

Select Engineering Services

All test equipment used to carry out temperature testing is traceable to UK standards, for current copies of SES equipment certificates please contact us.

QA6

**SELECT ENGINEERING SERVICES Ltd
(SES)
Certificate of Validation**



Certificate Number

SES VC12344520

QA6 Validation of performance Certificate

QA6

SELECT ENGINEERING SERVICES LTD CERTIFICATE OF VALIDATION

All works have been carried out as per SES QA6 SOP/BS 17025 and is traceable to Ukas standards using Ukas calibrated and referenced equipment.

This certificate has been saved and issued in PDF form created by and documented by SES and must not be changed nor altered in any way, for copies please contact SES direct. Copies are available indefinitely.

All test equipment has been verified for use and have current certification, a copy of the reference thermometer certificate is attached on the last page, the certificate was issued and was used to verify all equipment used for the test/s.

This certificate is intended to show the data taken and the results of the validation of the equipment at the time of testing, the SES engineer will have altered the machine for any differences whilst on site. Do not make any alterations to the machine as this will result in the calibration being void. Please read for any instruction provided for the load temperatures and times given below.

Customer	A Company	Machine Location	Building A	Data Logger Make	Thermosense
Customer number	C1234	Machine Make	Priorclave	Data Logger Model	BTM-4208SD
Contact	A Customer	Machine Model	V56	Data Logger Srno	424685
Certificate no	SES VC12344520	Machine Srno	1234	Data Logger No	2
Calibration Date	00/00/20	Auxiliary Make	N/A	Data Logger Cert No	SES CC424621619
Valid until	00/00/20	Auxiliary Model	N/A		
Certificate Issue Date	00/00/20	Auxiliary Srno	N/A	Test Engineer	

Validation cycle description data.

Cycle/program no.	121C fluids	Description of the load including approximate amounts	12x 1ltr bottles filled with water load sense inside one of the 1ltr bottles
Chamber/load temperature and time set on machine	121°C 15 Mins	Load Temperatures and time to be achieved	For test purposes only
Load type for validation	Media	Enter purpose of test i.e. new test, re-test etc.	Annual re-test

Thermocouple location and load description data.

Cycle information data.

Probe	Probe Location	Time data from test	Value		Value	
1	In bottle	Process start time	14	Hour	48	Mins
2	Control	Process end time	15	Hour	13	Mins
3	In bottle	Total Dwell time	15	Mins	00	Seconds
4	In bottle	Time at set point to achieve	15	Mins	00	Seconds
5	In bottle	Temperature data from test				
6	In bottle	Did all probes achieve set point	Yes			
7	In bottle	Probe that did not reach set point	N/A			
8	In bottle	Last thermocouple temp to set point	121.0°C			
9	In bottle	Location of last probe to set point	11			
10	In bottle	Other information from test				
11	In bottle	Pressure gauge	1.20bar	Min	1.23bar	Max
12	In bottle	Room ambient temperature	20.4°C			

Reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with BS EN 17025.

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Pictures taken of load tested before loading and inside machine.

Outside



Inside



Cycle analysis. Important Please Read carefully, do not adjust your autoclave unless stated. Recommendations should be carried out as per the following instructions, please contact SES for any queries or advise.

Notes of any anomalies, failed cycles etc.	Recommendations				
<p>This cycle comprised of the above load spread evenly within the chamber of the autoclave, the machine parameters were set as stated above. During the cycle, the following observations were made.</p> <p>All probes achieved the required set point for the required time within an allowed tolerance of +/-2°C.</p> <p>No other anomalies were noticed.</p>	<p>Further testing of your load types may be recommended. Please ensure all future load types as described are followed as per tests results and pictures above, any questions please contact SES.</p> <table><tr><td>Validation Pass /Fail</td><td>Pass</td><td>Re-Test Required</td><td>No</td></tr></table>	Validation Pass /Fail	Pass	Re-Test Required	No
Validation Pass /Fail	Pass	Re-Test Required	No		

Recommendations to cycles of this type.

