



AGILENT ICF FOR GC

Clarity Control Module

ENG

Code/Rev.: M207/100B

Date: 2025-10-22

Phone: +420 251 013 400

clarity@dataapex.com

www.dataapex.com

DataApex Ltd.
Petrzilkova 2583/13
158 00 Prague 5
Czech Republic

Clarity[®], DataApex[®] and ▲[®] are trademarks of DataApex Ltd. Microsoft[®] and Windows[™] are trademarks of Microsoft Corporation.

DataApex reserves the right to make changes to manuals without prior notice. Updated manuals can be downloaded from www.dataapex.com.

Author: MP

Contents

1 Agilent ICF for GC	1
2 Requirements	2
2.1 Software requirements	2
2.2 Hardware requirements	2
3 Installation procedure	8
3.1 Installing Correct Version of Agilent ICF	8
3.2 Network connections	9
3.3 Clarity Configuration	10
3.4 Headspace Sampler configuration	14
3.5 Using Valve for Gas Sampling	20
3.6 Installation Qualification of Agilent ICF	23
4 Using the Agilent ICF GC	26
4.1 Method Setup - GC	26
4.2 Method Setup - AS	28
4.3 Device Monitor	29
5 Troubleshooting	31
5.1 Specific Problems	32

To facilitate the orientation in the **Agilent ICF for GC** manual and **Clarity** chromatography station, different fonts are used throughout the manual. Meanings of these fonts are:

Open File (italics) describes the commands and names of fields in **Clarity**, parameters that can be entered into them or a window or dialog name.

WORK1 (capitals) indicates the name of the file and/or directory.

ACTIVE (capital italics) marks the state of the station or its part.

Chromatogram (blue underlined) marks clickable links referring to related chapters.

The bold text is sometimes also used for important parts of the text and the name of the **Clarity** station. Moreover, some sections are written in format other than normal text. These sections are formatted as follows:

Note: Notifies the reader of relevant information.

Caution: Warns the user of possibly dangerous or very important information.

I Marks the problem statement or trouble question.

Description: Presents more detailed information on the problem, describes its causes, etc.

Solution: Marks the response to the question, presents a procedure how to remove it.

1 Agilent ICF for GC

This manual describes the use of the **Agilent ICF for GC** (Instrument Control Framework) with the **Clarity** software. The list of ICF versions that **Clarity** comes with is available on www.dataapex.com website on ICF control product page.

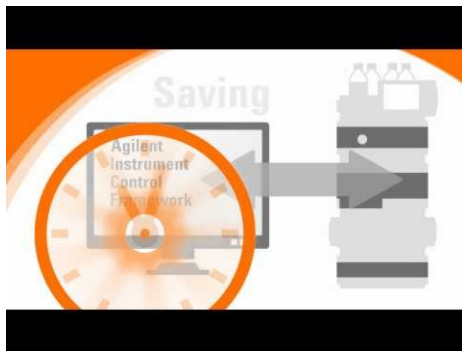


Fig. 1: Agilent ICF

The **Clarity** chromatography station enables to control various laboratory equipment from **Agilent** using the **Agilent ICF for GC**. It is library developed by **Agilent** which can be run within the **Clarity** Chromatography Station environment. This manual describes the basic use within the **Clarity**.

Thus the **Agilent ICF** dialogs and setup windows are displayed within **Clarity**, the manuals are supplied by the Agilent company both for the instrument and the configuration dialogs of the **ICF**. For the detailed help of the respective controlled instruments and functions of the **Agilent ICF** dialogs, press the *Help* or *F1* button in the displayed dialogs. Remember that some of the dialogs embedded into the [Method Setup](#) window are also part of the **Agilent ICF** library and pressing the **F1** key also displays the Agilent ICF for GC **Help** which is not created by **DataApex Ltd.**

For complete list of controlled instruments by the **Agilent ICF** library, see the **Clarity** Controls web-page: www.dataapex.com/controls.

2 Requirements

2.1 Software requirements

Agilent ICF for GC requires **Microsoft .NET version 4.8** or higher for correct installation and operation. This versions is already installed on majority of PCs. Nonetheless you will be notified during the installation if your PC is missing required version of **Microsoft .NET** - then follow the instructions there. For complete list of .NET requirements, see the .NET Framework System Requirements on Microsoft web page.

Supported operating systems:

- **Windows 10 (64 bit)**
- **Windows 11 (64 bit)**

Note: Before installing **Clarity**, it is recommended that your **Windows** is updated to the latest version.

2.2 Hardware requirements

- Version of firmware must be compatible with the **Agilent ICF GC** installed with **Clarity**.
- LAN interface installed on PC is required.
- Latest available firmware version of the module should be used to ensure maximum compatibility.

Tab. 1: Supported Agilent GC hardware:

	Module type	Inlets	Detectors
8890	G3540A	S/S, P/P, COC, PTV, HCM, PCM, VI, MMI, HT-PTV, LTM	TCD, FID, NPD, FPD, ECD, HSM, DualWFPD, AIB, NCD, SCD
	G3542A	S/S, P/P, COC, PTV, HCM, PCM, VI, MMI, HT-PTV, LTM	TCD, FID, NPD, FPD, ECD, HSM, DualWFPD, AIB, NCD, SCD
	G3543A	S/S, P/P, COC, PTV, HCM, PCM, VI, MMI, HT-PTV, LTM	TCD, FID, NPD, FPD, ECD, HSM, DualWFPD, AIB, NCD, SCD
	G3545A	S/S, P/P, COC, PTV, HCM, PCM, VI, MMI, HT-PTV, LTM	TCD, FID, NPD, FPD, ECD, HSM, DualWFPD, AIB, NCD, SCD
8860	G2790A	S/S, P/P, COC, PCI	TCD, FID, NPD, ECD, FPD, FPD+

	Module type	Inlets	Detectors
8850	G3940A	S/S, P/P, COC	TCD, FID
	G3941A	S/S, P/P, COC	TCD, FID
Intuvo 9000	G3950A	S/S, MMI, HCM	TCD, FID, NPD, FPD ECD, ECD, NCD, SCD
	G3952A	S/S, MMI, HCM	TCD, FID, NPD, FPD ECD, ECD, NCD, SCD
	G3953A	S/S, MMI, HCM	TCD, FID, NPD, FPD, ECD, NCD, SCD
7890B & 7890A+	G3440B	S/S, P/P, COC, PTV, HCM, PCM, VI, MMI, HT-PTV, LTM II	TCD, FID, NPD, FPD ECD, HSM, DualWFPD, AIB, NCD, SCD
	G3442B	S/S, P/P, COC, PTV, HCM, PCM, VI, MMI, HT-PTV, LTM II	TCD, FID, NPD, FPD ECD, HSM, DualWFPD, AIB, NCD, SCD
	G3443B	S/S, P/P, COC, PTV, HCM, PCM, VI, MMI, HT-PTV, LTM II	TCD, FID, NPD, FPD ECD, HSM, DualWFPD, AIB, NCD, SCD
	G3445B	S/S, P/P, COC, PTV, HCM, PCM, VI, MMI, HT-PTV, LTM II	TCD, FID, NPD, FPD ECD, HSM, DualWFPD, AIB, NCD, SCD
7890A	G3440A	S/S, P/P, COC, PTV, HCM, PCM, VI, MMI, HT-PTV, LTM II	TCD, FID, NPD, FPD ECD, HSM, DualWFPD, AIB
	G3442A	S/S, P/P, COC, PTV, HCM, PCM, VI, MMI, HT-PTV, LTM II	TCD, FID, NPD, FPD ECD, HSM, DualWFPD, AIB
	G3443A	S/S, P/P, COC, PTV, HCM, PCM, VI, MMI, HT-PTV, LTM II	TCD, FID, NPD, FPD ECD, HSM, DualWFPD, AIB
	G3445A	S/S, P/P, COC, PTV, HCM, PCM, VI, MMI, HT-PTV, LTM II	TCD, FID, NPD, FPD ECD, HSM, DualWFPD, AIB
7820	G4350A	S/S, P/P, COC, PCI	TCD, FID, NPD, μ ECD, FPD, FPD+
6890A	G1530A	S/S, P/P, COC, PTV, PCM, VI, LTM I	TCD, FID, NPD, FPD ECD, μ ECD, DualWFPD, AIB
	G1540A	S/S, P/P, COC, PTV, PCM, VI, LTM I	TCD, FID, NPD, FPD ECD, μ ECD, DualWFPD, AIB

