



# Vistachrom 1.6

# Vistachrom 1.6 demo



Online Gas and Liquid Analyzer Experts



Technical Tools

Applications / Training

Spare Parts

Contact



## Technical Tools

Find out all technical documentation of your devices (video and manual). See also our FAQ to answer common questions.

## Documentation

Users' manuals

Videos

FAQ

## Software

Corrective patches

Vistachrom Demo

- Vistachrom demo is available on support website
- Different analyzers and datas are available :
- TRSMedor, AirmoVOC, AirTOXIC, ChromaTHC, AirmoS...
- <https://support.chromatotec.com/>

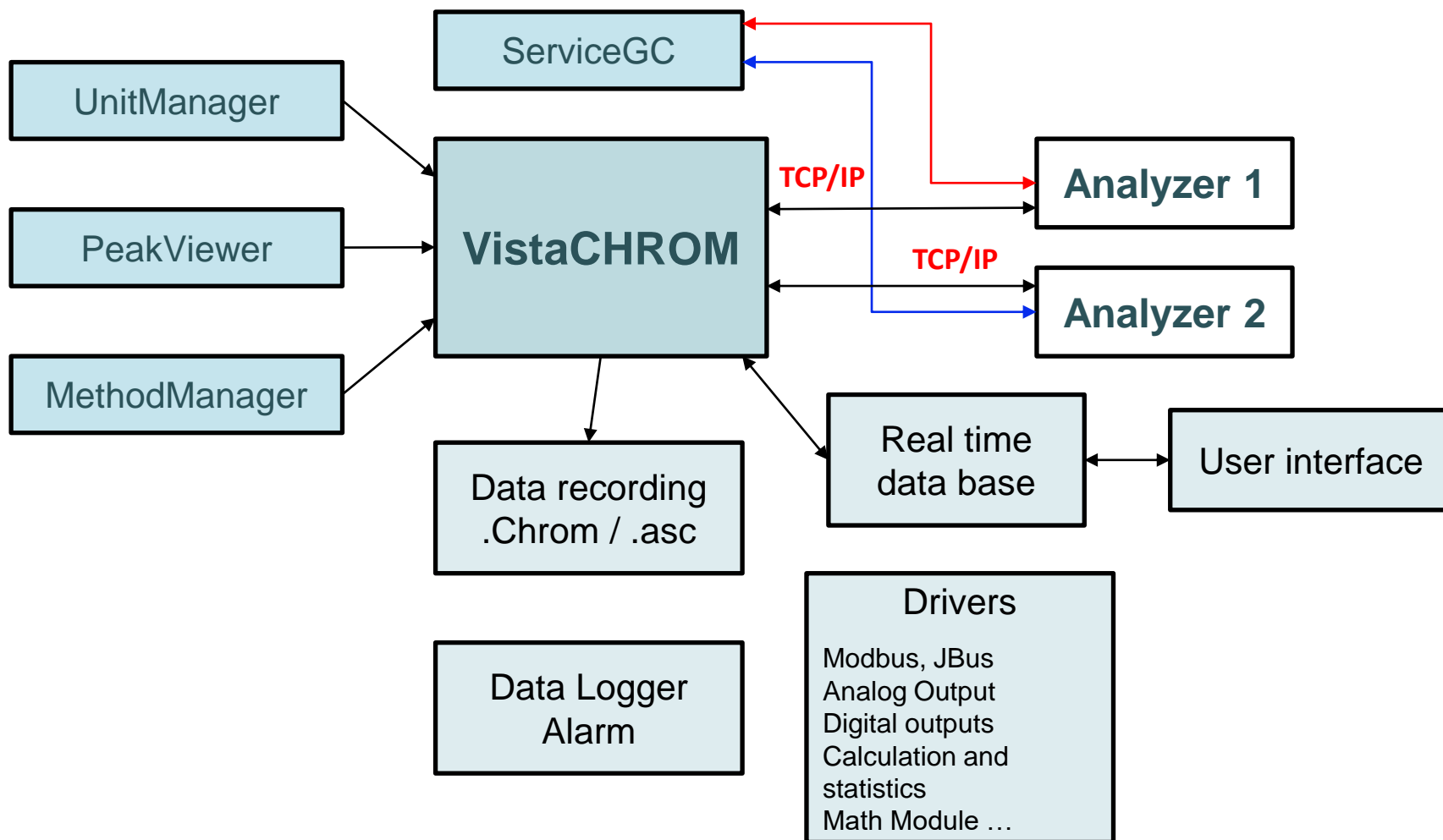
# Vistachrom 1.6



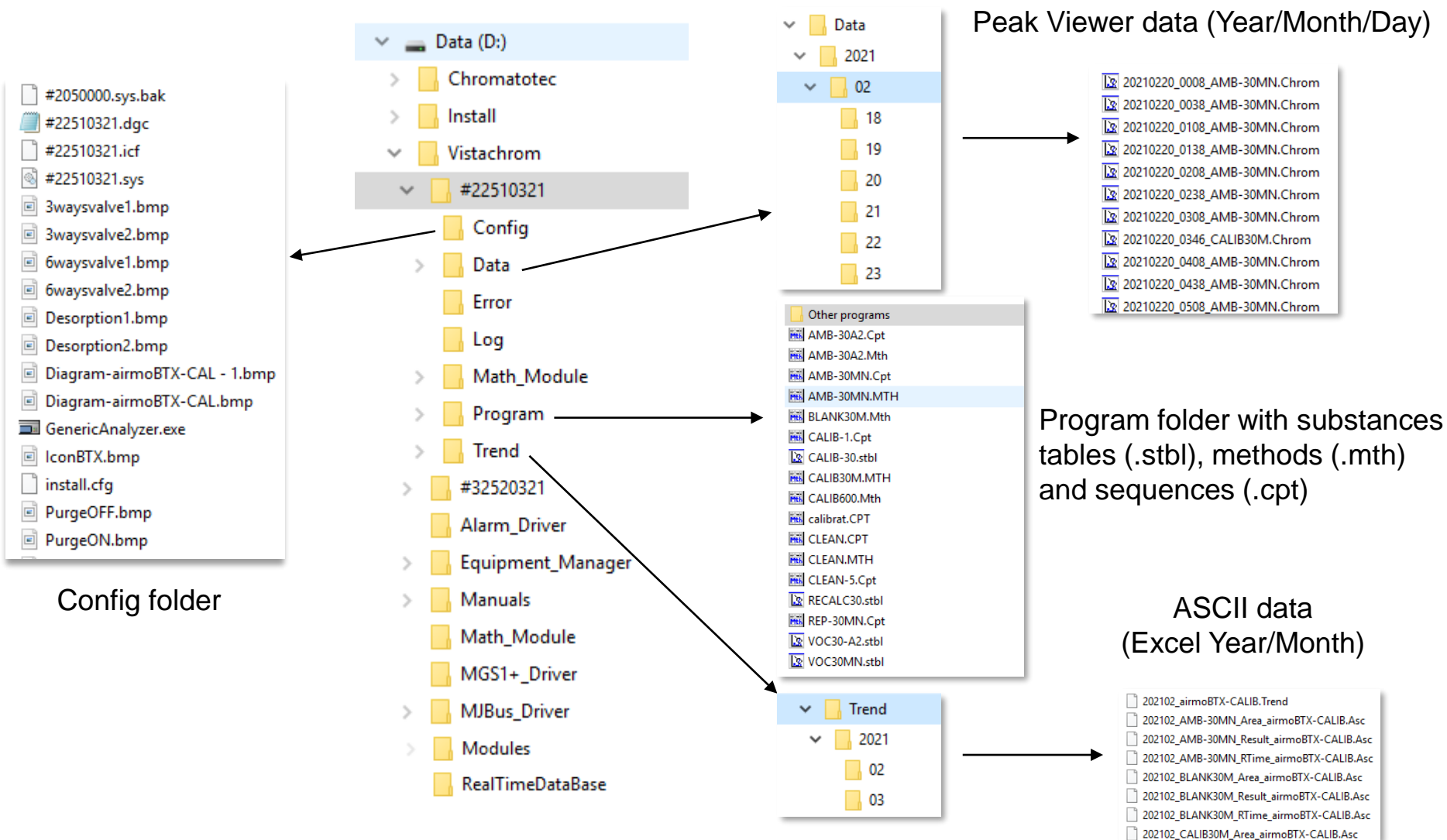
Online Gas and Liquid Analyzer Experts

1. Organisation of VistaCHROM 1.6
2. Synoptic of the analyzer
3. Method Manager
4. Set up the GC
5. Soft configuration
6. Peak Viewer
7. Unit Manager
8. Service GC
9. Generators
10. Other improvements

