Summary

Unrivalled Utility and Flexibility

The expression® family of compact mass spectrometers was developed with maximum versatility in mind. They allow users to switch rapidly between the many different sample introduction techniques required throughout the chemist's workflow ; from simple direct probe analysis to ultra-high performance liquid chromatography and prep-scale purification.

ASAP®: Atmospheric Solids Analysis Probe

Plate Express™: TLC/CMS Mass Analysis of TLC spots

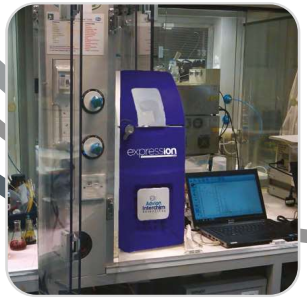
AVANT™ Chromatography Systems: (U)HPLC/CMS

iASAP: Direct Analysis of Air-Sensitive Compounds

High performance compact mass spec designed especially for chemists

Direct Injection (FIA)

vAPCI: Volatile APCI for Gas Analysis



Flow Chemistry Monitoring & Automated, Real-Time, Optimization

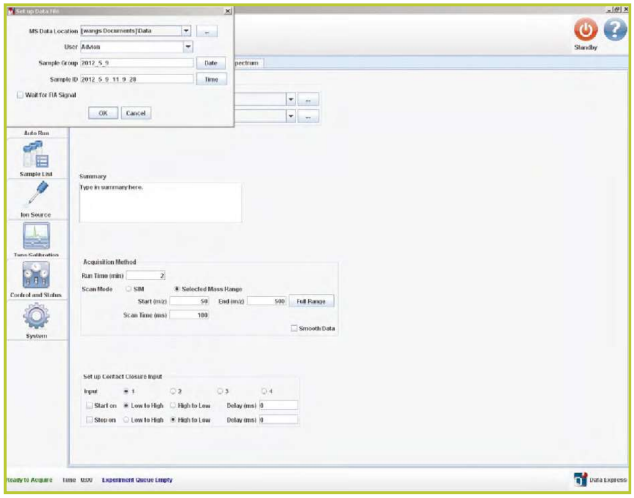
Purification by Flash, SFC, or Prep-LC/CMS

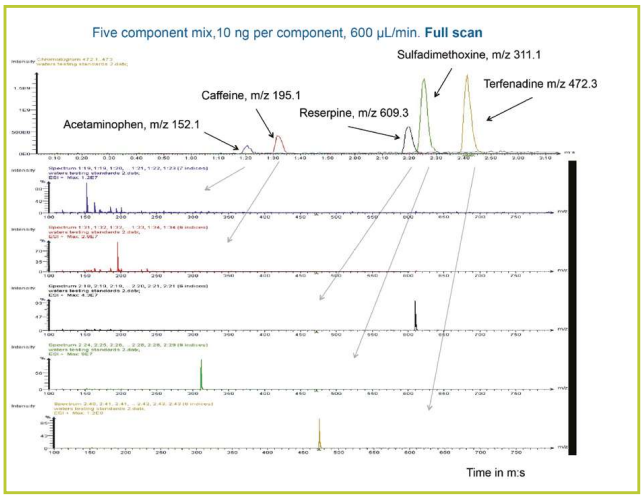
Touch Express™ Open Port Sampling Interface (OPSI) (FIA)

Features:

- Available sources: ESI, ESI-OPSI, APCI & ASAP
- Single quadrupole
- Simultaneous positive/negative ionization
- Flow rate: ESI: 10 µL/min to 1 mL/min
  APCI: 10 µL/min to 2 mL/min
- Masse Range *(m/z)*: expression® S *m/z* 1 200
  expression® L *m/z* 2 000
- Scan Speed: 10,000 *m/z* units/sec
- Sensitivity: 10 pg Reserpine (FIA - 5 µL injection at 100 µL/min)
  100:1 S/N (RMS) with SIM *m/z* 609.3
- Resolution: 0.5 - 0.7 *m/z* units (FWHM) at 1000 *m/z* units sec-1
- Accuracy: 0.1 *m/z*
- Nitrogen consumption 99% pure: 10 L/min at 5.5 bar
- Dimensions: 65 (h) x 55 (d) x 27.5 (w) cm
- Weight: 32 kg

