

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.

QA7

**SELECT ENGINEERING SERVICES Ltd.
(SES)
Certificate of Calibration**



Certificate Number

SES CC12344520

QA7 Calibration Certificate

QA7
SELECT ENGINEERING SERVICES
CERTIFICATE OF CALIBRATION

- All works have been carried out as per SES QA7 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 calibration from 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.

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 CC12344520	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	

Prog no.	Cycle description (Set point temperature and time)				Ambient Temperature			1/6	7/12
1	121	°C	15	Minutes	23	°C	Thermocouple sets used	X	X

Reading	CH1°C	CH2°C	Display(°C)	Axillary (°C)	Pressure (Units barg)	Minimum	1.28	1.30	Maximum
1	124.4	123.9	122.2	N/A	Timer	Minutes	15	00	Seconds
2	124.4	123.9	122.2	N/A	Process Timer Start	Hour	11	51	Minute
3	124.5	123.9	122.2	N/A	Process Timer End	Hour	12	06	Minute
4	124.4	123.9	122.2	N/A	Notes (any anomalies, failed cycles etc.)				
5	124.4	124.0	122.2	N/A					
6	125.0	124.4	122.5	N/A					
7	124.6	124.1	122.5	N/A					
8	124.6	124.1	122.2	N/A					
9	124.6	124.1	122.3	N/A					
10	124.6	124.2	122.4	N/A					

Uncertainty of Measurement

Type K Range 0 degrees C to 1350 degrees C =+/- (0.5degrees C = 1 least Significant digit)

Ch.no	Mean Value	Sample Size	Std Uncertainty	Confidence	Coverage Factor	Expanded Uncertainty
1	124.55°C	10	+/- 0.18 °C	95%	2.262	+/- 0.42 °C
2	124.05°C	10	+/- 0.16 °C	95%	2.262	+/- 0.37 °C

The 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.

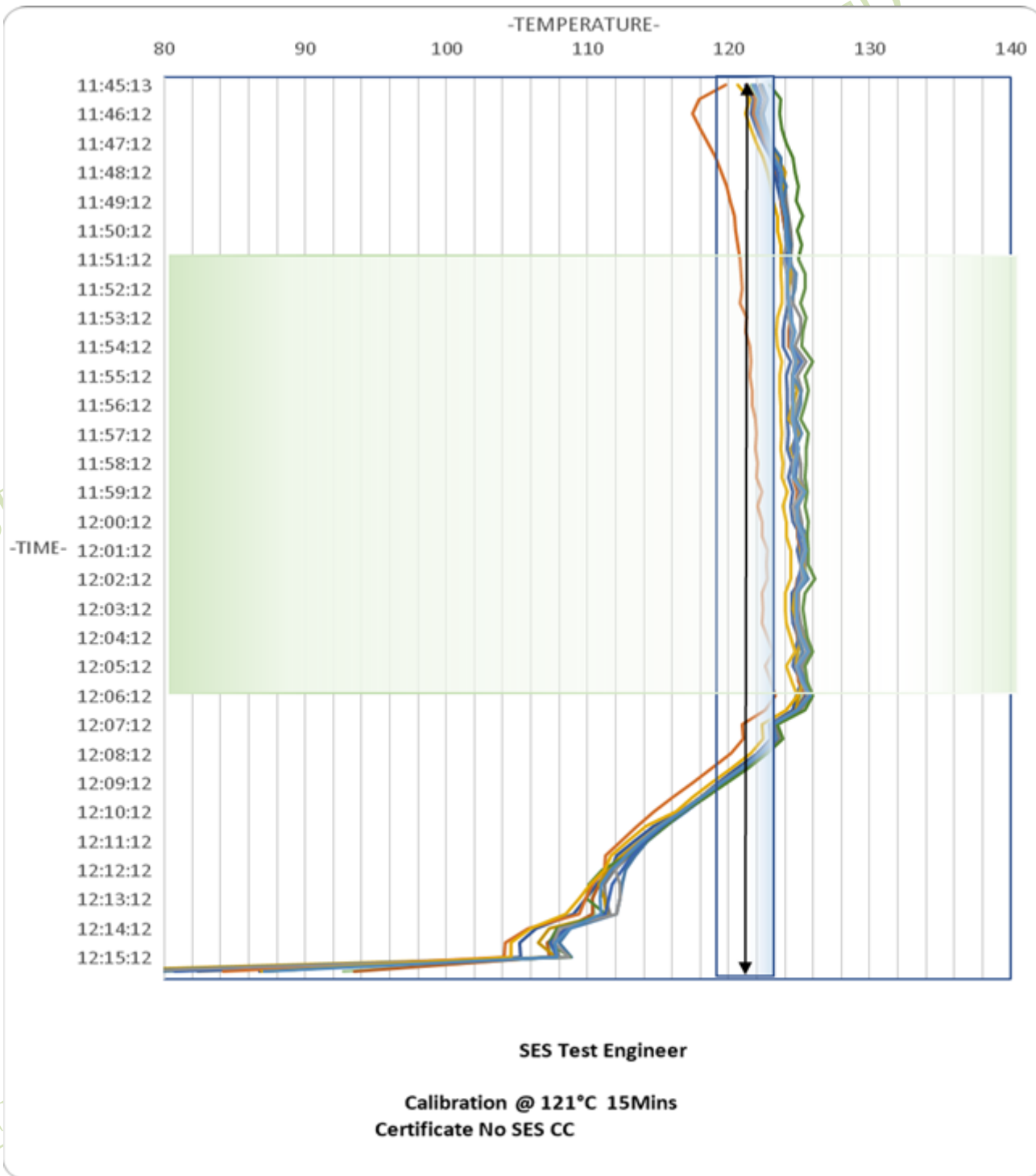
Series:	SESCC	QA Number	QA7	Issue Date:	26/07/18
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Data Logger Graph recordings.