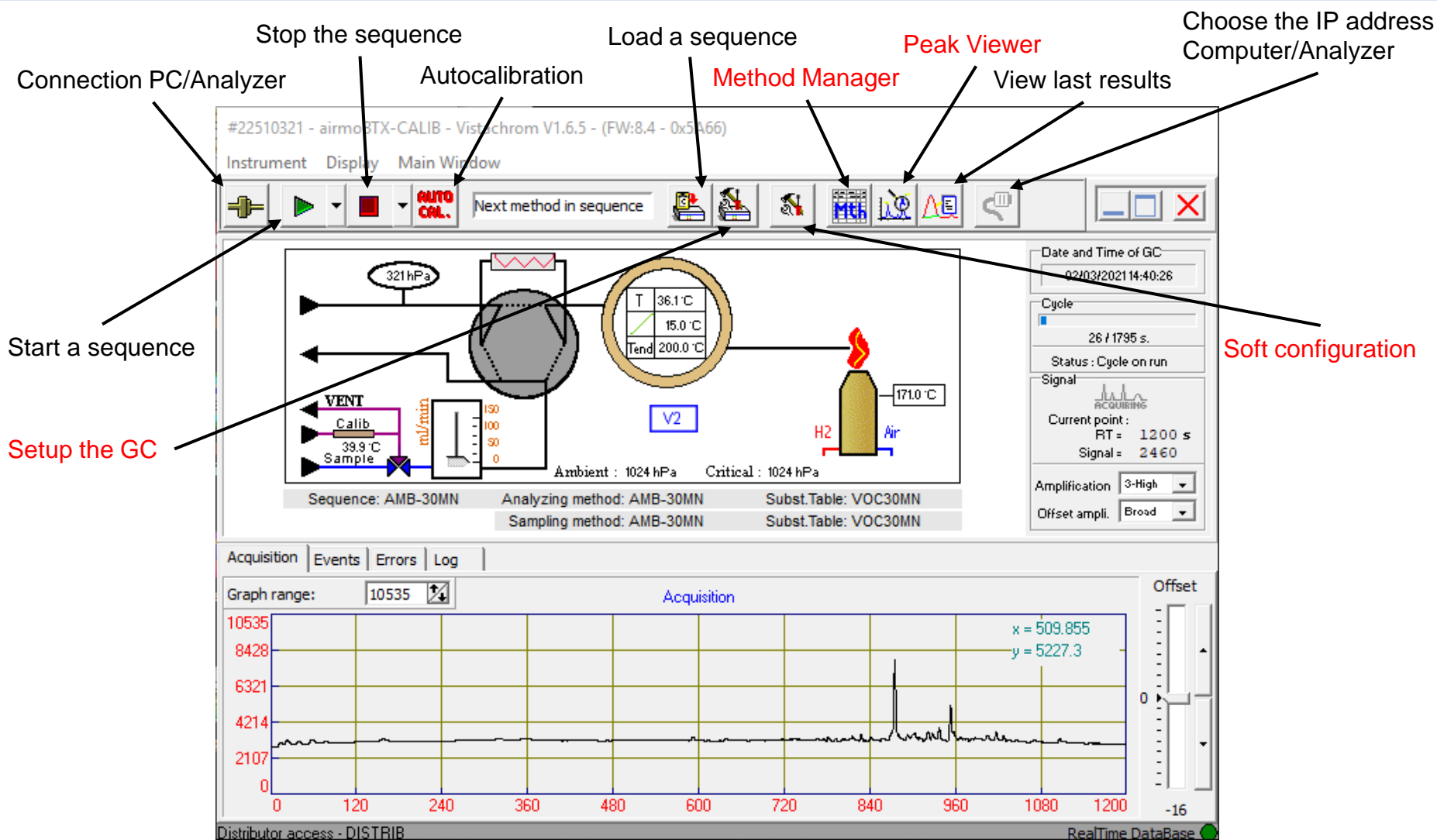
# 1- Organisation of Vistachrom



# 1- Organisation of Vistachrom

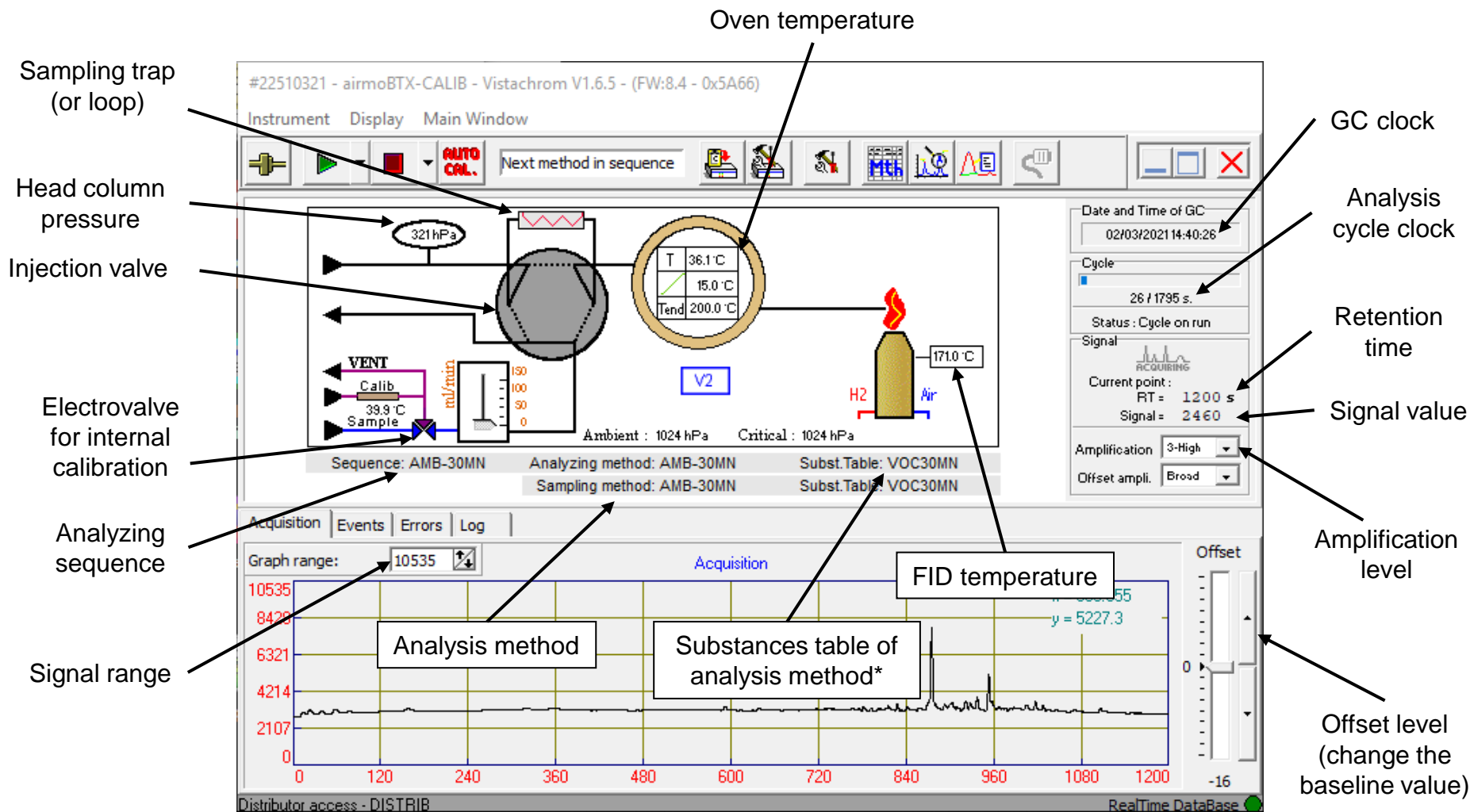


# 2- Synoptic of the analyzer



# 2- Synoptic of the analyzer

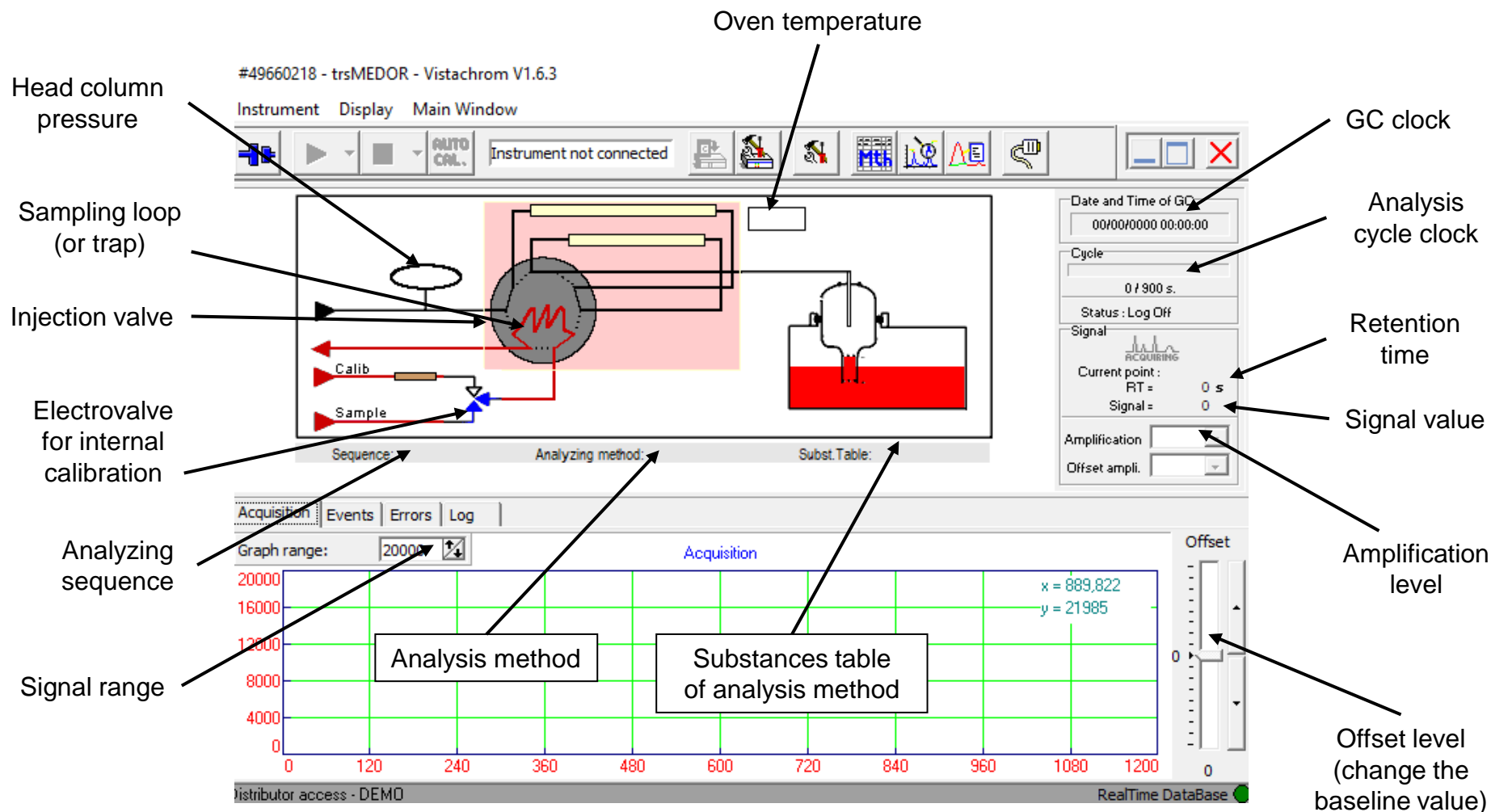
## BTEX analyzers



\* Double click to open directly substances table

# 2- Synoptic of the analyzer

## MEDOR® analyzers

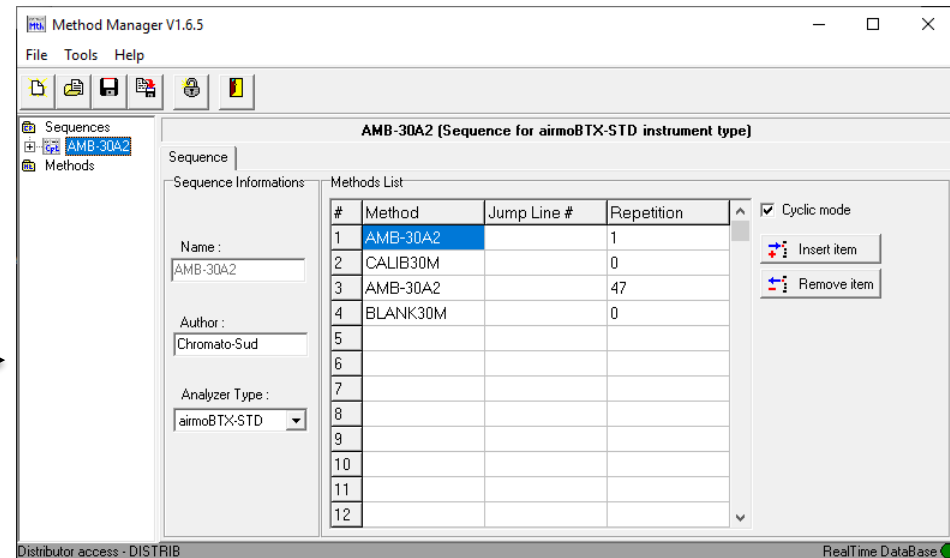
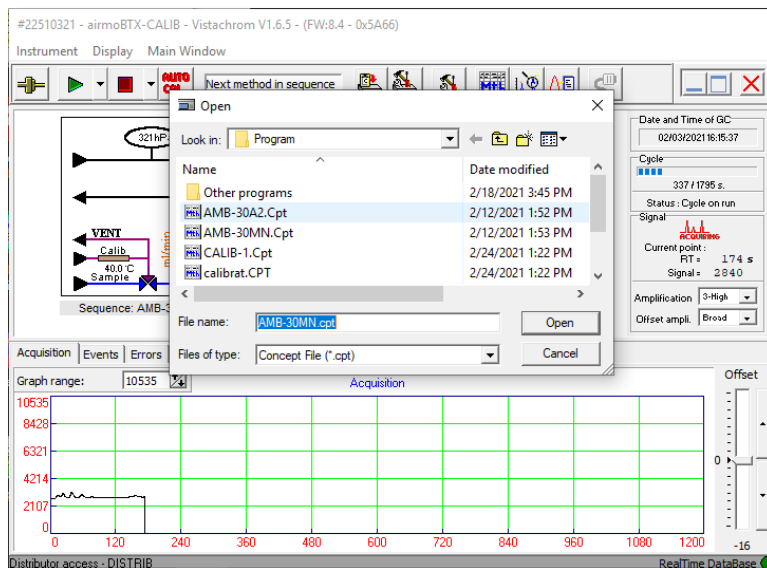




# 3- Method Manager

## General presentation

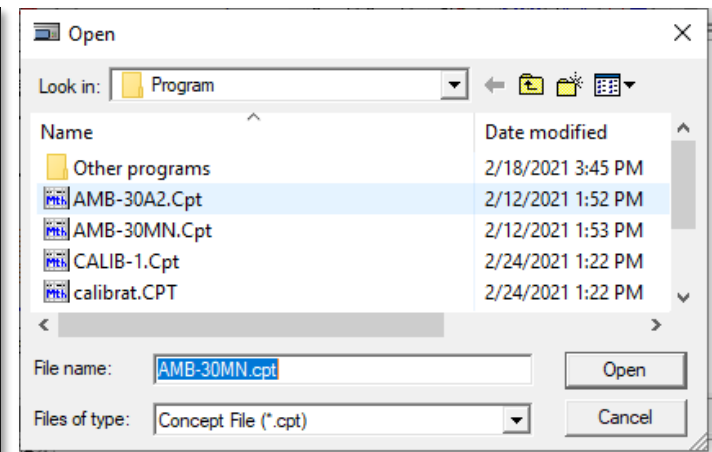
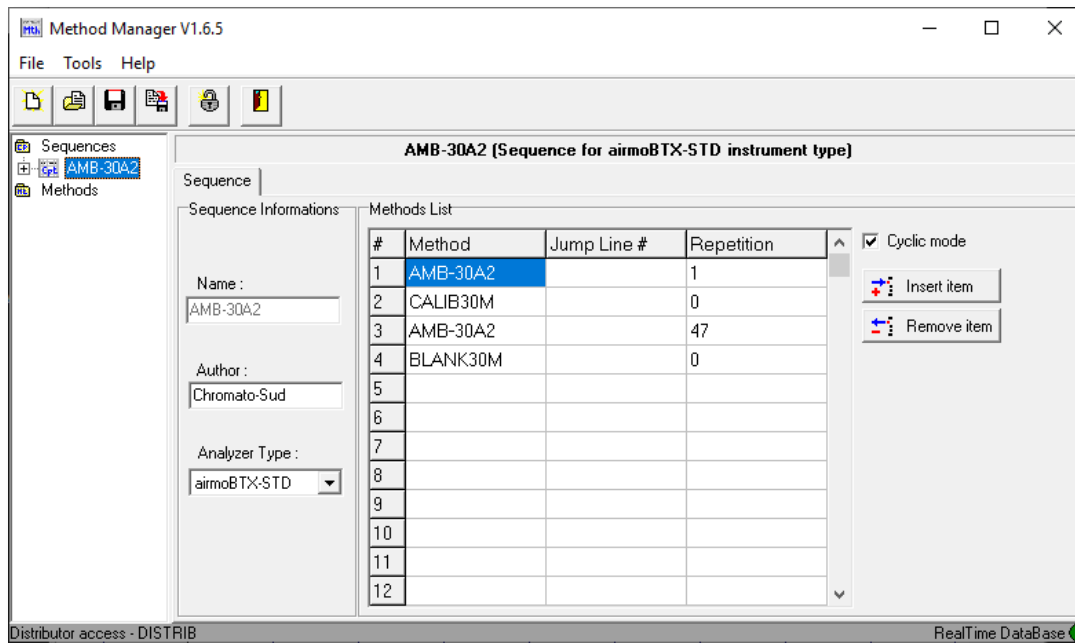
- Allow you to see, create or modify :
  - Sequences
  - Methods
  - Substances tables



# 3- Method Manager

## Sequence

- You can modify the sequences: adding or removing methods which already exist.