	Module type	Inlets	Detectors
6890Plus	G1530A	S/S, P/P, COC, PTV, PCM, VI, LTM I	TCD, FID, NPD, FPD ECD, μ ECD, DualWFPD, AIB
	G1540A	S/S, P/P, COC, PTV, PCM, VI, LTM I	TCD, FID, NPD, FPD ECD, μ ECD, DualWFPD, AIB
6890N	G1530N	S/S, P/P, COC, PTV, PCM, VI, LTM I	TCD, FID, NPD, FPD ECD, μ ECD, DualWFPD, AIB
	G1540N	S/S, P/P, COC, PTV, PCM, VI, LTM I	TCD, FID, NPD, FPD ECD, μ ECD, DualWFPD, AIB
6850	G2630A/B	S/S, P/P, COC, PTV	TCD, FID, NPD, FPD ECD, AIB

Note: Communication between **Clarity** with **Agilent ICF GC** and listed instruments is handled via LAN. All available GC valves are supported.

Tab. 2: Supported Agilent Sampler, Autosampler and Tray hardware:

	Hardware	Module type
8890 and 8860 Series	7693A	G4513A Injector
		G4514A Tray
		G4515A BCR/Mixer
		G4521A LVI Syringe Carriage
		G4522A Cooling Accessory
		G4520A Tray with BCR/Mixer
Intuvo 9000 Series	7650	G4567A Injector
	7693A	G4513A Injector
		G4514A Tray
		G4515A BCR/Mixer
		G4521A LVI Syringe Carriage
		G4522A Cooling Accessory
		G4520A Tray with BCR/Mixer
	7650	G3430A GC ALS Controller
		G4567A Injector

	Hardware	Module type
7890Series	7693A	G3430A GC ALS Controller
		G4513A Injector
		G4514A Tray
		G4515A BCR/Mixer
		G4521A LVI Syringe Carriage
		G4522A Cooling Accessory
		G4520A Tray with BCR/Mixer
	7683A	G2613A Injector
		G2614A Tray
		G2615A BCR/Mixer
	7683B	G2613A Injector
		G2614A Tray
		G2615A BCR/Mixer
	7650	G3430A GC ALS Controller
		G4567A Injector
7820 Series	7693	G3430A GC ALS Controller
		G4513A Injector
	7650	G3430A GC ALS Controller
		G4567A Injector

	Hardware	Module type
6890	7693	G4516A ALS Controller
		G4513A Injector
		G4514 A Tray
		G4515A BCR/Mixer
		G4517A 6890 Plus ALS Card Upgrade
		G4521A LVI Syringe Carriage
		G4522A Colling Accessory
		G4520A Tray with BCR/Mixer
	7693B	G2912A ALS Controller
		G4516A ALS Controller
		G2913A Injector
		G2614A Tray
		G2616A Tray
		G2615A BCR/Mixer
	7683A	G2912A ALS Controller
		G4516A ALS Controller
		G2913A Injector
		G2614A Tray
		G2615A BCR/Mixer
	7673C	G1512A ALS Controller
		G1513A Injector
		18596C Tray
		G1926A BCR/Mixer
	7673B	18593B Injector
		18596B Tray
		G2615A BCR/Mixer
6850	7683B	G2613A Injector
	7693	G4513A Injector
	6850	G2880A Injector

Note: Communication for GC samplers and trays is handled through the GC.

Tab. 3: Supported Agilent Headspace Sampler hardware

	Hardware
8697	G4511A
8697 XL	G4512A
7697A	G4556A
	G4557A
G1888*	G1888

**Note:* G1888 requires extra step to be configured. Please contact support at support@dataapex.com for further information.

For complete list of supported Windows OS, instrument firmware and Agilent ICF for GC, see Agilent webpages.

3 Installation procedure

Agilent ICF for GC is not part of the **Clarity Typical** installation. To install it, select the **Full** installation or the **Agilent ICF for GC** in the *Choose Components* dialog during the installation of **Clarity**.

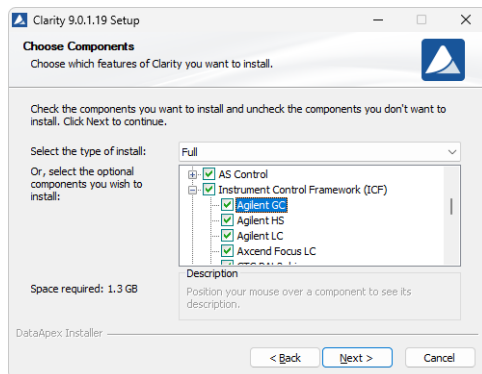


Fig. 2: Full installation of Clarity

3.1 Installing Correct Version of Agilent ICF

Clarity expects a specific version of Agilent ICF. Because other programs may also be using Agilent ICF, it is possible they've installed a different version than is supported by Clarity. In that case in the installation you will be prompted to reinstall it in order to install correct version. Going forward with this step is crucial for correct functionality of Clarity and Agilent ICF.

This situation may also occur during Clarity update when the new version contains updated ICF version.

Note: This reinstallation of Agilent ICF may cause that other programs using it, may not function properly.

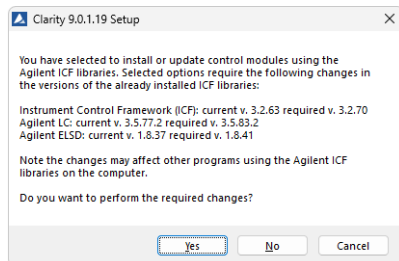


Fig. 3: Installing correct version of Agilent ICF

3.2 Network connections

The instruments supported by **Agilent ICF GC** has to be connected to a site network by LAN. It is recommended to attach the **Agilent** hardware directly to the PC avoiding hubs, switches etc. When using a switch or a hub, multiple **Agilent** hardware can be connected to one PC. Always contact your local LAN administrator who can make the appropriate settings.

Caution: Do not use the **Agilent 68xx** or **Agilent 7890** DHCP server feature.

Caution: **Cross LAN** cable is primarily used for the direct connection of the instrument and the PC. This cable can also be used for the connection of the device to the switch or network socket, but with older switches, the **straight LAN** cable might be necessary.

LAN Settings

PC: LAN card, TCP/IP protocol.

Both PC and supported **Agilent** hardware should be configured on the same IP range.

Tab. 4: Recommended IP settings:

	Agilent Hardware	LAN card
IP	192.168.0.200	192.168.0.1
Port	80	---
Subnet Mask	255.255.255.0	255.255.255.0
Default Gateway	192.168.0.1	192.168.0.1
Accept From IP	0.0.0.0	---
Accept From Subnet Mask	0.0.0.0	---

Firewall

Ensure that the firewall does not block communication from the **Agilent** hardware.

Internet connection

Be aware that many Internet connections are provided using the LAN card. If this is the case a separate LAN card must be configured for each Internet and connected **Agilent** hardware.

