DataApex
Clarity™
CHROMATOGRAPHY SOFTWARE

COLUMN USAGE MONITOR

Clarity Control Module ENG

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To facilitate the orientation in the **Column Usage Monitor** 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.

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 Column Usage Monitor

This manual describes the use of the **Column Usage Monitor** with the **Clarity** software.

The **Clarity** chromatography station enables to control various laboratory equipment (GC chromatographs, HPLC systems, etc.). The **Column Usage Monitor** enables to monitor column lifespan. The lifespan of a column is determined by the number of injections performed on that column. The monitor does not take into account neither the time of analysis nor the type of analyte.

You can define multiple columns identified by their **ID** and track how many injections were performed on each column. When the number of injections reaches the specified *Soft Limit*, it will be indicated in the *Audit Trail* and inform you that soon you will need to replace the column. After reaching the *Hard Limit* you will not be able to perform analysis unless you replace the column or increase the limits.

2 Requirements

Clarity Installation USB with appropriate GC (p/n A23) or LC (p/n A24) Control license allowed.

3 Installation Procedure

3.1 Installation

Column Usage Monitor does not have to be installed separately - in fact it is a part of the basic **Clarity** chromatography station. Nonetheless it must be configured in order to use it.

3.2 Clarity Configuration

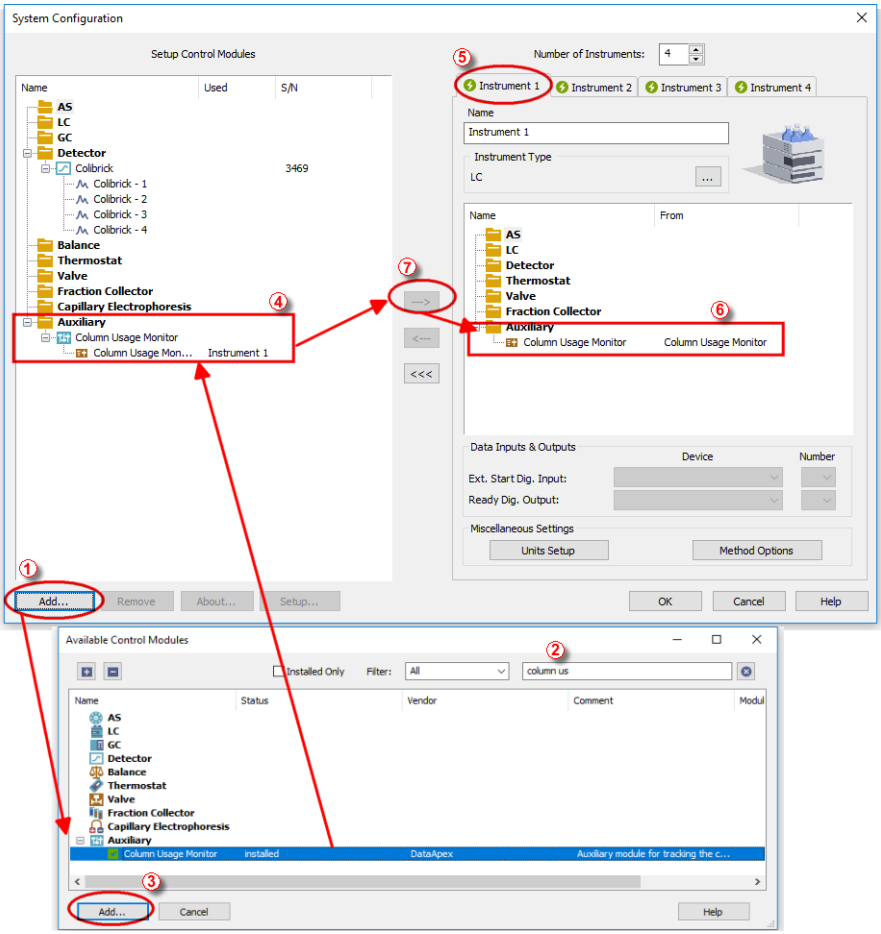

Fig. 1: System Configuration

- 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 **Fig. 1** on pg. **3**.) to invoke the *Available Control Modules* dialog.
- You can specify the searching filter ② to simplify the finding of the driver.
- Select the **Column Usage Monitor** item in the *Auxiliary* section and press the *Add* ③ button.

The Column Usage Monitor Setup dialog will appear.

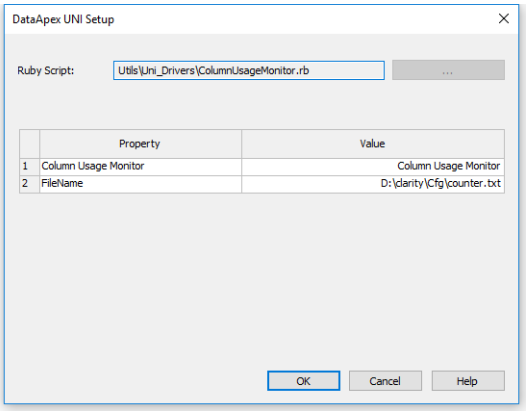

Fig. 2: DataApex UNI Setup

- You may fill in the custom *Column Usage Monitor* name.

Note: A detailed description of this dialog can be found in the chapter **"Column Usage Monitor Setup"** on pg. **5**.

- Press the *OK* button.
- The **Column Usage Monitor** will appear in the *Setup Control Modules* list ④ of the *System Configuration* dialog.
- Drag and drop the **Column Usage Monitor** icon from the *Setup Control Modules* list ④ from 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).

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

4 Using the Column Usage Monitor

The **Column Usage Monitor** can be used to monitor lifespan of multiple columns in a laboratory. It enables to set different columns for separate instruments. Soft and hard limits help to prepare new columns when needed.