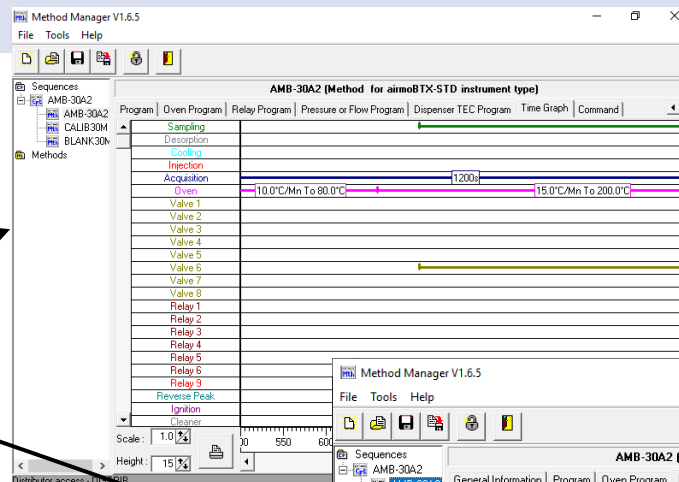
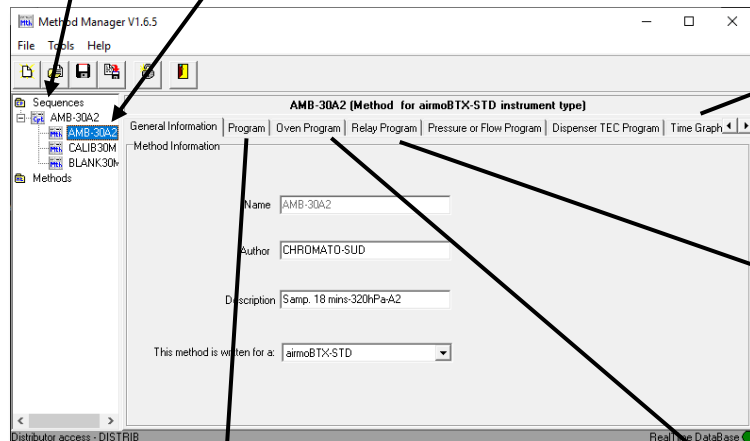
4 – Save the sequence: File Save As...

- 1 – Double click to choose a method
- 2 – Choose the number of methods
- 3 – Click on “INSERT” to validate

# 3- Method Manager

## Method

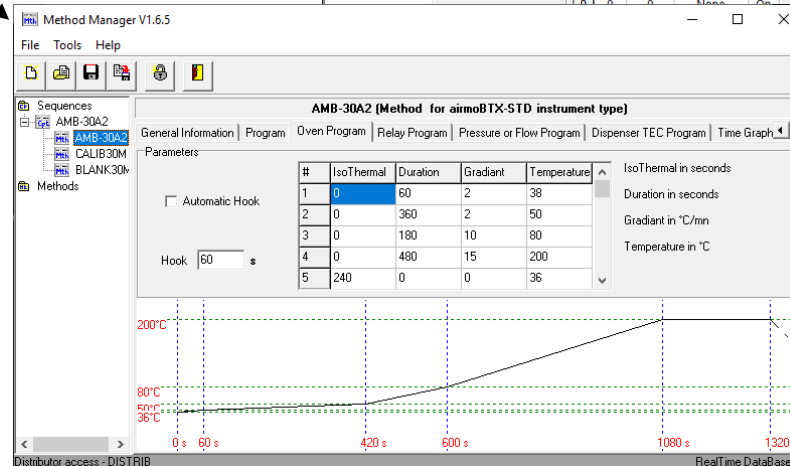
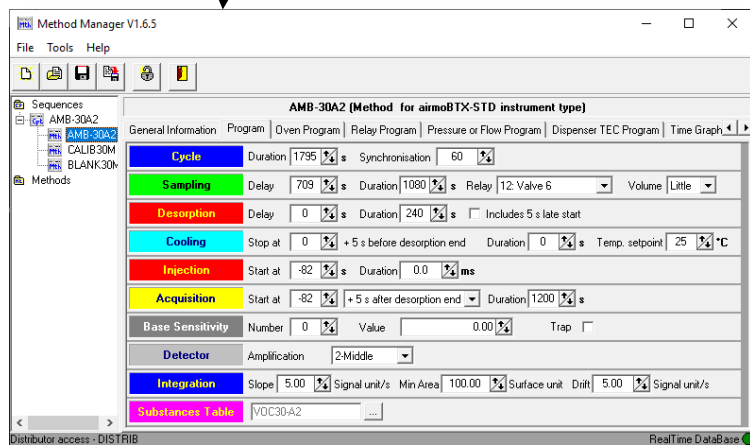
Sequence Choose a method into the sequence



#	Time	Duration	Relay	State
1	1	0	Valve 1	On
2	1	0	Valve 2	On
3	1	0	Valve 3	On
4	1	0	Valve 4	On
5	0	0	None	On
6	0	0	None	On
7	0	0	None	On
8	0	0	None	On
9	0	0	None	On
10	0	0	None	On
11	0	0	None	On
12	0	0	None	On

#	Time	Duration	Relay	State
1	0	0	None	On
2	0	0	None	On
3	0	0	None	On
4	0	0	None	On
5	0	0	None	On
6	0	0	None	On
7	0	0	None	On
8	0	0	None	On
9	0	0	None	On
10	0	0	None	On
11	0	0	None	On
12	0	0	None	On



# 3- Method Manager

Substance table : linear

Method Manager V1.6.5

File Tools Help

Sequences

- REP15-A1
- AMB15-1
- CAL15-A1
- ZERO15-1

Methods

**AMB15-1 (Method for chroma 5 instrument type)**

General Information Program Oven Program Relay Program Pressure or Flow Program Dispenser TEC Program Time Graph

**Cycle** Duration 895 s Synchronisation 60

**Sampling** Delay 649 s Duration 240 s Relay 0: No relay Volume Little

**Desorption** Delay 0 s Duration 120 s Includes 5 s late start

**Cooling** Stop at 0 + 5 s before desorption end Duration 0 s Temp. setpoint 25 °C

**Injection** Start at -30 s Duration 0.0 ms

**Acquisition** Start at -30 + 5 s after desorption end Duration 750 s

**Base Sensitivity** Number 0 Value 0.00 Trap

**Detector** Amplification 1-Low

**Integration** Slope 5.00 Signal unit/s Min Area 1000.00 Surface unit Drift 10.00 Signal unit/s

**Substances Table** RSH15-1

Distributor access - DISTRIB

Time retention window

Response factors

Function used for results

RealTime DataBase

Substances table information

Substances table name VOC30-A2 Author Chromato-Sud

For the analyzer serial number #22510321 Analyzer type airmoBTX-CALIB

Substances

#	Name	RT Min	RT Max	Select Peak	GC Result formula	With X=
1	1,3-BUTADIENE	15	25	Middle	9.3 * X	Area/BS
2	BENZENE	312	322	Middle	10 * X	Area/BS
3	CYCLOHEXANE	334	344	Middle	11 * X	Area/BS
4	TOLUENE	587	597	Middle	10.5 * X	Area/BS
5	ETHYLBENZENE	757	767	Middle	11 * X	Area/BS
6	M&P-XYLENES	770	780	Middle	11 * X	Area/BS
7	STYRENE	795	805	Middle	11 * X	Area/BS
8	O-XYLENE	805	815	Middle	11 * X	Area/BS

Curve response of detector

Linear

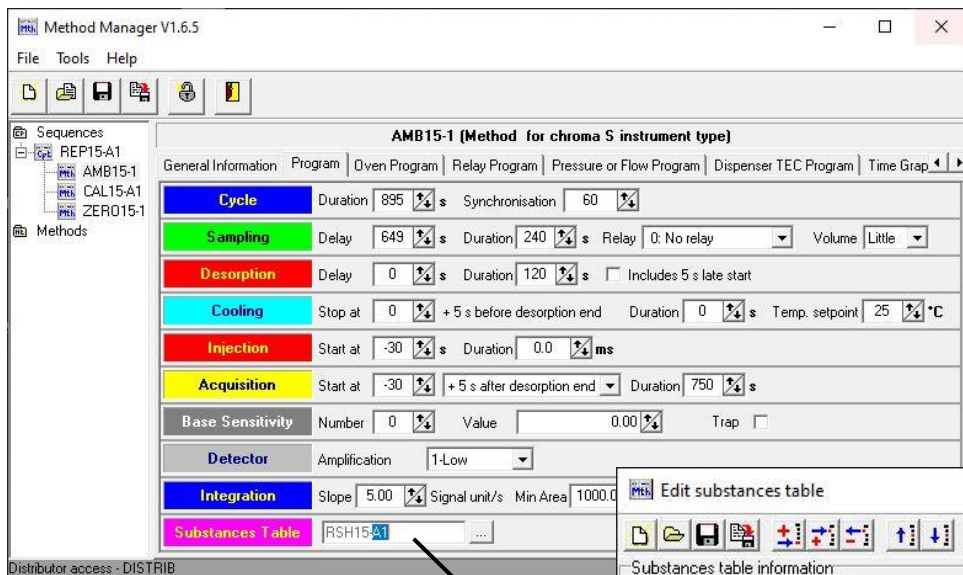
Factor \* X

With X = (Area + AreaOfs) / BS

Name	Value
Factor	9.3
AreaOfs	0

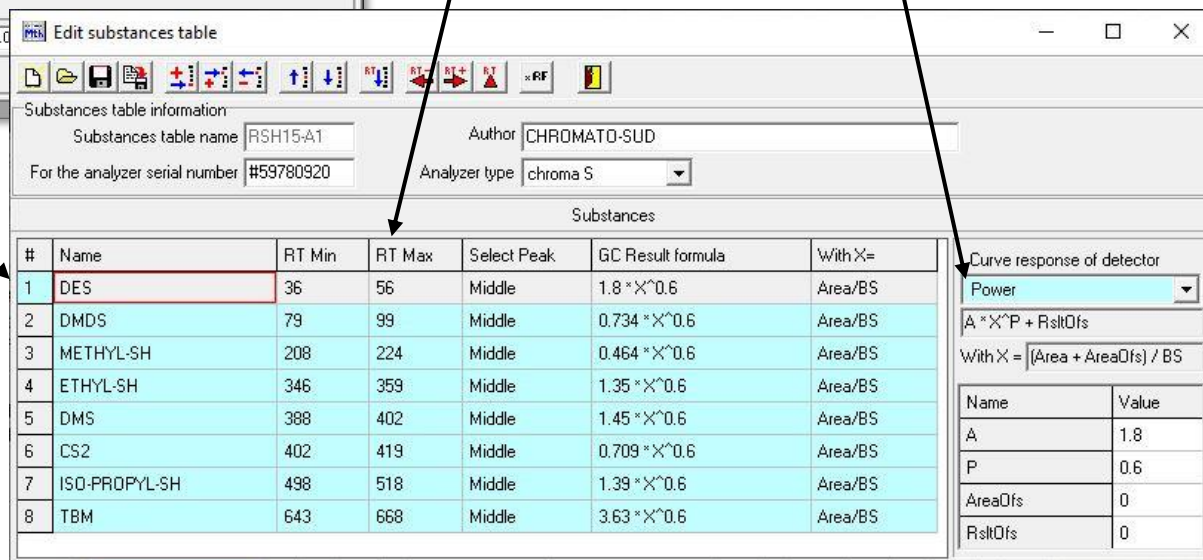
# 3- Method Manager

Substance table : power



Time retention window

Function used for results



Substances table information

Substances table name: RSH15-A1

Author: CHROMATO-SUD

For the analyzer serial number: #59780920

Analyzer type: chroma S

Substances

#	Name	RT Min	RT Max	Select Peak	GC Result formula	With X=
1	DES	36	56	Middle	$1.8 * X^{0.6}$	Area/BS
2	DMDS	79	99	Middle	$0.734 * X^{0.6}$	Area/BS
3	METHYL-SH	208	224	Middle	$0.464 * X^{0.6}$	Area/BS
4	ETHYL-SH	346	359	Middle	$1.35 * X^{0.6}$	Area/BS
5	DMS	388	402	Middle	$1.45 * X^{0.6}$	Area/BS
6	CS2	402	419	Middle	$0.709 * X^{0.6}$	Area/BS
7	ISO-PROPYL-SH	498	518	Middle	$1.39 * X^{0.6}$	Area/BS
8	TBM	643	668	Middle	$3.63 * X^{0.6}$	Area/BS

