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LabFit

CS2000



**Simplifying Carbon & Sulphur
Analysis**

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CS2000 Carbon & Sulphur

The CS2000 Carbon & Sulphur instruments utilise the latest in infrared technology to determine the concentration of the sample. The system uses a vertical resistance furnace design to eliminate the problems associated with traditional horizontal tube furnaces. The advantage of the vertical furnace is that thermal chock caused by cold combustion crucibles or boats do not come into contact with the hot combustion tube. The CS2000 includes a 48 position autosampler as standard with the analysed crucibles being placed back into their original position.

Hardware Features

- ✓ **HIGH-TECH CERAMICS** PREVENT TUBE CRACKING & CRUCIBLE JAMS
- ✓ **THROUGHPUT** CAROUSEL HOLDS UP TO 48 SAMPLES
- ✓ **LATEST** INFRARED TECHNOLOGY
- ✓ **EFFICIENT** FURNACE DESIGN
- ✓ **VERTICAL** TUBE RESISTANCE FURNACE
- ✓ **MAINTENANCE** SIMPLIFIED DESIGN

Applications

MINERAL ORES
COALS & COKES
CRACKING CATALYST
SOILS & PLANTS
OILS &
ORGANIC MATERIALS



Back Tool Tips

All Results

Nu	Pos	Batch Id	Sample Id	Weight	Analysis Method	Date and Time	Carb	Sulp	H	Low	High	Car	Lo	Hig
1	26	cal 1311		0.7549	Sulphur Low New	13/11/2009 23:38:17	0.900	0.921	0.921	0.899				
1	25	cal 1311		0.4975	Sulphur Low New	13/11/2009 23:33:38	0.900	0.911	0.911	0.889				
1	24	cal 1311		0.2303	Sulphur Low New	13/11/2009 23:29:33	0.900	0.899	0.899	0.896				
1	23	cal 1311		0.1056	Sulphur Low New	13/11/2009 23:25:53	0.900	0.930	0.930	0.847				
1	22	cal 1311		0.5412	Sulphur Low New	13/11/2009 23:22:30	0.900	2.003	2.003	1.951				
1	21	cal 1311		0.3015	Sulphur Low New	13/11/2009 23:18:54	0.900	2.043	2.043	1.951				
1	20	cal 1311		0.1556	Sulphur Low New	13/11/2009 23:15:28	0.900	1.985	1.985	1.921				
1	19	cal 1311		1.0000	Sulphur Low New	13/11/2009 23:12:13	0.900	0.008	0.008	0.001				
1	18	cal 1311		0.1034	Carbon & Total sulphur	13/11/2009 23:09:02	86.75	0.653	0.653	0.648				
1	17	cal 1311		0.0931	Carbon & Total sulphur	13/11/2009 23:03:50	89.23	0.664	0.664	0.724				
1	16	cal 1311		0.0989	Carbon & Total sulphur	13/11/2009 22:59:10	87.92	0.644	0.644	0.693				
1	15	cal 1311		0.9986	Carbon 4	13/11/2009 22:54:19	11.97	0.000	0.000	0.000				
1	14	cal 1311		0.9588	Carbon 4	13/11/2009 22:48:19	12.00	0.000	0.000	0.000				
1	13	cal 1311		0.8874	Carbon 4	13/11/2009 22:42:30	12.00	0.000	0.000	0.000				
1	12	cal 1311		0.7911	Carbon 4	13/11/2009 22:36:33	12.00	0.000	0.000	0.000				
1	11	cal 1311		0.6996	Carbon 4	13/11/2009 22:30:57	12.02	0.000	0.000	0.000				
1	10	cal 1311		0.6456	Carbon 4	13/11/2009 22:25:23	12.01	0.000	0.000	0.000				
1	9	cal 1311		0.5653	Carbon 4	13/11/2009 22:20:10	12.00	0.000	0.000	0.000				
1	8	cal 1311		0.4638	Carbon 4	13/11/2009 22:14:59	11.98	0.000	0.000	0.000				
1	7	cal 1311		0.4082	Carbon 4	13/11/2009 22:10:10	12.02	0.000	0.000	0.000				
1	6	cal 1311		0.2943	Carbon 4	13/11/2009 22:05:06	12.04	0.000	0.000	0.000				
1	5	cal 1311		0.2484	Carbon 4	13/11/2009 22:00:17	11.94	0.000	0.000	0.000				

Carbon

Sulphur Low

Sulphur High

Showing 72 from a total of 72 samples.