3.3 Clarity Configuration

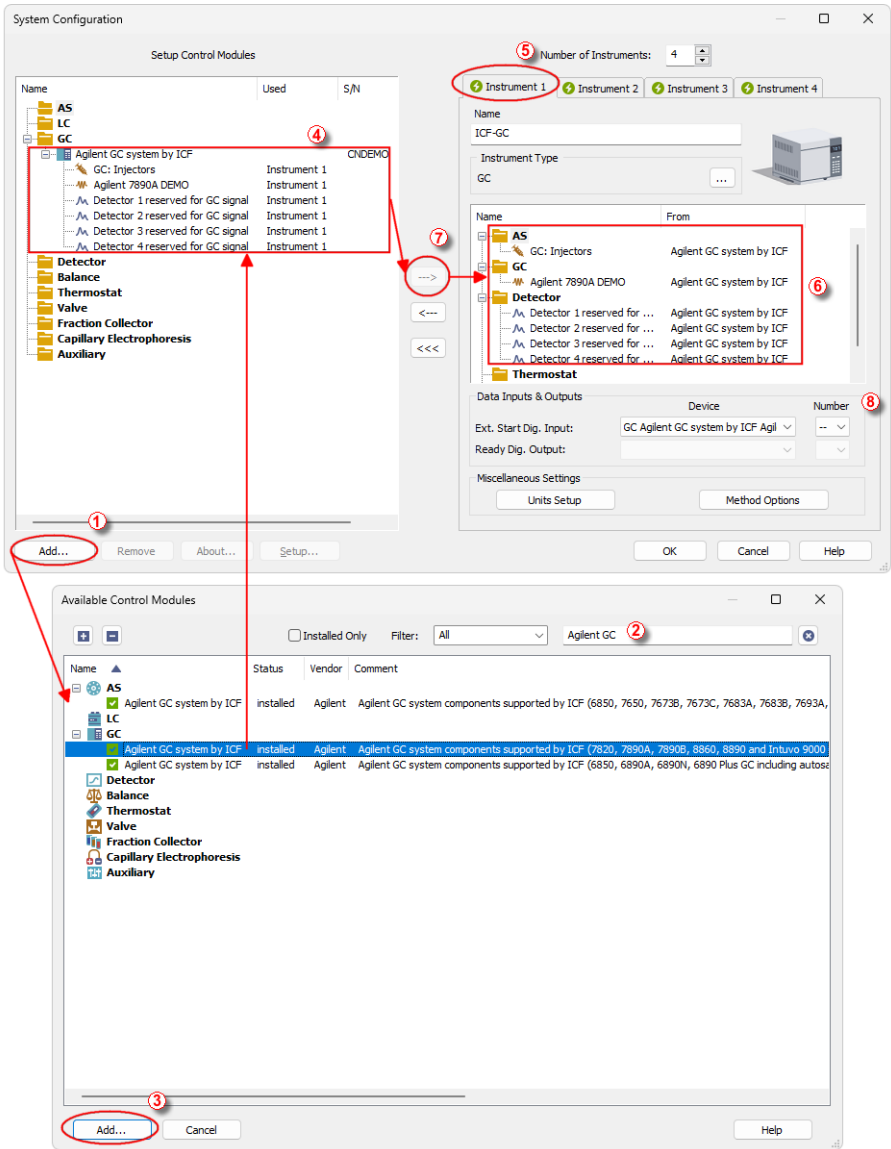


Fig. 4: System Configuration

Caution: Before you start **Clarity**, ensure there is not any other application controlling the **Agilent ICF GC** instruments active (for example *Virtual Keyboard* software applicable for some **78x0** GC types).

- Start the **Clarity** station by clicking on the  icon on the desktop.
- Invoke the **System Configuration** dialog accessible from the **Clarity** window using the *System - Configuration...* command.
- Press the **Add** button ① (See 3.3 on pg. 10.) to invoke the **Available Control Modules** dialog.
- You can specify the searching filter ② to simplify the finding of the driver.
- Select the **Agilent ICF for GC** item and press the **Add** ③ button. The **ICF Setup** dialog will open.

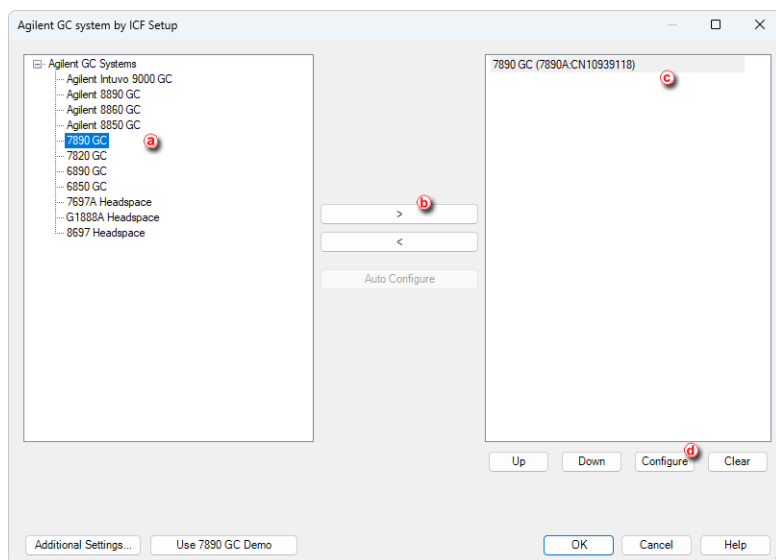


Fig. 5: Agilent ICF Setup

- Select appropriate instrument type ① transfer it from left side using respective button ② to the right side ③.
- Click on the **Configure** button ④ in the **ICF Setup** dialog and the **Configure** dialog is displayed for entering the connection parameters.

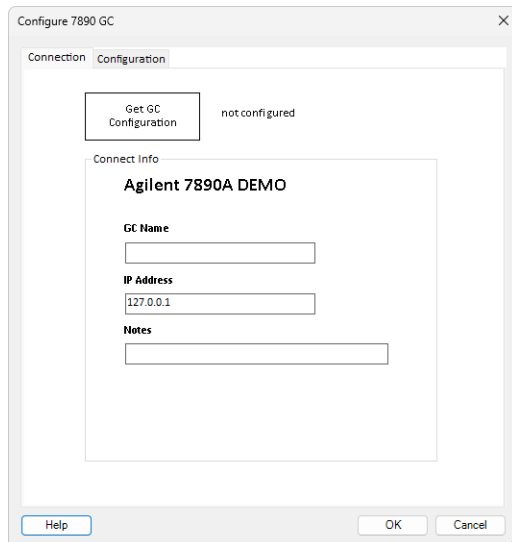


Fig. 6: Configure XY dialog - Connection tab

- After insertion of the IP address or GC Name click **Get GC Configuration** button.
- On the **Configuration** tab is loaded configuration from the instrument. Additional behavior of the instrument can be preset here.

