

Chromatotec's Gas Generators

Generators



HYDROXYCHROM

Hydrogen generator

Model : XXX916



NITROXYCHROM

Nitrogen generator with air compressor

Model : XXX913-CS



AirmoPURE

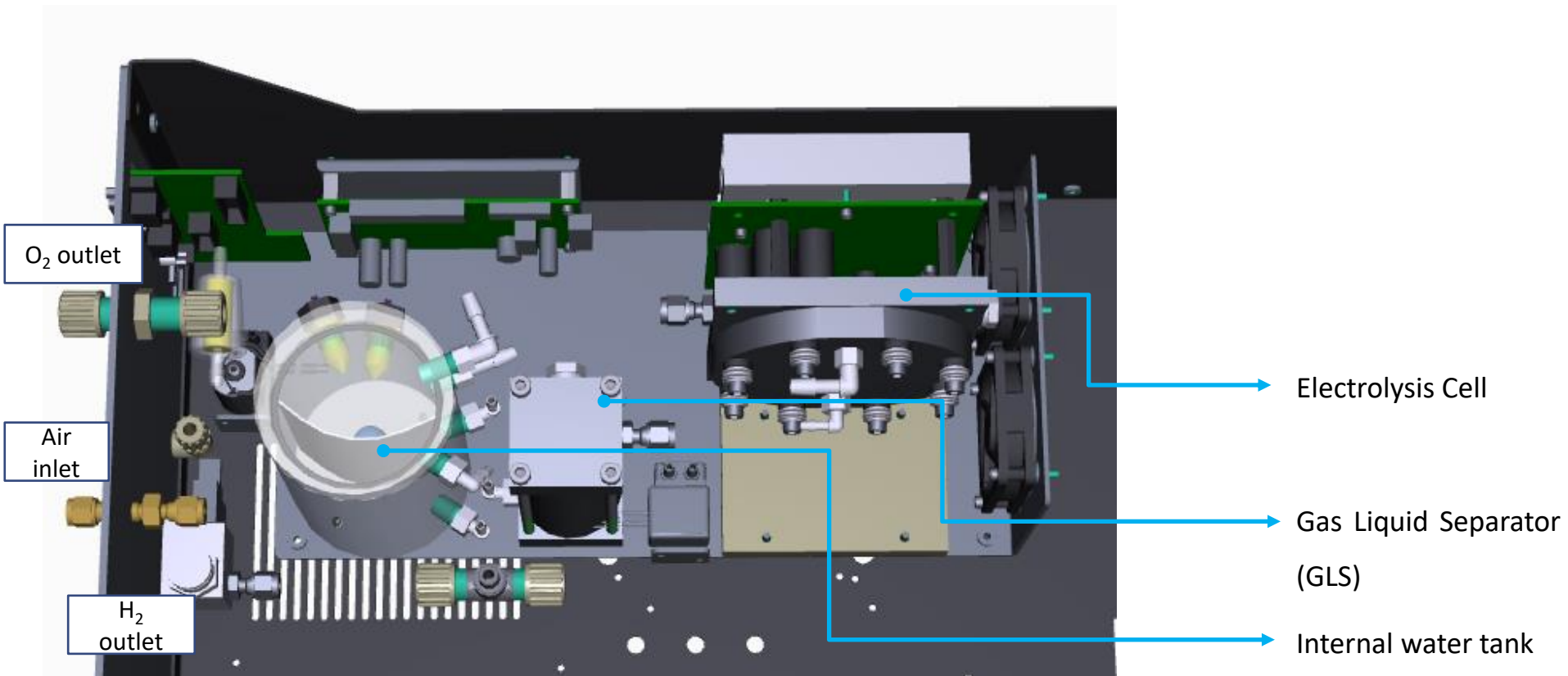
"Oil-free" Zero air generator

2 Models : XXX031-D
or XXX033 for bigger air flows

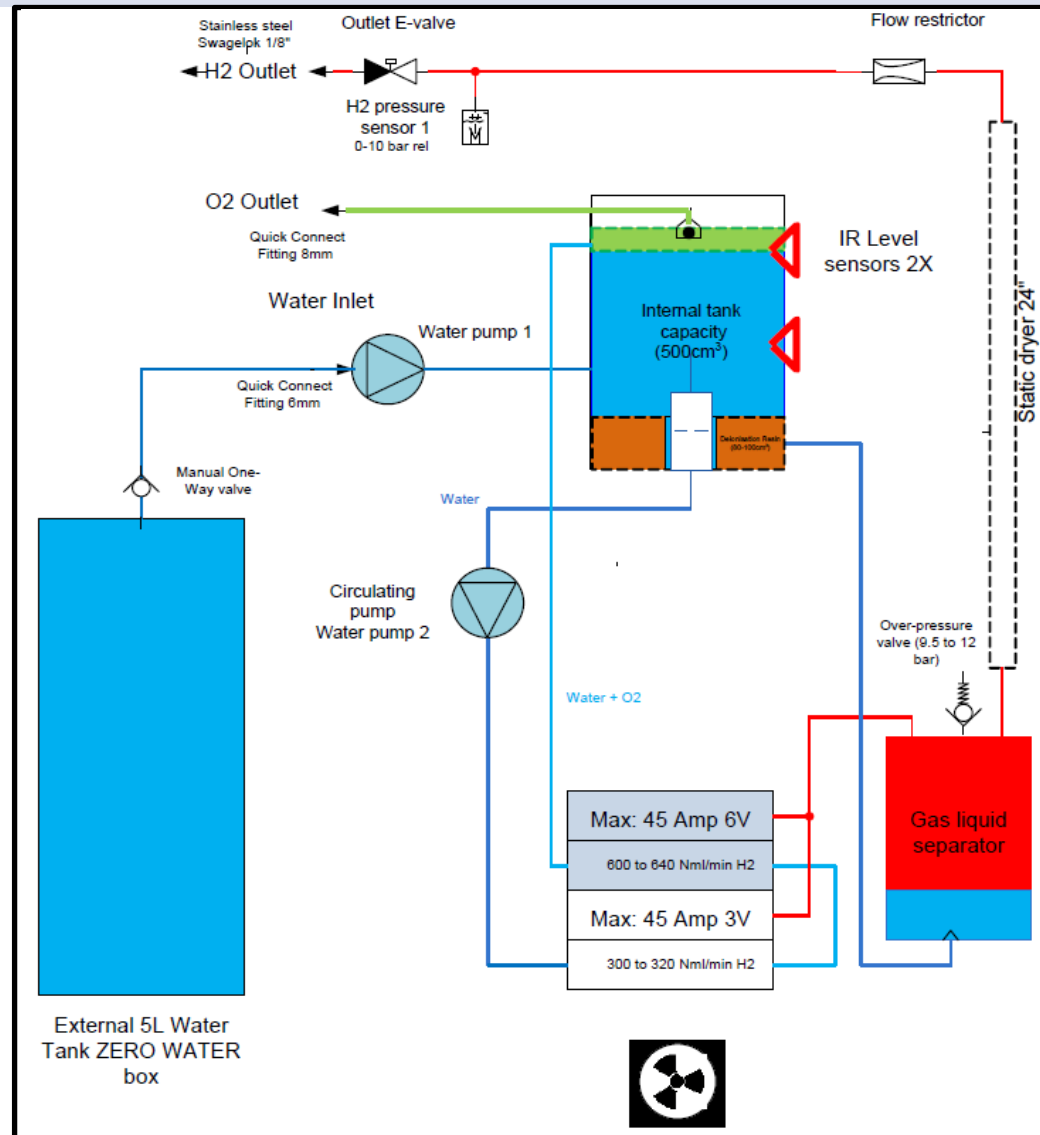


- Hydroxychrom
 - Principle
 - Installation
 - Software
 - Service
 - Preventive maintenance
 - Alarm and troubleshooting
- Nitroxychrom
 - Principle
 - Installation
 - Software
 - Service
 - Preventive maintenance
- Airmopure
 - Principle
 - Installation
 - Service
 - Preventive maintenance

