

4. TECHNICAL SPECIFICATIONS

Oushadhi as part of their expansion/ automation plan intends to procure equipment listed in Table-1 below for their existing factory at Kuttanellur, Thrissur, Kerala. A brief technical specification of each item is elaborated in the data sheets hereunder. Competent Suppliers meeting the eligibility criteria may quote for either one item or more or all items as per their eligibility. Suppliers who have prior experience in the supply of a particular item will only be qualified for that particular item.

SI No	Equipment Name	Capacity	Quantity
1	Micro Pulveriser	50-100 kg/hr	1 No.

Table -1

1.1 GENERAL DESCRIPTION

The following technical specifications, code of practice etc. referred herein are part of the Item Specification and work shall be executed accordingly. The technical requirements given hereunder are only indicative and not descriptive and the Supplier shall ensure that the equipment and accessories supplied are complete in all respects for the smooth operation of the plant and should be suitable for the rated output and intended service.

Items which are not covered under Technical Specification shall be carried out as per relevant IS Specification or as per manufactures specification approved by Accepting Authority or as directed by Engineer-in-charge. In case of discrepancy between technical specification and item specification provided along with Bill of Quantities, the Item Specification shall prevail.

1.2 SCOPE OF WORK

The scope of work shall include supply, erection, testing, commissioning of mechanical, instrumentation and electrical works for above listed machines for its factory at Kuttanellur, Thrissur. All electrical and necessary instrumentation and controls for smooth and safe operation of various systems of plant shall be in the scope of the Supplier. These shall conform to the specifications and standards laid down by the Kerala State Electrical Inspectorate. The Supplier would do all necessary activities to get prior advice/approval from the Inspectorate for the design/ schematic diagrams of all power/control wiring of all equipment, including those supplied by other manufacturers prior to commencement of manufacture in order to avoid rework and consequent delay.

1.3 CODES AND STANDARDS

The design, manufacture and testing of the equipment shall comply with the latest edition of appropriate Indian standards.

Unless mentioned otherwise, all applicable codes and standards in their latest editions as published by the Bureau of Indian Standards shall govern in respect of design, workmanship and properties of materials and methods of testing. In case where suitable Indian Standards are not available, generally accepted codes and practices shall be adopted.

All equipment shall comply with the statutory requirements of the Govt. of India and Government of Kerala.

In cases where the offer deviates from the specified standards, the quotationer shall indicate clearly in his offer, the reasons for deviation, standards proposed to be adopted by him and the details thereof.

1.4 SPECIAL REQUIREMENTS SITE

FACILITIES

The quotationer shall indicate clearly the proposed work and procedure to be carried out at the Purchaser's site and take approval prior commencement of works at site.

Electricity for work to be executed at site will be made available near the work site free of cost. The Contractor shall ensure that the facilities are not misused or wasted. The Purchaser will not be responsible for the delays arising from non-availability of power due to reasons beyond the control of the Purchaser.

Only open area at work site will be allotted to the Contractor for carrying out site work. The Contractor shall indicate approximate space requirements.

Accommodation, transportation and food of workmen and supervisors of the Contractor shall be the responsibility of the Contractor.

STORAGE

All equipment and material to be stored at site in Supplier's risk. The Supplier shall store the equipment, commissioning spares etc. in a place which is dry and free of dust and frost. He shall also ensure that there is no penetration of impurities in the equipment, damage or rusting during storage.

SAFETY AND ENVIRONMENTAL ASPECTS

The total system should have adequate built-in precautions to prevent any safety

hazards including fire or explosive hazards.

Safety systems should be as per relevant IS codes.

STATUTORY APPROVALS

The equipment shall meet all statutory requirements including but not restricted to standards of Kerala State Electrical Inspectorate, Pollution Control Board, Inspectorate of Factories and Boilers, Department of legal metrology, Kerala etc. as applicable.

DATASHEETS

Micro pulveriser

Capacity	-	50 -100 kg/hour
Powder	-	80- 300 mesh
Material of construction	-	Fully SS 304.Grade
Set of beaters	-	24 Nos (1 set)
Material of beaters	-	SS 316 Grade
Cotton Balloon	-	1 Set
Pulveriser chamber dia-		30mm (Minimum size)
Width	-	16mm (Minimum size)
Motor specification	-	Make Crompton greaves or ABB
		304 SS foundation frame, pulley, belt with motor process description

Micro pulveriser shall have a high speed hammer and screen mill, which accomplishes size reduction of the raw materials like Ayurvedic herbs by mechanically impacting material fed.

***The bidder must make necessary arrangements to conduct factory trials of the machines within the State of Kerala as required by the concerned Officials of Oushadhi.**

1.5 DESIGN IMPROVEMENT/ ALTERNATE DESIGN

The system or equipment requirements given are indicative only. The Tenderer is free to quote the equipment of their own design provided it is superior to the specifications given and it satisfies with the requirement of the Purchaser. The Tenderers are advised to

examine the feed materials and quote for suitable equipment to meet the performance requirement.

The Tenderer may incorporate latest designs in any of the specifications mentioned above with the prior approval of the Accepting Authority, which in his opinion are sure to give better performance. The technical deviations shall be clearly spelt out as per the Technical Deviation Statement Form provided in this tender document.

