

From the box to the first analysis cycle

Chromatotec®

Important remarks regarding the installation of your analyzer for the first time

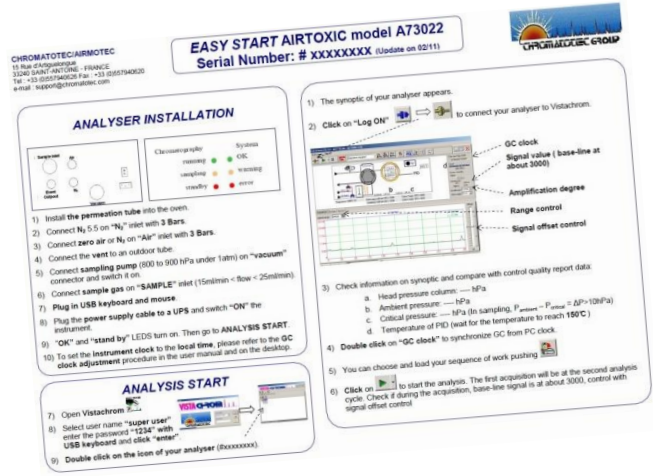
• First, read carefully the documents delivered with your analyzer :

- Easy Start
- Easy Calib
- Control quality report, ...

Location of the devices

Pneumatic and electrical connections

Other remarks



EASY START AIRTOXIC model A73022
Serial Number: # XXXXXXXX (update on 02/11)

ANALYSER INSTALLATION

- 1) Install the permeation tube into the oven.
- 2) Connect N_2 5.5 on " N_2 " inlet with 3 Bars.
- 3) Connect zero air or N_2 on " Air " inlet with 3 Bars.
- 4) Connect the vent to an outdoor tube.
- 5) Connect sampling pump (800 to 900 hPa under (atm) on "vacuum" connector and switch it on.
- 6) Connect sample gas on "SAMPLE" inlet (15ml/min - flow < 25ml/min) connector and switch it on.
- 7) Plug in USB keyboard and mouse.
- 8) Plug the power supply cable to a UPS and switch "ON" the instrument.
- 9) "OK" and "stand by" LEDs turn on. Then go to ANALYSIS START.
- 10) To set the instrument clock to the local time, please refer to the GC clock adjustment procedure in the user manual and on the desktop.

ANALYSIS START

- 7) Open Vistachrom.
- Select user name "super user" enter the password "1234" with USB keyboard and click "enter".
- Double click on the icon of your analyser (XXXXXXXX).

1) The synoptic of your analyser appears.

2) Click on "Log ON" to connect your analyser to Vistachrom.

GC clock
Signal value (base-line at about 3000)
Amplification degree
Range control
Signal offset control

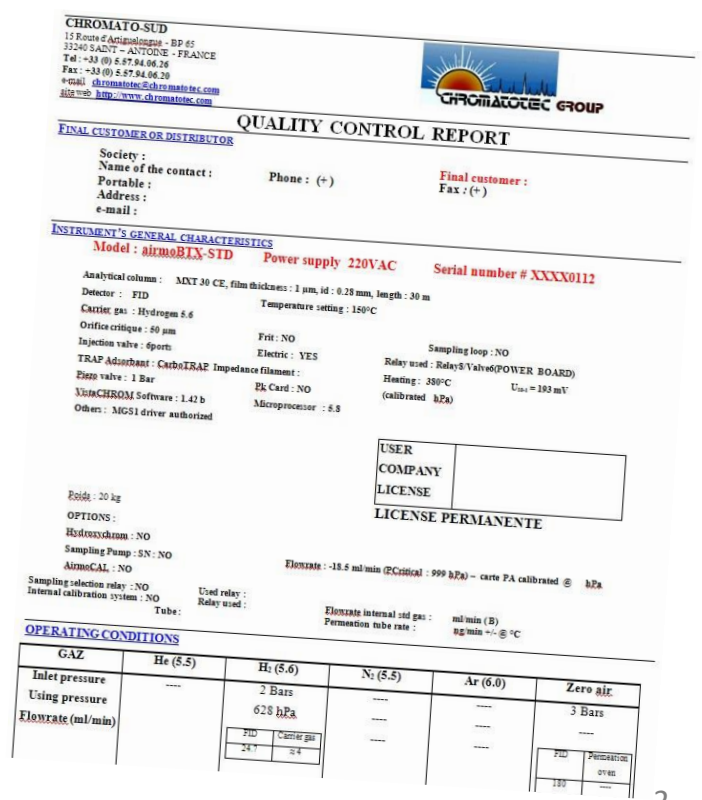
3) Check information on synoptic and compare with control quality report data.

