



**Installation and Operational Qualification Protocol for Infrared Ray Dryer**

**Identification No.:**

**Document Number:**

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**List of components to be tested:**

Component ID	Component Description	GMP Relevance (Y/N)	To be checked in IQ (Y/N)	Justification for Decision	Test ID No.
1.	Base Assembly	N	N	Required to support the entire structure and movement of Equipment	1.
2.	Blower –Motor Assembly	N	Y	It helps to supply filtered air in the Vessel which is being dried & to remove moisture laden air from it.	2.
3.	Infra Ray Element	N	Y	These tubes are radiating Infrared Rays. This assembly fitted at the periphery of the Cylinder.	3.
4.	DTC	N	Y	Operational requirement for controlling the temperature of the heating bank.	4.
5.	Filter	N	Y	To filter coarse particles of air. Does not have direct impact on quality of air.	5.
6.	Pneumatic Cylinder	N	Y	Required for the movement of cylindrical heater bank in up and down direction.	6.
7.	Pressure gauge at FRL	N	Y	To measure the pressure of compressed air.	7.
8.	PLC	Y	Y	Operational requirement for automatic operation of the machine.	8.
9.	HMI	Y	Y	Interface between PLC and user for operational requirement.	9.
10.	Flow control valve	N	N	Operational requirement for controlling the air flow.	NA
11.	AMP meter	N	Y	Operational requirement for showing the current of the IR heater.	10.
12.	Insulation Material	N	Y	Required for insulating the material to avoid the transfer of heat into the environment.	11.
13.	Hand Lever Valve	N	N	Operational requirement.	NA
14.	Dom	N	Y	Operational requirement for holding IR Elements.	12.

**Prepared By (Signature & Date)**

**Checked By (Signature & Date)**