Software Features

The powerful linearisation feature set of the CS2000 allows for multiple curve fitting for different methods. This means that the range of the infrared can be pushed increasing sensitivity at either the low or high end of the spectrum. The software includes the tools needed to effectively quantify the results using the in-built statistical functions. The system uses a comprehensive end of analysis determination algorithm so samples always finish as expected. Production "Spot" samples are easily achieved without disturbing the normal operation of the CS2000. Our new LIMS compatibility feature set provides the power to the IT department for LIMS connectivity.

- ✓ **METHODS** UNLIMITED. MIXED METHODS POSSIBLE FOR ALL APPLICATIONS
- ✓ **INTELLIGENT** END OF ANALYSIS CALCULATIONS
- ✓ **LINEARISATION** PERFORMED WITHIN SOFTWARE
- ✓ **DIAGNOSTICS** COMPREHENSIVE AND FRIENDLY
- ✓ **LIMS** FULL COMPATIBILITY WITH ALL LIMS SYSTEMS



CS2000 Specifications

GENERAL

DIMENSIONS	850mm Wide x 700mm Deep x 920mm High
WEIGHT	140 Kg
ANALYSER POWER	Single phase 230 VAC +/- 10%, 50/60Hz 3A / 20 W
FURNACE POWER	Single phase 220-230VAC +/-10% 50/60Hz Maximum heat current 25A
POWER CONSUMPTION	6.2kW
FURNACE TEMPERATURE	Ambient to 1450°C
BALANCE	Sartorius analytical 0.1Mg
GASES	Oxygen 99.5% pure, 3l/min 300kPa Compressed air, dry & clean 600kPa
CHEMICALS	H ₂ O Trap, Magnesium Perchlorate

ANALYSIS

NOMINAL SAMPLE WEIGHTS	Coal & Coke, 300Mg Mineral Ores, up to 1gram Soils & Plants, up to 1 gram Oils (Diesel), 300Mg (reduction in temperature)
NORMAL ANALYSIS TIME	60-120 Seconds
ACCURACY	Carbon, +/- 1% of the element present Sulphur, +/- 1% of the element present
SENSITIVITY	Carbon, 0.01% based on 1 gram sample Sulphur, 0.01% based on 1 gram sample

MEASURING RANGES

LOW CARBON	0-2% C, based on 1 gram sample
HIGH CARBON	2-10% C, based on 1 gram sample
LOW SULPHUR	0-2% S, based on 1 gram sample
HIGH SULPHUR	2-8% S, based on 1 gram sample

CONFIGURATIONS

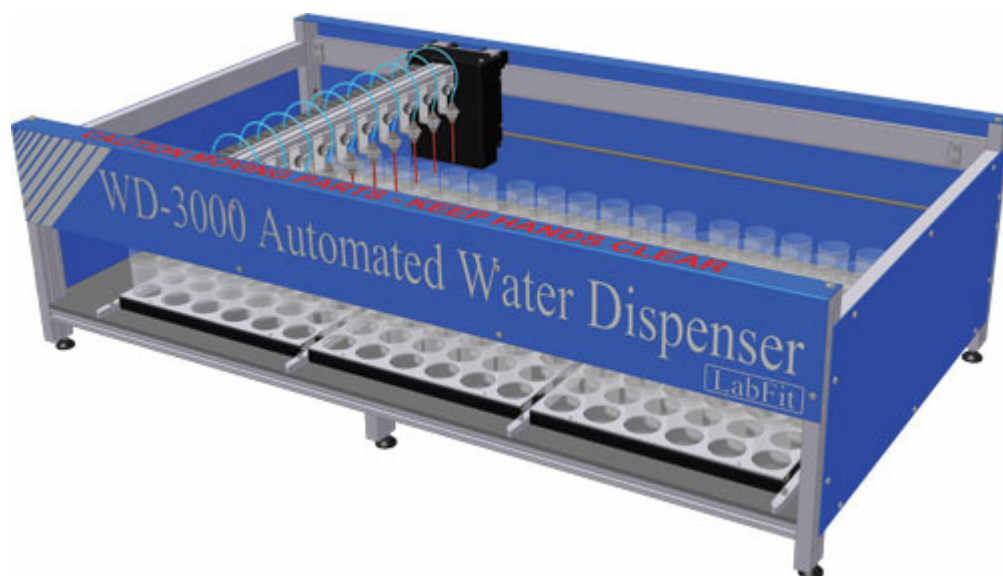
CARBON & DUAL RANGE SULPHUR	Carbon & Low Sulphur
CARBON & HIGH SULPHUR	Carbon Only
DUAL RANGE SULPHUR	High Sulphur Only
LOW SULPHUR ONLY	Low Carbon ¹

¹Low Carbon is available upon request on any of the configuration listed above.