Curve response of detector

Power

$A * X^P + RsltOfs$

With X =  $(Area + AreaOfs) / BS$

Name	Value
A	1.8
P	0.6
AreaOfs	0
RsltOfs	0

Function:  $Y = A \times X^P$

# 3- Method Manager

## On the substances table

Substances table information

Substances table name:  Author:

For the analyzer serial number:  Analyzer type:

Substances

#	Name	RT Min	RT Max	Select Peak	GC Result formula	With X=
1	BENZENE	52	62	Middle	X	Area/BS
2	CYCLOHEXANE	62	72	Middle	$3,8 * X^{0,88}$	Area/BS
3	TOLUENE	170	180	Middle	$1,6 * X^{0,88}$	Area/BS



- Apply a « delta » on the RT ranges : (ex : +10s)

RT delta input

Enter the delta to apply to the RTs selected



- Apply a « factor » on the original RF (ex : RF / 10)

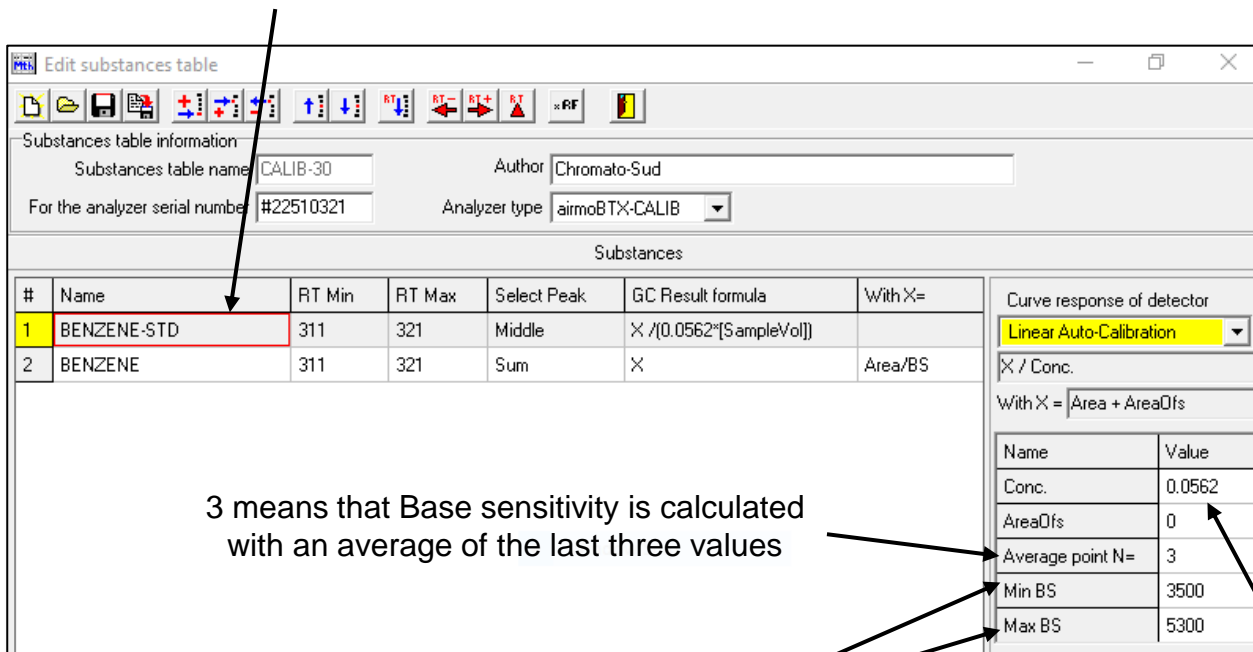
RF factor input

Enter the factor to apply to the RFs selected

# 3- Method Manager

## Calibration / auto-calibration substances table

Special line for auto-calibration (calculation of the new Base sensitivity thanks to the known standard calibration concentration)



#	Name	RT Min	RT Max	Select Peak	GC Result formula	With X=	Curve response of detector
1	BENZENE-STD	311	321	Middle	$X / (0.0562 \cdot [\text{SampleVol}])$		Linear Auto-Calibration
2	BENZENE	311	321	Sum	X	Area/BS	X / Conc.

Name	Value
Conc.	0.0562
AreaOfs	0
Average point N=	3
Min BS	3500
Max BS	5300

3 means that Base sensitivity is calculated with an average of the last three values

Alarm Window  
(known concentration of the standard  $\pm X\%$ )

Known concentration  
of the calibration standard ( $\text{mg/m}^3$ )

- **Base sensitivity (BS) parameter :**

On airTOXIC analyzers, VOC do not have a linear response function.

$$C = a \left( \frac{Area}{BS} \right)^b$$

a and b optimized experimentally to pass the linearity test of EN\_14662-3 2015

**For Benzene :**

$$C = 1,1 \left( \frac{Area}{BS} \right)^{0,9}$$



# 3- Method Manager

## On the methods

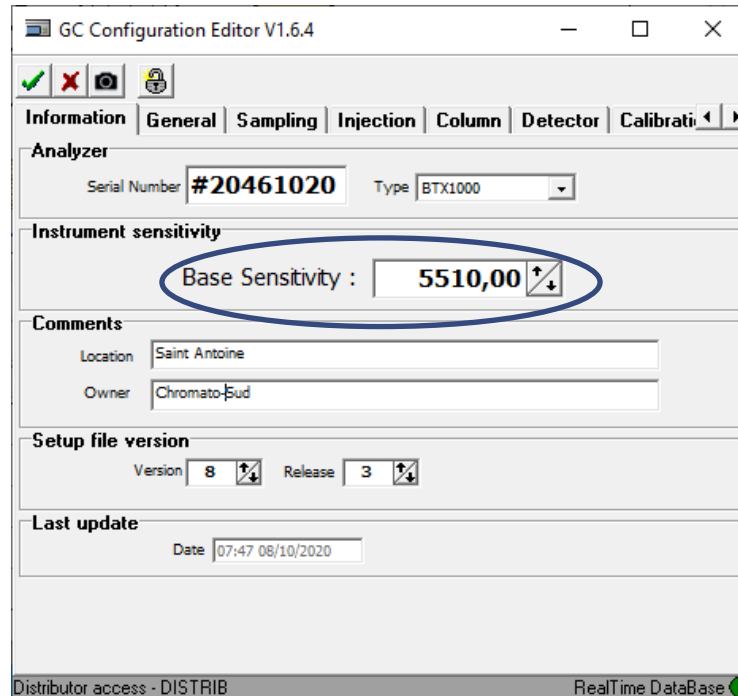


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- Using the latest firmware 8.4, more options to program a sequence:

Number of substances per table	100
Number of substance tables for one sequence	300
Number of methods per sequence	99
Number of different methods	50

# 4- Setup the GC



GC Configuration Editor V1.6.4

Information | General | Sampling | Injection | Column | Detector | Calibration

**Analyzer**

Serial Number: #20461020 Type: BTX1000

**Instrument sensitivity**

Base Sensitivity : 5510,00

**Comments**

Location: Saint Antoine

Owner: Chromato-Sud

**Setup file version**

Version: 8 Release: 3

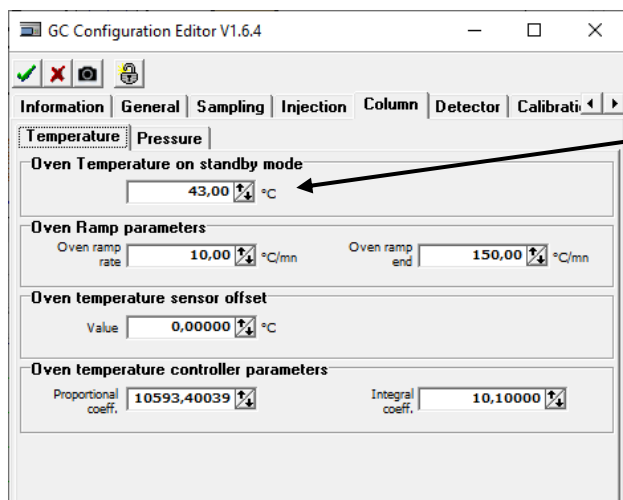
**Last update**

Date: 07:47 08/10/2020

Distributor access - DISTRIB RealTime DataBase

Base sensitivity

# 4- Setup the GC



GC Configuration Editor V1.6.4

Information | General | Sampling | Injection | Column | **Detector** | Calibration

**Temperature** | Pressure

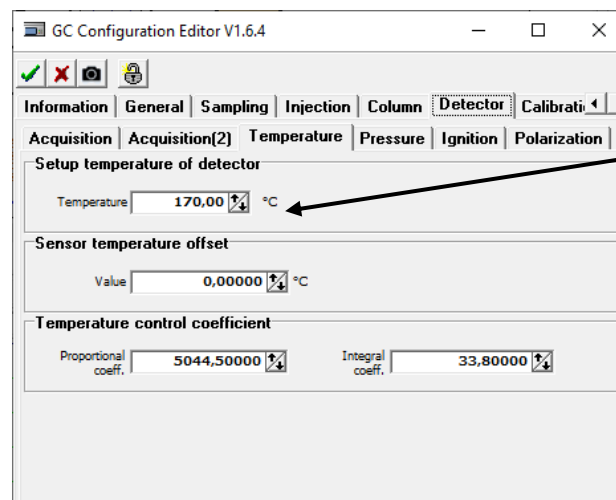
Oven Temperature on standby mode: 43,00 °C

Oven Ramp parameters: Oven ramp rate: 10,00 °C/mn, Oven ramp end: 150,00 °C/mn

Oven temperature sensor offset: Value: 0,00000 °C

Oven temperature controller parameters: Proportional coeff.: 10593,40039, Integral coeff.: 10,10000

Temperature of the column oven when the analyzer is in standby mode



GC Configuration Editor V1.6.4

Information | General | Sampling | Injection | Column | **Detector** | Calibration

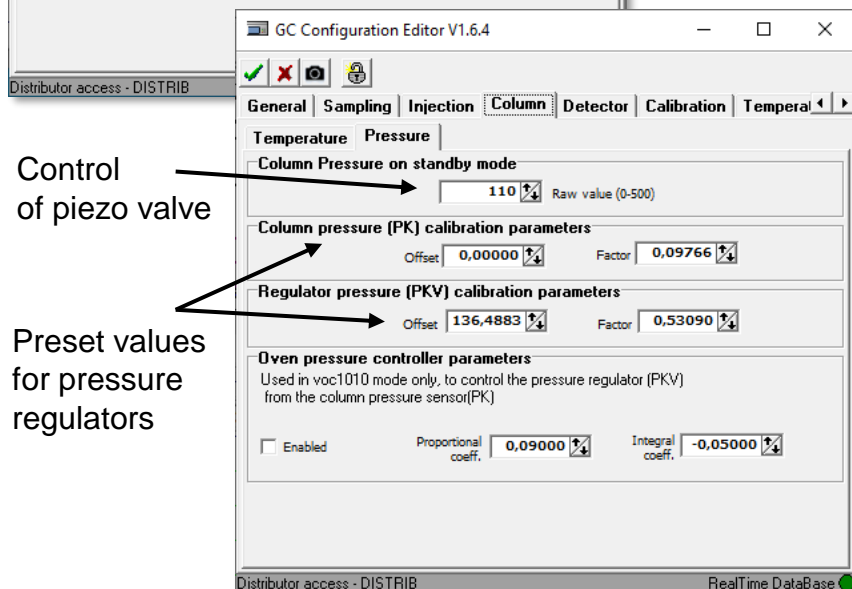
Acquisition | Acquisition(2) | **Temperature** | Pressure | Ignition | Polarization