Easy setup of **Column Usage Monitor** in the *Device Monitor* window.

- The Column Usage Monitor Setup dialog.
- The Device Monitor window.

4.1 Column Usage Monitor Setup

The *Column Usage Monitor Setup* dialog sets the parameters of the **Column Usage Monitor**.

It is not necessary to change any parameters for the Column Usage Monitor to work. It works right out of the box.

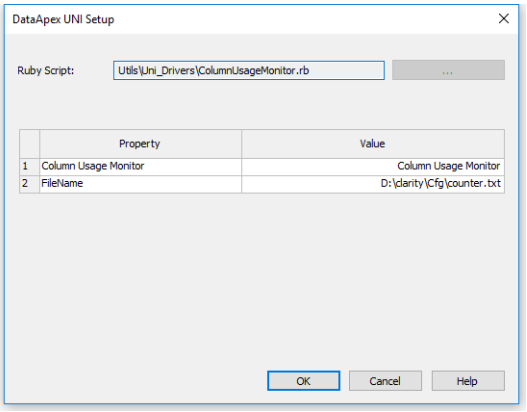

Fig. 3: Device Monitor

Column Usage Monitor
Sets the name for the **Column Usage Monitor**.

FileName
Displays path to the default file where all the column settings will be stored. Alternatively you can change the name and path to easily locate this file.

Note: If you have configured all for instruments and all 4 of them use **Column Usage Monitor**, for each monitor you can set a separate file where all corresponding columns will be saved. Set the *FileName* for each **Column Usage Monitor** to a different name, e.g. COUNTER1.TXT, COUNTER2.TXT, COUNTER3.TXT, COUNTER4.TXT.

4.2 Device Monitor

The *Device Monitor* window can be invoked by the *Monitor - Device Monitor* command from the *Instrument* window or using the **Device Monitor** icon. **Column Usage Monitor** displays various practical info regarding the column.

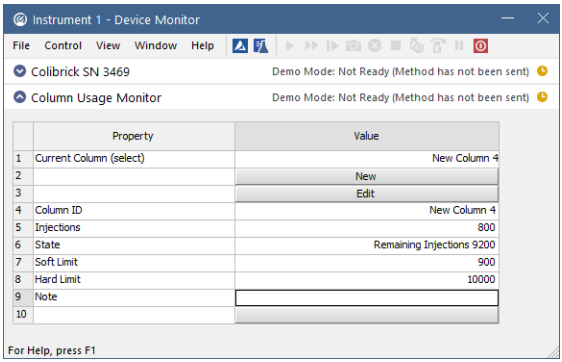

Fig. 4: Device Monitor

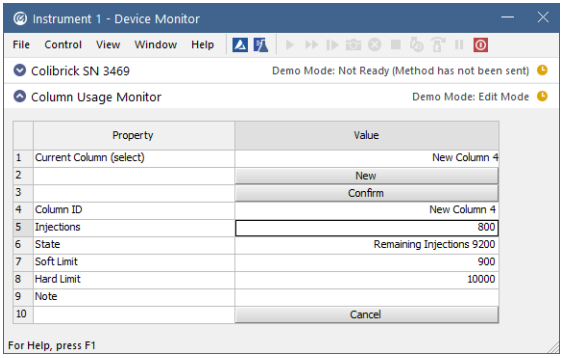

Fig. 5: Device Monitor - Edit mode

Current Column (select)

Lists all configured columns. Select one of the column by choosing from the drop down list. In case you have no column, add it using the *New* button.

New

Creates a new column with predefined *Column ID* and default *Soft* and *Hard Limits*. Automatically adds this column to the *Current Column* row.

Edit/Confirm

Click the *Edit* button to modify currently selected column. You can change the *Column ID*, *Injections*, *Soft Limit*, *Hard Limit* and *Note*. Click the *Confirm* button to apply the changes or *Cancel* to keep previous info.

Column ID

Displays name of the selected column.

Note: Use only alphanumeric (A-Z a-z 0-9) characters. Special characters do not work.

Injections

Displays number of performed injections for the selected column.

State

Displays number of remaining injections for the selected column. Number is calculated from the *Hard Limit - Injections*. In case injections exceed either the *Soft* or *Hard Limit*, it will be displayed here.

Soft Limit

Displays number of injections to trigger soft limit warning. *Soft Limit* warning is recorded in *Audit Trail*.

Hard Limit

Displays number of injections to trigger hard limit warning. Once the number of injections exceeds *Hard Limit*, it will trigger *NOT READY* state and you will be warned by a dialog. In this state you cannot continue with acquisition until you replace the column or change *Hard Limit* value or change the number of injections.

Note

Displays user defined note, e.g. date of the installation of the column.

Cancel

Cancel button is displayed only when modifying column configuration, otherwise is hidden. Returns to the state before modifying the column configuration.

5 Troubleshooting

Clarity displays "Not ready (no method sent)".

Description: Method has not been sent. This will cause that acquisition will not be started.

Solution: Make sure that the number of injections is lower than the set *Hard Limit*. If this is not the case, replace the column or increase the limits.

Clarity displays "Not ready to run acquisition".

Description: Instrument is not ready to run acquisition due to an error.

Solution: Check whether the Column Usage Monitor in the *Device Monitor* is not left in *Edit* mode, otherwise click on the *Confirm* or *Cancel* button to leave the Edit mode.

Device Monitor displays "Not Ready, Column already used on instrument" plus the corresponding Instrument.

Description: This means that your are probably trying to monitor a column that is being already monitored on a different instrument.

Solution: Make sure that the column is used only on current instrument.