

201426

Bal-Tec Critical Point Dryer CPD030 Operating Instructions

1. Fill specimen chamber with the liquid in which the prepared specimen is contained to such a level that the specimen is completely covered with liquid after insertion
2. Quickly insert the specimen holder into the specimen chamber
3. Tightly close the specimen chamber with the screw-on cover by rotating cw
4. Turn on the unit with the main switch
5. Press pushbutton **COOLING**; the initial temperature is 20°C; wait until the chamber cools to 10°C before proceeding to next step. *10 is by min. w/ 100% E+0 H*
6. Open shut-off valve to CO₂
7. Press pushbutton **MEDIUM IN** – medium inlet valve opens
8. Fill specimen chamber to upper edge of front sight glass
9. Press pushbutton **MEDIUM IN** again – medium inlet valve closes
10. If applicable, press pushbutton **STIRRER**. The magnetic stirrer should not be used if the specimens are delicate
11. Wait 3 minutes
12. Press pushbutton **MEDIUM OUT** – medium outlet valve opens
13. Drain media mixture from specimen chamber until the specimen is just covered by the liquid
14. Press pushbutton **MEDIUM OUT** – medium outlet valve closes
15. Repeat steps 7 – 14, 7 – 10 times
16. If applicable, press pushbutton **STIRRER** to switch off
17. During the last fill with the transition medium CO₂, fill the specimen chamber to the upper edge of the front sight glass
18. Check to see that all valves are closed – LED's of the blind schematic symbols **MEDIUM IN**, **MEDIUM OUT** and **GAS OUT** must be off
19. Close shut-off valve to CO₂
20. Press pushbutton **COOLING** – cooling unit switches off
21. Press pushbutton **HEATING** – heating unit switches on
Temperature and pressure in the specimen chamber rise. The critical point of CO₂ is reached at a temperature of 31°C and a pressure of 73.8 bars.
22. Wait until the temperatures reaches 40°C before releasing the gas from the specimen chamber
23. *Check to see that the METERING VALVE is closed!*
24. Press pushbutton **GAS OUT**
25. Carefully rotate **METERING VALVE** knob ccw; note vigorous bubbling in Erlenmeyer flask
26. Allow specimen chamber to come to atmosphere slowly at a rate of 2 – 3 bars per minute
27. Readjust **METERING VALVE** with decreasing pressure
28. Once atmosphere is reached press pushbutton **HEATING** – heater is switched off
29. Once you reach atmosphere, the screw-on cover to the specimen chamber can be opened
30. Press pushbutton **GAS OUT** – gas outlet valve closes
31. Close **METERING VALVE** by rotating knob cw

32. Remove specimen from chamber and place in a suitable desiccator
33. Press pushbutton **MEDIUM IN** – this action releases pressure from the gas connection hose
34. Press pushbutton **MEDIUM IN** again
35. Carefully replace screw-on cover to specimen chamber
36. Switch off the unit