Description	P/N	Qty
expression® CMS-S *m/z* 1200	CMS-S-01	1 u
expression® CMS-L *m/z* 2000	CMS-L-01	1 u





MASS SPECTROMETRY

Detector - Mass Spectrometer

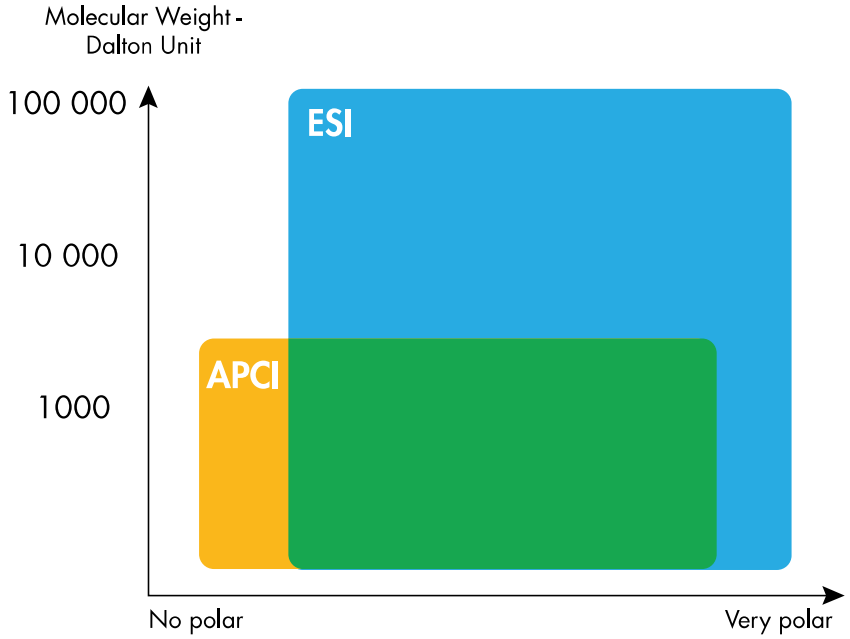
APCI

ESI

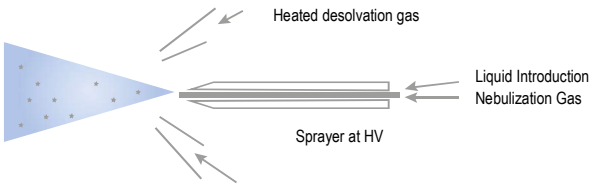
Source

Automatic source recognition

Quick and easy to change

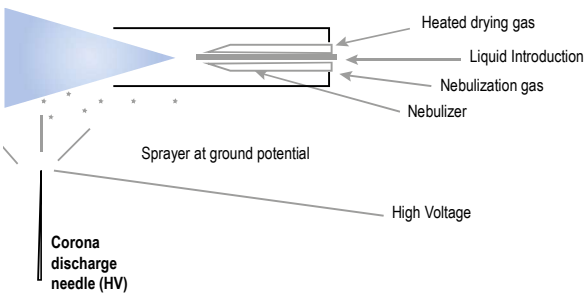


ELECTROSPRAY IONIZATION (ESI)



Applications:
Proteins, peptides, sugars, carbohydrates, PPG

ATMOSPHERIC PRESSURE IONIZATION SOURCE (APCI)



Applications:
Small molecules (< 1000 u) volatile, polar and neutral molecules, steroids...

Applications:
Most drugs, metabolites,
aromatic compounds containing at least one
ionizable functional group (NH_2, CO_2H, SO_3H, Ph-OH...)

Full-Feature & Easy-to-Use Software for Simplified Operation and Compound Identification

Advion Interchim Scientific's Full Suite of software products for the expression® CMS
Advion Interchim Scientific offers a full-range of software options for detection to quantitation and more, including:

Mass Express

A user-friendly, intuitive software platform for instrument control and data acquisition.

Data Express

A full feature data processing package to interpret and present mass spectral and chromatographic information in the clearest form using the fewest possible steps.

Quant Express

Quant Express is an add-on to the Mass Express software suite that provides a complete, detailed quantitation application.

LC Express

LC Express provides a seamless interface with the Advion Interchim Scientific AVANT™ (U)HPLC system, with additional capabilities to interface with nearly all LC systems on the market, including Agilent ICF and Data Apex Clarity drivers.

