



SRA Soprane CDS and ProChem Software Monitoring and automation in GC and Micro-GC online applications

SRA software have been developed to meet specific gas chromatography analytical needs. Thanks to an innovative and modern architecture, SRA **Soprane CDS** and **ProChem** increase the applicability of the technique also to areas outside the laboratory, such as monitoring and online analysis, solving real operational needs and improving the user experience.

From managing sampling systems to communicating with analyzers and external interfaces, SRA software is a smart control center. The efficient management of the equipment, the collection and integration of signals, the saving of data and the transmission of results to the various control systems of the production plants, guarantee an optimization of all the operating parameters involved.



■ *We create software to enhance your gas chromatography experience.*

Soprane CDS Software for GC and Micro-GC

- **Simplicity and high performance for laboratory analysis, on-line and process applications.**

Soprane CDS is a powerful software platform that manages **gas chromatography analysis and the entire logical integration of the analyzer in the specific context of measurement**: from the automation phase of sampling to the integration of signals, up to the transmission of results and alarms.

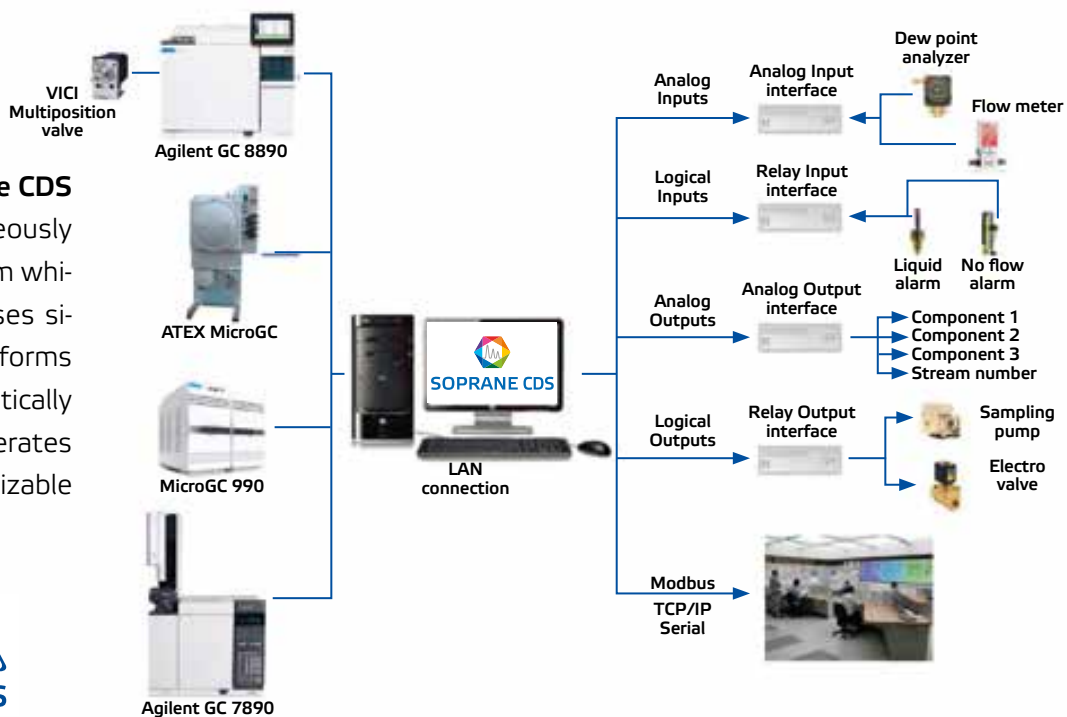
Numerous possibilities of connection with hardware interfaces allow to activate relays, to acquire and transmit digital and logic signals and to control measuring systems. All actions or events become part of the analysis sequences that **Soprane CDS** allows to carry out automatically.

Its **modern and intuitive graphical interface** makes analysis results and graphical trends easy to view. To meet specific needs, the software can be customized with user-program writing to make the user experience more and more enjoyable.

Soprane CDS is able to:

- control, with specific drivers, Agilent 8890, 8860, 7890, 7820 GCs, Varian 4900, Agilent 3000, 490, 990 Micro-GCs and all SRA MicroGCs
- check the status of the systems, set and program the various parameters from dedicated pages
- manage line selectors, electro valves, VICI Valco multi-position valves
- administer external accessories, suction pumps, flow or pressure sensors, elements for sampling and interfaces for the transmission of results
- monitor both outgoing and incoming alarms
- manage sequences and automatic calibrations
- acquire signals from external analyzers and integrate the values with the chromatographic results
- communicate the results in analog mode or via Modbus.