WD-3000 Automated Water Dispenser

LabFit



WD-3000 Automated Water Dispenser

WD-3000 is able to accurately dispense up to 10 samples at a time increasing throughput. The WD-3000 automates the dispensing equipment market to achieve fast, reliable dispensing solutions. The WD-3000 can also be used for chemical dispensing solutions such as buffers and light acids. The dispensing nozzles are fully adjustable so spacing can be made to suit most tray configurations.

The WD-3000 Dispensing System utilizes a new concept in delivering liquid volumes to all samples contained within a rack. The multi position dispensing system can be configured with up to 10 syringes of the same volume.

Features include:

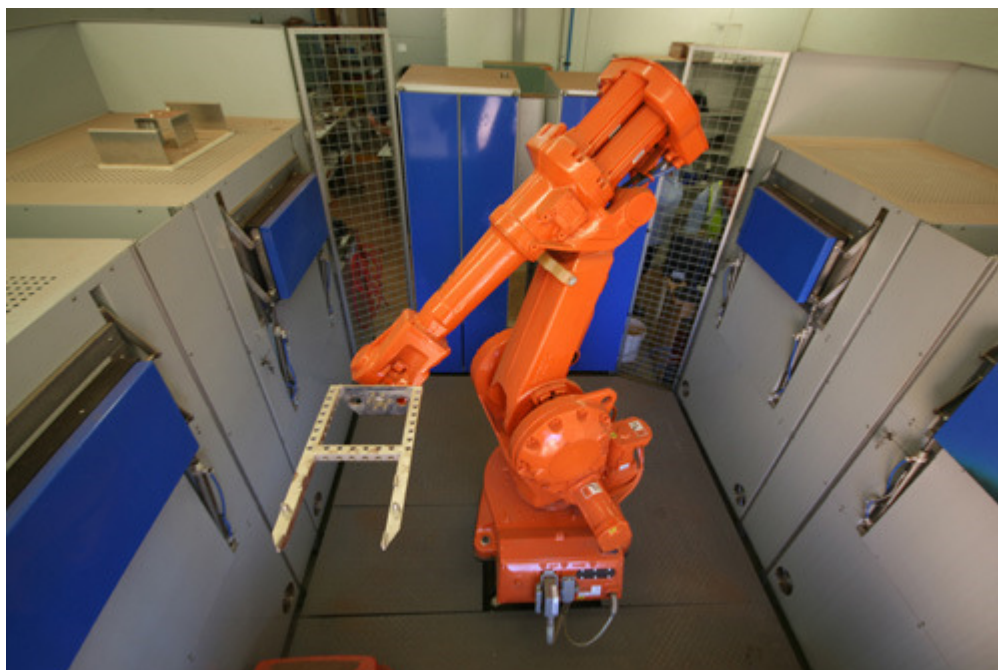
- Interchangeable syringes
- Simultaneous dispensing
- Touch screen PC controller
- Accurate dispense volumes

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TGA4000 Robotic Thermogravimetric Analyzer

LabFit



TGA4000 Robotic Thermogravimetric Analyzer

- Provide high throughput TGA results with a capacity to analyze over 1,200 samples in a 24 hour period
- Robotic cell consisting of a Robot, Drying Cabinet, Carousel Loading Cabinet, four Furnaces and a Crucible Cooling Station
- Designed to perform Loss on Ignition using different temperatures to achieve a 4 point LOI
- The furnaces can be programmed to operate at temperatures between 100 and 1000°C and are permanently kept at the programmed temperatures