Hydroxychrom - principle



Hydroxychrom - principle



Hydroxychrom - Installation



- Read the QC report
- Read the easy start document
- Read the user manual



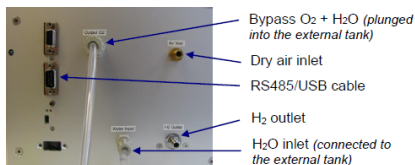
CHROMATOTEC GROUP
15 rue d'Antiquelongue
Saint-Antoine
33240 VAL DE VIRVEE - FRANCE

EASY START HYDROXYCHROM (December 2020)

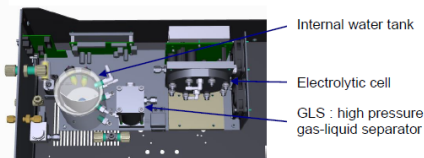


PRESENTATION

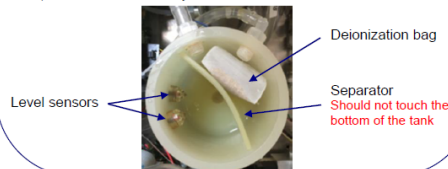
1) Connections



2) Internal elements of the Hydroxychrom



3) Internal water tank layout



Starting procedure

- Put the deionization bag into the internal water tank or check there is one inside the internal tank. Be sure it is not in contact with level sensors.
- Fill up the external 5 L tank with **3 liters maximum of deionized water (<0.3uS/cm)** and connect the tank to H2O inlet of HYDROXYCHROM with Ø 6mm tube supplied (1.5 meters max between generator and tank).
- Connect outlet « Bypass O₂+H₂O » to the external 5L tank in order to collect any water rejected.
- Important** : Install the external 5L tank **at least 50 cm lower** than the HYDROXYCHROM
- Connect zero air to "INPUT DRY AIR" (4 bars)
- Connect the HYDROXYCHROM to the computer with the RS485/USB cable
- Connect the Power supply cable
- Before switching on, connect a syringe filled with deionized water to the water inlet of the electrical cell (disconnect pump outlet) and **remove the clamps**.
- Inject the deionized water to the electrolytic cell. Put back the clamps and remove the water from the internal water tank (repeat this operation to inject a total of 1L of deionized water). This step is important to remove any contamination before switching on the power (see video on <https://support.chromatotec.com/>).
- After the last injection with the syringe, leave the water in the internal tank.
- Switch on the generator. The pump should transfer more water from the external tank to fill up the internal one and the water circuit should be booted.
- Check if the water circuit is well booted and the internal tank is well filled up.
- Important**: **Purge** the generator during minimum **1 hour** under a **pressure of 4 Bar** and a **flow around 80ml/min** before a normal use of the generator. Do not connect to the analyzers during the purge.
- Connect "OUTPUT H2" to your analyzer with a 1/8" tubing.
- Check generation is well done (bubbles at the cell outlet and "estimated production" on HYDROXYCHROM Viewer).

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QUALITY CONTROL REPORT-HYDROXYCHROM

FINAL CUSTOMER or DISTRIBUTOR

Order N°:

Society:

Final customer:

Name of the contact:

Fax:

Phone:

Portable:

Address:

E-Mail:

SPECIFICATIONS

Model: Hydroxychrom:	100 ml/min
Serial number of the generator:	#XXXXXXXX
Power supply:	230 VAC
Serial number of the cell:	---
Firmware H2CU board:	V403
Serial number Cell board:	---
Serial number H2CU board:	---
Serial number C.com board:	---
Firmware H2Cell board:	V112

Parameter	Value measured	Allowable tolerances
Outlet Pressure	4 bars	4 bars
Pressure hold test		
With a H2 flow = 100mL/min or 160mL/min (depending on the model)	100 ml	2h test at 100mL/min or 160mL/min
Max voltage on the cell	1.78 V	2.4 V max
For a H2 flow = 100 mL/min		
Max current on the cell	14 A	22 A max
For a H2 flow = 100 mL/min		
Air flow crossing the dryer	203 mL/min	200 mL/min +/- 10mL/min
With Air Pressure = 4 bars		
Leak test on the generator		
H2 Pressure, 10 min after stopping the generation, with a plug at H2 outlet	P = 3.898 bar	P > 3 bar
Dew point		
(Operating conditions	-22.9°C	T < -8°C
P _{in} =4 bars, H2 flow=100mL/min)	155.8 ppm (v) H ₂ O	
Dew point		
(Operating conditions	NA	T < -10°C
P _{air} =--- bars, Air flow=500mL/min)		

Date of the deionized bag installation (to replace every year): NA

Recommendations:


We remind you that it is necessary to do preventive maintenance on the generators and to check regularly deionized water level and quality. Follow strictly the procedures of start and stop as explained in easy start document.

QUALITY CONTROL ENGINEER

ANALYTICAL DEPARTMENT MANAGER

Hydroxychrom - Installation



- Intelligently select the location for the instrument : no vibration, smooth Air Conditionning, far from a windows ...
- Fill the external water tank with fresh deionized water
- After unpacking the generator, please remove the two blue clamps around the cell.
A blue plastic clamp with a textured, ribbed surface and a locking mechanism.
- Purge the gas generator during one hour! (no connection generator - GC). Use an external needle valve for that. H₂ flow during the purge = 80 mL/min



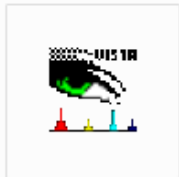
The damages created on analyzer by skipping the purge of the generators will not be covered by the warranty!

Hydroxychrom - Software



Hydroxychrom Viewer Software

- Available on Vistachrom software (since VC 1.5)
- Real-time visualization of the cell parameters (Current, Voltage)
- Remote control (leak check, errors...)



Vistachrom Log in

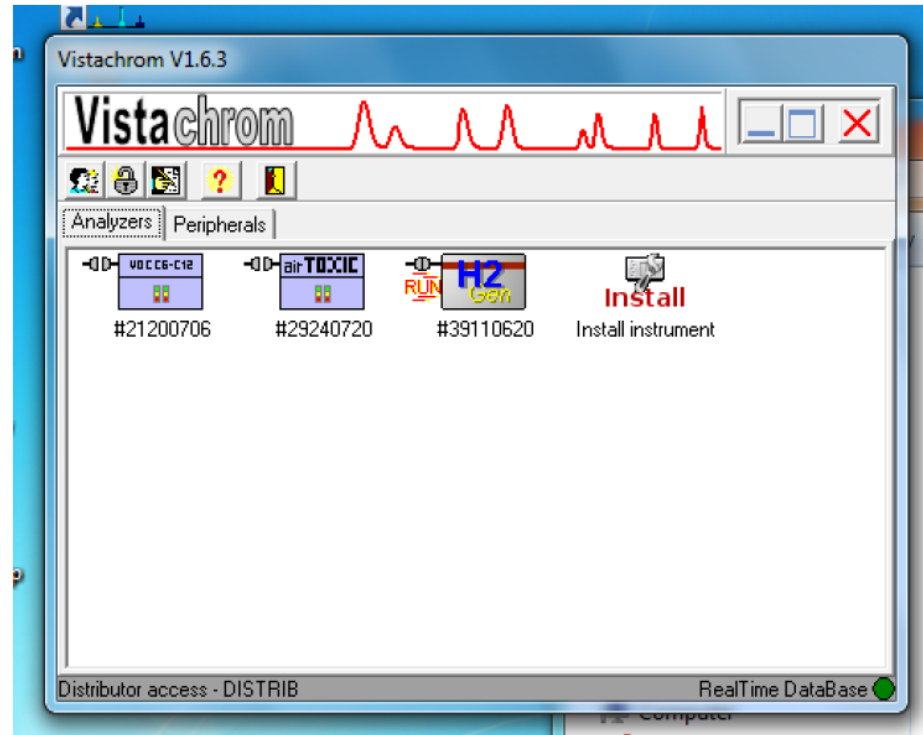
- Login : "SUPERUSER"
- Password : "1234"