1.6 GENERAL REQUIREMENTS

The equipment supplied shall be complete in all respects with all necessary accessories and commissioning spares for operating it for the specified application. Electricals shall include starters, control panel, push button stations, cabling, earthing etc. The earthing shall be linked to the nearest existing earth grid which will be available within 5-10 m from the equipment.

All rotating/moving parts shall be provided with adequate guard for safety. Tenderer should include the cost of all required accessories in the quoted rate.

1.7 BATTERY LIMITS

Electrical: At a single point by terminating at 3phase 40A isolator or 3phase 40A industrial socket within 5m radius of the equipment. The supplier shall indicate the requirement of the connected load with voltage requirement in their offer. Earthing network also will be provided within 5 m radius
Compressed air: By terminating at a single point within 5 m Radius of the equipment.

1.8 SHOP INSPECTION AND TESTING

PROCEDURE

The Supplier shall conduct all tests required to ensure that the equipment supplied shall conform the technical specification and to the requirements of the applicable codes at various stages of fabrication / procurement, including raw material identification. The Purchaser/ Consultant may inspect the equipment at the works of the supplier as desired by the Purchaser. The travel, accommodation and food expenses of such personnel for inspection shall be borne in by the Purchaser. The supplier shall intimate in advance the date of dispatch/ completion of testing by supplier for the Purchaser/ Supplier to plan their visit if so decided to conduct factory inspection. Whether or not inspected the equipment at the factory by the Purchaser/

Consultant, the equipment will be subjected to inspection by the Purchaser/ Consultant at the site of the Purchaser after delivery at site and at various stages till the equipment is handed over to the Purchaser and accepted by them to their entire satisfaction.

All material used shall be tested for quality. The test certificate shall be made available to the Purchaser's / Consultant's representative. In case of non-availability of test certificates, material shall be tested by the Supplier at his own cost, to establish the conformance of the relative standards.

The representative of the Purchaser/ Consultant shall be given full access to the shop in which the equipment is being manufactured or tested and the Supplier shall carry out any change or modifications as pointed out by the Purchaser/ Consultants during inspection at no extra cost. However, the Purchaser may waive the inspection of the equipment at shop, at the discretion of Purchaser, and such waiver shall in no way absolve the responsibilities of the supplier including guaranty/warranty obligations.

The Supplier shall dispatch the equipment only after obtaining clearance from the Purchaser/ Consultants. However, the inspection and certification of the Purchaser/Consultant does not absolve the Supplier of his responsibilities towards the satisfactory operation and the guarantee/warranty of the system.

1.9 COMMISSIONING, INSPECTION AND TESTING

➤ PERFORMANCE TRIAL RUN

After completion of inspection and testing, the Supplier shall arrange the guarantee and performance run. The feed/ raw material required for conducting the performance run will be arranged by the Purchaser. The performance run shall include continuous operation of the equipment for a duration of 72 hours at the rated performance or operation of 6 ½ hours per day for a duration of 5 days

The performance trial run is to ensure that the system installed conforms to the required/demanded specification including the power consumption. All the parameters shall be demonstrated during the guarantee and performance run. The Supplier shall arrange any spares that may become necessary during performance run or due to damage/break down free of cost and repeat the performance and guarantee run. Any consumable like grease, oil etc. required for trial run/commissioning shall be arranged by the Supplier at no extra cost.

The Supplier shall arrange training of the Purchaser's operators and maintenance personnel for operating it as per standard practice/safely.

- 30 Days Performance Guarantee run
- 1 Year Defect Liability Period

1.10 DATA TO BE FURNISHED BY THE TENDERER AT THE TIME OF SUBMISSION OF BID

The Tenderer shall submit all detailed technical specification, catalogues etc. for the equipment being quoted. Detailed drawings showing all the design, operational and maintenance features, major dimensions, details of foundations including layout, etc., shall be submitted along with the offer. Technical data for individual items of equipment in the form of a data sheet and details of all equipment within the battery limit shall be submitted along with the tender. The Tenderer shall also submit a general arrangement drawing and approximate layout showing the space requirement etc. Other specifications and relevant data shall be furnished by the Tenderer, wherever applicable. The following details are to be submitted along with the bid. Data Sheets including technical specification, connected load, type of electrical load, voltage required, compressed air requirement, etc as applicable.

- Tentative General arrangement (GA) drawings
- Tentative drawings with dimensions of equipment
- Equipment specifications
- Empty weight
- Any special requirement during erection
- List of customers to whom similar units have been supplied
- Compliance Statement

AFTER AWARD OF WORK

The following details have to be submitted by the Supplier within fifteen days of receipt of Letter of Intent or Letter of Award of work for approval by the Purchaser/Consultants.

- Foundation drawings with load details, if applicable.
- Manufacturing, inspection and delivery schedule
- GA drawings
- Drawings with dimensions of equipment
- Equipment layout and elevation
- Empty weight
- Electrical control panel and other electrical system details, if applicable.
- Safety devices provided
- Details of bought out items like motors, gear box, electrical items etc.
- List of spare parts for 1 year operation.
- Service and spare parts availability with contact details
- Erection Manual.

BEFORE COMMENCEMENT OF TESTING / COMMISSIONING:

The Supplier shall submit six copies of the Operation and Maintenance Manual and As-built drawings along with a soft copy before the commencement of testing/ commissioning.