors associated to the labware are indeed different). However, importing without conflicts will not result in missing connectors, since the duplicated carrier also brings the connector with the import.

Device placement for duplicated device not working out of the box (PWI 126124)

When duplicating a device, to have multiple instances of a driver for example, the placement on the worktable for the duplicated device does not work out of the box. To make it work, the custom attribute "MapTemplateName" must be adjusted to be different and unique.

Selecting Empty Cavity in Liquid Classes results in Pressure Profile Error Detection if not deactivated in liquid class (PWI 126474)

The empty cavity option in the liquid class will cause a Pressure Profil Error stopping aspiration if the option is not deactivated in the advanced section.

5. Known Issues in vControl 1.1 SP1

This section contains information about known issues and guidance on avoiding or handling them. If issues not described here are encountered, please contact the local helpdesk.

PWI 129832: After an update installation, the worktable conversion in simulation is not working properly

When using vControl and 3D Sim on a PC which does not fully support custom model generation, the converted worktable from vControl in Simulation Mode is not converted correctly. The Items on the worktable are shifted in X and Y. This only occurs when vControl is upgraded from an existing version. If an upgrade is executed, the files in the Custom Model folder of the respective 3D Sim instrument configuration must be removed. For example, the custom model folder of the 9 Grid XCA 8 Channel is found here:

```
..\InstrumentConfigurations\VControl_Configuration\Instruments\9Grid_XCA_8Channel\Simulation\CustomModels
```

Furthermore, the 6 and 9 grid base plate must be given the custom attribute “SkipCustomModelGeneration”, otherwise the 3D Sim worktable will not be generated correctly. This must be a Boolean and must be set to true.

PWI 129732: Move to does not work when the channels are moved up too high

For some instruments, due to the channel calibration that is available for the channels (IPP), it is possible that, by moving the channels fully up to the hardstop (either manually or via MoveTool), the “MoveTo” above a labware during teaching doesn’t work and will not be executed.

PWI 129559: Block UI until 3D sim is connected

When starting the software in simulation mode, the instrument connection might take a while. However, the UI is already loaded, and the user can work with the software. This can lead to problems because not all functions are available yet and importing something during this process can likely cause error or the database can get corrupted. The user can notice this as not all commands are available yet.

PWI 129412: Error after Teach Worktable Command Channel cannot be positioned inside Ranges

The Teach worktable command uses the carrier site for the active carriers instead of the dedicated teaching site. This leads to wrong range calculations and hence errors. Therefore, currently only standard nests with no dedicated teaching sites can be used in the Teach Worktable command. Skip the ones for devices.

Very specific error in incubator error handling leading to endless loop (PWI 129514)

In case there is a hardware-related error that the door of the incubator cannot be closed when a plate is brought to the incubator move (only in this case) in the context of a process (not in scripts) instead of aborting all process iterations an error handler is presented with options Abort and Retry, though both options result in endless loop.

Teaching Sites for custom/new labware (PWI 126312)

In case there is a skirted labware, which doesn't represent the current supported PCR plate or in case there is a new adapter or device, which differs from the existing ones, teaching sites need to be manually added to these devices like the ODTc, CPAC-PCR or Teleshake-PCR definitions. The reason is that the teaching plate doesn't sit on the same height as the labware, hence when correcting it, the teaching plate needs to be virtually set to the same height the labware will be physically sit later.

Doorlocks not opened when LoadingID runner needs to be reloaded (PWI 129105)

If the user removes or changes the position of the tube runners during a run (e.g. a pause), the system asks to reload the tubes. This is currently not possible because the doorlocks remain in a locked position.

Deadlock on startup (129236)

In some rare cases the vControl startup ends up in a deadlock. Aborting and restarting the application helps.

Status light not active during run (PWI 129300)

Sometimes the status light does not display the green state during a run. This is a sporadic issue and related to some timing issue. There is no workaround but just a re-start of the run might help.