Hydroxychrom - Software

Main Window

- The generator appears in the list of instruments
- Double-click on the H2 generator to open the “Hydroxychrom Viewer”



Hydroxymchrom - Software

Communication port

Connection between the Hydroxymchrom and the computer

Instrument information

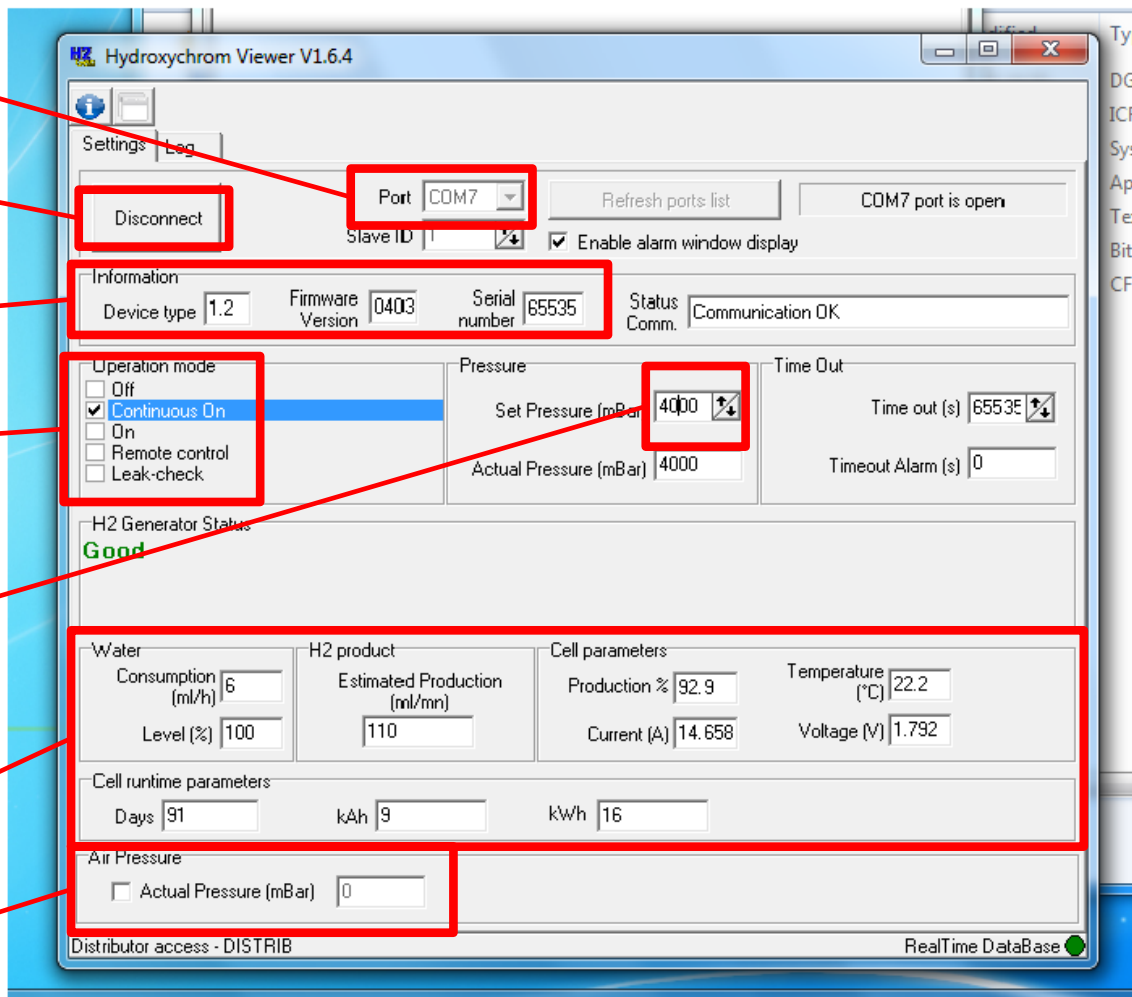
Mode

Set pressure :

4000mBar for FID detector
2000mBar for FPD detector

Main flow and cell informations

Option zero air pressure measurement (XXX918)



The screenshot shows the Hydroxymchrom Viewer V1.6.4 software interface. Red boxes highlight the following elements:

- Communication port:** The 'Port' dropdown menu is set to 'COM7'.
- Connection between the Hydroxymchrom and the computer:** The 'Disconnect' button is highlighted.
- Instrument information:** The 'Information' section shows Device type 1.2, Firmware Version 0403, and Serial number 65535.
- Mode:** The 'Operation mode' section shows 'Continuous On' selected.
- Set pressure:** The 'Set Pressure (mBar)' is set to 4000.
- Main flow and cell informations:** The 'Water' section shows Consumption (ml/h) 6, Level (%) 100, and the 'H2 product' section shows Estimated Production (ml/min) 110. The 'Cell parameters' section shows Production % 92.9, Current (A) 14.658, Temperature (°C) 22.2, and Voltage (V) 1.792.
- Option zero air pressure measurement (XXX918):** The 'Air Pressure' section shows 'Actual Pressure (mBar)' set to 0.

The interface also displays 'H2 Generator Status' as 'Good' and 'RealTime DataBase' status.

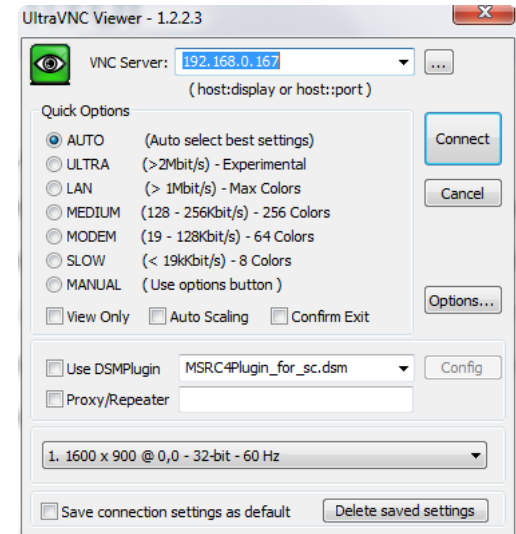
Hydroxychrom - Software



Remote control

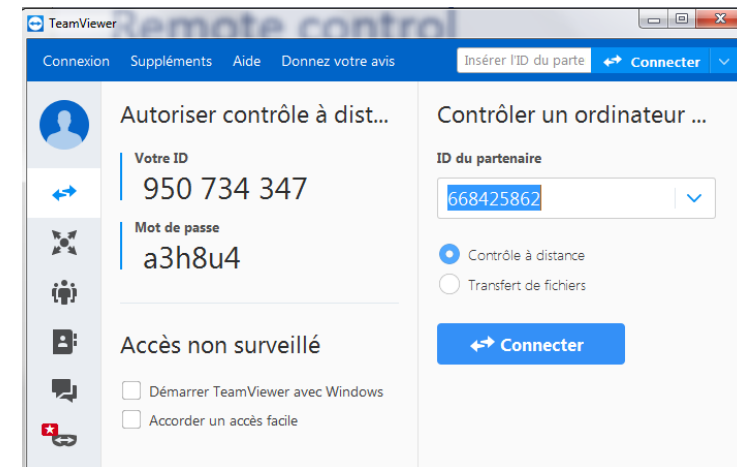
UltraVNC:

- Easy to use for local area connections
- On the Chromatotec computer, the software is automatically started at Windows start up
- On the remote computer, just write the IP address of the Chromatotec computer



TeamViewer:

- Easy to use for connections through internet
- On the Chromatotec computer, start the software from: D/TeamViewer
- On the Chromatotec computer, write down the IP and password written in TeamViewer
- On the remote computer, just write these ID and password



Every week:

- Check the main parameters display on hydroxymchrom Viewer (cell parameters, water consumption, H₂ pressure)

Every month:

- Replace the deionized water contained in your external water tank
- Check the water inside the generator is clean (no dust, no bacterial deposit...)

Every year:

- Do the preventive maintenance actions, replacing the PM parts
- Full check of the instrument : Preset, flows, pressures...

Hydroxychrom – PM kits



« One year Preventive Maintenance kit »:

Spare parts kit to replace each year on Hydroxychrom 4U

Item number	Designation	Qty	Unit Price Euro Excl Tax	Total Price Euro Excl Tax
Hydroxychrom 4U				
CS_MA_01080-HYDR	Annual kit (filters)	1	140,70 €	140,70 €
CS_FI_00101-0000	Deionization bag (pack of 2)	1	156,67 €	156,67 €
TOTAL PRICE				297,37 €

Hydroxymchrom - Alarm



Alarm #	Alarm Name	Cause	Actions
1	Water Level	<ul style="list-style-type: none"> Internal tank could not be filled up to maximum level detector. Tube between external tank and device is leaky Incorrect water level regulation in the internal water tank 	<ul style="list-style-type: none"> External tank is empty, add water. Be sure the tube "water inlet" is properly connected : not plugged, no restriction Check the environment : no sun, no vibrations applied on the instrument.
2	H ₂ Output pressure	<ul style="list-style-type: none"> Actual H₂ pressure could not reach set value H₂ flow consumed by your GC is superior to the generator's capacity. 	<ul style="list-style-type: none"> Proceed to a leak test on the generator itself Check there is no leak on the tubes and fittings Volume between H₂ generator and instruments too important.

Hydroxychrom - Alarm



Alarm #	Alarm Name	Cause	Cure
3	H ₂ -Cell Voltage	<ul style="list-style-type: none"> • Bad quality of water. • Deionisant bags inside internal and external tank are not any more efficient. • H₂-cell is dry. 	<ul style="list-style-type: none"> • Empty the water in both tanks. Fill them with fresh and filtered water. • Exchange deionisant bags. • Verify if water is correctly circulating. Circulating pump should not be stopped. Be sure there is no blockage in the water tubes
4	Internal communication	<ul style="list-style-type: none"> • One or several cable(s) inside device is(are) disconnected or damaged • One board inside device is damaged. 	<ul style="list-style-type: none"> • If a cable is simply disconnected due to vibrations during shipment, please switch off the device and reconnect simply the cable. • If one board is damaged, please call your local distributor for repair.

Hydroxymchrom can be tuned!



Higher production capacity options: (XXX917)

- 160ml/min instead of 100ml/min

Zero air pressure measurement and display options: (XXX918)

- Available on Hydroxymchrom Viewer

Internal zero air generator options: (XXX919)

Software upgrade available :

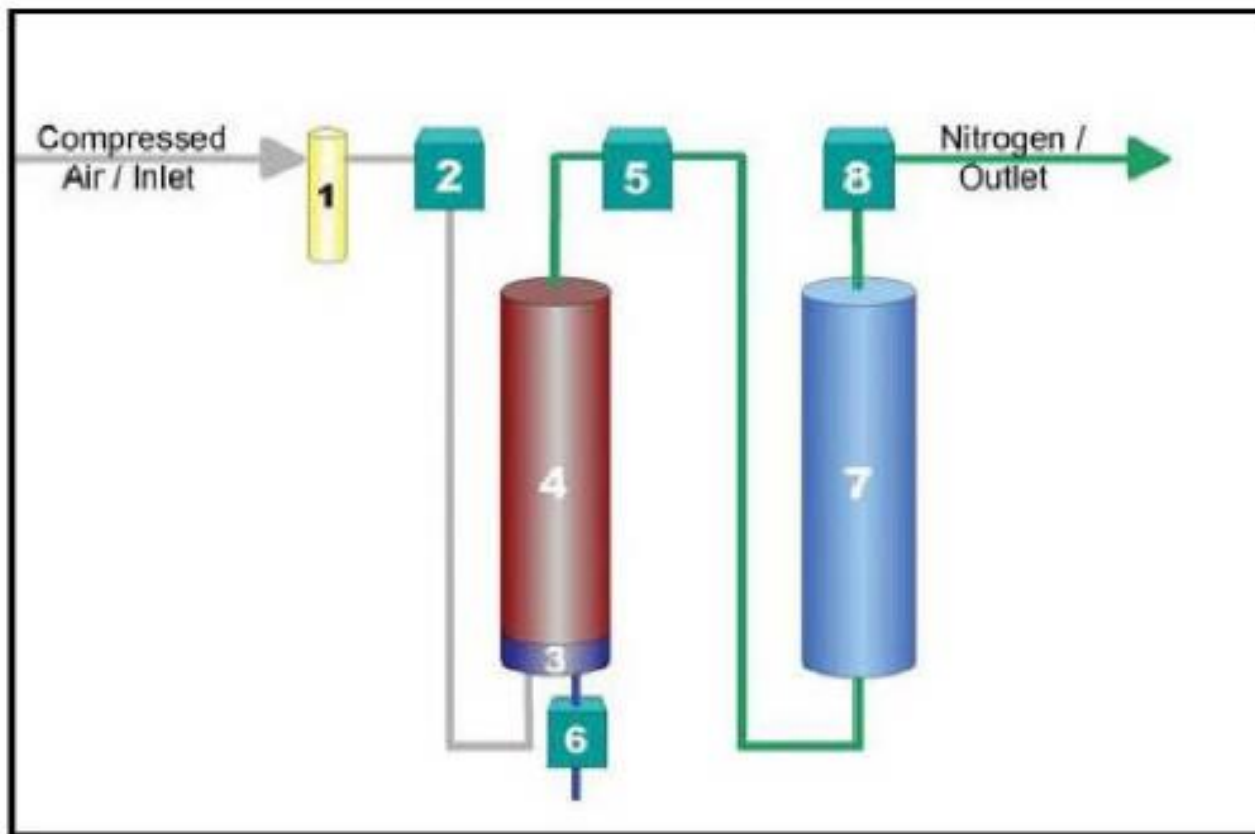
- To reset the generator remotely, clicking on a button
- To reset some alarms remotely (example : “water sensor level failed”)

