

5

CALIBRATION JOB SHEET

Clients Name:	Premier FMCG NKWALENI PROCESSOR	Certificate No.	174884
Address:	344 Sydney Road FARMWATCH N°9	Tested At:	LABFIX
	Umbilo → BRIDGEFORD FARM	Location:	LAB
	Durban → NKWALENI	Prepared By:	Xo
		Signed:	
		Client Sign:	
Instrument:	Seals AUTOCLAVE	Print Name:	
Manufacturer:	APEX MEDICAL	Previous Cert No.	
Model:	SA-252 F		
Serial Number:	200313012-003	Expiry Date:	2/2025
Date Tested:	19/12/2024		
Condition of Equipment:	Acceptable for Calibration: YES NO		

1. PROCEDURE

This instrument was calibrated using certified mass pieces. **THERMOMETER, THERMOCOUPLE, PRESSURE GAUGE AND TIMER.**

Procedure No. **GM01 CTO 1**

2. RESULTS

TEMP	°C	°C			
	UNLOADED	LOADED			
SET	121	121			
VARIATION	5.5	4.2			
FLUCTUATION	5.5	4.4			
DEVIATION	1.9	2.4			
AVERAGE	122.9	123.4			
SET TIME (MIN)			ACTUAL	CUT OFF TIME (MIN)	
UNLOADED	30:00			30:01	
LOADED	30:00			30:03	

3.1 UNCERTAINTY

$\pm 2^{\circ}\text{C}$; 30 seconds ; $\pm 0.015\text{BAR}$; $\pm 15\text{kPa}$

3.2 Uncertainty Statement

4.1 Test Equipment Used

Instrument	Serial No	Certificate No	Expiry Date
THERMOHYGROMETER	LCA11/ 443		1900/01/01
THERMOMETER	LCA11/ 418		1900/01/01
THERMOCOUPLE	LCA11/ 349		1900/01/01
TIMER	LCA11/ 25		1900/01/01
PRESSURE GAUGE	LCA11/ 300 277		1900/01/01

4.2 The ambient temperature was: **24.3 °C** 1 I₀ °C

4.3 The ambient RH was: **69 %** 5 I₀ %

↘ ACTUAL PRESSURE (BAR) INSTRUMENT IND (BAR)

1	1
2	2
3	3
4	4

	1	2	3	4	5	6	7	8	9	10
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
Mean										

	1	2	3	4	5	6	7	8	9	10
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
Mean										

UNCERTAINTY BUDGET

Thermometer	Thermocouple	Switch Box	Instrument	Environmental	Repeatability
$\sqrt{\left(\frac{0.2}{2}\right)^2 + \left(\frac{1}{50}\right)^2 + \left(\frac{1}{53}\right)^2 + (0.004228927)^2} \times 2$					
$\sqrt{0.01 + 0.1666666666 + 0.3333333333 + 0.00000505} \times 2$					
$\sqrt{0.5100015041} \times 2$					
1.428287792					

AUTOCLAVE TEMPLATE

Procedure no:CT 01

CERTIFICATE NUMBER:	174884
CUSTOMER:	NKXIALENI
SERIAL NUMBER:	2003130 12-03
DATE:	19/2/2024

UNLOADED: Temperature measurements after thermocouple corrections from certificate applied

t/c1	26.2	26.6	33.9	43.6	118.4	124.4	124.8										122.5
t/c2	25.5	29.1	35.2	45.0	119.3	124.5	124.8										122.9
t/c3	26.3	30.8	37.4	46.7	120.4	124.7	125.0										123.4
t/c4																	
t/c5																	
t/c6																	
t/c7																	
t/c8																	
t/c9																	
t/c10																	
Time(min)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70		

MEAN- UNLOADED:

Ave	25.7	28.8	35.5	45.1	119.4	124.5	124.9										122.9
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LOADED: Temperature measurements after thermocouple corrections from certificate applied

t/c1	25.6	28.5	35.0	44.2	120.2	124.4	124.8										123.1
t/c2	27.3	30.7	36.5	46.3	120.5	124.6	124.9										123.3
t/c3	29.2	32.1	38.4	48.1	121.4	124.8	124.9										123.7
t/c4	30.7	33.3	40.0	49.2	122.0	124.9	125.0									sample	124.0
t/c5																	
t/c6																	
t/c7																	
t/c8																	
t/c9																	
t/c10																	
Time(min)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70		

MEAN- LOADED:

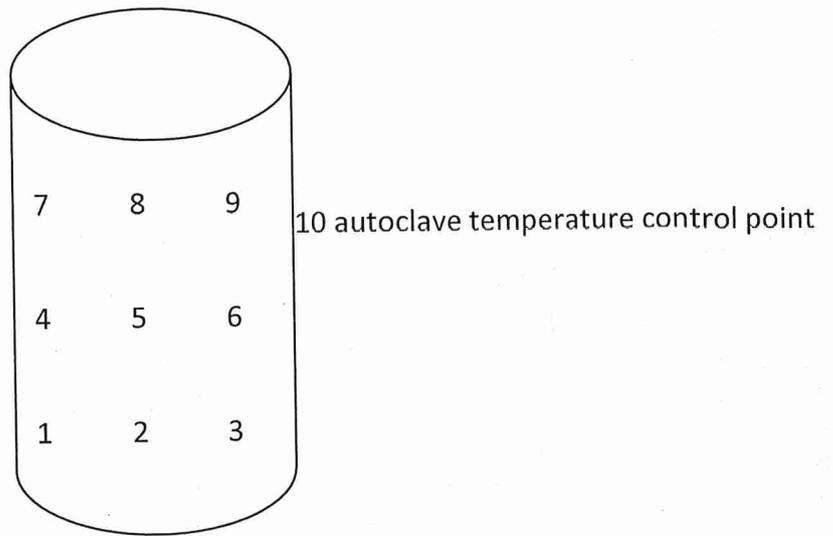
Ave	27.4	30.3	36.6	46.2	120.7	124.6	124.9										123.4
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SAMPLE:

Ave	30.7	33.3	40.0	49.2	122.0	124.9	125.0										124.0
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***See next page for schematic showing temperature probe positions

POSITIONING OF TEMPERATURE PROBES



<p>Calculation of temp variation: Biggest difference between centre probe and any other in the chamber</p>	
<p>Calculation of temp fluctuation : Determined from digital thermometer recorder once chamber has stabilised</p>	
<p>Calculation of temp deviation: Determined by subtracting the mean of all 10 temperature probe averages from the set point</p>	
<p>Average temperature : Determined by subtracting the deviation from the set point</p>	