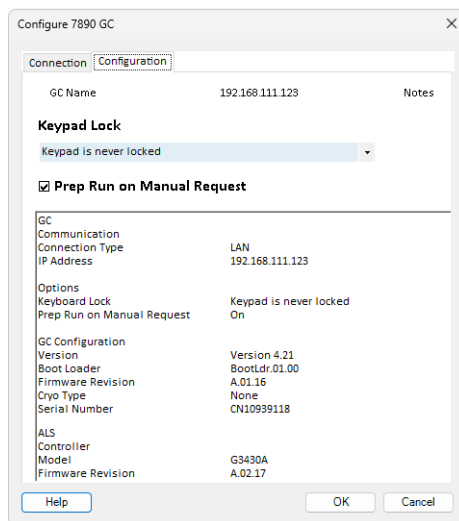
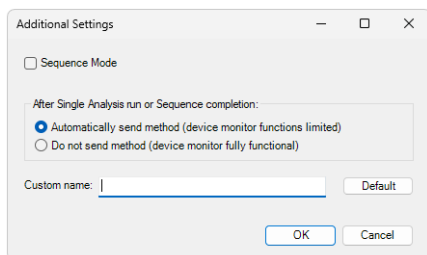


Fig. 7: Configure XY dialog - Configuration tab

- Then click **OK** button in the lower part of the *ICF Setup* dialog and the instrument will then appear in the **System Configuration** including all modules of the instrument (detector, autosampler etc.).
- After previous steps drag and drop the **ICF** icon from the *Setup Control Modules* list ④ on the left side of the **System Configuration** dialog to the desired *Instrument* ⑤ tab on the right side ⑥ (or use the  button ⑦ to do so).
- *Ext. Start Dig. Input* setting ⑧ determines how Clarity handles external start signals from connected instruments:
 - “--” (dash) option - Use this if your autosampler and detectors are interconnected by synchronization cables (or built-in together) so that the information about performed injection is passed on without direct input from Clarity. Clarity will initiate recording when it detects that the detector has begun acquiring data. This is the most common setup with Agilent ICF for GC.
 - “1” option – Use this setting if your autosampler and detectors are not directly interconnected by cables. Clarity will coordinate the measurement by receiving a signal when the autosampler finishes injection and then triggering the detectors to start measuring. This applies mainly if your GC has an autosampler detectors are not built-in, so it is not so common.
- The configuration dialog of the **ICF** (Agilent ICF Setup) can be displayed any time by double-clicking on its icon or using the *Setup* button.

Additional Settings...

This dialog allows you to configure additional settings of the control module.



Sequence Mode

Allows the autosampler to prepare the next vial while the previous run is still ongoing. Clarity will automatically lock one row ahead in the sequence.

To use this feature, the *Enable Sample Overlap* setting must be enabled in the ICF GC method (GC tab → ALS section → Tray/Other).

After Single Analysis run or Sequence completion

Choose how Clarity sends the method to the device:

- *Automatically send method* – Clarity sends the method after each single analysis run or after the sequence is finished automatically. *Device Monitor*

functions after the method is sent may be limited in this mode. This mode is necessary if you want to run a continuous loop of Single Analysis measurements. It does not affect Sequence runs.

- *Do not send method* – The method is not sent automatically, allowing full access to *Device Monitor* functions even when method is sent to the device.

Custom name

Allows you to rename the module. The custom name will appear in the *System Configuration* dialog including the *Data Inputs & Outputs* section.

If left blank, the module will use its default name. Use the Default button to reset the name at any time.

3.4 Headspace Sampler configuration

To properly setup the **Headspace Sampler**, it should be configured as separate ICF control (not within the GC ICF setup described in "Clarity Configuration" on page 10).

Caution: Before you start **Clarity**, ensure there is not any other application controlling the **Agilent ICF GC** instruments active (for example *Virtual Keyboard* software applicable for some **78x0** GC types).

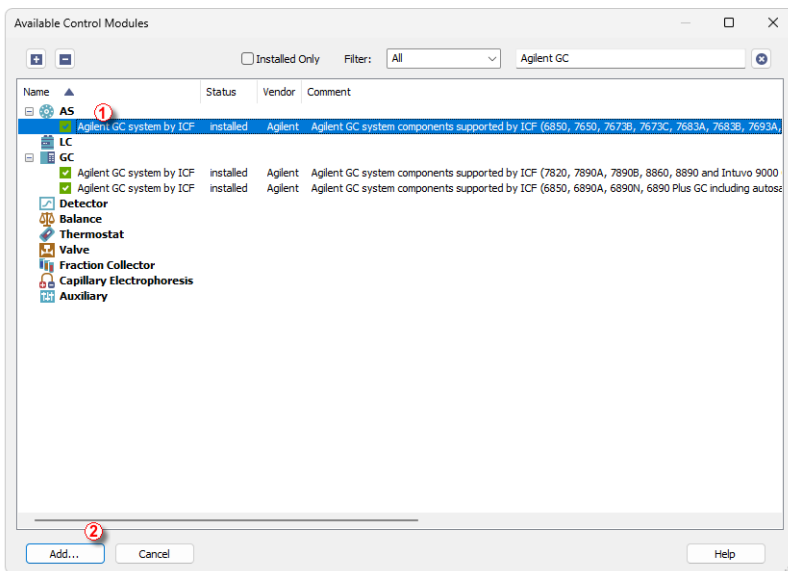


Fig. 8: Available Control Modules

- Add a new module in the *System Configuration*. Select the **Agilent ICF for GC** from the **AS** section ① and press the **Add** ② button. The *ICF Setup* dialog will open.

Note: For more information about adding new modules in the **System Configuration** refer to the chapter "Clarity Configuration" on page 10.

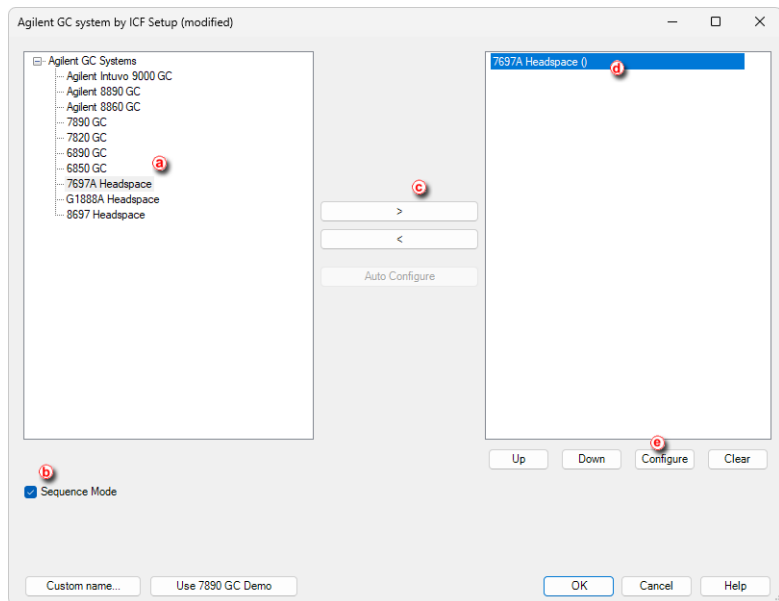


Fig. 9: Agilent ICF Setup

- Select appropriate instrument type **a** transfer it to the left side using respective button **c** to the right side **d**.
- Make sure that the **Sequence Mode** **b** is selected for the **Headspace** only.
- Click on the **Configure** button **e** in the **ICF Setup** window and the **Configure** dialog will appear.

Caution: The **Sequence Mode** enables autosampler to prepare next sample during previous run (sequence will lock one row ahead). In case that GC is used in combination with a **Headspace** the **Sequence Mode** must be disabled in the GC setup and enabled in the **Headspace** setup.

Note: The **Custom name...** button can be used to alter the name of the module. This change propagates to the module name in the **Setup Control Modules** and in the **Data Inputs & Outputs** sections of the **System Configuration** dialog. Default name is used when the field is left empty.