CheMS

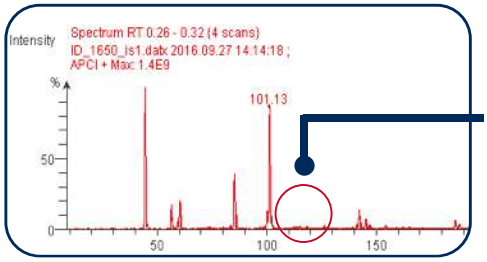
The CheMS user interface allows users to quickly select the workflow and type of compound they wish to analyze in just a few clicks of the mouse, automatically optimizing the ion source and data acquisition parameters.

- Single click an instrument icon to set-up, and switch between, a range of sample introduction techniques
- Simplified interpretation of mass spectra with automatic identification of peaks related to your compound of interest
- Works alongside Mass Express for fully capable and versatile instrument control and data processing

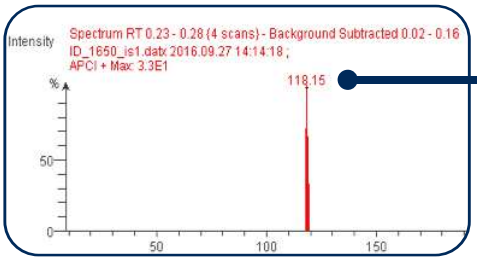
Peak Express™: See more

Introducing a revolutionary new way to view mass spectral data (US patent 9,779,922). Peak Express calculates the relative change of signals and will detect the elution of even the smallest peak against a much larger background of chemical noise, and tell you the *m/z*.

- Find your compound even in dirty matrices
- Find your compound without knowing its *m/z* in advance.
- Find minor components in complex mixtures
- Acquire XIC-quality data while collecting the entire mass range



Cannot see your compound because of chemical noise



Only your compound

The Industry's Broadest Range of Innovative Sampling Technique

Advion Interchim Scientific provides an extensive range of innovative sample introduction systems that are fully integrated with the expression® CMS to provide solutions for all the chemist's needs. From the simplest, fastest direct probe analysis requiring no sample preparation to ultra-high performance compound separation with state-of-the-art liquid chromatography systems.

Plate Express™ TLC Plate Reader

Plate Express provides a simple, automated means of obtaining mass spectra directly from TLC plates, combined with Advion Interchim Scientific's expression® compact mass spectrometer creating a technique known as TLC/CMS. Using this technique chemists can quickly and confidently identify products even in complex mixtures without additional sample preparation.

- Mass analysis of spots in <1 minute, avoiding system bottlenecks
- Avoid the risk of overloading the mass spectrometer - TLC spots contain the ideal amount of sample for mass spectrometry
- Software controlled - spectra obtained within a few mouse clicks
- Simplify the process of obtaining spectra - ideal for multi-user labs

ASAP®: Atmospheric Solids Analysis Probe

The ASAP direct analysis probe provides fast, simple, reliable mass analysis of solid and liquid samples without the need for sample preparation. The chemist simply dips the probe in a liquid, or rubs it on a solid sample, and inserts it through a port directly into the ion source yielding results in seconds. Ideal for:

- Reaction monitoring
- Compound identification
- Food safety
- Forensics
- Natural products
- Tablets

AVANT™ HPLC & UHPLC Chromatography Systems

Advion Interchim Scientific's range of AVANT, high performance, liquid chromatography provides seamlessly integrated LC/CMS under the full control of Advion Interchim Scientific's simple, intuitive Mass Express software suite.

From the simplest manual injection HPLC to a fully automated, streamlined UHPLC system and everything in-between, the AVANT series can be configured to fit your analytical requirements and your budget.