Recommended time for cycle type	15	Mins	00	Seconds
Recommended temp for cycle type	121	Control °C	N/A	Load °C

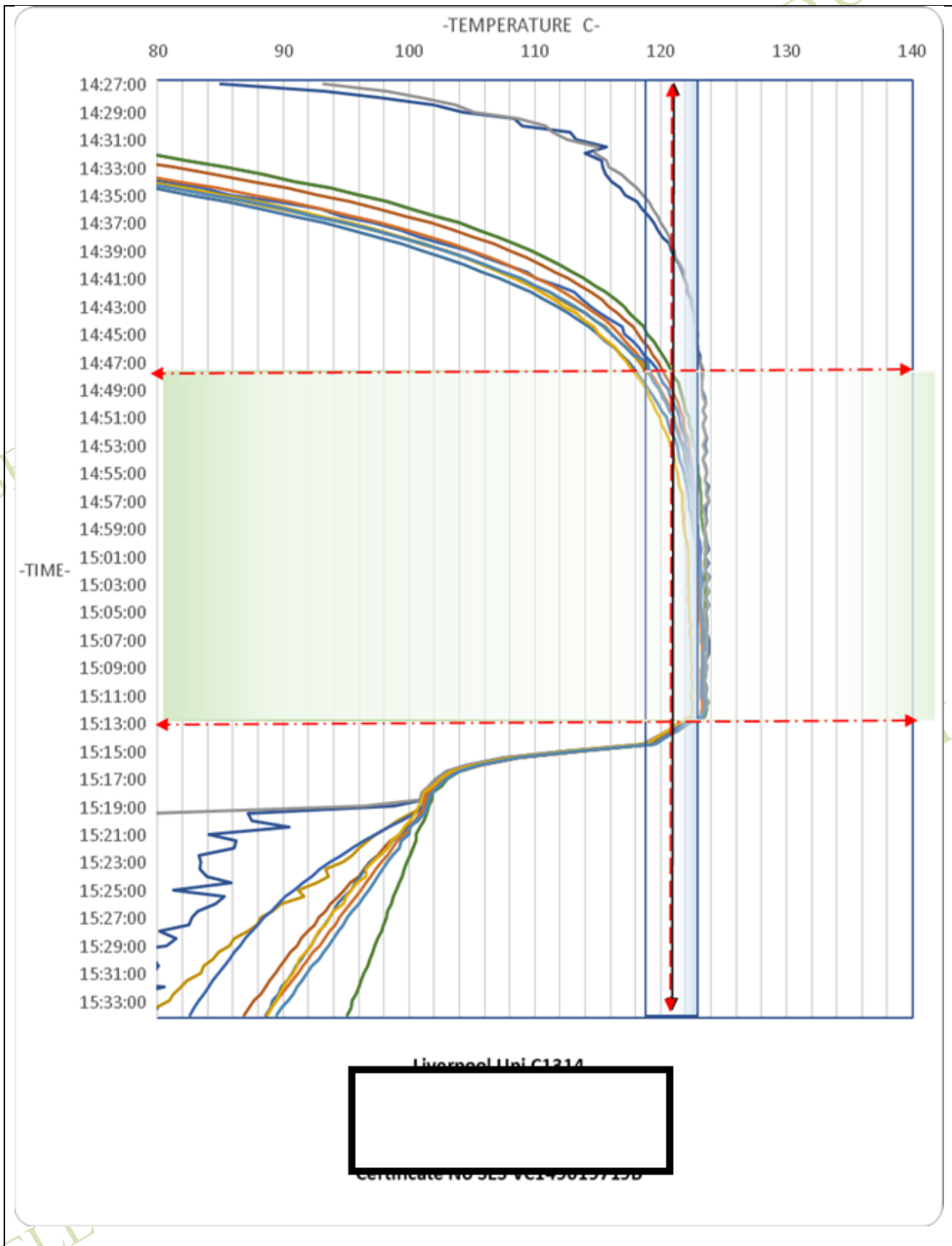
Expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with BS EN 17025.