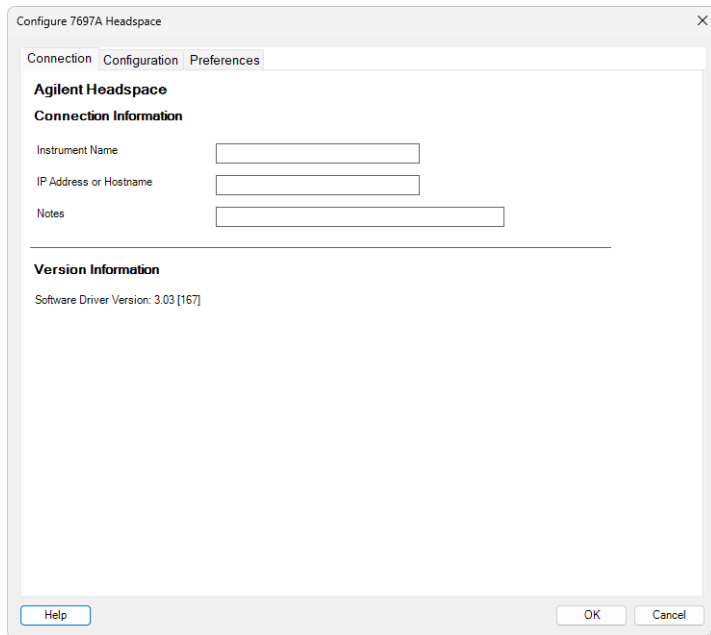


Fig. 10: Connection parameters dialog

- On the *Connection* tab insert the *IP Address* or *Instrument Name*.
- Switch to the *Configuration* tab and click the *Upload Config from Instrument* button.

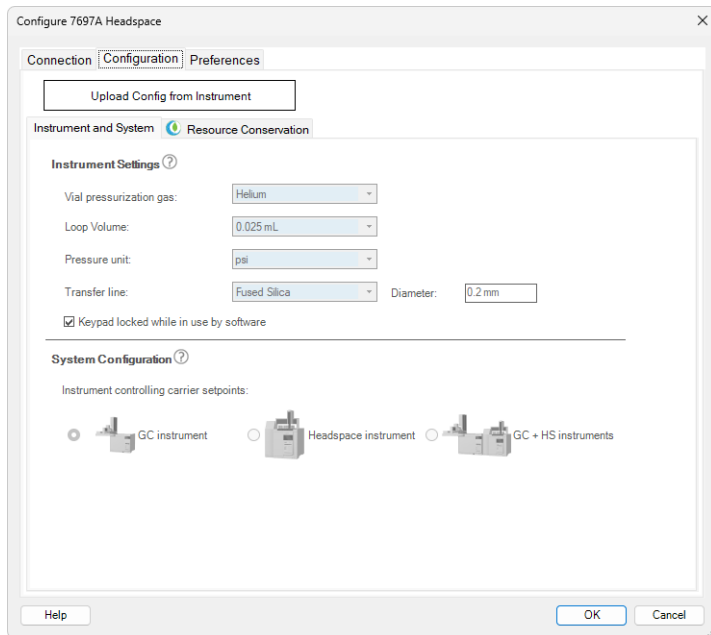


Fig. 11: Configuration parameters dialog

- The configuration from the instrument is loaded on the *Configuration* tab.
- Additional instrument behavior can be preset on the *Preferences* tab.

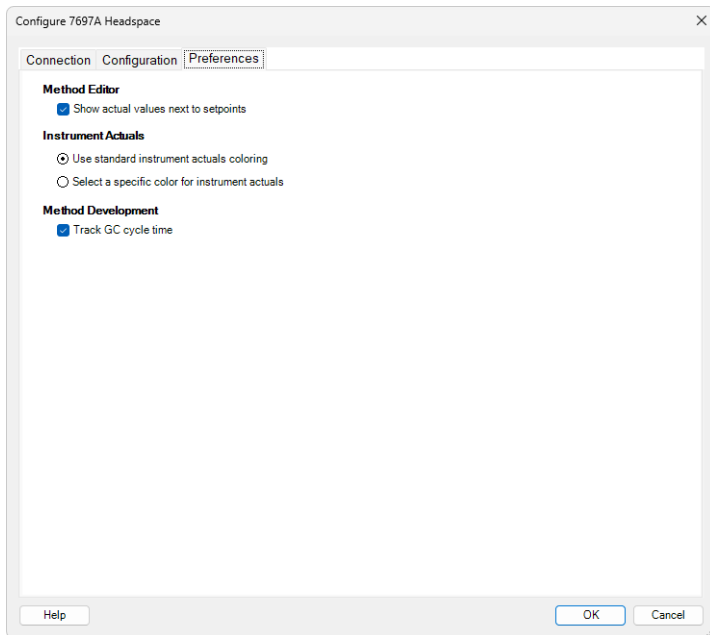


Fig. 12: Preferences parameters dialog

- After the configuration is finished, click the **OK** button to return to the *ICF Setup* dialog.
- Then click **OK** button in the lower part of the *ICF Setup* dialog and the module will then appear in the *System Configuration*.

Caution: If you change the configuration of the **Agilent ICF** system (for example remove and add another instruments), the communication parameters like *IP address* will be lost and it is necessary to set them again.

Caution: When the *ICF Setup* dialog is open for extended time, communication between **Clarity** and the instrument may be lost. In such case an error message will be displayed. After accepting error message it is necessary to start with the instrument configuration from very beginning starting with clicking the *Add* button (See "Clarity Configuration" on page 10) in the *System Configuration* dialog.

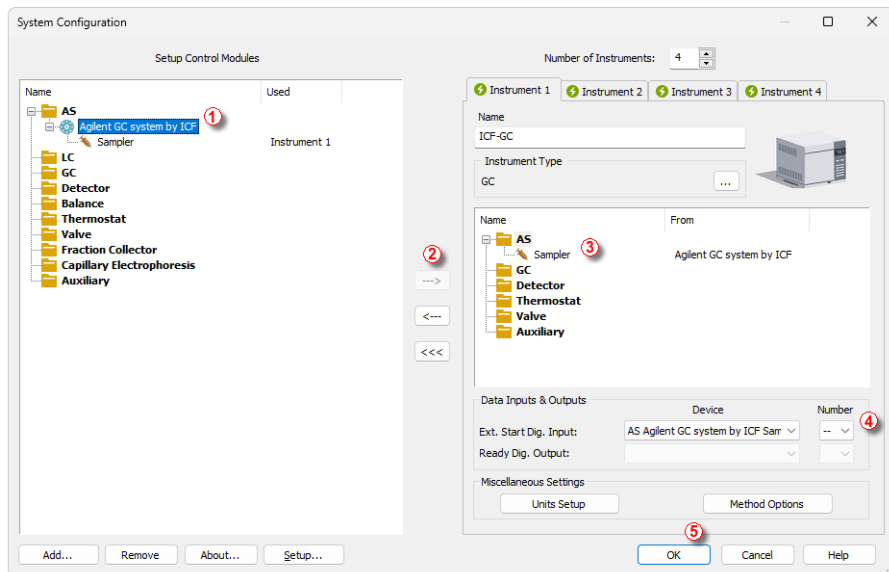


Fig. 13: System Configuration

- After previous steps drag and drop the **ICF** icon from the *Setup Control Modules* list ① on the left side of the *System Configuration* dialog to the desired *Instrument* tab on the right side ③ (or use the <--> button ② to do so).
- Set the *Ext. Start Dig. Input* ④ on the right bottom side of the *System Configuration* dialog to the default value if the sampler is connected to the GC by synchronization cable. The sampler will trigger the run in the GC and it will propagate to the **Clarity**.
- When the synchronization cable is not present between the GC and the Headspace, the *Ext. Start Dig. Input* ④ should be set to value "1" - . In this case the Headspace triggers the run in **Clarity** and it will propagate to the GC. For some GC it is necessary to choose the option *Clarity starts this device* during the setup.
- When all modules have been configured the *System Configuration* dialog can be closed by clicking the **OK** button.