Specification

GENERAL	
Dimensions	3257mm W X 3075mm D X 2140mm H
Autosampler	Rotary, 42 Positions
Software	User Friendly with "Web Styled" navigation
Cabinet Design	Extruded Anodized Aluminium Frame Work. Powder Coated Aluminium Panels. Stainless steel linear guides and fasteners. Easily accessible components for repair and maintenance purposes.
Maintenance Robot	Designed for easy and fast cleaning of Furnace Parts
Computer	ABB 6 Axis with accuracy better than 0.1mm
	Latest Windows © PC with 19" LCD Monitor, Keyboard & Mouse
GASES	
Carrier Gas Oxygen	99.5% Purity; 275 kPa
Carrier Gas Nitrogen	99.5% Purity; 275 kPa
Pneumatic	Dry clean air free from contaminates; 400 - 600 kPa
Incoming Gas Pressure Monitors	Nitrogen and Oxygen
Oxygen Flow	0-10 liters per minute
Nitrogen Flow	0-10 liters per minute
POWER	
Furnace	415 VAC +/- 10%, Three Phase, 25 Amp per phase
Computing	240 VAC +/- 10%, Single Phase, 10 Amp
ANALYSIS	
Accuracy	Standard deviation better than 0.05
Analysis Time	Variable depending on method
Sample Weight: ORES	1.0000g
Sample Weight: COAL	500mg
Balance	2 Analytical balances 0.1mg
Crucibles	Ceramic
Sample Carousel	42 Positions including 2 reference



TGA3000 Thermogravimetric Analyzer



TGA3000 TGA Analyzer

- Automated single furnace system designed for the analysis of Moisture, Volatiles and Ash
- Application: For analysis of Loss on Ignition or LOI in Iron Ores
- Producing 40 sample results within a programmable period of time
- Can be used for Proximate Analysis
- Has an innovative Oxygen and Nitrogen purge system.

Specifications:

GENERAL	
Dimensions	1080mm W X 1570mm D X 1785mm H
Autosampler	Rotary, 42 Positions
Software	User Friendly with "Web Styled" navigation
Cabinet Design	Extruded Anodized Aluminium Frame Work. Powder Coated Aluminium Panels. Stainless steel linear guides and fasteners. Easily accessible components for repair and maintenance purposes.
Maintenance	Designed for easy and fast cleaning of Furnace Parts
Robot	Labfit linear manipulator. Accuracy less than 0.1mm

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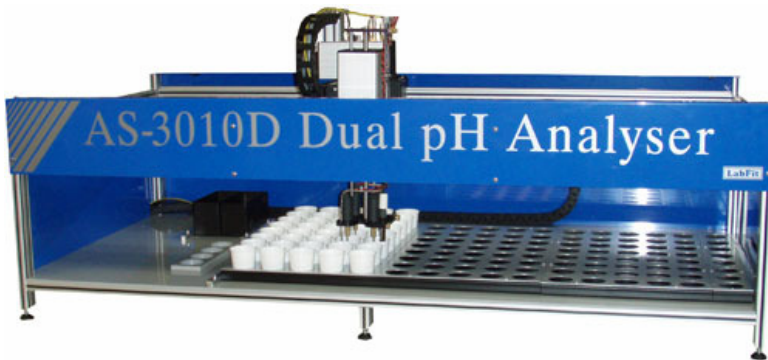


Computer	Latest Windows © PC with 19" LCD Monitor, Keyboard & Mouse
GASES	
Carrier Gas Oxygen	99.5% Purity; 275 kPa
Carrier Gas Nitrogen	99.5% Purity; 275 kPa
Pneumatic	Dry clean air free from contaminates; 400 - 600 kPa
Incoming Gas Pressure Monitors	Nitrogen and Oxygen
Oxygen Flow	0-10 liters per minute
Nitrogen Flow	0-10 liters per minute
POWER	
Furnace	415 VAC +/- 10%, Three Phase, 25 Amp per phase
Computing	240 VAC +/- 10%, Single Phase, 10 Amp
ANALYSIS	
Accuracy	Standard deviation better than 0.05
Analysis Time	Variable depending on method
Sample Weight: ORES	1.0000g
Sample Weight: COAL	500mg
Balance	2 Analytical balances 0.1mg
Crucibles	Ceramic
Sample Carousel	42 Positions including 2 reference

*TGA3000 to be installed in a laboratory environment. Must be free from vibration sources, kept in a dust-free air-conditioned room, humidity must be 0-80% non-condensing, to be free of air currents in excess of one meter per second. To be free from electrical interference and EMF sources. Free from wireless interference if TGA fitted with wireless networking.



