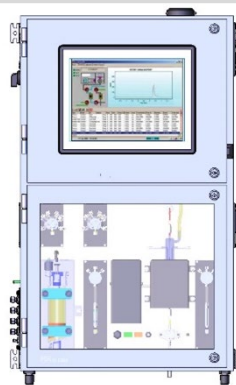


PSA 10.256 Online Excalibur System for As, Se, Sb, Te and Bi

Product Specification



System Description

The Online Excalibur is a Batch Hydride Generation – Atomic Fluorescence Spectrometer with integrated sample digestion for the determination of total arsenic, selenium, antimony, tellurium or bismuth at trace and ultra-trace levels. The system is able to analyse complex sample matrices without interference. Element specific boosted discharge hollow cathode lamp excitation source with detection by solar blind photomultiplier. Low reagent consumption and waste generation. Designed to operate in discrete sample injection mode and suitable for online operation 24 hours per day 7 days a week 365 days a year, matching throughput with sensitivity requirements. The system can be configured to take samples on a user-definable frequency such as every 15 minutes, every hour, 6 times day or even daily. The analyser can also be configured to only analyse a sample when prompted from an external source. Standard method compliance depends on application/matrix.

General

Gas Liquid Separator	Unique Peltier temperature controlled design with low foaming characteristics.
Sample flow	by automated syringe pumps (peristaltic pump free system)
Gas Supply	Flowrate control and adjustment using precision mass flow controllers with automatic shutdown under software control. Automatic flame ignition and flame sensor (Argon, hydrogen and compressed air)
Moisture Removal	Perma Pure™ continuous moisture removal system.
System Control	Full control under PSA OnLine process control software.
Date Connection	Standard: Four 4-20 Ma analogue outputs and four contact closure digital outputs for alarms. Optional: Additional analogue and contact closure outputs HART, MODBUS RTU, MODBUS TCP/IP, RS232, PROFIBUS, OPC
Computer Specification	Integrated touchscreen computer
Operating System	Windows® 10

www.psanalytical.com

PSA

P S Analytical

UK: Tel. +44 (0) 1689 891 211

USA: Tel: +1 954 429 1577

SEA: Tel: +61 (0) 428 226 674

E-mail: psa@psanalytical.com

E-mail: usa@psanalytical.com

E-mail: sea@psanalytical.com

Sample Throughput and Analytical Performance Utilising AFS

Limit of Detection	0.1 ppb based on 2.5ml sample volume
Linear Dynamic Range	0.1 ppb to 1 ppm based on 2.5ml sample volume
Accuracy	within ± 5 % of a certified standard
Precision	<5 % RSD at 10 times LOD
Display Resolution	0.001ppb
Sample Throughput	15 – 30 minutes per sample depending on sample matrix
Digestion Manifold	UV and heating for Se and Te, UV only option for As, Sb and Bi

General Specifications and Standards

Weight	60 kg - Packed: 100 kg Including manuals/spares and consumables kit
Dimensions Actual	1000 x 600 x 400mm (HWD)
Power Requirements	115 / 230V AC, 50/60 Hz
Voltage Fluctuation	± 10 %
Power Total System (including PC)	950VA at 115V or 1310VA at 230V
Operating Environment	5°C to +50°C, further details available on request. Technical Standard compliant with the legal requirements of the Low Voltage directive 73/23/EEC and the EMC directive 89/336/EEC.

The system is compliant with the following standards:

Safety IEC 1010-1 (EN1010-1)	Safety requirements for electrical equipment for measurement control and laboratory use
EMC EN50081-1	General emission, residential, commercial light industrial environment
EN50082-1	General immunity, residential, commercial light industrial environment

Software

Process control and data acquisition software running under Windows® 10	
User Login	Real time trending of results
User definable access restrictions	Full reporting capabilities
User definable alarms with actions	Data reporting via 4-20 mA
Visual diagnostics of instrument	Results exporting in csv/ASCII format
User definable start up and shutdown procedures	Scheduled calibrations
Maintenance scheduling and automatic method procedures	

A range of results reporting options including voltage outputs, MODBUS (RTU or TCP/IP), OPC (client or server) and HART are available. Refer to NU045 for more information.



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Separate electronics and chemical sections
 Reagent containers
 Integrated touchscreen computer
 PSA OnLine process control software
 All interface cabling
 Wall-mounted or freestanding
 Installation kit
 User manuals

Up to 4 or 15 sample streams, depending on the options selected.

The actual configuration of the 10.256 series analyser system is defined by the last four characters of the part number, i.e

PSA 10.256**A100**

A	Computer		Outputs	Analysis Method
A		14 in. Touchscreen PC	4 analogue 4-20 mA 4 contact closure	Hydride Generation with UV Digestion and AFS
S		14 in. Touchscreen PC	4 analogue 4-20 mA 4 contact closure	Hydride Generation with UV digestion heating and AFS
1	Sample Streams			
		Sample Streams	Multiport selection valves	
	1	4	One 12-port valve	
	2	15	Two 12-port valves	
0	Reserved for future use			
0	Reserved for future use			

Optional Items

Sampling Systems:

L225A200 Sampling System for Online Liquid Analysers
 L225A210 Sampling System with Fast Loop Filter for Online Liquid Analysers

Analyser accessories:

L226R100 Reagent Cabinet
 L226F100 series Mounting/support frames for 10.256 analysers and accessories
 L226E100 series Expansion modules for HART, additional 4-20 mA analogue & contact closure outputs
 Other communications options

Spares and Consumables:

L256K100 Spares and consumables kit

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