Requirement Document, Specifications –
Procurement of mission critical Buchi S-300 mini spray dryer and required accessories

The Food Quality Laboratory seeks to procure a Buchi S-300 mini spray dryer and required accessories. This unit will be vital to maintain mission critical research involving sensory and food quality analysis. This equipment will support more than 10 stakeholder relevant projects. The unit will be utilized for quality and sensory analysis of commodities and other mission critical research within the laboratory. It is urgent for the continuity of work. BUCHI is the vendor of this specific, limited availability product.

Specific characteristics needed for equipment:

- Capable of spray drying aqueous formulations and can be configured with further instrument accessories to safely handle organic solvents. It should be capable of producing particles in the range of 2-60 microns using various available nozzle technologies. (W x D x H) = (620 x 640 x 1052mm), 62.5 kg and 2300W.
- Additional features should include:
    - Advanced user touch screen interface along with PT-1000 Temperature probes for faster response and greater accuracy
    - Methods and drying run recall
    - Capabilities to generate reports with real-time parameter graphs
    - Data uploading via USP
    - Availability of 220°C heater
    - Product temperature measurement in collection vessel
    - Cyclone with SVL42 threaded connection with easily removable lid for ease of cleaning and sample harvesting.
    - External hose connections as KF-25 C-clamps for ease of use

Technical specifications for the desired unit include:

Electrical	220 - 240 ± 10% VAC (50 / 60 Hz)
Nozzle gas pressure	5-7 bar
Sample Feed pump	0.1-30 ml/ min
Sample Gas rate	80-1800 L/hr @ 7bar
Drying Gas rate	35 cm^3/hr
Residence Time	1-1.5 sec

Additional accessories with exclusive compatibility for this unit include:

- Nozzles: Two fluid nozzles in sizes 0.5mm 0.7mm, 1.4mm, 2.0mm for ease of use with viscous solutions or heavy suspensions. Acid resistant nozzle with Titanium feed tips in the same sizes available. A Three fluid nozzle to use with two immiscible liquids. An optional 60kHz ultrasonic nozzle can expand the PS up to 60 microns

- Outlet filer: Equipped with both a polyester and PTFE filter, interface display of the pressure drops. Provides protection for the aspirator, the environment, while permitting cleaning of the aspirator. included in the S-300 bundle.

- High Performance Cyclone: a good option to increase the yield of the collection of smaller particles in the 1-2 micron range, can be equipped with either a small (20ml) or a larger collection vessel (1L). The cyclones are coated with an antistatic coating.

- 3.0 Borosilicate glassware: All glassware is of the highest grade available on the laboratory instrument market. Also available in Amber for the protection of UV sensitive compounds.