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Data Logger Data Recordings.

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
11:50:12	124.1	124	124	124.4	124.1	124.2	124.9	124.1	120.5	124	123.5	124.1
11:50:42	124.2	124.1	124.4	124.5	124.2	124.4	125.2	124.2	120.7	124.1	123.7	124.2
11:51:12	124.4	124	124	124.4	124.2	124.2	125	124.1	120.8	123.9	123.7	124.4
11:51:42	124.3	124.2	124.6	124.6	124.4	124.8	125.4	124.2	120.9	124.2	123.7	124.2
11:52:12	124.3	124.2	124.2	124.6	124.3	124.7	125.4	124.2	121	124.2	123.8	124.2
11:52:42	124.3	124.3	124.3	124.6	124.3	124.4	125.1	124.4	120.8	124.4	123.8	124.3
11:53:12	124.4	124	124.4	125.1	124.4	124.5	125.5	124.4	121.3	124.3	123.5	124.4
11:53:42	124.4	123.9	124.3	125.1	124.4	124.5	125.3	124.4	121.2	124.6	123.4	124.7
11:54:12	124.4	123.9	124.3	124.7	124.4	124.5	125.2	124.4	121.5	124.4	123.5	124.5
11:54:42	124.9	124.4	125.1	125.5	124.8	125.2	126	125.2	121.6	124.7	123.8	124.8
11:55:12	124.6	124.1	124.5	124.9	124.5	124.6	125.4	124.6	121.5	124.5	123.6	124.6
11:55:42	124.6	124.2	124.5	125.2	124.9	125.1	125.7	124.5	121.7	124.5	123.6	124.6
11:56:12	124.7	124.2	124.6	124.9	124.6	125.1	125.4	124.6	121.7	124.6	123.7	124.6
11:56:42	124.7	124.2	124.5	124.8	124.3	124.8	125.1	124.6	121.9	124.5	123.7	124.6
11:57:12	125.1	124.3	125	124.8	125	125.2	125.7	124.8	122	124.7	123.8	124.7
11:57:42	124.6	124.2	124.5	124.9	124.4	124.7	125.5	124.6	121.9	125	123.7	125
11:58:12	124.8	124.5	124.8	125.1	124.8	124.9	125.5	124.9	122.1	124.6	123.9	124.7
11:58:42	124.8	124.3	124.6	125.1	124.7	124.7	125.4	124.7	122	124.6	123.8	124.6
11:59:12	125.5	124.6	124.9	125.4	125.4	125.1	125.6	125.1	122.4	125.3	124.2	125.4
11:59:42	124.8	124.4	124.7	125	124.7	124.8	125.4	124.8	122.1	124.6	123.9	124.9
12:00:12	125	124.6	124.9	125.2	124.8	125	125.7	125	122.4	124.8	124.1	124.9
12:00:42	125.5	125.1	124.9	125.3	125.4	125.6	125.6	125	122.4	125.3	124.1	125.3
12:01:12	125.5	124.9	125.1	125.5	125.1	125.2	125.7	125.3	122.8	125.4	124.4	125.5
12:01:42	125.4	125.1	125.4	125.4	125.3	125.1	125.7	125.2	122.7	125.1	124.4	125.2
12:02:12	125.6	125.2	124.9	125.3	125.5	125.7	126.1	125	122.8	125.3	124.4	125.4
12:02:42	124.8	124.5	124.7	125	124.7	124.8	125.4	124.8	122.4	124.8	124	124.8
12:03:12	124.8	124.5	124.7	125	124.6	124.8	125.3	124.8	122.5	124.8	124	124.8
12:03:42	124.9	124.6	124.8	125.1	124.9	124.9	125.4	124.9	122.4	124.8	124.1	124.9
12:04:12	125.3	125	124.9	125.4	125.3	125	125.6	125.2	122.8	125.1	124.4	125.2
12:04:42	125	124.7	125.3	125.8	124.9	125.3	126	125.6	123.2	125.6	124.7	125.7
12:05:12	125	124.6	124.9	125.2	124.8	124.9	125.4	125	122.6	124.8	124.1	124.9
12:05:42	125.5	125.2	125	125.4	125.3	125.5	125.6	125.3	123	125.2	124.5	125.2
12:06:12	125.1	124.8	125.4	125.8	125	125.5	126	125.6	123.3	125.7	124.9	125.8
12:06:42	125	124.6	124.8	125.1	124.8	124.9	125.4	124.9	122.6	124.9	124.1	124.9
12:07:12	123.1	122.9	123	123.3	123.1	123.1	123.5	123	121	123.1	122.4	123.2
12:07:42	123.3	123	123.2	123.6	123.3	123.4	123.9	123.4	121.1	123.3	122.5	123.3