Deadlock in FCA/RGA subroutine when pausing and resuming the run during pathfinding (PWI 129507)

In very specific scenarios when pausing the system during a pathfinder recovery action, i.e. when the RGA requires the FCA to move aside but must wait until the FCA has completed its current command.

Inheco Incubator and Teleshake continue to shake after restart and init (PWI 126365)

If a run gets aborted by a crash or alike, the Inheco Incubator and Teleshake keep shaking, even past software restart and/or initialization. To be able to restart a run, the devices need to be stopped by executing a direct command "Stop Shaking".

The Snapshot Tool sometimes does not include the most recent log file (ID 124877)

In very rare cases, the Snapshot Tool doesn't include the most recent log file.

3D Sim Issues (ID 125356)

A collision can occur with the tilted vial runners in simulation during pipetting. These pipetting steps must be executed when connected to a real instrument.

Manual Restart needed after configuring Sila2 Commands (ID 123430)

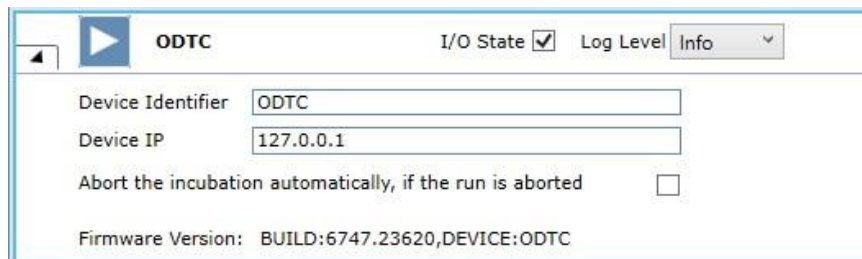
When configuring the Sila2 Commands in the Configure System menu, vControl must be restarted manually when the configuration is saved.

Move to last or move to first in Vector teaching sometimes doesn't work (ID 122979)

It can happen that Move to Last with different waypoints in between works but then Move to First doesn't. Workaround is to move to the intermittent points.

Stopping a run when ODC is running is not possible (PWI 127828)

If the ODC is configured that it doesn't abort when run is aborted (i.e. checkbox is checked) a run can't be aborted while ODC method is running.



Additional known Issues

ID	Title
124535	vControl switches into GP color scheme, although being in demo mode
125941	Required Labware is not available on the worktable error after labware lost in a different run
125858	[KomodoControl] [vControl] borderline liquid levels (required vol == usable vol) should not result in an exception
126693	[OneView] OneView shows rendering errors
127673	Configure option to execute loadingID in simulation
122979	Vector teaching in Carriers: "Move Arm to" button not working
123430	Manual restart required after configuring SiLa2 commands
127599	Import from FluentControl

6. Known Issues in Setup SW 6.1 SP1

MAP PWI 44958 & 44978: MoveCoordinator doesn't consider shifted bounding boxes through introduction of IPP

Both issues are related to the introduction of IPP with Setup SW version 6.1 (SP1). Both only manifest on a two arm system (i.e. FCA and RGA). PWI 44978 appears when both arms move to their minimum X positions (e.g. run DeckCheck Camera QC action) and manifest when the FCA has positive deviation in the IPP calibration data.

PWI 44958 appears when both arms initialized to the left hardstop when the FCA has a positive deviation and the RGA has negative deviation calibration data (i.e. the arms “look towards each other”) with a sum of more than ~ 2 mm apart.

For both issues the alignment of the arms need to be improved, i.e. the FCA should not deviate too much to the right (<1mm) and the RGA should not deviate too much to the left.

Login with Tecan FSE Authenticator only works on second attempt (129102)

After fresh start of PC, the first login to MAPlinx Setup with FSE Authenticator token doesn't work. Only at the second attempt the login is successful.

The same situation applies when signing in with a file certificate and then with a token. The first token sign in will fail.