Nitroxychrom - Principle



- | | | | |
|---|--------------------|----|------------------|
| 1 | Cooling Coil | 9 | Safety valve |
| 2 | Power Supply | 10 | Controller |
| 3 | Non-Return Valve | 11 | Reservoir column |
| 4 | Pressure Regulator | 12 | Air inlet filter |
| 5 | Solenoid Valve | 13 | Compressor |
| 6 | Filter | 14 | CMS column |
| 7 | Power Connections | 15 | Catalyst |
| 8 | Vent Silencer | | |

Nitroxychrom - Principle



1. Inlet filter

2. Flow controller and inlet solenoid valve

3, 4 & 6. CMS Column with Alumina and Exhaust

5. Non-return valve

7. Reservoir column

8. Outlet pressure and flow controllers

Nitroxychrom - Installation



- Read the QC report
- Read the easy start document
- Read the user manual

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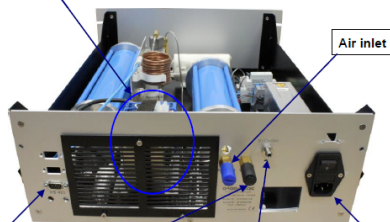
EASY START NITROXYCHROM model XXX913-CS (November 2019)



PRESENTATION

Gas connections of back face:

Compressor attached with a strap
The strap is used to hold the compressor during transport.
⚠ It must be loosened before starting the generator.



N2 pressure connection
This allows to display the reservoir pressure in Vistachrom.

Vent
This is the outlet for the oxygen rich gas and any moisture which is dumped at the end of each cycle. During constant running, this will occur every 3 minutes.
A silencer is fixed on this connector.

Nitrogen outlet connection
This should be connected to the analyser with suitable tubing. This is a 1/8" male connector.

Main Voltage Power connector
Connect the IEC cable to this port to supply power to the Nitroxychrom.

INSTALLATION

1) Start

Once you have installed the unit and connected all the couplings, plug in the mains cable to the rear of the **Nitroxychrom** and switch on the power switch. The catalyser inside the instrument heats and the reservoir pressure reaches 72.5 psi/5 Bars (after approximately 10 minutes)

2) Purging

Initially the **Nitroxychrom** have nitrogen stored in the reservoir. As the **Nitroxychrom** starts to add nitrogen to its reservoir, the nitrogen content will begin to increase.

Remove the cover and increase the **internal pressure regulator at 3 Bars**

The outlet on the back face of **Nitroxychrom** should be left open to atmosphere when it is running, to allow the unit to purge itself to the desired outlet purity.

We recommend to purge the generator during 5 hours minimum.

3) Connect the analyser

After the initial purging period, you should connect your analyser to the **Nitroxychrom** permanently. The **outlet pressure** of the generator is **3 bars** (internal pressure regulator).

Connect the "N2 pressure" cable between the **Nitroxychrom** and the GC, to display the reservoir pressure in the **Nitroxychrom** viewer.

4) Stop the Nitroxychrom

Remove the cover and decrease the **internal pressure regulator at 0 Bar**.

Close the **Nitroxychrom** viewer.

Shut down the power supply.

15/06/2018

CQ Report - Nitroxychrom #XXXXXXXX

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QUALITY CONTROL REPORT - NITROXYCHROM

FINAL CUSTOMER or DISTRIBUTOR

Company : AIRMOTEC

Final customer : ATMO

Name of the contact :

Phone :

e-mail :

SPECIFICATIONS

Model : Nitroxychrom
Serial number :
Power supply : 230 VAC

Parameter	Value measured	Allowable tolerances
Outlet N2 pressure With N2 flow = 250mL/min	3.2 bars	2.8 bars < P < 3.2 bars
Air pressure at the compressor outlet	14 bars	P > 8 bars
N2 pressure holding test, With N2 flow = 250 mL/min	OK	checked 4 h
N ₂ pressure mini (during a pneumatic valve actuation)	2.4bars	P > 1.8 bars
Time to go back to 3 bars after a pneumatic valve actuation	1s	temps < 5s
Time of compression	3min	3 min
Dwell time between two compressions	2min40s	2min40s
Catalyzer temperature (depending on the generator model)	-	T > 350°C
Dew point Operating conditions: P ₀ = 3 bars, T lab = 22°C, N ₂ flow = 250mL/min	T = -18.9 °C	T < -10°C

Recommendations:

We remind you that it is necessary to do preventive maintenance on the generators. Follow strictly the procedures of start and stop as explained in easy start document.

CUSTOMER SERVICE ENGINEER

SERVICE MANAGER

Nitroxychrom - Installation



- Intelligently select the location for the instrument : no vibration, smooth Air Conditionning, far from a windows ...
- Purge the gas generator during one hour! (no connection generator - GC). Use an external needle valve for that. N_2 flow during the purge = 100 mL/min



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

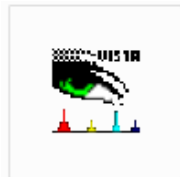
Nitroxychrom - Software



Nitroxychrom Viewer Software

- Available on Vistachrom software (since VC 1.5)
- Real-time visualization of the parameters (compressor time, purge time)
- Remote control (leak check)

Vistachrom Log in

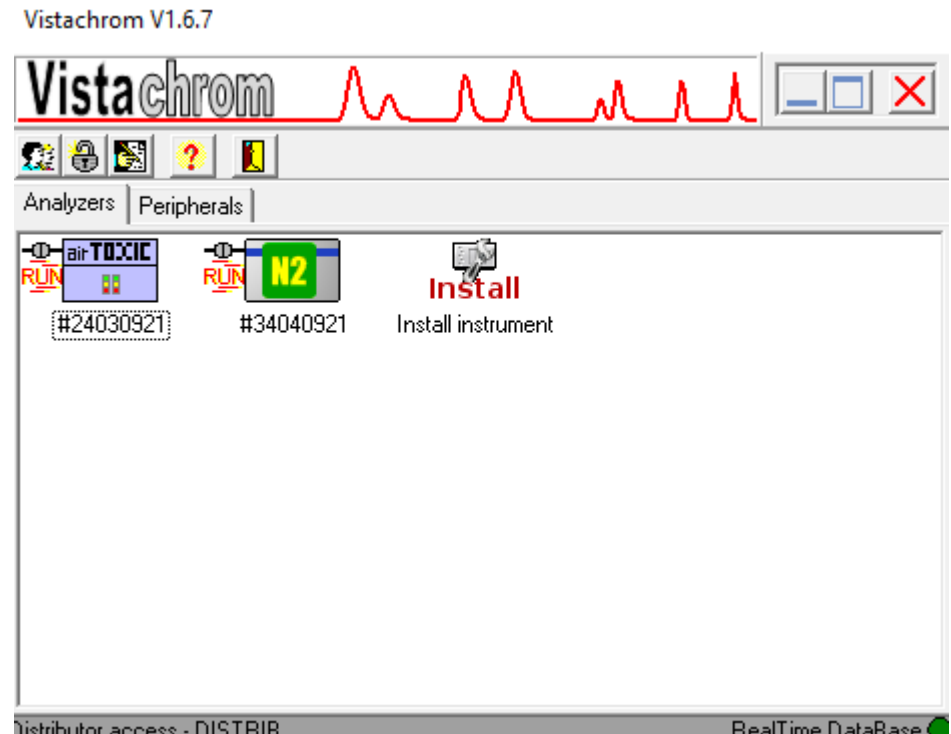


- Login : "SUPERUSER"
- Password : "1234"



Main Window

- The generator appears in the list of instruments
- Double-click on the N2 generator to open the “Nitroxychrom Viewer”