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Data Logger Graph recordings.

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uncertainty is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with BS EN 17025.

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Data Logger Data Recordings.

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Time	CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7	CH 8	CH 9	CH 10	CH 11	CH 12
14:47:00	118.3	123.1	119.8	120.5	118.3	117.4	120.5	119.2	118.6	123.1	117.3	119
14:47:30	118.7	123.3	120.1	120.8	118.7	117.9	120.8	119.7	119	123.4	117.7	119.1
14:48:00	119.2	123.3	120.4	121	119.2	118.3	121	119.9	119.4	123.4	118.1	119.2
14:48:30	119.5	123.3	120.7	121.4	119.6	118.7	121.4	120.2	119.7	123.3	118.5	119.5
14:49:00	119.9	123.3	120.9	121.6	119.9	119.1	121.6	120.6	120	123.3	118.9	119.9
14:49:30	120.2	123.5	121.2	121.7	120.2	119.5	121.7	120.8	120.3	123.4	119.1	120.2
14:50:00	120.5	123.6	121.4	121.9	120.5	119.8	121.9	121	120.6	123.6	119.4	120.5
14:50:30	120.7	123.4	121.6	122	120.7	120.1	122	121.3	120.9	123.4	119.6	120.7
14:51:00	121	123.6	121.8	122.3	121.1	120.5	122.3	121.5	121	123.6	119.9	121
14:51:30	121.1	123.4	121.8	122.3	121.2	120.6	122.3	121.6	121.2	123.4	120.1	121.1
14:52:00	121.3	123.5	122	122.5	121.4	120.8	122.5	121.8	121.5	123.5	120.4	121.3
14:52:30	121.5	123.7	122.2	122.5	121.6	121.1	122.5	122	121.6	123.6	120.6	121.5
14:53:00	121.7	123.5	122.3	122.7	121.8	121.3	122.7	122	121.8	123.4	120.8	121.7
14:53:30	121.9	123.7	122.3	122.9	122	121.4	122.9	122.2	121.9	123.6	121	121.9
14:54:00	121.9	123.4	122.4	122.8	122	121.5	122.8	122.2	122	123.4	121.1	121.9
14:54:30	122.1	123.6	122.5	123	122.1	121.7	123	122.4	122.1	123.5	121.2	122.1
14:55:00	122.2	123.7	122.6	123	122.3	121.9	123	122.5	122.2	123.7	121.3	122.2
14:55:30	122.2	123.5	122.6	123.1	122.4	122	123.1	122.6	122.3	123.5	121.4	122.2
14:56:00	122.4	123.8	122.8	123.1	122.4	122.1	123.1	122.6	122.4	123.7	121.5	122.4
14:56:30	122.5	123.7	122.8	123.2	122.6	122.2	123.2	122.8	122.5	123.6	121.7	122.5
14:57:00	122.6	123.8	122.9	123.2	122.7	122.3	123.2	122.8	122.6	123.8	121.7	122.6
14:57:30	122.6	123.6	122.9	123.2	122.7	122.3	123.2	122.8	122.6	123.4	121.7	122.6
14:58:00	122.7	123.6	122.9	123.2	122.7	122.4	123.2	122.8	122.6	123.5	121.8	122.7
14:58:30	122.8	123.7	122.9	123.3	122.7	122.5	123.3	122.9	122.7	123.6	121.8	122.8
14:59:00	122.9	123.5	123	123.4	122.8	122.6	123.4	123	122.8	123.5	121.9	122.9