The Advion Interchim Scientific AVANT series offers:

- HPLC and UHPLC
- UV and UV-Vis DAD
- Column oven
- Autosamplers with optional cooling
- Modular and stackable design
- High-pressure mixing with optional degassing

vAPCI: Volatile APCI Headspace & Gas-Phase Analysis

Volatile Atmospheric Pressure Chemical Ionization (vAPCI) combined with Advion Interchim Scientific's expression® CMS is a fast and easy method to measure gases such as headspace and breath. The vAPCI provides a sample inlet linked by a heated transfer line to an APCI ion source, where the sample is ionized by corona discharge. vAPCI enables chemists to:

- Analyze Volatile Organic Compounds (VOCs) directly in the gas phase
- Solvent-free APCI allows a greater range of compounds to be ionized compared to traditional APCI ion sources

iASAP: Inert Atmospheric Solids Analysis Probe

The inert ASAP® (iASAP) is a modification of the ASAP® technique, allowing easy sampling of air-sensitive compounds, such as metal catalysts and organometallics, from reactions that are carried out in a glove box or Schlenk line to prevent oxidation. The iASAP probe is designed to provide:

- Safe transfer of air sensitive samples to CMS at the bench
- Mass analysis without sample oxidation
- Answers in <30s
- No sample preparation required

Touch Express™ Open port sampling interface (OPSI)

The Touch Express™ Open Port Sampling Interface (OPSI), is designed for simple sampling of surfaces, solids, liquids and sample preparation tips and fibers.

Paired with the electrospray ion source of the expression® Compact Mass Spectrometer, the solvent forms a meniscus at the open port before being drawn down the inner path into the electrospray ion source of the mass spectrometer under the Venturi effect of the nebulization gas. Any soluble sample touching the port is analyzed by the mass spectrometer in just seconds. Touch Express OPSI offers a fast assay benchtop solution for solid, liquids, and surfaces in a small-footprint, easy-to-use system.

The OPSI source is a unique, prep-free sample technique that offers:

- Compound ID and impurity detection from almost any surface
- Direct assays from sample preparation tips and SPME fibers
- Easy screening applications for drug research, food safety, environmental, forensics
- Large molecule applications including proteins, peptides, oligonucleotides and polymers

MASS SPECTROMETRY

Detector - Mass Spectrometer

Description	P/N
expression® CMS	
expression^S Compact Mass Spectrometer *m/z* 1200	CMS-S01
expression^L Compact Mass Spectrometer *m/z* 2000	CMS-L01
Roughing pump	
Rotary vane pump with oil mist filter and oil return - included with CMS	PMP101
Dry scroll pump - upgrade to oil-free backing pump in place of rotary vane pump	PMP103
Sources	
APCI Source	IS-APCI-S01
ESI source	IS-ESI-S01
APCI / ASAP® source	IS-ASAP-S02
iASAP source	IS-ISAP-S02
ASAP®/iASAP source	IS-IASAP-S02
vAPCI source	IS-VAPCI-S01
Positive pressure kit for use with VAPCI-S01 ion source	PPK-VAPCI
ESI source + OPSI port	OPSI+IS-S01
ESI source for OPSI	IS-OPSI-S01
OPSI port	OPSI-001
Sources upgrade	
ASAP® ion source upgrade for existing APCI and vAPCI ion sources	UP-ASAP-S02
iASAP ion source upgrade for existing APCI ion source	UP-ISAP-S02
ASAP® / iASAP ion source upgrade for existing APCI and vAPCI ion sources	UP-IASAP-S02
Upgrade of existing iASAP ion source to also include standard ASAP®	UP-ISAP-ASAP
Upgrade of existing standard ASAP® ion source to also include iASAP	UP-ASAP-ISAP
Plate Express™	
Plate Express™ CMS interface for analyzing TLC plates for 250 µm bed depths - (requires ACC374 and ACC361)	PE-001
Isocratic pump, for direct injection, Plate Express™	ACC361
Bracket for isocratic pump ACC361 if mounted underneath Plate Express™	ACC364
TLC interface accessory kit containing the required tubing, fittings, and cables	ACC374
Replacement filter for Plate Express™ waste	ACC456
Replacement head for Plate Express™ for 250 µm bed depth	ACC470
Nitrogen generator	
Nitrogen generator with compressor 12 L/min - 5 bar	AYUH00
Accessories	
Capillary Removal Tool	1012135
Replacement API Heated Capillary	ACC301
Replacement ESI capillary kit	ACC303
Replacement APCI capillary kit	ACC309
Replacement capillary kit for OPSI electrospray source	ACC314
Corona discharge pin for APCI and ASAP ion sources	1009975
Glass capillaries for ASAP/iASAP S02, pk 100	CAP-ASAP
Standard mix	
ESI Calibration/tune standard mix	IN1420
APCI Calibration/tune standard mix	S19010
Calibration vial replacement	1009926