

Schedule 1 : Data Sheet for Benchtop Lyophilizer

S.No.	Specification	
1	Model	GMP Table top Freeze dryer
2	Preferred Make	Martin Christ,Virtis,Telstar
3	Condenser temperature min. (°C)	-85°C
4	Lowest Shelf temperature range	-67°C to -70°C
5	System Dimension external(WxDxH)	~654mmx710mmx730mm
6	Temperature sensor probe	2Nos,Type "T" Product Probes
7	Shelf Temperature control range	-55°C to + 60°C
8	Shelf Temperature uniformity	±0.1° C at 0° C
9	Maximum deposition rate	0.08L/hr
10	Compressor Horsepower	1/3, 1/3 HP
11	System refrigeration	R508B, R407C or higher grade
12	Display	LCD display of process parameter
13	Shelf Pull-Down from 20 °C to -40 °C	≤ 45 min
14	Compressor	Dual compressor
15	Process control	Vendor to specify i.e SCADA
16	Interface	RS – 232/ethernet
17	Ambient temperature for operating range	15 to 25°C
18	Alarm	Audible and visible, Error code display
19	Bulk drying shelf area	Min. 900 cm ²
20	Vacuum rate of raised	≤ 60 mT/hour (≤ .08 mbar/hour)
21	Pneumatic clearance & shelf clearance	Min.117mm
22	Shelf construction (MOC)	Corrosion-Resistant Surface or higher spec.
23	No of Shelf required	1 no
24	Safety	Equipment should possess universal safety requirements.
25	Agency approvals	CE or ISO certification required
26	Documentation	supporting documents (calibration and validation certificates) required
27	Warranty	Warranty certificate should be provided for 1 year. Compressor warranty should be provided
28	Side manifold inbuilt in the system	4No.s- 3/4" Quickseal valves

Schedule 2 : Data Sheet for BCG Mill

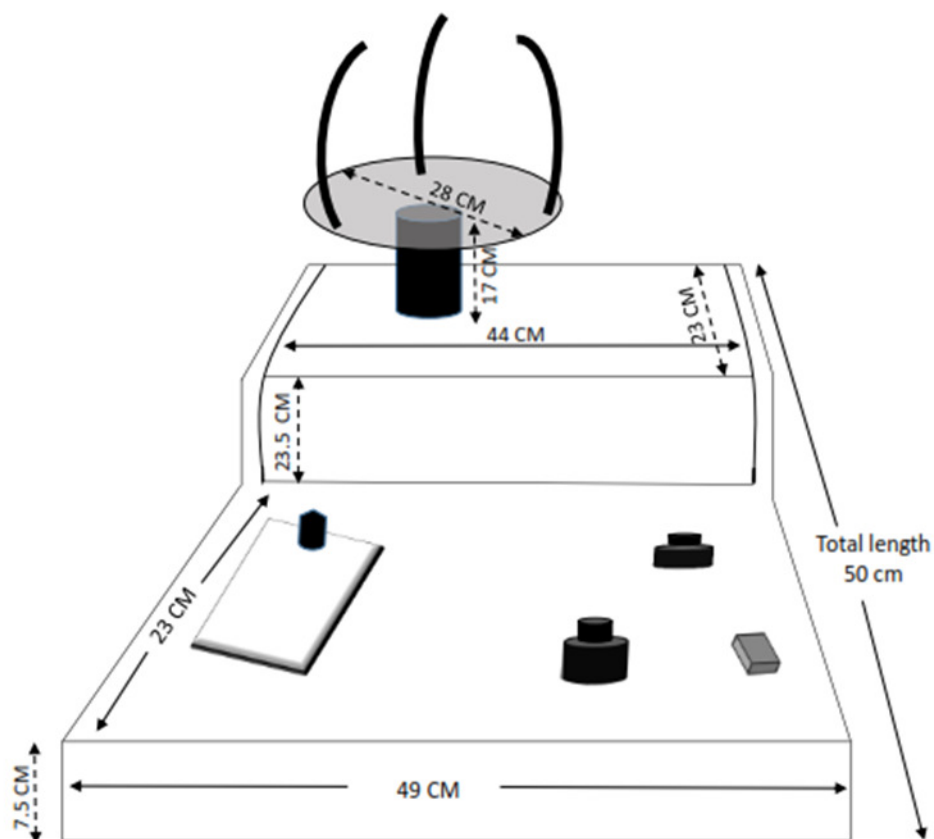
S. No.	Specification	
1	Speed.	2 rpm to 40 rpm
2	Operating Temperature	22°C \pm 1°C
3	Temperature Deviation	\pm 1°C
4	MOC	SS 316 L
5	Tilting Angle	60° to 90°
6	Loading Weight with SS Beads	3-4 kg
7	Speed change and timer	Digital Controller
8	Critical shaft height	17 – 19 cm
9	Tool box Facility	Accommodate 1 set of clamps
10	Holder	Haffkine flask ()adjustable for different clamp sizes
11	Clamp MOC	SS or aluminium with silicone sleeve

Other Notes:

1. Heat Should not be generated from Motor
2. Sponge on the top of the shaft for haffkine flask

Schedule 2 : Data Sheet for BCG Mill

BCG MILL MEASUREMENT



Schedule 3 : Birkaugh's Apparatus data sheet

S. No	Specification	
1.	MOC	SS 316 L
2.	Length of cylindrical area	195mm
3.	Diameter of cylindrical area	22 mm
4.	Length of Piston	210 mm
5.	Bottom Lock with porous	35 x 175 mm
6.	Base	100 mm
7.	Funnel with closure	60x50x16 mm



Schedule 3 : Birkaugh's Apparatus