Each PC on which **Soprane CDS** is installed can simultaneously control 4 instruments, from which it acquires and processes signals, generates data, performs calculations, and automatically transmits results, generates personalized and customizable reports.



- **The gas chromatography acquisition system with the best control and automation capabilities.**

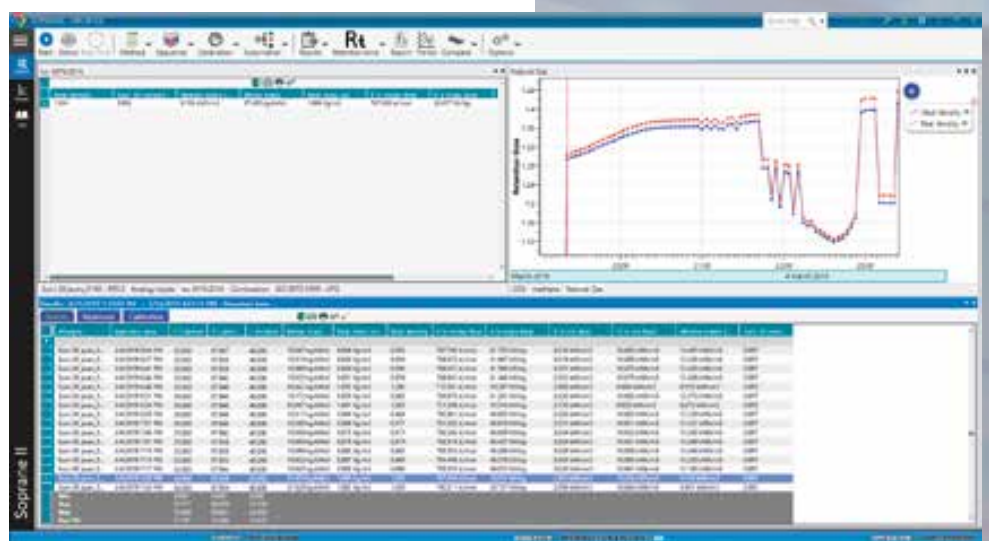
The main screen of **Soprane CDS** has been designed to provide **essential commands and information on the progress of the analyses at a quick glance**. In real time, it is possible to view the list of analyses, the graphical trends of the results or the trend of the concentration profiles or statistical data of a batch.

With one click it is possible to start analysis, create sequences, set instrumental parameters, define the representation and transmission of results, and report alarms.

In addition, from the list of results it is possible to view the chromatogram, check the integration parameters, reprocess or recalibrate a method, view the report or compare and overlay multiple chromatographic traces.

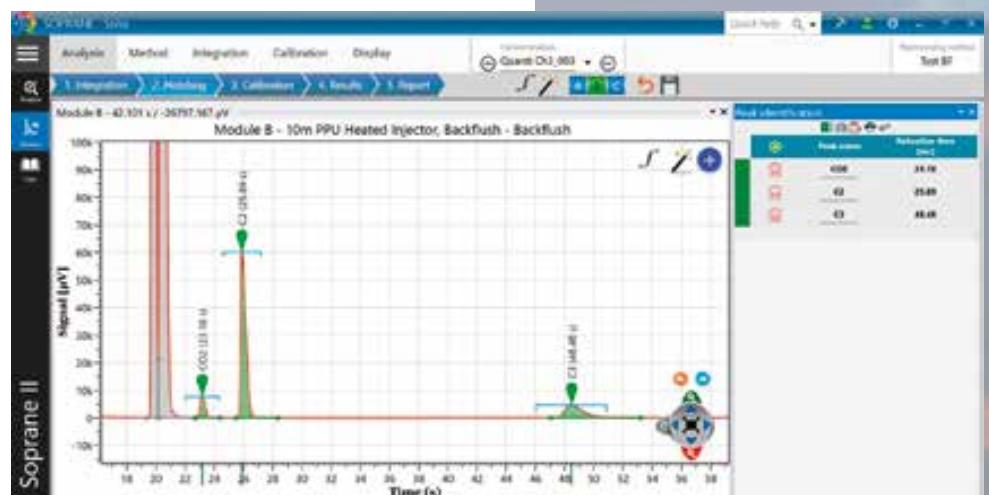
Simple, high-performance, safe Soprane CDS is the control center for all operations related to the analysis.

Dedicated, immediate, and intuitive sections help the operator at every stage of the process. Three levels of user identification can be set: operator, service and administrator, with different operating rights and access to the various functions with a password. Each access and action is recorded in a log file.



Main screen.