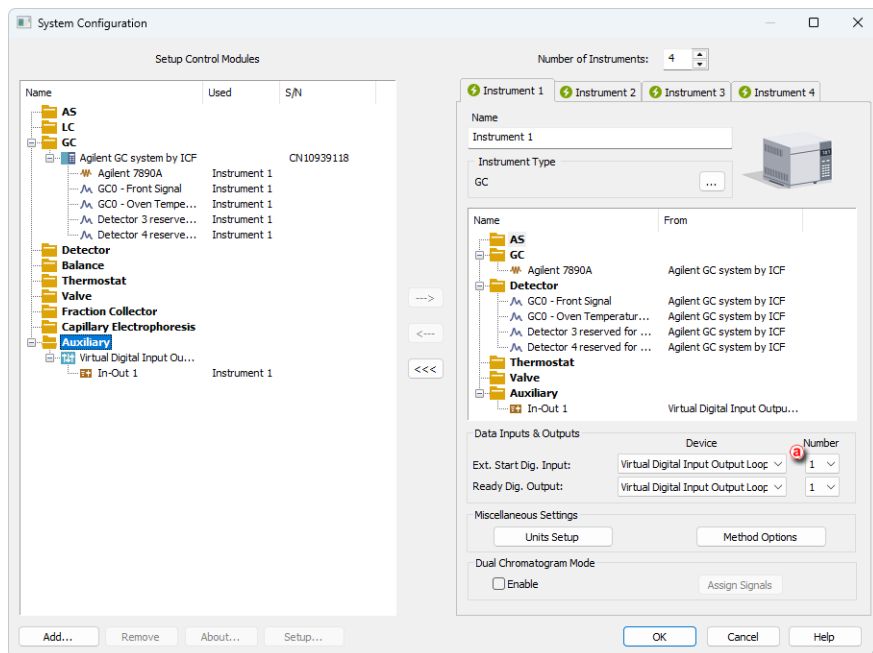
Note: The configuration dialog of the **ICF** (Agilent ICF Setup) can be displayed any time by double-clicking on its icon or using the *Setup* button.

Note: Press the *F1* key to display the **Agilent help** with detailed description of the dialog.

3.5 Using Valve for Gas Sampling

Clarity does not support using a *Gas Sampling Valve* to start a run. The valve must be configured as a *Switching Valve* within the GC, and the injection itself needs to be programmed in the GC's *Runtime Events* table. The run in Clarity must then be triggered by other means.

- In *System Configuration*, select Agilent ICF GC and autodetect the configuration as usual.
- If you want to use the Gas Sampling Valve in sequence measurement, configure also the Virtual Input Output Loop. Both Start Input and Ready Output must be set to this module and have the same number ③.



- Log to the given *Instrument* and open the *Method Setup* to configure the method for the measurement.
- In the GC tab, go to the *Configuration - Miscellaneous* section, and there set the valve as *Switching Valve*.

Method Setup SwitchValve - #1: 02.06.2025 10:13:16

New Open... Save Save as... Report setup... Audit trail... Send method by e-mail... Help

Select GC Agilent 7890A ☒ Enabled

Front Inlet Flow Path

Front SS Inlet Column #1 Front Detector FID

Options

Select...

- ALS
- Valves
- Inlets
- Columns
- Oven
- Detectors
- Events
- Signals
- Configuration
 - Miscellaneous**
 - Columns
 - Modules
 - ALS
 - Counters
 - Readiness
 - GC Calculators

Miscellaneous

Pressure Units
psi

Oven
☐ Slow Fan

Thermal Aux Type

1	Not Installed
2	Not Installed
3	Not Installed

☐ Prep Run on Manual Request; uncheck for ALS injections

Valve Configuration

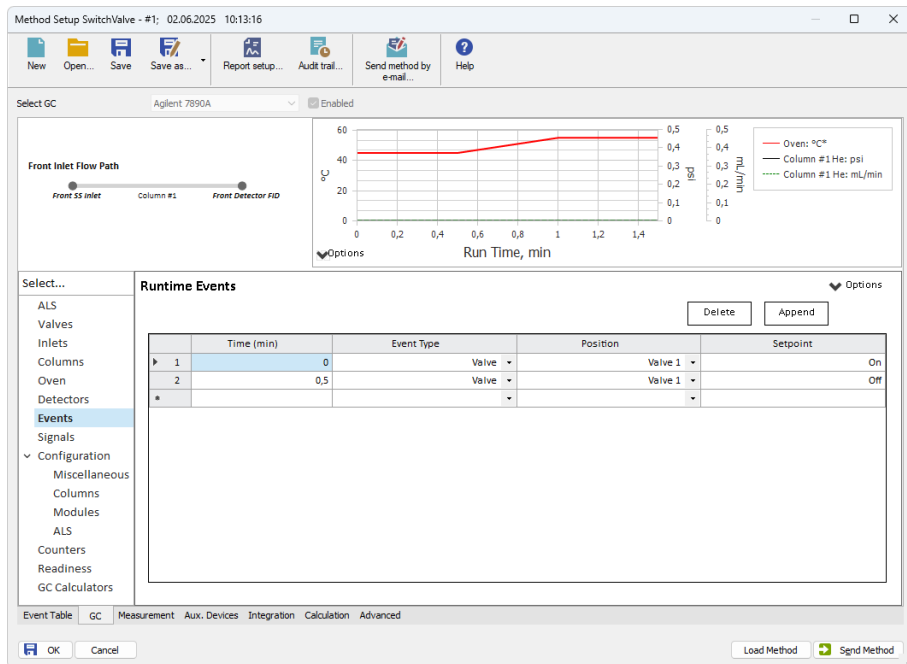
	Valve Type	Name	Parameters
1	Switching Valve	(Valve #1)	
2	Not Installed	(Valve #2)	
3	Not Installed	(Valve #3)	
4	Not Installed	(Valve #4)	
5	Not Installed	(Valve #5)	
6	Not Installed	(Valve #6)	
7	Not Installed	(Valve #7)	
8	Not Installed	(Valve #8)	

Options

Event Table GC Measurement Aux. Devices Integration Calculation Advanced

OK Cancel Load Method Send Method

- Then go to the Events section, and set the Time Program to perform the loop filling and injection in given time.



- For a single analysis, GC can be started in several ways: by pressing a button on the GC itself, via an external input, or directly from the Instrument window. If a virtual loop is configured, you can also start a single analysis by changing the Loop output value in the *Device Monitor*.
- When running a sequence, the loop ensures that each analysis starts automatically once the sequence has been launched.

If you want to run Continuous measurement in Single Analysis refer to the [D138 Continuous Run \(Loop\)](#) datasheet.

3.6 Installation Qualification of Agilent ICF

Agilent ICF is an external program developed by Agilent and for that reason it must be validated using their utility. If you have installed Clarity with Agilent ICF, **the IQ is valid only if successful validation of ICF is attached.**

The validation of ICF can be performed directly from the *IQ Report*.

Caution: When Clarity expects *Agilent ICF* is installed then **IQ** expects the same. If (due to any reason) the *Agilent ICF* installation is not found within Clarity, the *Installation Qualification Test* status is set by default to *FAILED*. To resolve this, it is necessary to re-install **Agilent ICF** through Clarity reinstallation and then perform **IQ** again.



Fig. 14: IQ Report with ICF installation present

Click the link "here" ① , after that it is necessary to click *Run* in two pop-up windows. *Agilent Software Verification Tool* window will open. Select what report file type should be generated and define post-qualification actions. The *Reports folder* field shows the location where the reports will be saved (*C:\SVReports*). The folder can be opened

directly by clicking the *Open* in the *Agilent Software Verification Tool* window. Click *Qualify* ② to run the IQ.