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.

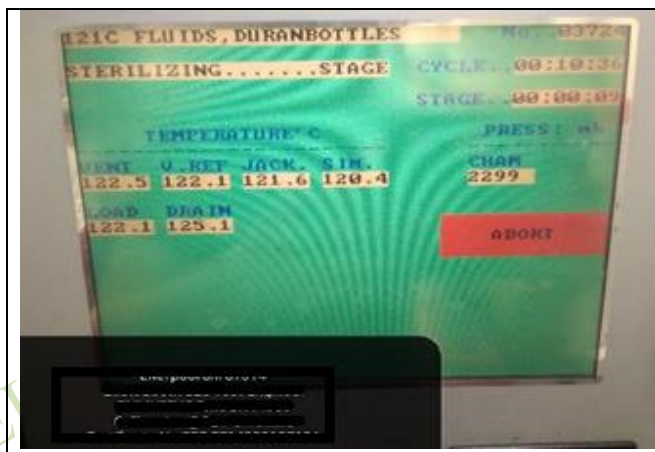
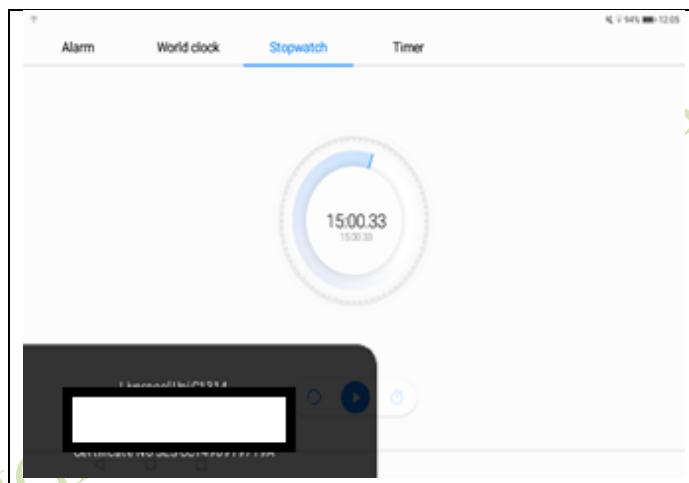
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Pictures taken of the autoclave equipment at the time of the calibration.

Machine Temperature Controller at setpointMachine Pressure Gauge at setpointCalibrated Stopwatch Reading at end of process

END

The reported expanded uncertainty is based on a standard uncertainty multiplier of 2, giving a level of confidence of approximately 95%. The uncertainty evaluation has been performed in accordance with ISO 17025.

a level of
17025.

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