Results and calculations, graphical trends, list of all results with statistical values.



Method creation.

Five guided logical steps: Integration - Matching - Calibration - Results - Report.

SRA ProChem Software

- Expand the Open Lab Chemstation CDS and Open Lab CDS functionalities to the field of on-line GC analysis and automation management.

Agilent's workstation version software can manage up to four instrument sessions independently for each PC.

ProChem can be combined with each Agilent GC session.

The SRA **ProChem** software is a supervision and automation user interface. The graphics of the various work sections with tables and graphs of the results are intuitive and easy to use.

ProChem is integrated with Agilent chromatographic acquisition softwares to enable continuous and automatic analysis.

Management of analyzes and sampling systems

The analyzes are programmed through sequences in which the stream to be analyzed, the analytical method and the conditioning time of the line are defined for each row. The software optimizes and synchronizes the switching times of the valves, in order to reduce the duration of the individual analyzes.



Results of the analyzes

ProChem is able to:

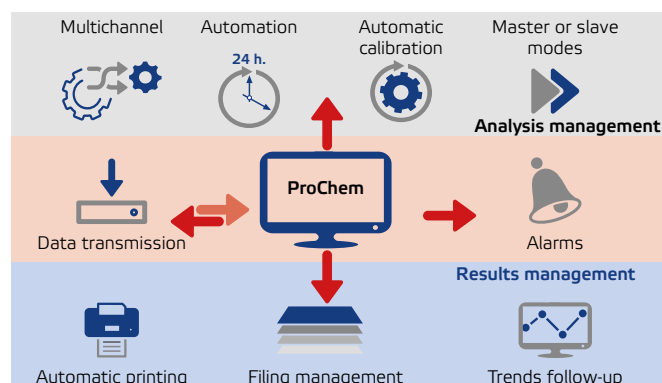
- collect retention times, concentrations, units of measure and areas from the analyzes generated by the chromatographic software
- integrate the chromatographic results with any other external data (temperature, pressure, etc.)
- perform custom calculations according to ISO 6976:2016 or other methods.

The results of the chromatographic integration are displayed in the main window of the **ProChem** software in the form of a chronological table with statistical values (min, max and average) and in the form of graphical trends.

All **ProChem** processing and calculations are included in the OL Chemstation report.

Export and transmission of results

All results, calculations or values reported and displayed in **ProChem** can be part of a file that can be exported in various formats (Excel, Excel_xml, CSV, Xps, Dif) and can be transferred in Modbus protocol or as analog signals.



Calculation options for Soprane and ProChem software

- Calculations relating to the physical properties of natural gas according to the ISO 6976:2016 standard.

CALCULATED PARAMETERS	
Ideal/Real Molar mass	Ideal/Real superior calorific value
Ideal/Real density	Wobbe index
Ideal/Real specific gravity	Compressibility factor
Ideal/Real inferior calorific value	Fact. of compression

Available units of measurement:

MJ/m³, kJ/m³, MWh/m³, kWh/m³, Wh/m³, KCal/m³, BTU/si

Reference temperature:

0 °C / 0 °C, 15 °C / 15 °C, 25 °C / 25 °C

Analysis report:

raw and normalized % concentration, total concentration, alarm concentration, graphical trend of any calculated parameter.

- Calculations for the determination of carbon content and calorific value in refinery fuel gases according to EN ISO 15984:2017 standard.

CALCULATED PARAMETERS	
Carbon content g/100 g gas	Ideal/Real Molar mass
Ideal/Real inferior calorific value KJ/100 g gas	Real density at 15 °C
Ideal density at 15 °C	Ideal/Real superior calorific value KJ/100 g gas

- Calculations for density and vapor pressure in mixtures of LPG, propane, and butane, according to ISO 8973, ISO 7941, ISO 6578 standards.

CALCULATED PARAMETERS	
Carbon total	Vapor pressure at 70 °C
Upper/Lower calorific value	Sum C ₃
Liquid density	Sum C ₄
Liquid specific gravity	Sum C ₅
Vapour pressure at 37.8 °C	Sum Olefins
Vapor pressure at 40 °C	Temperature evaporation
Vapor pressure at 50 °C	95%

- Package for custom calculations.

The SRA software can perform any type of calculation using a link to Excel. A special tool is created to define a worksheet with: component names, calculation names, results, variables, coefficients, and everything else needed to perform custom calculations. The results are automatically imported into Soprane at the end of any analysis.

Component	Density	Result	Unit	Unit Factor
C3	49.02	91.02	%	1
C4	17	17	%	1
C5	8	8	%	1
C6	12	12	%	1



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