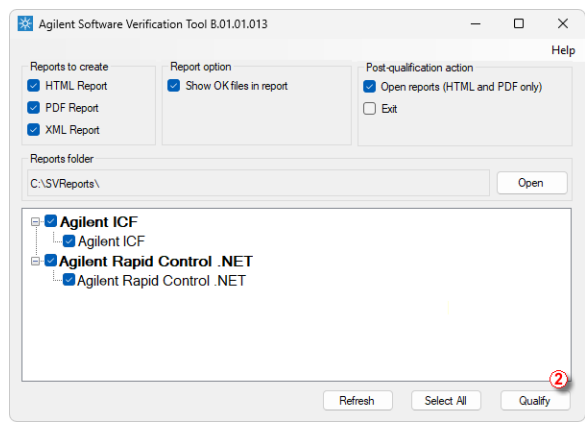


Fig. 15: Agilent Software Verification Tool

The HTML and PDF reports are opened automatically in the default browser/program if the *Open reports* option was enabled.

Software Verification Report

Date:29 September 2025

Windows User Name:evap

Install Type:N/A

Time:11:20:20 [UTC +02:00:00]

Base Revision Number:3.4.49.0

Additional Packages:[Details](#)

Host Name:PC-073.dataapex.local

Product Name:Agilent ICF

Base Reference File Name: IQTRefICF.xml

Summary:

Overall Evaluation of Installation Check: PASS

File Report Summary

Fig. 16: ICF Report - PASS

At the end of the generated report, a table of installed drivers and their versions is displayed.

Details

ID	Description
45	Shimadzu GC Driver 2.41
64	Shimadzu LC Driver Package 2.21
10015	Agilent Instrument Control Framework - ELSD Drivers Version 1.8 [61]
10024	CTC PAL3 ICF Driver 1.8.1.0
10028	Agilent Instrument Control Framework - GC Drivers 4.3 [235]
10033	Agilent Instrument Control Framework - Headspace Control 4.3 [117]
10511	Axceed Focus LC Driver 1.3.5.4
10538	Testa.Flowmeter.Driver for ICF 1.0.47.0
10540	Agilent Instrument Control Framework - LC Drivers 3.9.56

Fig. 17: ICF Report - Installed drivers table

The individual components can also be found in the component list if the *Show OK files in report* checkbox is selected in the *Agilent Software Verification Tool* window.

4 Using the Agilent ICF GC

There are multiple places for setting the parameters of the **Agilent ICF for GC** in the **Clarity**:

- the [Method Setup - GC tab](#)

Caution: Before opening the *Instrument* window with configured **Agilent ICF** devices, ensure there is not any other PC connected to GC. Otherwise there will be raised an error during the connection.

4.1 Method Setup - GC

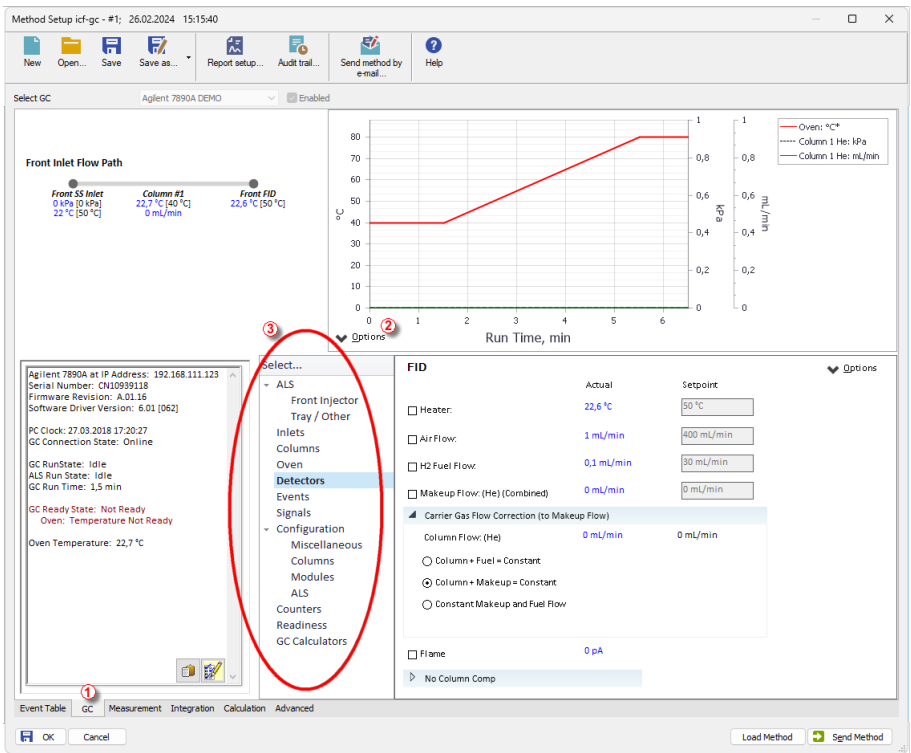


Fig. 18: Method Setup - GC

Note: Press the *F1* key to display the **Agilent help** with detailed description of the dialog.

Note: When both FID and TCD are set to *Manual Pneumatics*, they are controlled by electronic pneumatics regulation (EPR) instead of electronic pneumatics control (EPC). This is normal and is a limitation of EPR-controlled modules in the 8860 GC. In this configuration, you can control their parameters — such as flow or flame ignition — only via the Browser Interface, not through **Clarity**.

From **GC tab ①**, you can set all parameters for GC or AS control and instrument configuration.

- The upper part of the *GC tab* contains a window showing graphical plots or curves that represent the selected method parameters during the run. You can configure these plots using the dedicated button ②.
- For advanced setting of all other parameters use all tabs ③ in the row.

Note: When creating a new method or adapting an existing one, the parameters downloaded from the GC are used instead of the default parameters.

Note: If an autosampler is used, you must follow the numbering rules for vial positions in *Sequence* and *Single Analysis* dialogs. Numbers of vials' positions are dependent on used type of tray. When autoinjector without external tray (for example 16 position autoinjector turret) is used the vials' positions numbers inserted to software have to be from interval <101, 116>. A number for vial position equals to vial position +100, for example for vial placed in position 8 a position number is 108. In case that a 100-position tray is used the vials' positions are from interval <1, 100>, for example for vial placed in position 38 a position number 38 has to be used.

Note: An autoinjector turret without an external tray does not detect missing vials. If an injection is requested from a position where no vial is present, the injection will proceed as usual. This will result in a chromatogram with an unexpected signal pattern (for example, unusual peaks).

4.2 Method Setup - AS

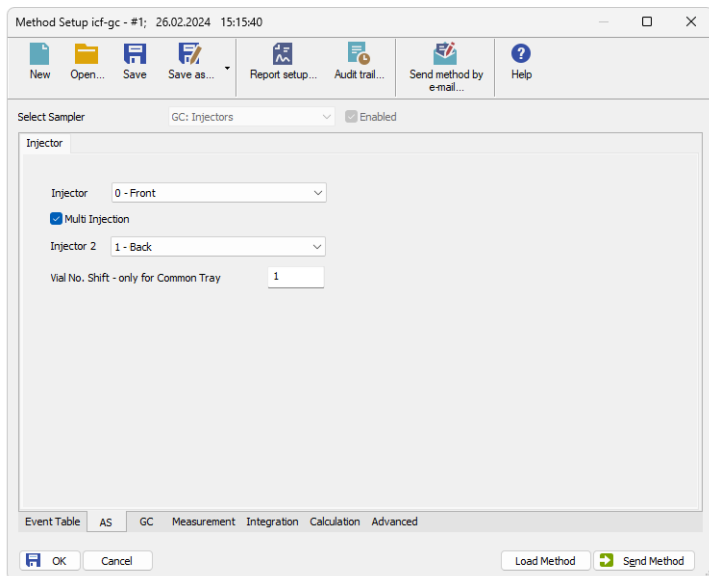


Fig. 19: Method Setup - AS

Injector

Default option where the type of the injector can be selected, i.e. front or back.

Multi Injection

By checking this checkbox, both selected samplers are injecting simultaneously.

Note: Such option is visible only when dual tower samplers are used.

Vial No. Shift

Vial number shift will be applied for second sampler's vial, selected number will be added to the vial number stated in Sequence.