Setup temperature of detector: Temperature: 170,00 °C

Sensor temperature offset: Value: 0,00000 °C

Temperature control coefficient: Proportional coeff.: 5044,50000, Integral coeff.: 33,80000

Temperature of the detector (or permeation oven for MEDORS analyzers)



GC Configuration Editor V1.6.4

Distributor access - DISTRIB

General | Sampling | Injection | **Column** | Detector | Calibration | Temperature

**Temperature** | Pressure

Column Pressure on standby mode: 110 Raw value (0-500)

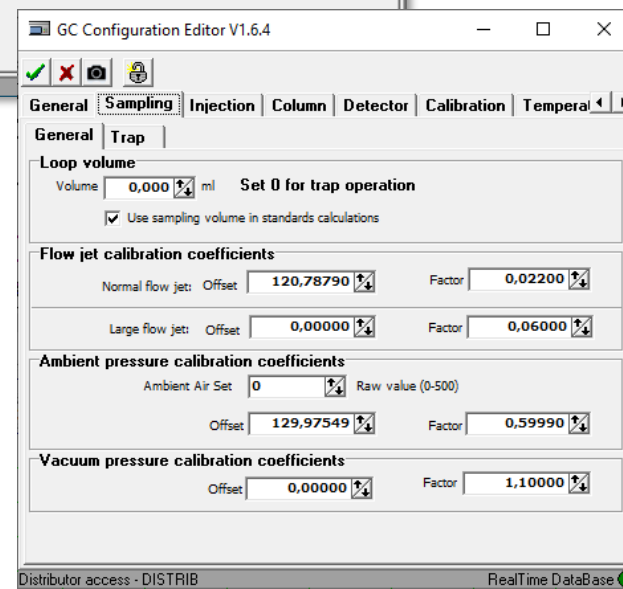
Column pressure (PK) calibration parameters: Offset: 0,00000, Factor: 0,09766

Regulator pressure (PKV) calibration parameters: Offset: 136,4883, Factor: 0,53090

Oven pressure controller parameters: Used in voc1010 mode only, to control the pressure regulator (PKV) from the column pressure sensor(PK). ☐ Enabled, Proportional coeff.: 0,09000, Integral coeff.: -0,05000

Control of piezo valve

Preset values for pressure regulators



GC Configuration Editor V1.6.4

Distributor access - DISTRIB

General | **Sampling** | Injection | Column | Detector | Calibration | Temperature

**General** | Trap

Loop volume: Volume: 0,000 ml, Set 0 for trap operation, ☒ Use sampling volume in standards calculations

Flow jet calibration coefficients: Normal flow jet: Offset: 120,78790, Factor: 0,02200; Large flow jet: Offset: 0,00000, Factor: 0,06000

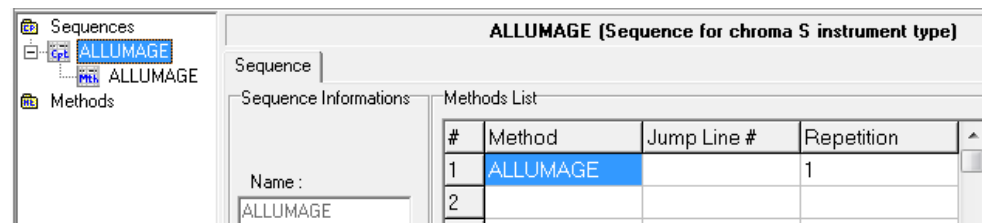
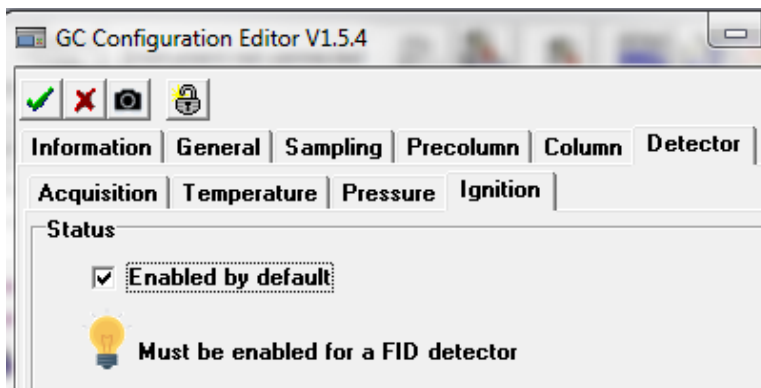
Ambient pressure calibration coefficients: Ambient Air Set: 0, Raw value (0-500); Offset: 129,97549, Factor: 0,59990

Vacuum pressure calibration coefficients: Offset: 0,00000, Factor: 1,10000

# For the ChromaS

## Specific case

- Automatic ignition of the flame of the ChromaS since Vistachrom 1.5.7

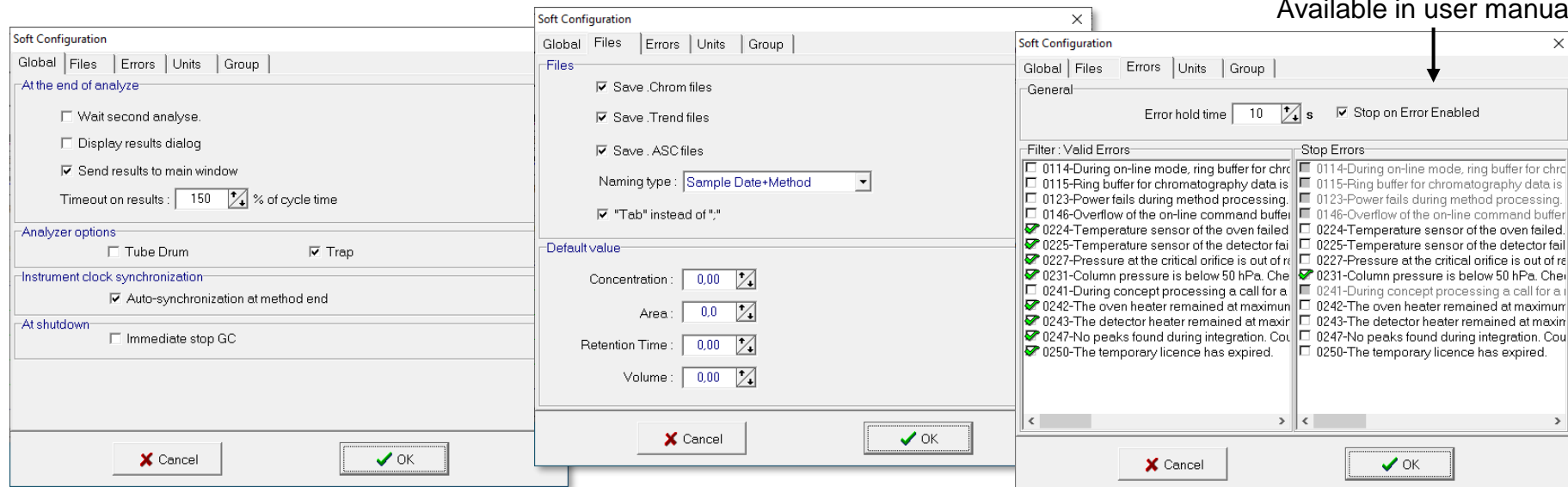


- ✓ No need to be on site to press on buttons
- ✓ Ignition is possible remotely (using TeamViewer)

# 5- Soft configuration

Error list

Available in user manual



**Soft Configuration - Global**

**At the end of analyze**

- ☐ Wait second analyse.
- ☐ Display results dialog
- ☒ Send results to main window
- Timeout on results : 150 % of cycle time

**Analyzer options**

- ☐ Tube Drum
- ☒ Trap

**Instrument clock synchronization**

- ☒ Auto-synchronization at method end

**At shutdown**

- ☐ Immediate stop GC

**Soft Configuration - Files**

- ☒ Save .Chrom files
- ☒ Save .Trend files
- ☒ Save .ASC files
- Naming type : Sample Date+Method
- ☒ "Tab" instead of "."

**Default value**

- Concentration : 0.00
- Area : 0.0
- Retention Time : 0.00
- Volume : 0.00

**Soft Configuration - Errors**

General

Error hold time : 10 s ☒ Stop on Error Enabled

Filter : Valid Errors

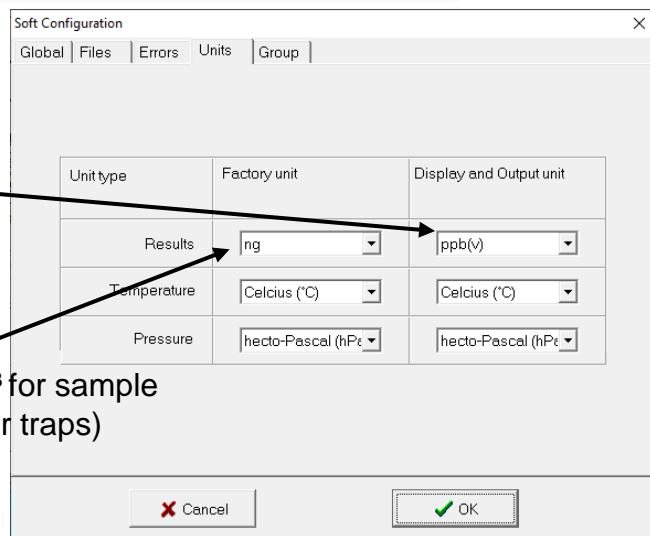
- ☐ 0114-During on-line mode, ring buffer for chromatography data is full
- ☐ 0115-Ring buffer for chromatography data is full
- ☐ 0123-Power fails during method processing.
- ☐ 0146-Overflow of the on-line command buffer
- ☒ 0224-Temperature sensor of the oven failed.
- ☒ 0225-Temperature sensor of the detector failed.
- ☐ 0227-Pressure at the critical orifice is out of range
- ☒ 0231-Column pressure is below 50 hPa. Check the gas flow.
- ☐ 0241-During concept processing a call for a method is received.
- ☒ 0242-The oven heater remained at maximum temperature.
- ☒ 0243-The detector heater remained at maximum temperature.
- ☒ 0247-No peaks found during integration. Check the sample.
- ☒ 0250-The temporary licence has expired.

**Stop Errors**

- ☐ 0114-During on-line mode, ring buffer for chromatography data is full
- ☐ 0115-Ring buffer for chromatography data is full
- ☐ 0123-Power fails during method processing.
- ☐ 0146-Overflow of the on-line command buffer
- ☐ 0224-Temperature sensor of the oven failed.
- ☐ 0225-Temperature sensor of the detector failed.
- ☐ 0227-Pressure at the critical orifice is out of range
- ☒ 0231-Column pressure is below 50 hPa. Check the gas flow.
- ☐ 0241-During concept processing a call for a method is received.
- ☐ 0242-The oven heater remained at maximum temperature.
- ☐ 0243-The detector heater remained at maximum temperature.
- ☐ 0247-No peaks found during integration. Check the sample.
- ☐ 0250-The temporary licence has expired.