- a. Head pressure column: — hPa
- b. Ambient pressure: — hPa
- c. Critical pressure: — hPa (In sampling, $P_{critical} = P_{atm} + DP-10hPa$)
- d. Temperature of PID (wait for the temperature to reach 150°C)

4) Double click on "GC clock" to synchronize GC from PC clock.

5) You can choose and load your sequence of work pushing.

6) Click on "Start" to start the analysis. The first acquisition will be at the second analysis cycle. Check if during the acquisition, base-line signal is at about 3000, control with signal offset control.



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QUALITY CONTROL REPORT

FINAL CUSTOMER OR DISTRIBUTOR

Society :
Name of the contact :
Portable :
Address :
e-mail :
Phone : (+)
Final customer :
Fax : (+)

INSTRUMENT'S GENERAL CHARACTERISTICS

Model : **airmoBTX-STD** Power supply : **220VAC** Serial number : **XXXX0112**

Analytical column : **MX1 30 CE**, film thickness : 1 μ m, id : 0.25 mm, length : 30 m
Detector : **FID**
Carrier gas : **Hydrogen 5.5**
Orifice critique : **50 μ m**
Injection valve : **6port**
TRAP Adsorbent : **CarboTRAP** Impedance filament :
Eject valve : **1 Bar**
Vistachrom Software : **1.42 b**
Others : **MGS1 driver authorized**

Frit : **NO**
Electric : **YES**
Fk Card : **NO**
Microprocessor : **5.5**

Temperature setting : **150°C**
Sampling loop : **NO**
Relay used : **Relay5-Valve6(POWER BOARD)**
Heating : **350°C**
(calibrated hPa) $U_{out} = 183 mV$

Roide : **20 kg**
OPTIONS :
Hydromechrom : **NO**
Sampling Pump : **NO**
AlmoCAL : **NO**

Sampling selection relay : **NO**
Internal calibration system : **NO**
Used relay :
Relay used :
Tube :

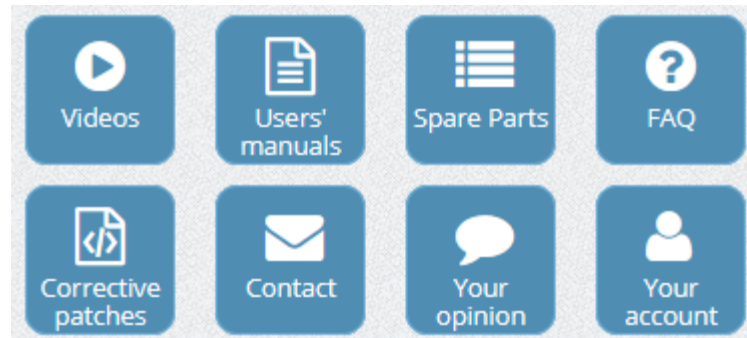
Flowrate : **-18.5 ml/min (FCritical) 999 hPa** - carte PA calibrated @ hPa
Eluent rate internal and gas : **ml/min (B)**
Permeation tube rate : **ng/min +/- @ °C**

OPERATING CONDITIONS

| GAZ | He (5.5) | H ₂ (5.6) | N ₂ (5.5) | Ar (6.0) | Zero air |
|-------------------|----------|----------------------|----------------------|----------|---------------------|
| Inlet pressure | --- | 2 Bars | --- | --- | 3 Bars |
| Using pressure | --- | 628 hPa | --- | --- | --- |
| Flowrate (ml/min) | --- | FID 24 CARRIER 24 | --- | --- | FID 100 OVEN --- |

- Then, have a look on our special technical website:

<https://support.chromatotec.com/>



- Very helpful to:
 - ✓ Start
 - ✓ Calibrate
 - ✓ Maintain
 - ✓ Solve a problem

→ In a room with **constant Temperature** : $20^{\circ}\text{C} < T < 25^{\circ}\text{C}$

- T constant during the whole day
- T constant during the year
- All the parts of the system have to be at this T : cylinders, tubing, ...

