Overview

The Checkit Go from Next Advance is a quick and easy-to-use disposable cartridge used to check the accuracy of handheld pipettes and automated liquid handlers. Customers may use this tool for periodic checks of their Hamilton liquid handlers. Labware definitions and a liquid class for the Checkit Go were developed and verified internally at Hamilton. These definitions can be used on the Hamilton STARline, VANTAGE, and NIMBUS platforms that run VENUS software.

See below for instructions on how to import the liquid class and add the labware definition for use in the Hamilton VENUS software.

Download Materials

Download the "Checkit Go Hamilton Labware and Liquid Classes.zip" file and extract the contents. The zip file contains two folders that contain the labware definitions and liquid class.

1	Checkit Go Labware	File folder
1	Checkit Go Liquid Class	File folder

Copy the "Checkit Go Labware" folder and its contents to the C:\Program Files (x86)\HAMILTON\LabWare directory.

How to import the Liquid Class

1. Open the Hamilton CO-RE Liquid Editor found on the desktop.



- 2. From the File menu, select Import Liquid Classes
- 3. From the Import Liquid(s) window, select Open File and browse to and select the "LiquidClasses_CheckItGo.mdb" file and select Open.

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Import Liquid(s)			×
Import from:			
C:\LiquidClasses_CheckItGo.mdb		Oper	n file
Available liquid classes:		Selected liquid classes:	
StandardVolumeFilter_Checklt_DispenseSurface_Empty (V1. Tip_50ulFilter_Checklt_DispenseSurface_Empty (V1.1)	>>		
	<<		
	Add all		
	Remove all		
Delete			
		OK Cancel I	Help

- 4. Select Add all and then select OK.
- 5. The liquid classes will now be available as an option in the Aspirate commands in the VENUS Method Editor.
- 6. Note: the liquid classes were developed for a filtered tip type. If you are using unfiltered tips, the tip type can be changed via the Liquid Editor. Open the Hamilton CO-RE Liquid Editor. Right click on the liquid class you want to modify and select Create. Give the new liquid class a name. Then double-click the newly created liquid class and from the Tip type drop down, select the unfiltered option. Select Ok.

Liquid Details Correction Curve Liqu	id Notes TADM Tolerance Bands
Liquid Device:	1000ul Channels ~
Liquid:	Water ~
Tip type:	50ul Tip with filter (23) \sim
Dispense mode:	1000ul High Volume Needle OLD (8) 1000ul High Volume Tip (4) 1000ul High Volume Tip with filter (5)
Liquid parameters Aspira	1000ul Needle (13) 1000ul Wide Bore 3.2 Tip (63) 10ul Low Volume Tin (2)
Flow rate: 100	10ul Low Volume Tip (c) 10ul Low Volume Tip with filter (2)
Mix flow rate: 75	10ul Needle (11)
Air transport volume: 0	250ul Piercing Tip with filter (44) 250ul Piercing Tip (35)
Blowout volume: 1	= 300ul Needle (12) 300ul Rocket Tip (96) for 384 (28)
Swap speed: 2	300ul Standard Volume Needle OLD (7) 300ul Standard Volume Tip (0)
Settling time:	300ul Standard Volume Tip clear (30) 300ul Standard Volume Tip with filter (1)
Over-aspirate volume: 1	30ul Tip for 384 (15) 4ml Tip with Filter (29)
Clot retract height:	50ul Low Volume Needle OLD (6) 50ul Tip (22)
Stop flow rate:	50ul Tip clear (31) 50ul Tip clear for 384 (37)
Stop back volume:	50ul Tip conductive for 384 (33) 50ul Tip for 384 (20)
Pressure LLD sensitivity:	50ul Tip with filter (23) 5ml Tip (25) SLIM CO-RE Tip 300ul (36)
Low	SLIM CO-RE Tip 300ul with filter (45)

How add the labware to the System Deck

- 1. Open the Hamilton Method Editor and the method with the layout that you want to add the Checkit Go labware to.
- In the System Deck Editor view, select Browse and navigate to the Checkit Go folder containing the labware definitions. There are multiple files located in this folder. Select the *.tml file for the cartridge type you are using and select Open. There are two options – one for low volume (5 and 10µL) and one for higher volumes (20 and 50µL). See below:

Name	Date modified	Туре
👗 Checkit Go Left	3/3/2022 4:31 PM	RCK File
👗 Checkit Go 20 and 50uL	3/16/2022 5:10 PM	TML File
🚢 Checkit Go 20 and 50uL Right	3/16/2022 5:24 PM	RCK File
👗 Checkit Go 5 and 10uL	3/16/2022 5:09 PM	TML File
🚢 Checkit Go 5 and 10uL Right	3/16/2022 5:42 PM	RCK File

3. Drag and drop the labware onto the system deck as shown below:



4. Drag and drop the labware from the system deck to the desired plate site as shown below:

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Browse Search Labware:	Checkit Go 20 and S0uL.tml	
ML STAR 100is ML STAR 96 CO-RE head ML STAR 384 CO-RE head	8	×
Devices Labware Sequences		Layers Preview Stamp Tool
	1 2 2 3 4 5 16 4 3 10 5 10 5 10 5 10 5 10 5 10 5 10 5 10	

5. Note, it is important to not add the *.tml file directly from the selection menu to a plate site! Doing so will generate an error shown below and may cause the software to freeze which would require a restart. Instead, follow the instructions above to add the labware to the system deck first and then move it to a plate site.

HxSys3DView	×
An error occurred while running Vector.	
The error description is: A template can only be added to the default deck template (0x5 - 0x0 - 0x0)	
ОК	

Additional Information

It is recommended to use the CheckIt Go cartridge on a "gray tabbed" plate site (shown below on the left) as opposed to the older, spring tabbed plate site carriers. While the cartridge fits onto a spring tabbed plate site, it does not sit level. Adjustments to the labware definition may be required to use the cartridge on a spring tabbed plate site.



In regards to recommended pipetting parameters, for the internal testing, the following dispense heights and settings were used for each of the volumes tested:

Transfer Volume (in μL)	Dispense Height (in mm)	Liquid Following
2 to 10	0.5	Disabled
20	0.8	Disabled
50	1.0	Disabled

Testing was limited to two tip sizes and the provided Checkit Go red dye solutions. Further adjustments and optimization may be needed for depending upon your system setup and laboratory conditions.

For more guidance on how to set up a method or system deck to facilitate testing with the Checkit Go on Hamilton liquid handlers, please refer to the VENUS Programmer's Manual.