Nitroxychrom - Software



Communication port

Connection between the Hydroxychrom and the computer

Instrument information

Main parameters (time and pressure)

Mode

Actual pressure in the internal tank

Current cycle state

Nitroxychrom Viewer V1.6.7

Settings Log

Disconnect Port COM7 Refresh ports list COM7 port is open

Status Comm. Communication OK

Board info

Firmware version	3.0
MAC address	80:1F:12:E3:7B:96
24V power supply	24.707 V

Relay states

Compressor	Off
Purge	On

☐ Operation
☐ Leak-check

Parameters

Power on purge time	30 s
Compressor time	180 s
Purge time	160 s
Pressure threshold	5860 mBar
High pressure wait time	330 s
High pressure purge time	10 s

Pressure

Actual pressure 4679 mBar

Current cycle state

Purge

48 %

Distributor access - DISTRIBUTION Real Time Database

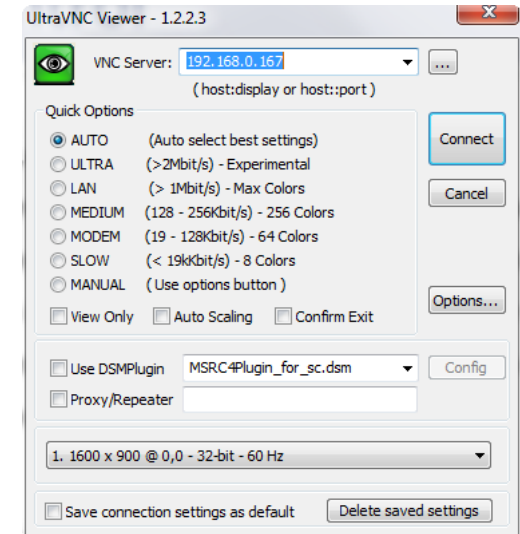
Nitroxychrom - Software



Remote control

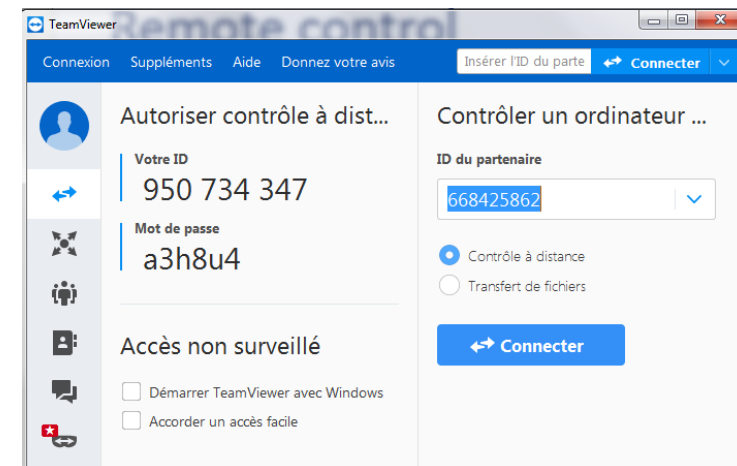
UltraVNC:

- Easy to use for local area connections
- On the Chromatotec computer, the software is automatically started at Windows start up
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TeamViewer:

- Easy to use for connections trough internet
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- On the Chromatotec computer, write down the IP and password written in TeamViewer
- On the remote computer, just write these ID and password



Every month:

- Check the actual pressure on Nitroxychrom Viewer
- Check the outlet N₂ pressure displayed on the outlet pressure regulator : P = 3 bar

Every year:

- Do the preventive maintenance actions, replacing the PM parts
- Full check of the instrument : Flows, pressures...

Nitroxychrom – PM kits



Preventive maintenance kits

	Designation	Item number	Qty	Unit Price Euro Excl Tax	Price of the whole kit € ex VAT	Unit Price USD	Price of the whole kit USD ex VAT
PM Kit One year	Kit Nitroxychrom (Filters + Silencer + Compressor valve kit)	CS_PN_00001-SP01	1	210,46 €	210,46 €	\$273,60	\$273,60
PM Kit 3 years	Replacement of compressor and filters on Nitroxychrom (230V)	CS_PN_00230-SP05	1	612,65 €	1 969,52 €	\$796,45	\$2 560,38
	Catalytic purifier for zero air generator	CS_PN_07539-ASSY	1	1 356,87 €		\$1 763,93	

Airmopure - principle

Power Switch
ON/OFF

Power supply
cable

Compressor

Catalyst

Dryer

Outlet « Air flame »

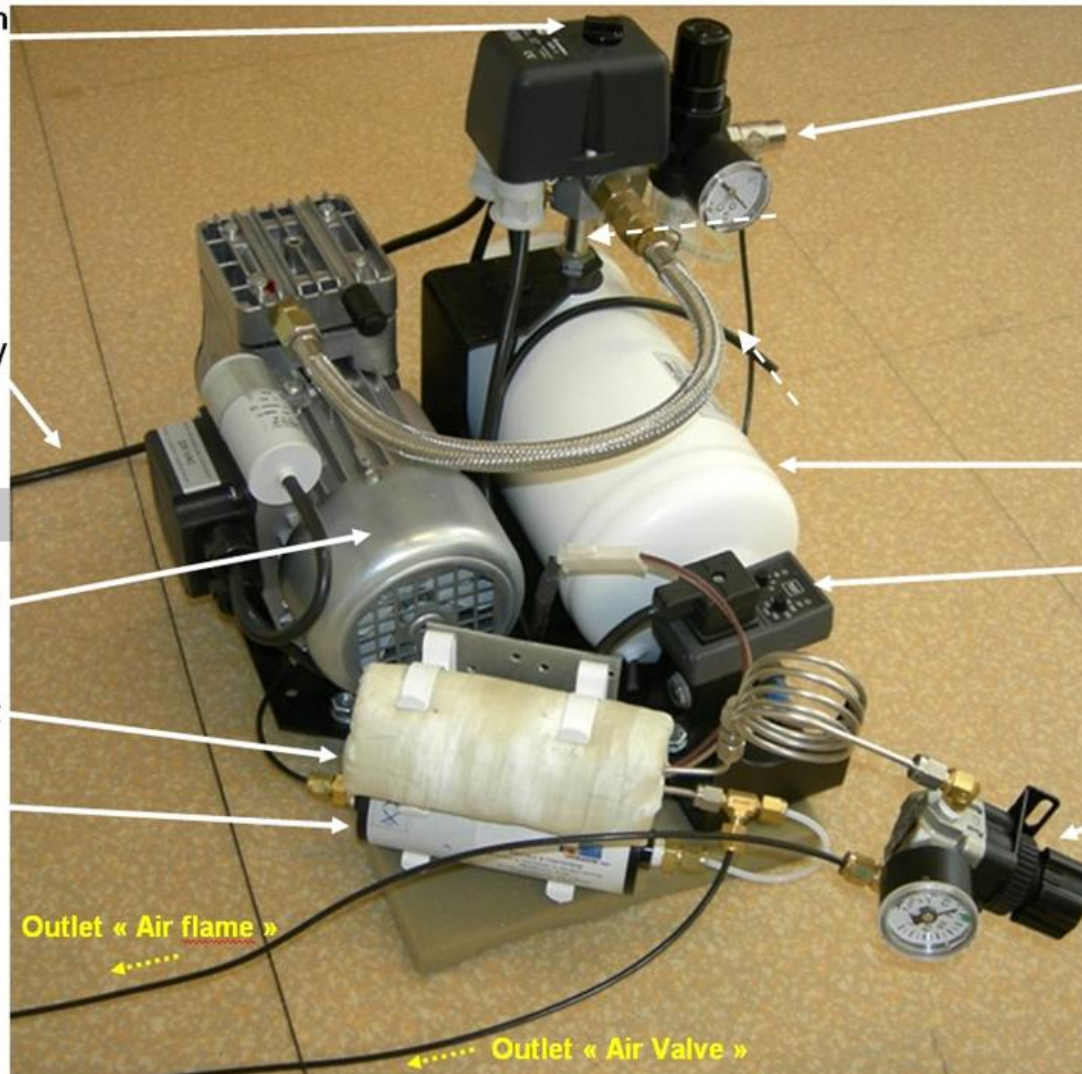
Outlet « Air Valve »