→ Airconditionning

- Not blowing directly on the analyzer!
- Air flow has to be diffuse in the room

• Far from a window



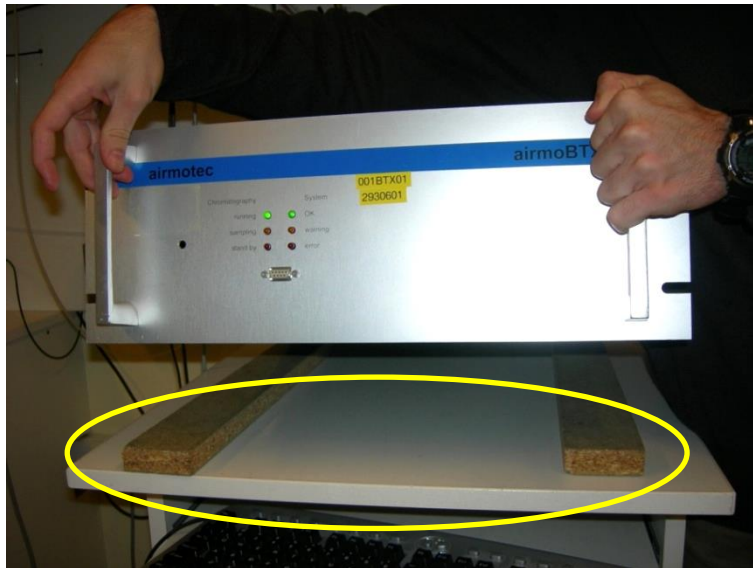
→ Not good !



Analyzers and generators create **calories**



Let **5 cm between your table (or lab bench) and your analyzer**, using 2 pieces of wood



→ Particularly important for the analyzers which have a temperature gradient on their analytical column
↳ For an optimal efficiency of the column oven fan

Placing of the analyzers

If you design (by yourselves) a cabinet, containing several analyzer, **let space between them!**

Location of the devices

Pneumatic and electrical connections

Other remarks



Placing of the analyzers

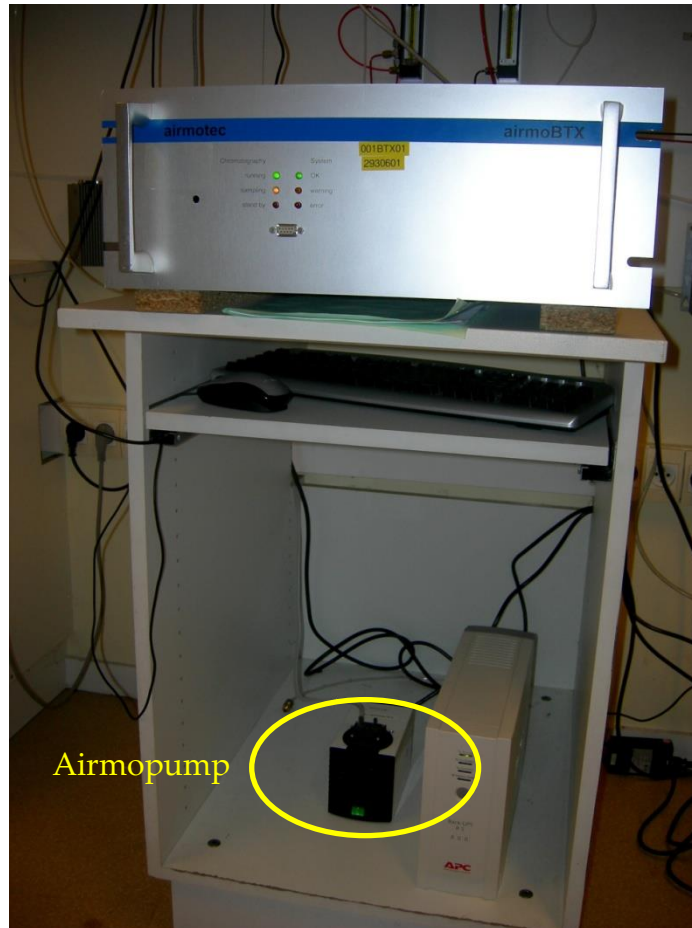
- Place **devices creating vibrations on the ground**

⇒ Not on the same table than an analyzer

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→ Airmopump, Line pump, Airmopure, ...

Placing of the analyzers

Think at the future operations on your analyzers

- Basic settings : ignition of the flamme of the FID, flows, ...
- Maintenance, repairing, ...

⇒ Let the inside of the analyzer accessible!

- The cover of each analyzer should be removed easily

- In a cabinet, each rack (or drawer) should be pulled easily



↳ Example : Do not use short inox tubes linking the analyzers each other

Importance of the sampling line quality

The sampling line used has to be :

- **Very clean**

→ **without pollution** (gas, aerosols, ...)