Units of results

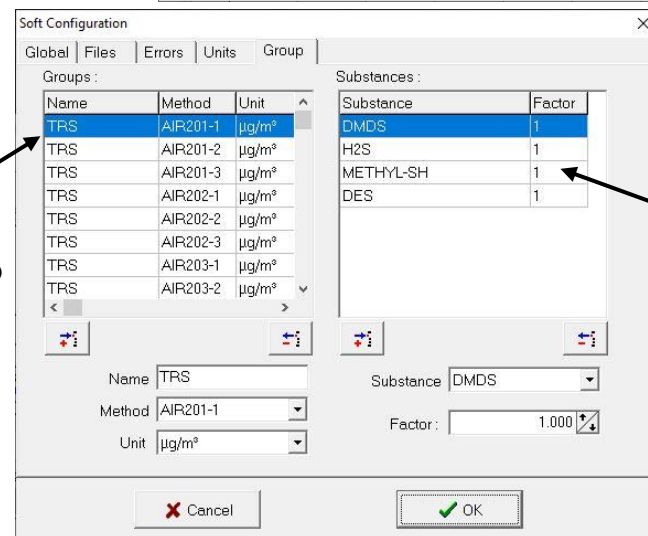
GC unit (mg/m<sup>3</sup> for sample loops and ng for traps)



Unit type	Factory unit	Display and Output unit
Results	ng	ppb(v)
Temperature	Celcius (°C)	Celcius (°C)
Pressure	hecto-Pascal (hPa)	hecto-Pascal (hPa)

Name of the group

Composition of the group



Name	Method	Unit
TRS	AIR201-1	µg/m³
TRS	AIR201-2	µg/m³
TRS	AIR201-3	µg/m³
TRS	AIR202-1	µg/m³
TRS	AIR202-2	µg/m³
TRS	AIR203-1	µg/m³
TRS	AIR203-2	µg/m³

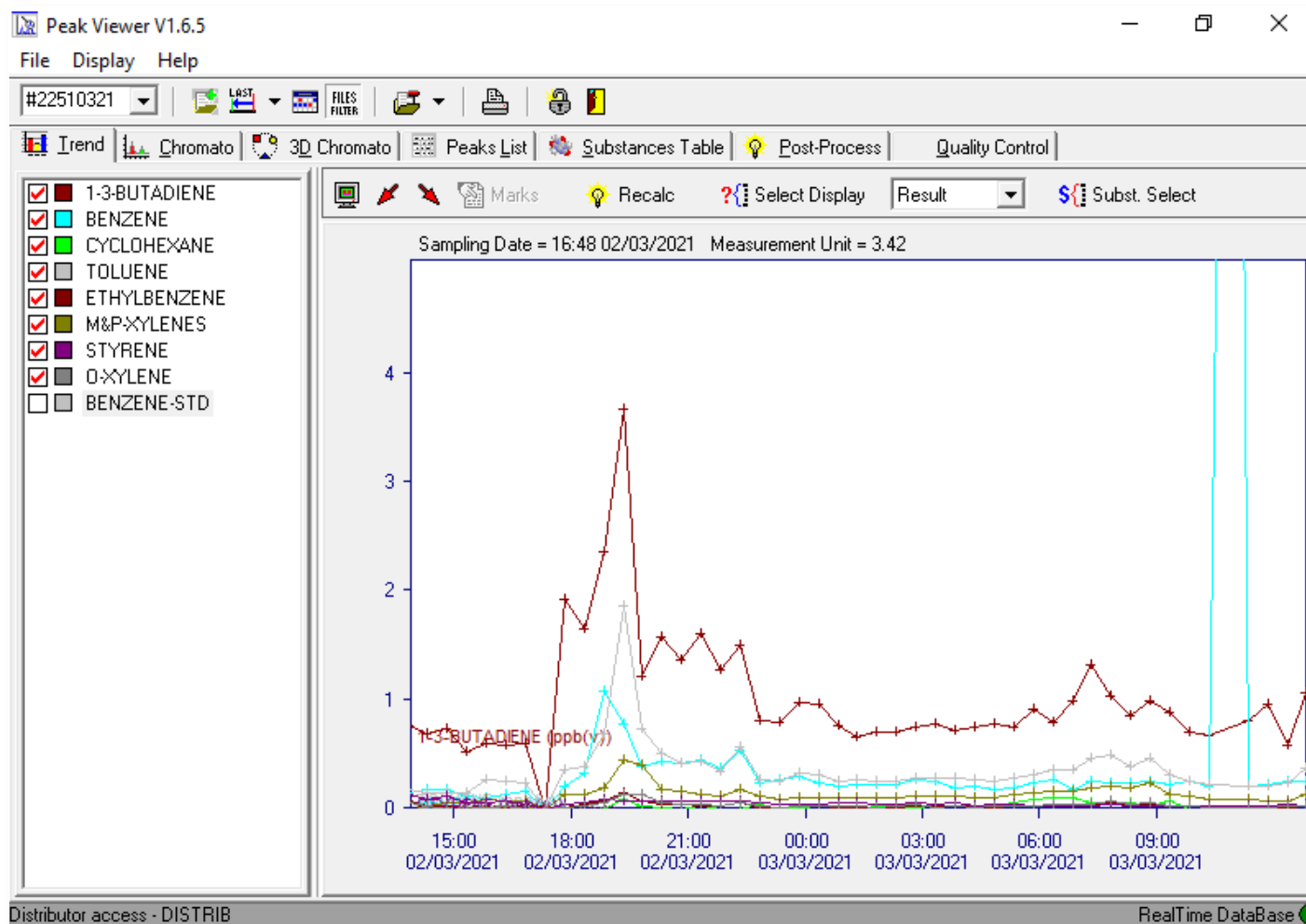
Name : TRS

Method : AIR201-1

Unit : µg/m³

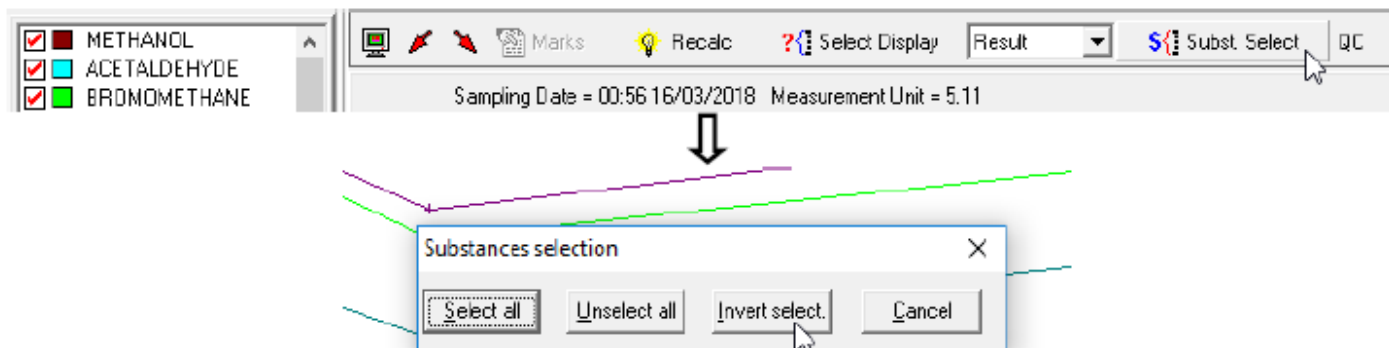
# 6- Peak Viewer

- Trend function (follow a parameter during the time)

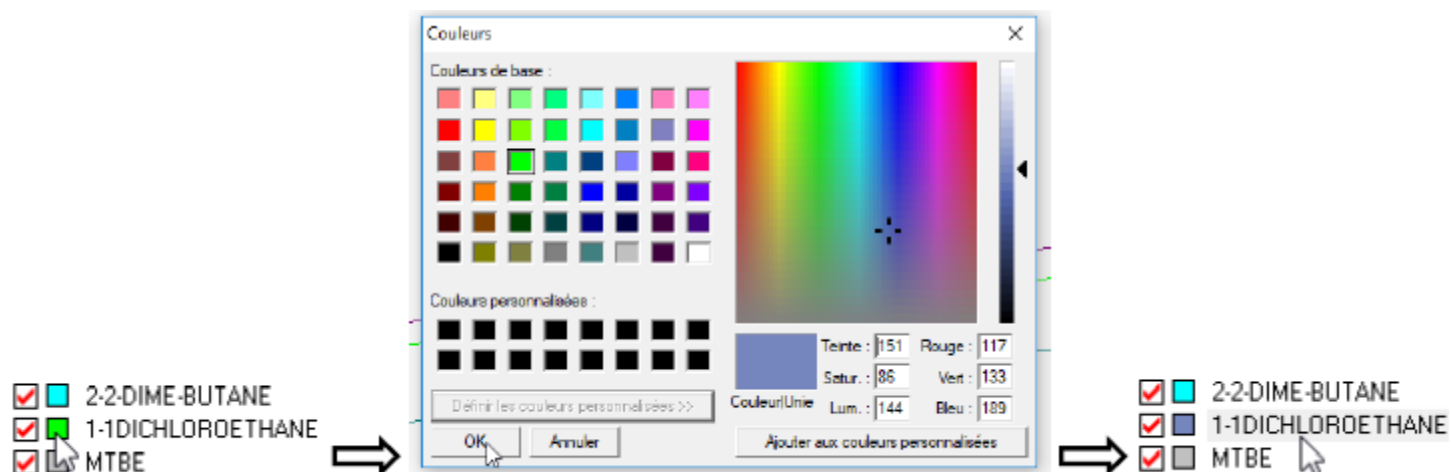


# 6- PeakViewer

- To play more easily with a lot of molecules: « Trend »



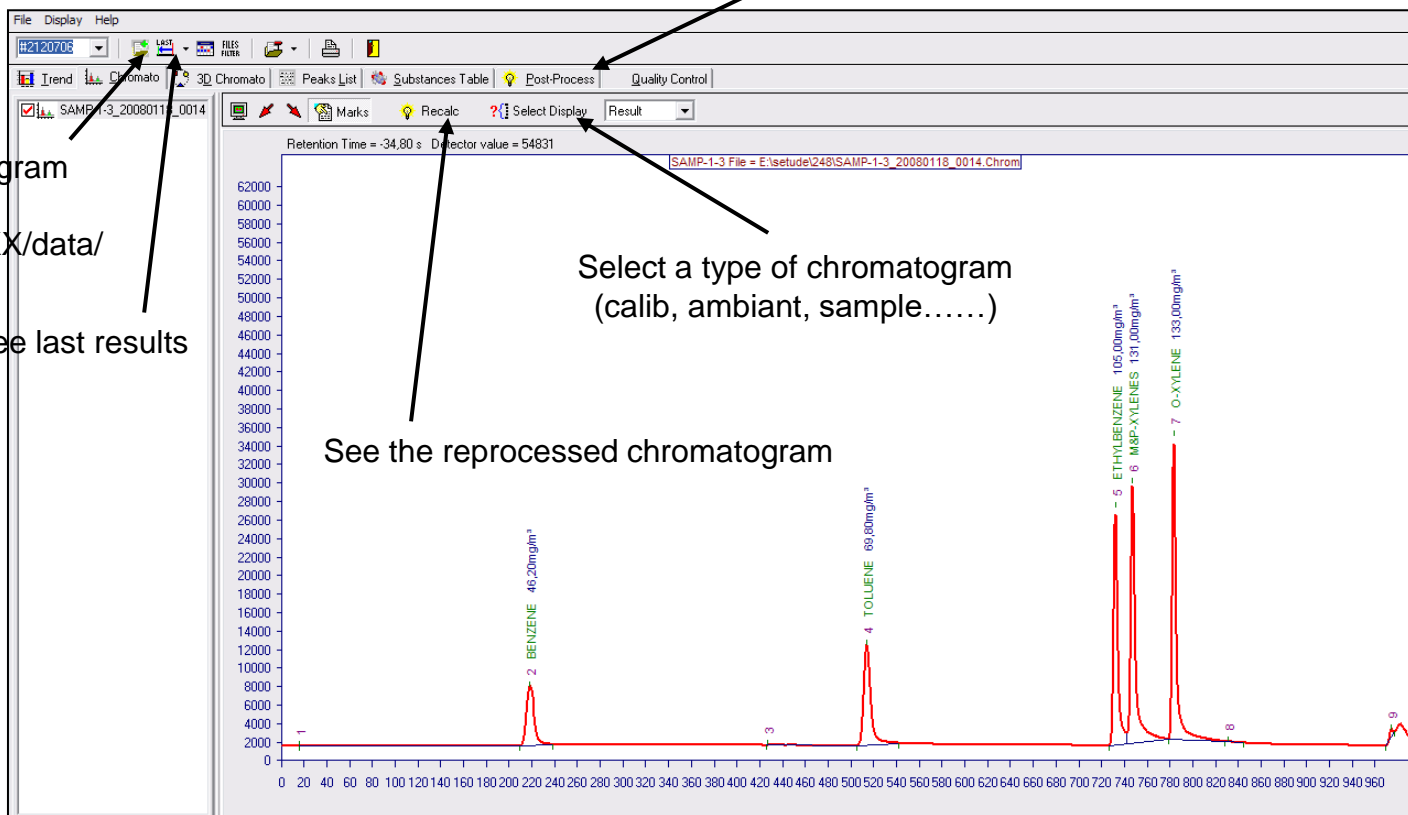
- Optimize the color for each molecule: « Trend »



# 6- Peak Viewer

- Chromato function

Reprocess chromatograms (integration, Base Sensitivity, retention time, identification...)