Note: Only when the tray is common for both samplers.

4.3 Device Monitor

The *Device Monitor* window can be invoked by the *Device Monitor* command from the *Analysis* menu or using the **Device Monitor** icon in the *Instrument* window. You may use icon for accessing *Device Monitor* from all **Clarity** windows. For the **Agilent ICF**, it displays the states of configured **Agilent** system and enables the user to monitor and/or change states of this **Agilent** system.

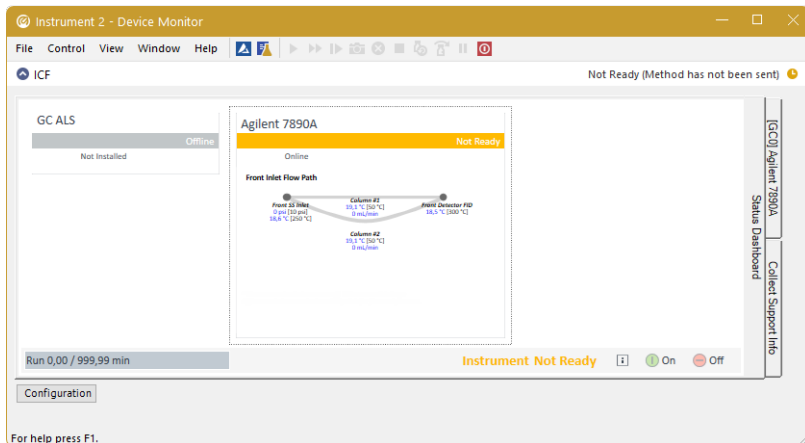


Fig. 20: Device Monitor

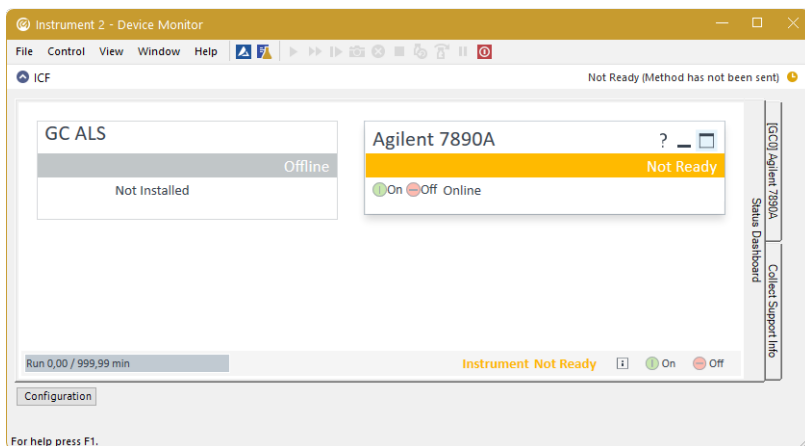


Fig. 21: Device Monitor - simplified view

Button *Configuration* allows to enter and modify configuration of GC directly from the *Device Monitor*. Modifications of configuration may cause that method might need an

adaptation before its use in analysis. The *Configuration* feature is not accessible during running analysis or running *Sequence*.

Note: Press the *F1* key to display the **Agilent help** with detailed description of the dialog.

Note: Tabs on right side of the *Device Monitor* allowing setting collection of diagnostic information are displayed only when **Clarity** is started under Administrator Windows account. For other Windows accounts, when running **Clarity**, there are displayed fewer tabs on the right side of the *Device Monitor*.

5 Troubleshooting

When the remedy for some problem cannot be discovered easily, the recording of communication between **Clarity** and *Agilent ICF* control module can significantly help the **DataApex** support to discover the cause of the problem. The recording can be found in the **Clarity** installation directory (C:\CLARITY \CFG\DEBUG_LOGS\PGMLOG by default). Older communication log files are removed and replaced by newer ones, therefore, it is necessary to copy out the communication log which was collected during the problem occurrence soon after it happened.

In case you cannot establish communication with Agilent instruments, please review the following issues:

Check the network connection using the Ping command

The problem in communication between **Clarity** and Agilent instruments may be caused by wrong network configuration, firewall preventing the connection, etc. Run the command line in Windows (for example by pressing the **Windows key** together with the **R** key, in the displayed *Run* window type *cmd* and press *Enter*).

In the command line type `ping <ip-address-of-instrument>` and press *Enter*. The *IP Address* is the same you entered in the [ICF Setup](#) dialog.

5.1 Specific Problems

Clarity can't be run and it displays "Agilent ICF is not installed correctly." message.

Cause: The cause of the problem is that the Agilent ICF has a different version than expected by Clarity. It can typically happen when other software also using Agilent ICF decides to reinstall it. Thus next time Clarity expects different version than is installed.

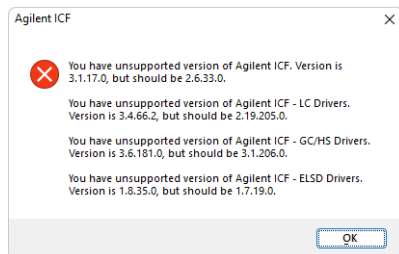


Fig. 22: An Agilent ICF error dialog during Clarity start

Solution: Solution is to reinstall Agilent ICF during Clarity installation. Follow steps described in the chapter "**Installation procedure**" on pg. 8.

Headspace autosamplers have not been tested.

Cause: There have been implemented *Sequence Mode* and *Enable Sample Overlap* functionality but their usage with Headspace autosamplers has not been tested yet.

Solution: We are working to fix this situation.

Print of Injection Control is not functional.

Cause: Agilent ICF is incompatible with some Clarity printing procedures.

Solution: Method parameters of autosampler control are printed together with another GC control method parameters using *Instrument Control* item within *Method* section in *Report Setup* dialog.

ICF problems during installation or operation.

Cause: The cause of the problem might be that *Microsoft .NET Framework* is not enabled. Agilent ICF requires *Microsoft .NET Framework* enabled for its function.

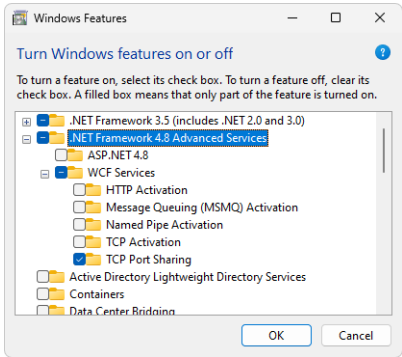


Fig. 23: Turn Windows features on or off - Windows 11

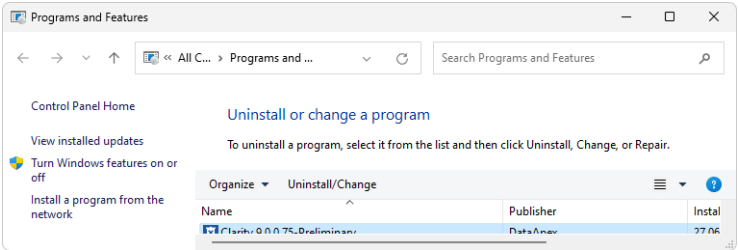


Fig. 24: Location of Turn Windows features on or off in Windows 10

Solution: Check if Microsoft .NET Framework is enabled in *Turn Windows features on or off* dialog. If Microsoft .NET Framework is not enabled enable it. *Turn Windows features on or off* dialog is accessible in *Control Panel* window under section *Programs* in its subsection *Programs and Features*.

Note: Microsoft .NET Framework version 3.5 is not needed. The required version 4.7.2 or higher can be only disabled in Windows 8.1 or newer, where it is installed with system updates.

Signal #X not available.

Cause: Incompatible version of the method.

Solution: Change the signal number in the method from X to the different one or create a new method.