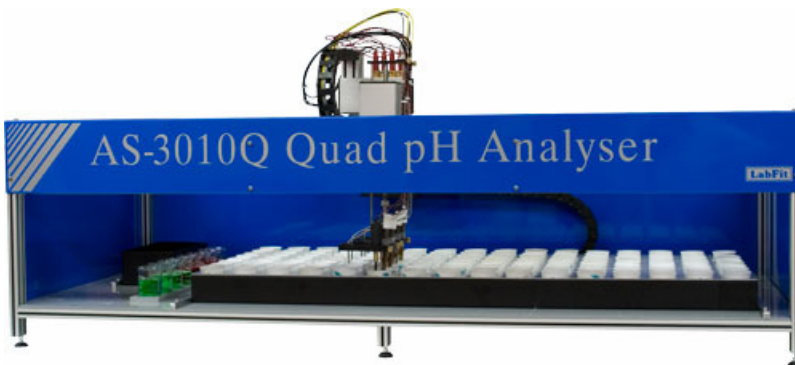
**AS-3010D Automated Dual pH
Tester
AS-3010Q Automated Quad pH**



AS-3010D Automated Dual pH Tester

The AS-3010D Automated pH soil tester determines the amount of soil lime buffer capacity automatically. The AS-3010D determines this automatically adding the buffer solution to the sample as the soil pH is being determined (using titration method with calcium hydroxide).

The AS-3010D is a fully automated soil pH tester that measures 2 soil pH analysis simultaneously, increasing the sample through put and adds the buffer at the same time if required. Furthermore the AS-3010D incorporates a dual channel buffer pump to produce more precise and accurate results than manual pH analysis with reduced labor costs

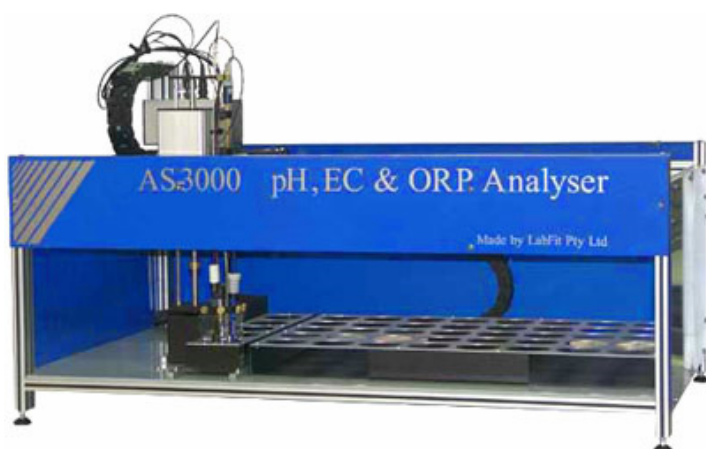


AS-3010Q Automated Quad pH Tester

Similar to AS-3010D model however AS-3010Q has 4 pH soil tester and able to measures 4 soil pH analysis simultaneously



AS-3000 Automated pH, EC Tester & ORP Analyzer



AS-3000 pH, EC and ORP Analyzer

The AS-3000 pH, EC and ORP analyzer now offers an affordable automated solution to the tedious and time consuming manual method of analyzing pH, EC's and ORPs' simultaneously in water samples. Ideal for application as a:

- water & soil pH analyzer/tester
- EC analyzer/tester
- ORP analyzer/tester

The pH, EC and ORP analyzer is controlled by a PC using innovative water testing equipment software, which allows quick and easy calibration of new rack designs - without using rules and chalk marks. The pH, EC and ORP tester software furthermore controls the sampling process throughout, automatically determining sample accuracy and stability and providing output to a printer, LIMS or file. The AS-3000 pH, EC and ORP analyzer can be programmed to accept readings based upon stability and/or maximum time. Samples are stirred during the analysis and the electrodes can be rinsed after every analysis.

The system comes complete with a PC, AS-3000 software package and operating instructions. The standard pH, EC and ORP Analyzer is supplied complete with a meter and probes, AS-3000 pH, EC and ORP software, all cables, connectors and trays capable of accommodating 60 samples per tray.



