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Laboratory Spray Dryer
SPD-P-111

Table Top

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Technical Specifications

Type	Plug in system Table Top Lab Spray Dryer for biological samples preparation with online monitoring
Suitable	Compatible with Aqueous/Aqueous + Aqueous/Solvent + Solvents/Solvents Feeds
Main Body stand	SS dull Pharma Finish
Evaporation rate	500-1000 ml/hr water evaporation @ 280°C inlet temp
Temp. range	Ambient (30°C) to 280°C, accuracy ± 1°C in steps of 0.1°C
Temp. sensors	04 Nos., (included inlet /outlet /Plate/safety sensors)
Aspirator	110 NM^3/hr, 0 to -150 mm of WC thru VFD
Aspirator motor	0.5HP x 2800 rpm 3 phase - Motor with single phase 230V AC input & three phase 230V AC output.
Air for atomization or Gas	Air compressor will be 100 % Oil free, non-lubricated, noise free silent with 50L tank, 5 to 8 bar, 200 – 800 liter/h and portable on the wheels.
	Nitrogen or carbon dioxide gas can be used for atomization instead of Air as & when required. So, instrument should be compatible with nitrogen and carbon dioxide gas attachment system.
Air blower	Side Channel Blower. The blower will be provided with a VFD for adjustment of the air flow rate.
Air pressure Regulator	0 to 10 kg/cm^2 with 40 microns filter & Moisture drain valve.
Feed pump:	Peristaltic pump with variable flow rate. Feed pump Calibration (in-built) & Setting in ml/min with reverse function. 1250 ml/hr or more
Hot Plate & Magnetic Stirrer	Hot Plate & Magnetic Stirrer Built-in with the Spray Dryer & controls through PLC / HMI.
Air Distributor	Air Distributor suitable for 9" Drying Chamber, Distributor disc approx. 130mm Diameter with 18 Equidistance holes.
MOC of Drying chamber & Cone	9" Diameter Borosilicate Glass Spark tested, Stress Relieved & Annealed. Two-piece construction with SS Clamps for ease of assembly & washing will be provided.
High Efficiency Single Cyclone separator & Receiver	Borosilicate Glass Spark tested, Stress Relieved & Annealed with 100mm Threaded receiver so that there are no leakages.
Static Drain Arrangement	Static Charge drain Stainless Steel rods for both cyclon threaded receiver.
Scrubber	Borosilicate glass, annealed - stress relieved spark tested.
MOC of heater	SS 304 fitted with Kanthal A1 heater of 3 Kw
Connecting tubing	PP Piping will be supplied as connecting tubing's
Bag Filter	For collection of fines from the exhaust air. The filter will be housed in a Borosilicate enclosure to avoid any leakages. Washable PP Bag will be provided as bag filter.
Spray system	SS 316L co-current two fluid nozzles (0.7mm) with auto de-blocking system with variable time (1 to 90 Secs) will be provided.
Control system	The system will be fully controlled (heater, hot plate magnetic stirrer, flow rate, aspirator rate, de-blocking strokes, etc.) through PLC (Delta Make) with mimic display. Digital seven segment LED Display vacuum indicator for precise vacuum readings will be provided with this instrument for safety. Control system will have HMI (Delta Make with a size of 7" Touch Screen) with alphanumeric display with audio visual indication. The system has 3 tier security levels for operating & modifying process/special/required parameters while working with different solvent systems. It shows online graphs for Inlet & outlet temperature on HMI. Mains supply to the system should be through MCB.

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Sample Trial Laboratory

Our Laboratory is Equipped with state-of-the-art Laboratory Scale Spray Dryer and follows a strict quality control measures.

Our team is dedicated in providing support for development of your product recipe by conducting your product trials in our Laboratory. This helps you to work with the customized spray dryers and develop the perfect product recipe.

Together we build a customized Spray Dryer suitable for your product application. All this before you make any significant capital investment.

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Techno Search Process & Systems
G6-07, Bhumi World Ind. Park, opp. Tata Amantra,
Pimplas village, NH-3, Bhiwandi - 421302.
Contact no. 9967844309 / 8422996226