Open a chromatogram  
(located into  
D:\Data\#XXXXXXX\data/  
YYYY/MM/DD)

See last results

See the reprocessed chromatogram

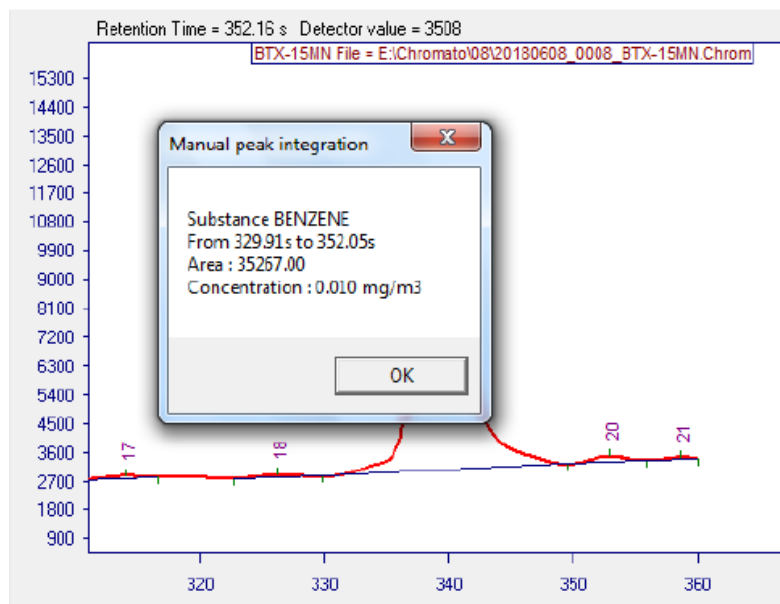
Select a type of chromatogram  
(calib, ambient, sample.....)



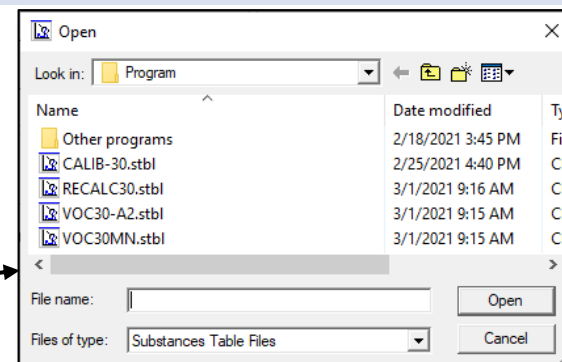
# 6- PeakViewer

## Manual integration:

- On the tab « chromato »
- Use « CTRL » + « left click » to select the beginning of the peak
- Release the « left click » to select the end of the peak

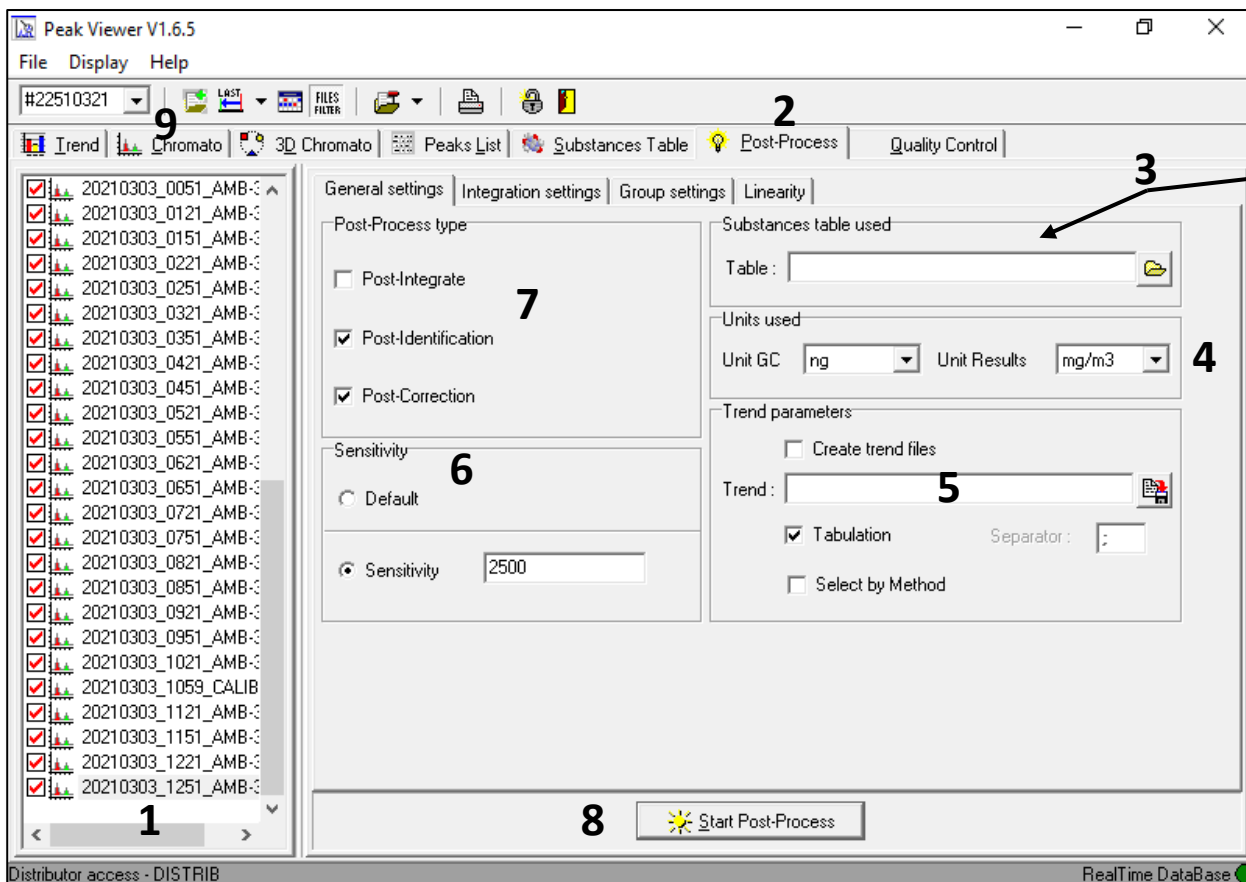


# 6- Peak Viewer



## • Post process function

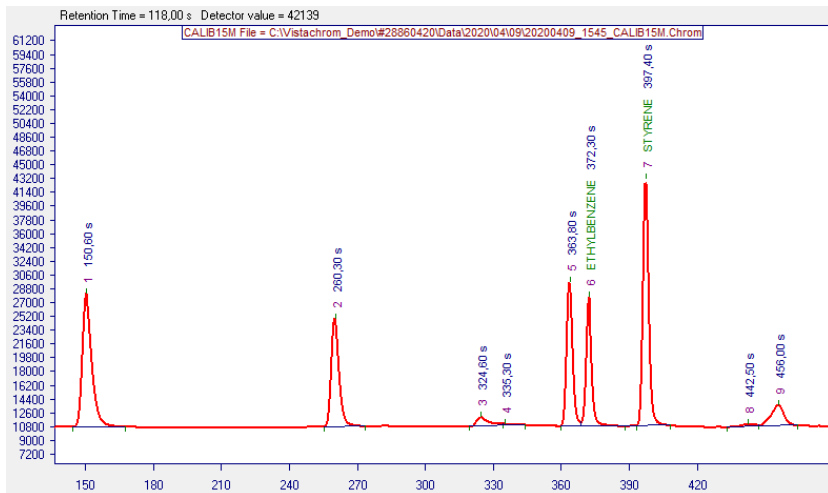
- 1) Select chromatograms you want to reprocess
- 2) Select Post process tab
- 3) Select the substances table
- 4) Select the unit of your BS (ng for trap or mg/m<sup>3</sup> for loop) and of your results
- 5) Create ASCII files
- 6) Give a BS value
- 7) Retreatment functions
- 8) Click on Start Process
- 9) Select Chromato tab and click on « Recalc » to see the chromatogram post calculated.



# Example : Post process

## On BTEX results

- My results on external standard are 0. What should I do ?
- Open Peak Viewer and load a calibration chromatogram  
*Peak are not well identified*



Example of benzene (1<sup>st</sup> peak) : RT=150s  
The RT window should be **145-155 seconds**.  
We have to adjust the RT : **-12s**.

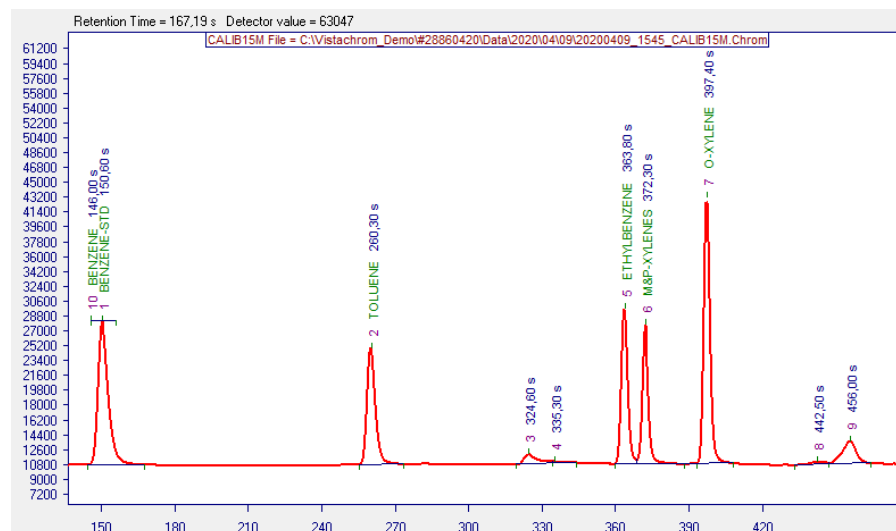
- Open the substance table associated  
*Change the RT to have the substance in the middle of the RT window*

Substances table information

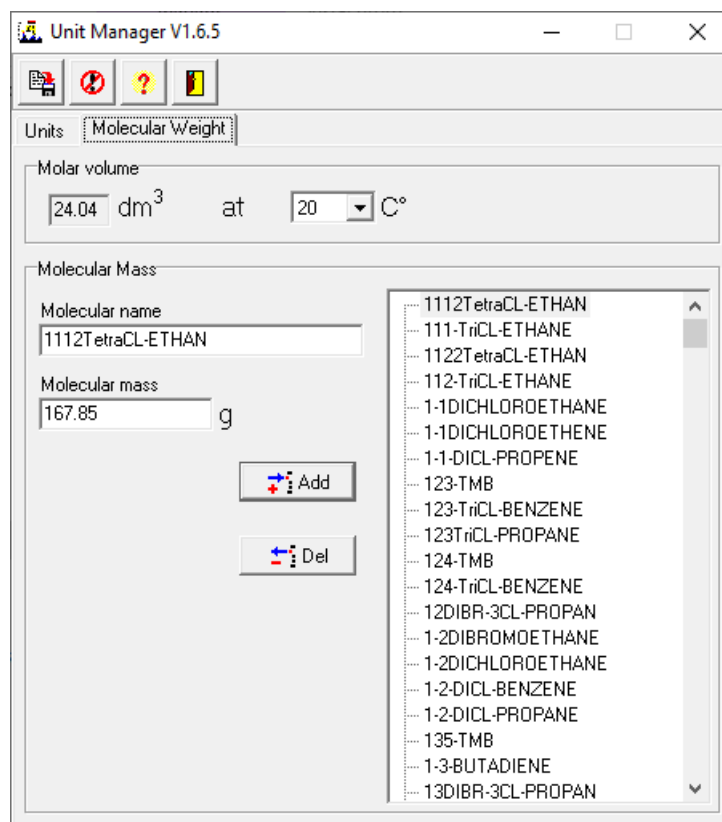
Substances table name:  Author: Chromato-Sud

For the analyzer serial number:  Analyzer type:

#	Name	RT Min	RT Max	Select Peak	GC Result formula	With X=
1	BENZENE	157	167	Middle	X	Area/BS
2	CYCLOHEXANE	167	177	Middle	1,1 *X	Area/BS
3	TOLUENE	266	276	Middle	1,05 *X	Area/BS
4	ETHYLBENZENE	369	379	Middle	1,1 *X	Area/BS
5	M&P-XYLENES	378	388	Middle	1,1 *X	Area/BS
6	STYRENE	396	404	Middle	1,1 *X	Area/BS
7	O-XYLENE	404	412	Middle	1,1 *X	Area/BS