↳ don't forget to purge the sampling line before the 1st use



- If you use a **filter**, pay attention to its **quality** !

↳ We advice you to use : PTFE 2.5µm on an inert holder (glass)

- Use a **teflon** tube (inert) for your sampling line

- **Limit the number of fittings** along the sampling line

↳ to avoid the loss of heavy compounds, ...



- **Dry**

- end of the sampling line protected from the rain

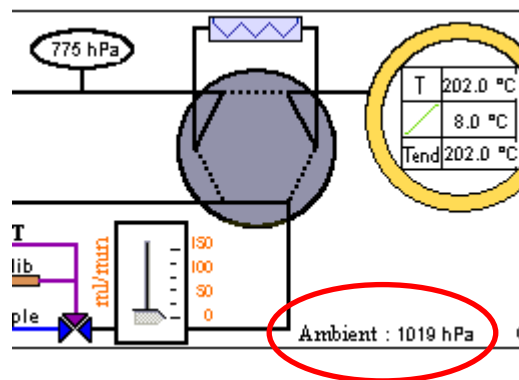
- use a purge bottle if necessary, inline in your sampling line

Importance of the sampling line

Remark concerning the instruments designed for a sample at ambient pressure (especially those using a trap)

→ AirmoVOC, AirToxic, ...

- Check that your sampling line do not modify the pressure at the sampling point :



$P_{\text{without the sampling line}}$ MUST be equal to $P_{\text{with sampling line}}$ at $\pm 5 \text{ hPa}$

- Do the same test if you are using a diluting system (or a cylinder) connected to your GC for the calibration

⇒ To protect the instrument, and ensure good results

Electrical connections

Connect your { Analyzer
External PC } to an UPS :

Choose an UPS
designed for
industrial
applications...

...rather than a
simple one for
laboratory

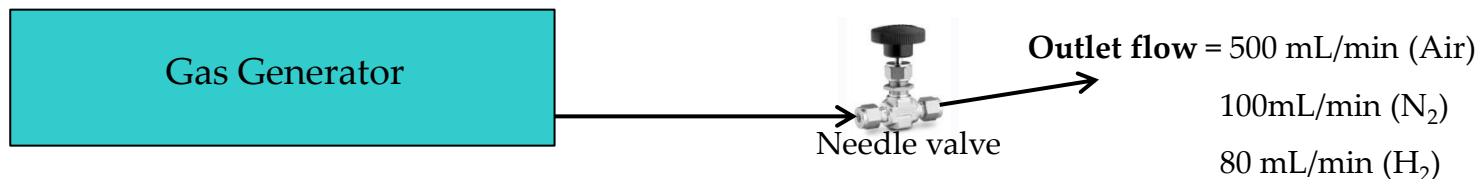


⇒ Less problems in case of power cut

- **Purge** all your gas generators during **1 hour**:

↳ During this purge, the generators **MUST** be disconnected from the GC !

Pneumatic and electrical connections



Other remarks

↳ The gas have to be well dried and very pure, before feeding the analyzers.



The damages created by skipping the purge of the generators will not be covered by the warranty!

If you use your own gas supply :

- The **quality of the gas** has to be **very good**

↳ Refer to your quality control document to know the gas quality required for your installation

⇒ To avoid signal or baseline problems relative to gas pollution

- The **gas pressure** feeding the analyzers has to be **stable**

$P_{\text{Air}} = 4 \text{ bar or } 3 \text{ bar}$

↳ $P_{\text{N}_2} = 3 \text{ bar}$

$P_{\text{H}_2} = 4 \text{ bar}$



- The **sampling flow** has to feed the system
 - without humidity
 - without solid aerosols

To avoid the formation of ice in the trap :

- ⇒
- **Read carefully** the « **Easy start** » document
 - Switch on the AirmoVOC C₂C₆
 - Set the **Peltier** temperature at **+5°C**



- Feed your analyzer with the gas during **3 hours**
- Then, set the Peltier Temperature at T = - 10°C

↳ After that, your analyzer is ready to be used

If you want to stop your system

- If you don't use your analyser during a short period of time

↳ We advice you to **let your analyzer switched on, feeded with gas, and doing cycles**

Time needed to have your system stable, if you restart your system

- **Don't stop the gas flows without switching off your analyzer**

Heating without gas \Rightarrow Risk to damage your system (column, ...)

Pay attention to the virus

Pay attention not to introduce virus on **the internal PC** :

- Do not insert a USB key infected with virus



- If you use a network, pay attention to the virus