Flow limiter
→ protect the
generator if there
are leaks
downstream

Internal tank

Automatic
purge

Pressure
regulator
« Air Flame »



Airmopure - Installation



- Read the QC report
- Read the easy start document

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EASY START airmoPURE-D at 5 Bars

(02/2018)



PRESENTATION

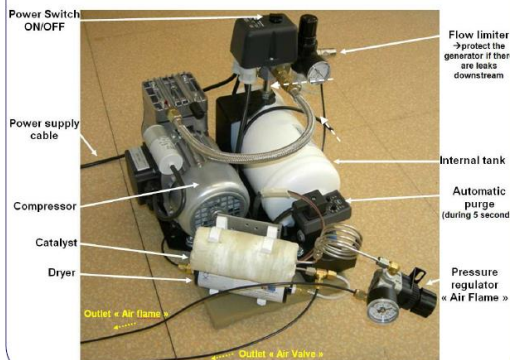
The AirmoPURE-D Zero Air generator contains a compressor (without oil), feeding an internal air tank.

The compressor works discontinuously to maintain an air pressure higher than 5 bars, in the tank.

When the tank pressure reaches a critical value of 5 bars (low value), the compressor starts in order to reach a maximum pressure around 8 bars (high value).

A manual pressure regulator is used to adjust outlet pressure. After the tank, the air is dried (through the membrane dryer) and purified (through the catalyst).

If you want more information concerning your generator (pressure, flows...), refer to its quality control report.



INSTALLATION

Purge of the generator

Before an installation, you absolutely have to purge the AirmoPure. This guarantees a pure zero air. Doing this, there is no risk to pollute and damage your analysis system.

If you have a needle valve, the purge is easy to do: connect the needle valve to limit the Air Zero generated to 500mL/min. Purge 2 hours.

If you don't have a needle valve, follow the instructions below:

- 1) Unscrew the pressure regulator « Air outlet » before the dryer to close it
Remark: If your generator has a « Valve Air » output, close this output, using a plug.
- 2) Connect the AirmoPure power supply cable
- 3) Start the AirmoPure, using the Power switch (→ position 1)
- 4) Gently open the pressure regulator (clockwise) to have a small air flow going to the vent (around 500mL/min)
- 5) Wait 2 hours to do the purge, then close the pressure regulator

Connect the AirmoPure to the analysis system

- 6) Connect the 3 air outlet to your analyzer and to your H2 generator
 - a. After the Dryer (5Bars), on the air inlet of the H2 generator
 - b. After the Dryer (5Bars), on the "Valve air" inlet of the analyzer
 - c. After the Catalyst (3Bars), on the "Air" inlet of the analyzer
- 7) Set the air pressure to 5 bars, using the pressure regulator before the dryer.
- 8) Set the final pressure after the catalyst to 3 bars, using the pressure regulator.
- 9) Check the leaks on all the fittings on your Air circuit, using SNOOP (soapy water)

Remark: Put the AirmoPURE on a flat area, far from the analyzers. Indeed, vibrations, created by the compressor can affect the analyzers' working.

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QUALITY CONTROL REPORT - SAV

FINAL CUSTOMER or DISTRIBUTOR

Company : Final customer : Name of the contact :
Phone : Fax :
Address :
e-mail :

INSTRUMENT'S GENERAL CHARACTERISTICS

Model : airmoPURE D Power supply : 230 VAC Serial number : #

Original Configuration	Measured Value	Target value
Outlet pressure :		3 or 4 bars
Maximum limit flow after pressure regulator :		8 L/min
Minimum flow after catalyser :		> 4 L/min
Pressure hysteresis :		5 to 8 bars
Purge test at starting of the compressor		≤ 5 seconds
Compressing time for 500 mL/min generation (A):		About 1 min
Stopping time between two compressions for 500 mL/min (B):		About 3 min
Working rate (A/(A+B))		A/(A+B) < 45%
Zero air quality :		
Catalyser temperature :		350 +/- 15 °C
Dew point after the dryer		T < - 20 °C
For a flow at 500 mL/min :		

Airmopure – principle (new configuration)



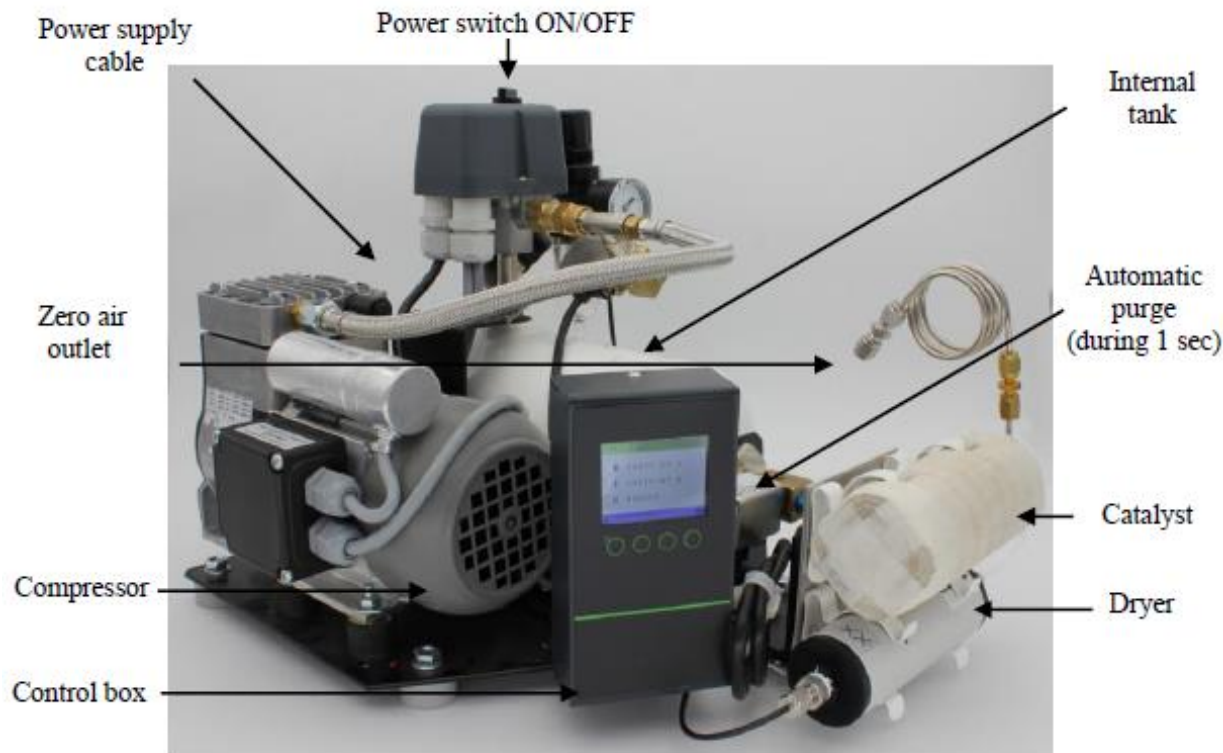
Required configuration:

- Main Power supply



- Timer options:

Condensate drain :
Cycle time : 20 min
Cycle mode : continuous
Open time : 1 sec
Start-up relief
Open time : 5 secs



Airmopure - Installation



- Read the QC report
- Read the easy start document

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EASY START airmoPURE-D (08/2021)



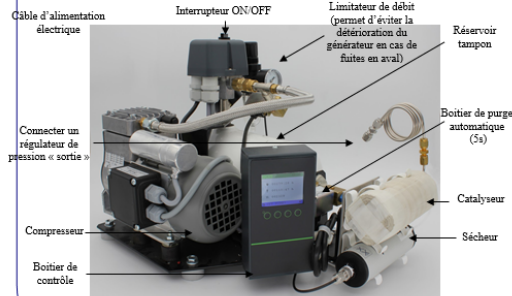
PRESENTATION

Le générateur d'air zéro airmoPURE-D est composé d'un compresseur d'air (sans bain d'huile) alimentant un réservoir tampon.

Le compresseur fonctionne par intermittence pour maintenir dans le réservoir une pression supérieure à 5 bars. Lorsque la pression du réservoir atteint une pression critique 5 à 6 bars (valeur basse), le compresseur se met en marche pour atteindre une pression maximum avoisinant les 8 bars (valeur haute).

Un régulateur de pression manuel permet d'ajuster la pression de sortie. Après sa sortie du réservoir, l'air est épuré grâce à un catalyseur et séché à travers un sècheur à membrane.

Veuillez vous référer au rapport de contrôle qualité pour connaître précisément les paramètres de fonctionnement de votre générateur.



INSTALLATION

Purge du générateur

Lors d'une installation, la purge de votre générateur d'air zéro est **primordiale**. En effet, elle permet d'avoir une qualité optimale d'air zéro, et ainsi d'éviter toute pollution ou dégradation de vos appareils alimentés en air zéro.

Si vous possédez une vanne à aiguille, la purge de votre générateur est simple à réaliser. Connectez la vanne en sortie de générateur afin de limiter le débit d'air zéro généré à 500mL/min. Laissez purger 2 heures.

Si vous n'avez pas de vanne à aiguille, procédez comme décrit ci-dessous :

- 1) Dévissez complètement le régulateur de pression pour fermer la sortie d'air
Ra : Si votre générateur dispose d'une sortie « Air Valve », connectez un bouchon sur cette sortie
- 2) Branchez le générateur (220V) sur une prise électrique.
- 3) Démarrez le compresseur en tournant l'interrupteur en position 1
- 4) Ouvrez légèrement le régulateur de pression de sortie (sens des aiguilles d'une montre) afin de purger le circuit. (Débit Air en sortie ≈ 500mL/min)
- 5) Attendez 2 h que le générateur se purge, puis refermez le régulateur.

Connexion du générateur au système d'analyse

- 6) Branchez la sortie d'air du générateur sur votre système (cf « Easy start » du système concerné) puis réglez la pression à 3 bars ou 4 bars selon le système utilisé, à l'aide du régulateur de pression :
 - 3 bars sur un analyseur
 - 4 bars si vous utilisez un élément contenant un régulateur de pression entre le générateur et l'analyseur (ex : airmoCAL...)
- 7) Vérifiez que vous n'avez pas de fuite en aval du générateur en testant tous les raccords avec du **Snopop** (eau savonneuse).

Remarque : Placez l'airmoPure sur une surface stable, éloignée des analyseurs qu'il alimente. En effet, les vibrations créées par le compresseur peuvent parfois perturber le fonctionnement des analyseurs.

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QUALITY CONTROL REPORT - SAV

FINAL CUSTOMER or DISTRIBUTOR

Company : Final customer : Name of the contact :
Phone : Fax :
Address :
e-mail :

INSTRUMENT'S GENERAL CHARACTERISTICS

Model : airmoPURE D Power supply : 230 VAC Serial number : #

Original Configuration	Measured Value	Target value
Outlet pressure :		3 or 4 bars
Maximum limit flow after pressure regulator :		8 L/min
Minimum flow after catalyser :		> 4 L/min
Pressure hysteresis :		5 to 8 bars
Purge test at starting of the compressor		≤ 5 seconds
Compressing time for 500 mL/min generation (A):		About 1 min
Stopping time between two compressions for 500 mL/min (B):		About 3 min
Working rate (A/(A+B))		A/(A+B) < 45%
Zero air quality :		
Catalyser temperature :		350 +/- 15 °C
Dew point after the dryer		T < - 20 °C
For a flow at 500 mL/min :		

Every month:

- Check the actual pressure (same as QC)
- Check the tube “condensate valve”: not plugged. If a lot of liquid water is emitted by this tube, empty the water contained in the tank.
- Check P min and P max
- Check the “Working rate” to be sure the motor does not run too frequently

Every year:

- Do the preventive maintenance actions, replacing the PM parts
- Full check of the instrument : Flows, pressures...

Airmopure – PM kits



« One year Preventive Maintenance kit »:

Item number	Designation	Qty	Unit Price Euro Excl Tax	Total Price Euro Excl Tax
	airmoPURE-D			
CS_FI_01048-ECHP	Nylon 1/8 silencer	1	€ 6,94	€ 6,94
CS_FI_00002-0000	Cartridge filter 5 µm	1	€ 58,60	€ 58,60
CS_PN_25981-DTKT	airmoPURE-D membrane kit	1	€ 192,83	€ 192,83
TOTAL PRICE				258,37 €

« 3 years Preventive Maintenance kit »:

Item number	Designation	Qty	Unit Price Euro Excl Tax	Total Price Euro Excl Tax
	airmoPURE-D			
CS_PN_07539-ASSY	Catalytic purifier for zero air generator	1	€ 1 356,87	€ 1 356,87
CS_FI_00210-ASSY	Membrane dryer for zero air generator	1	€ 716,98	€ 716,98
TOTAL PRICE				2 073,85 €

Airmopure's products

AirmoPURE D 45 PSI (XXX031-D)



AirmoPURE 2L (XXX033)

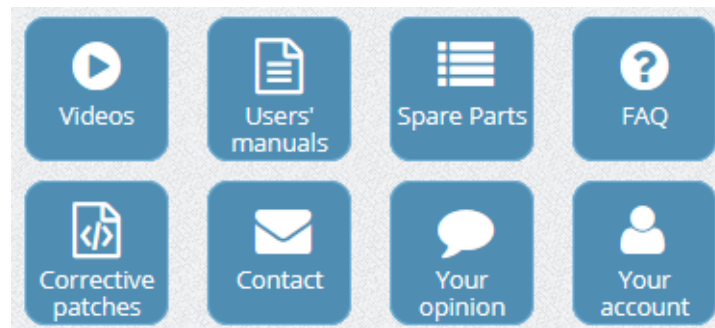
Zero air generator, adapted for bigger flow than the AirmoPURE D (more than 2 analyzers at the same time, exemple : Airmozone)



Visit our technical website

We highly recommend you to have a look to our technical website.

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



It is really helpful to:

- ✓ Start
- ✓ Understand the GC functioning
- ✓ Calibrate
- ✓ Maintain
- ✓ Solve a problem

Thanks!

Thanks for choosing Chromatotec's instruments!



→ Future training session :

- VOC product range
- Preventive maintenance
- Customer service website
- ...