Priorclave

Autoclave Service Checklist

UKAS CALIBRATION 0602

Investigate any reported problems before proceeding.

Fit and test any requested additions or conversions before proceeding

Note any comments on service/repair report beside check list number.

Item No.	Action	Check	Comments
Starting the Service			
1.	Download and save PTC file. Download and save Log file. Record interval and total cycle count.		
2.	On models fitted with a vacuum system, perform leak rate test and record results and check operation of vacuum pump(s).		
3.	Note original settings of all controls then set the temperature to 121°C, set free-steam time (if fitted) to 5 mins, set process time to 15 mins. If load sensed process timing is fitted it should be switched on.		
4.	Isolate services (Electrical, water, steam and air) as appropriate.		
General Checks			
5.	Remove main access panels and check vessel, all joint fittings and interconnecting pipework for signs of leakage or damage.		
6.	Change air intake and exhaust filters as necessary. Replace air filter at 12 month intervals Replace exhaust filter at 24 months or 1000 cycles.		
7.	Check all micro-switches and actuators for cleanliness and freeness of operation. Check mounting tightness and position. Replace door wiring loom on QCS/Q63 every 1000 cycles.		
8.	Check locking solenoids and door catches/locking pins for cleanliness and freeness of operation. Check tightness of mounting screws and condition of return springs and spring anchors. Check split pins for wear and replace every 1000 cycles on LAC models.		
9.	Check tightness and condition of wiring connections at all fuses/circuit breakers and terminal blocks. Check tightness of all push on connectors at locking Solenoids, heaters, thermostats etc. Pay special attention to the		

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	screw connectors carrying heater current, particularly at the first 6-month service.		
10.	Check relays, triacs, relay bases etc. for signs of ageing.		
11.	If fitted, check thermo-regulator contacts for arcing and sticking, check contactors for ageing and arcing. Replace compact heater relay every 1000 cycles. Replace 9/23 amp heater contactor every 1000 cycles. Replace 50/100 amp contactor every 2000 cycles.		
Vessel Interior			
12.	Drain water from chamber (Autoclaves with in-chamber heaters).		
13.	Visually check general condition of vessel interior and interior fittings for excessive damage.		
14.	If autoclave is front loading check condition of silicone weir seal (where fitted) for leaks or damage. Remove and replace as necessary. Check weld on RSC weir.		
15.	Check interior for signs of spillage etc. Clean or replace components as required.		
16.	Clean out all strainers (internal and external).		
	***Autoclaves with in chamber heaters:**		
17.	*Visually inspect heating elements for corrosion, exterior damage or excessive build-up of scale. Repeat this procedure for the temperature control probe, load simulator probe, and water level probe(s).		
18.	*Visually check position of heating elements particularly in relation to the low water probe.		
19.	*Thoroughly clean low water probe(s) paying particular attention to the insulated part between the sensor tag / tip and the vessel fitting and water fill tank.		
20.	*Re-fill with water and Test operation of low water and if fitted, high water cut-outs, check operation of Torbeck valve.		
21.	Check all fixed and wandering temperature sensors for build-up of scale or exterior damage.		
22.	For steam heated or dual heated units remove and clean steam trap strainers.		

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Door and closure			
23.	Visually inspect lid / door gasket for damage or excessive wear. Check for correct location of gasket in recess.		
24.	Check door position and location.		
25.	Check hinge for excessive play in all directions. Check for Freeness of operation and lubricate as required.		
26.	Lubricate gasket and clean sealing face of door.		
Autoclaves with Bolted Door Closures			
27.	Thoroughly clean threads of standard closure bolts, and all female threads. Inspect for damaged or excessive wear.		
28.	Remove safety bolt unit and thoroughly clean threads and safety mechanism.		
29.	Inspect for damage or excessive wear. Screw bolt 4 turns into female thread and check for excessive vertical and axial play.		
30.	Lubricate safety bolt and re-fit. Close safety bolt and check for freeness and smoothness of operation.		
31.	Check setting of lid micro-switch.		
32.	With safety bolt clamped, screw each standard bolt 4 turns into female thread and check for excessive vertical and axial play.		
33.	Lubricate bolts and ensure smooth free movement.		
Autoclaves with Quickseal Closures (All types)			
26.	Clean clamping faces and check for damages or excessive wear.		
27.	Check tightness of all bolts on door actuator mechanism.		
28.	Check grease and remove replace as necessary.		
29.	Check for a smooth free closure action.		
30.	Check function and operation of safety catch.		
31.	Check door and door cover mountings.		
32.	Check operation of microswitch actuators. On QCS models Replace door switches every 1500 cycles.		
Operation Test			