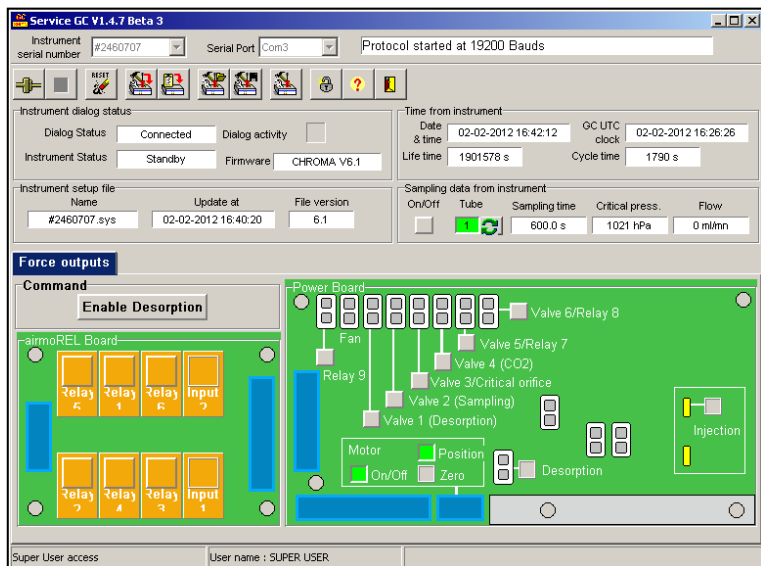
# 7- Unit manager



D:\Application\Vistachrom\UnitManager

# 8- Service GC

## Before

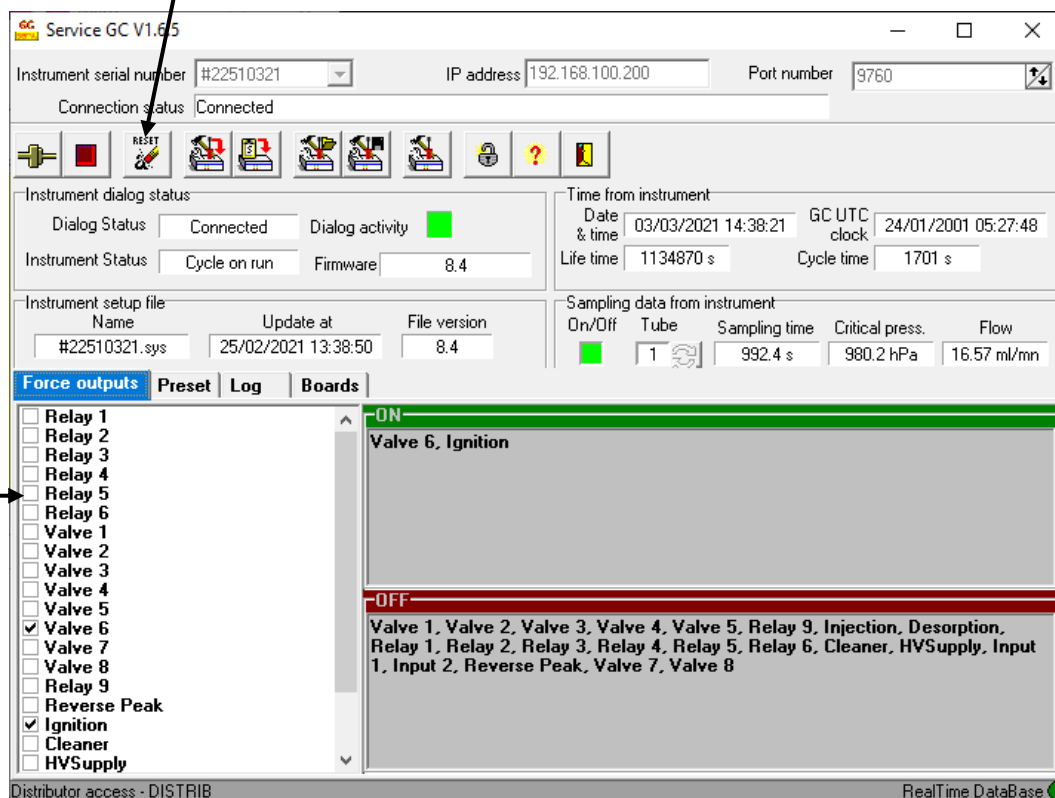


Control the relays and valves of the analyzer

Service GC manual available in User Manual

Reset of analyzer

## After

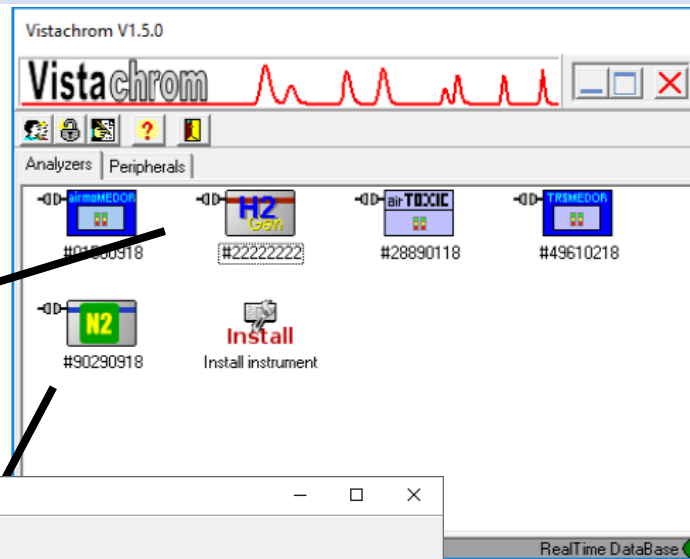


D:\Application\Vistachrom\ServiceGC

# 9- Generators

Since 2020

- Integrated in Vistachrom main menu



Vistachrom V1.5.0

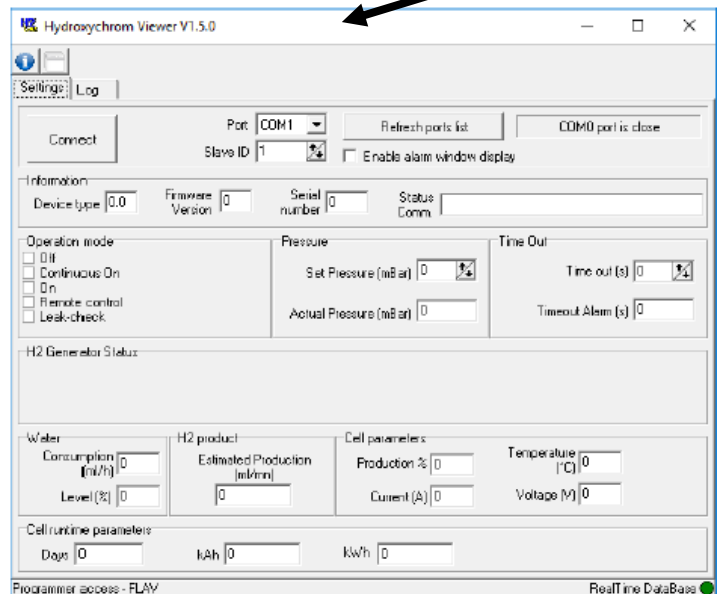
Analizers | Peripherals

#09300918 #22222222 #28890118 #49610218

#90290918

Install  
Install instrument

RealTime DataBase



Hydroxychrom Viewer V1.5.0

Settings | Log

Connect Port COM1 Refresh ports list COM0 port is close

Slave ID 1 Enable alarm window display

Information  
Device type 0.0 Firmware Version 0 Serial number 0 Status Comm

Operation mode  
☐ Off  
☐ Continuous On  
☐ On  
☐ Remote control  
☐ Leak-check

Pressure  
Set Pressure (mBar) 0 Actual Pressure (mBar) 0

Time Out  
Time out (s) 0 Timeout Alarm (s) 0

H2 Generator Status

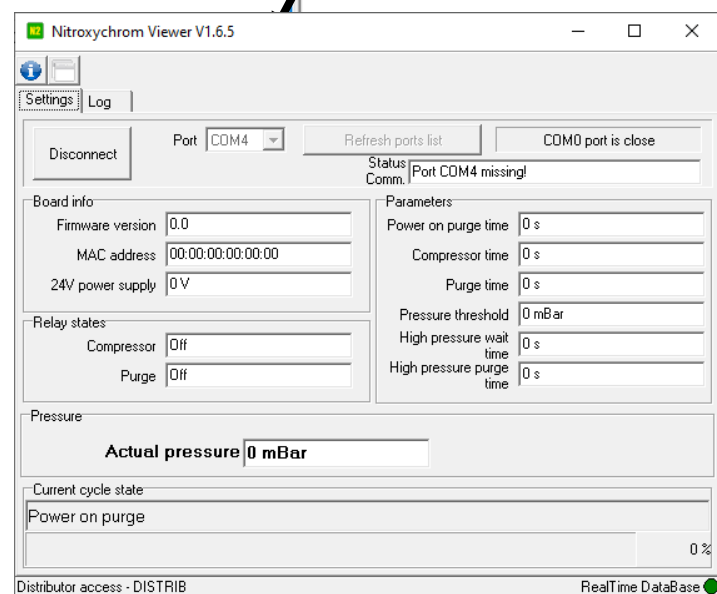
Water  
Consumption (ml/h) 0 Level (%) 0

H2 product  
Estimated Production (ml/min) 0

Cell parameters  
Production % 0 Current (A) 0 Temperature (°C) 0 Voltage (V) 0

Cell runtime parameters  
Days 0 kWh 0 kWh 0

Programmer access - FLAV RealTime DataBase



Nitroxychrom Viewer V1.6.5

Settings | Log

Disconnect Port COM4 Refresh ports list COM0 port is close

Status Comm Port COM4 missing!

Board info  
Firmware version 0.0  
MAC address 00:00:00:00:00:00  
24V power supply 0 V

Relay states  
Compressor Off  
Purge Off

Parameters  
Power on purge time 0 s  
Compressor time 0 s  
Purge time 0 s  
Pressure threshold 0 mBar  
High pressure wait time 0 s  
High pressure purge time 0 s

Pressure  
Actual pressure 0 mBar

Current cycle state  
Power on purge 0 %

Distributor access - DISTRIB RealTime DataBase

# 9- Generators

Since 2020

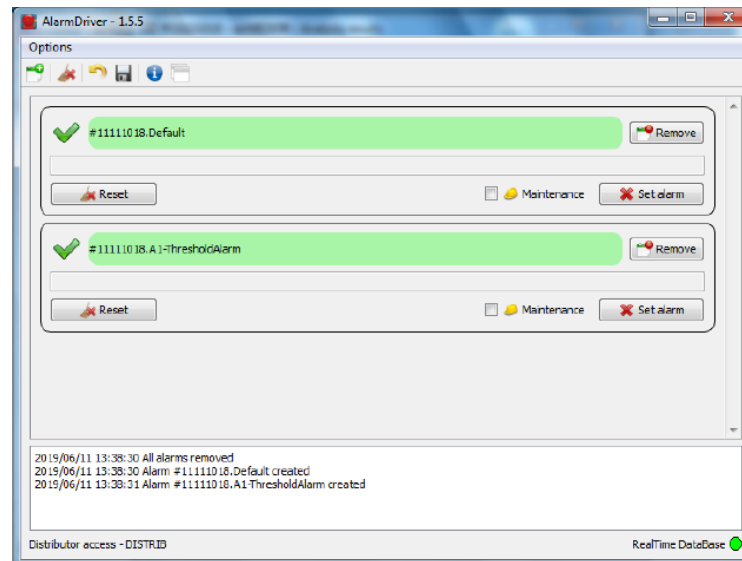


Online Gas and Liquid Analyzer Experts

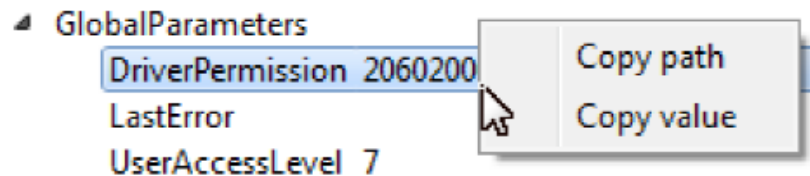
- **Parameters related to the generators are available :**
  - ✓ Remotely (using TeamViewer)
  - ✓ Operating parameters are available in the RTDB (transfert via Modbus, ...)
  - ✓ Automatic « auto-restart » of the software after a power shutdown

# 10- Other improvements

- More options for the Groups
- New « alarm driver » to adjust the alarms more easily



- Easier access to the parameters of the RTDB





# Next sales webinar



Online Gas and Liquid Analyzer Experts

- **Date :**
  - 14/04/21 16h (France time)
  - 15/04/21 9h30 (France time)
- **Subject :**
  - MEDOR



PAHs TO 14 AROMATICS TO 15 AMC SO<sub>2</sub> VOCs ODOR PCB OVOCs HYDRO-CARBONS SOLVENTS HALOGENATED PAMS 56 DIOXINS PRECURSORS BTEX

**THANK YOU FOR  
YOUR ATTENTION!**

Questions?