14:59:30	123	123.6	123	123.5	122.9	122.7	123.5	123	122.9	123.5	122	123
15:00:00	123	123.7	123.1	123.5	123	122.8	123.5	123.1	122.9	123.6	122.1	123
15:00:30	123	123.8	123.2	123.6	123.1	122.8	123.6	123.2	123	123.7	122.2	123
15:01:00	123	123.5	123.1	123.5	123.1	122.8	123.5	123.1	122.9	123.5	122.2	123
15:01:30	123.1	123.8	123.2	123.5	123.1	122.9	123.5	123.1	123	123.7	122.2	123.1
15:02:00	123.1	123.5	123.1	123.5	123.1	122.9	123.5	123.2	123	123.5	122.2	123.1
15:02:30	123.2	123.9	123.2	123.5	123.2	122.9	123.5	123.3	123.1	123.8	122.2	123.2
15:03:00	123.2	123.6	123.2	123.6	123.2	123	123.6	123.3	123.1	123.6	122.2	123.2
15:03:30	123.2	123.8	123.2	123.5	123.2	123	123.5	123.2	123	123.8	122.3	123.2
15:04:00	123.2	123.6	123.2	123.5	123.2	123	123.5	123.2	123	123.5	122.2	123.2
15:04:30	123.2	123.8	123.2	123.5	123.2	123.1	123.5	123.2	123.1	123.8	122.3	123.2
15:05:00	123.3	123.6	123.2	123.6	123.3	123.1	123.6	123.2	123.1	123.5	122.3	123.3
15:05:30	123.3	123.7	123.2	123.5	123.3	123.2	123.5	123.2	123.1	123.6	122.3	123.3
15:06:00	123.4	123.7	123.2	123.6	123.4	123.2	123.6	123.3	123.2	123.6	122.4	123.4
15:06:30	123.4	123.7	123.2	123.6	123.4	123.2	123.6	123.3	123.2	123.7	122.3	123.4
15:07:00	123.4	123.8	123.3	123.6	123.5	123.2	123.6	123.4	123.3	123.7	122.4	123.4
15:07:30	123.5	123.8	123.3	123.7	123.5	123.3	123.7	123.4	123.3	123.7	122.4	123.5
15:08:00	123.4	123.8	123.3	123.7	123.4	123.3	123.7	123.3	123.3	123.7	122.4	123.4
15:08:30	123.4	123.6	123.3	123.6	123.4	123.3	123.6	123.3	123.3	123.6	122.4	123.4
15:09:00	123.4	123.7	123.4	123.6	123.5	123.3	123.6	123.4	123.3	123.6	122.5	123.4
15:09:30	123.4	123.6	123.3	123.5	123.4	123.2	123.5	123.3	123.2	123.6	122.4	123.4
15:10:00	123.3	123.5	123.3	123.5	123.4	123.2	123.5	123.3	123.2	123.5	122.5	123.3
15:10:30	123.4	123.7	123.3	123.5	123.4	123.2	123.5	123.3	123.3	123.6	122.5	123.4
15:11:00	123.4	123.6	123.3	123.6	123.4	123.2	123.6	123.3	123.3	123.5	122.4	123.4
15:11:30	123.5	123.7	123.3	123.6	123.5	123.3	123.6	123.3	123.3	123.8	122.5	123.5
15:12:00	123.5	123.6	123.3	123.7	123.4	123.3	123.7	123.4	123.3	123.6	122.5	123.5
15:12:30	123.4	123.3	123.3	123.5	123.4	123.2	123.5	123.3	123.2	123.1	122.4	123.4
15:13:00	122.2	121.7	122.1	122.3	122.1	121.9	122.3	121.9	122.1	121.5	121.4	122.2
15:13:30	121.3	120.8	121.2	121.4	121.2	121	121.4	121	121.3	120.6	120.6	121.3
15:14:00	120.5	119.9	120.4	120.5	120.4	120.2	120.5	120.2	120.4	119.7	119.8	120.5

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