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33.	If the autoclave is fitted with an internal steam generator, please first carry out the service procedures for Steam Generators listed at the end of this document.		
34.	Ensure that all personnel remain clear of the unit for the duration of testing then switch on the electricity, water, air and steam supplies as appropriate.		
35.	For steam generator models allow time for the steam generator to get up to working pressure before starting the test.		
36.	Press door button and check for correct delay before door is released.		
37.	(Pre-Tactrol bolt closures 5 seconds). (All Quickseals and Tactrol models 20 seconds)		
38.	Check locking solenoid function and action under power. Check locking devices when solenoids release.		
39.	On vacuum models, check operation of vacuum pump(s). Check ultimate vacuum level and evacuation rate against commissioning data if available..		
40.	Start cycle and check function of start and heat indicators		
41.	Check current being drawn by all heaters using a clamp meter. (Autoclaves with in-chamber heaters and steam generators).		
42.	Note temperature at which purge open/close Commences followed by free-steaming and adjust as required.		
43.	Check function of free-steaming timing and check elapsed time against set time, check free flow of steam discharge.		
44.	If fitted check function of air purge vent valve Check closing action of air purge valve and note closing temperature. Replace air purge valve every two years.		
45.	Observe heat up to 121°C and check for control stability and overshoot.		
46.	Check function of process indicator and countdown function of timer.		
47.	Where fitted, check thermoregulatory, contactor heater relay contacts for arcing and sticking.		
48.	Check for temperature stability and contactor chatter.		

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49.	Check for correct correlation between temperature and pressure.		
50.	If running from an in house steam supply, check both flowing and holding pressure of steam supply on post regulator in line gauge. (Confer with on-site engineers before adjusting).		
51.	If ordered as part of the service visit, carry out calibration in accordance with the appropriate procedure.		
52.	While the autoclave is at pressure, check vessel and all pipework and fittings for leakage. Replace any worn fibre washers.		
53.	While the autoclave is at pressure, check lid gasket for leakage.		
54.	At the end of the sterilising time check elapsed sterilising time against time set.		
55.	Check that the autoclave goes into cooling and if the cool indicator(s) are working. Check cooling fan function and look for restrictions at air intakes.		
56.	On vacuum models with the drying option, check condition and operation of heater mats (if fitted) by re-running the cycle or switching on the heater mats via Tactrol Tools for a test period. Check operation of drain valve.		
57.	Lift easing lever of safety valve and check for a free flow of steam.		
58.	Ensure safety valve re-seats correctly.		
59.	Repeat these safety valve tests for the Jacket and Steam Generator where fitted.		
60.	Ensure that the door button is disabled at elevated pressure and temperatures.		
61.	Check manual operation of vent valve.		
62.	Check operation of thermal lock override. Check thermal and setting lock keyswitches for tightness.		
63.	Check setting and function of pressure switch.		
64.	Re-set service cycle count.		
	Note: If any components are replaced during or after testing the autoclave should be re-tested.		

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Finishing up			
65.	Re-fit exterior panels and replace any missing panel screw.		
66.	Return controls to original settings.		
67.	Ensure external cleanliness of autoclave. Fix and mark service sticker with name and date.		
Autoclaves with Steam Generators – additional operations			
68.	Allow sufficient time for the pressure in the steam generator to fall to 0 and is at a safe working temperature. Use the blowdown valve if necessary.		
69.	Remove the retaining bolts on the front of the steam generator end plate.		
70.	Clean the inside of the steam generator including the heating elements and water level sensors. Ensure that the interior of the generator is free of scale. The presence of large amounts of scale may indicate that the weekly blowdown procedure is not being followed.		
71.	Re-fit the end plate using a new gasket tightening bolts to the correct torque setting. (Tighten opposing bolts together.) if applicable Re-fit the lock nuts.		
72.	Check relay contacts in float-less level switch, replace as necessary. Newer autoclaves have a separate control circuit for the steam generator.		
73.	Check the thermal fuses for signs of wear and are securely attached to the vessel wall, check for damaged heat insulation on the generator and associated pipework.		
74.	Check operation of water pump clean all strainers.		

Service Completed:	**Engineer:**	**Date:**
		/ /

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