AS-3000 pH Analyzer & Conductivity Analyzer



AS-3000 pH Analyzer & Conductivity Analyzer

The AS-3000 automated pH and EC analyzer now offers an affordable automated solution to the tedious and soul-destroying manual method of analyzing pH and conductivities of soil samples. The AS-3000 is ideal for application as a:

- pH tester/analyzer
- conductivity tester/analyzer

The AS-3000 automated pH and EC analyzer is controlled by a PC using innovative conductivity & soil testing software, which allows quick and easy calibration of new rack designs - without using rules and chalk marks. The AS-3000 automated pH and EC analyzer software furthermore controls the sampling process throughout, automatically determining sample accuracy and stability and providing output to a printer, LIMS or file. The AS-3000 automated pH and EC analyzer can be programmed to accept readings based upon stability and/or maximum time. Samples are stirred during the analysis and the electrodes can be rinsed after every analysis.

The standard soil testing equipment system can accommodate tray sizes up to 1000 mm x 326 mm, but with a resolution of +/- 0.2mm it can also aggregate multiple micro-trays.

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AS-3000 Automated Acid Based Titration System



AS-3000 Automated Acid Based Titration System

The AS-3000 Titration System now offers an affordable automated solution to the tedious and time consuming manual method of acid based titrations and redox titrations of large batches of drinking and waste water samples.

The Titration System controlled by a PC using innovative water testing equipment software, which allows quick and easy calibration of new rack designs - without using rules and chalk marks. The Titration System software furthermore controls the sampling process throughout, automatically determining sample accuracy and stability and providing output to a printer, LIMS or file. The AS-3000 Titration System can be programmed to accept readings based upon stability and/or maximum time. Samples are stirred during the analysis and the electrodes can be rinsed after every analysis.

With the aid of an accurate syringe pump, the software is able to stop within +/- 0.04 pH of the desired programmable end point. The AS-3000 Titration System can be left to analyse samples over-night increasing sample volume

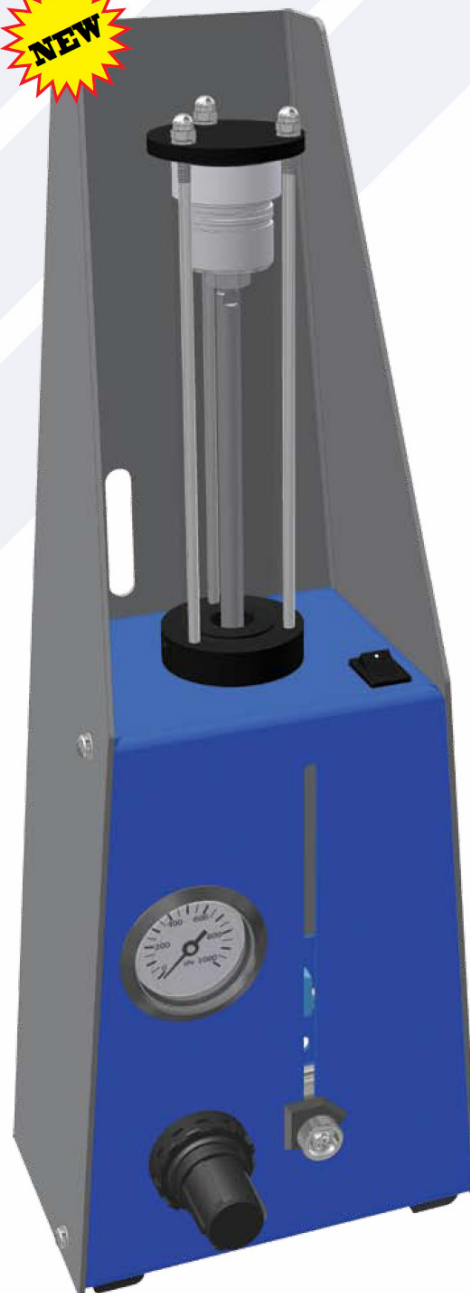
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SP-100 AUTOMATED WATER DISPENSER

The SP-100 Dispenser is designed to dispense a set volume of liquid on a cyclic time. The dispenser is configurable to dispense the desired volume of liquid on each stroke.

- Dispenses liquids up to 85ml
- Adjustable volume
- Automatically cycles
- Can be used for almost all liquids



KGC Resources SDN BHD (223165-D)

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