

#### KERALAAGRICULTURAL UNIVERSITY`

# **Department of Agricultural Engineering**

College of Horticulture, Vellanikkara, Thrissur – 680 656.

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#### TENDER NOTICE No. AG.ENGG/02/2018 dated 20.02.2018

Sealed tenders are invited for the supply of different Food Processing machineries and Analytical Equipments for Agricultural Engineering Laboratory whose specifications are given as Annexure.

### The tender documents and conditions

1. The tender form may be downloaded from the following web link in the Internet: <a href="http://www.kau.in/tenders">http://www.kau.in/tenders</a>.

The cost of tender form is rupees 0.20 % of PAC (rounded to nearest 100/- minimum Rs. 400/-) + 12% GST. A Demand Draft for the amount drawn in favour of **The Professor and Head, Dept. of Agricultural Engineering, College of Horticulture, Vellanikkara, Thrissur 680 656** payable at **SBI KAU Main Campus, Vellanikkara (Code-70670)** should be enclosed along with the tender submitted.

- 2. Earnest Money Deposit (EMD)
  - EMD @ 1% of the cost of equipment offered may be remitted by a separate Demand Draft drawn as detailed above.
- 3. Agreement on Kerala Stamp Paper for Rs. 200.00 Form of agreement can be downloaded from the website <a href="http://www.kau.in/tenders">http://www.kau.in/tenders</a> under the Related Documents section.
- 4. The offer for the item should indicate separately the basic unit, accessories and optional and its cost. Taxes, customs and excise duty, packing, forwarding, insurance and any other cost for its installation, if any should also be included.
- 5. The sealed cover containing the tender documents should be super scribed "Tender for supply of Food Processing machineries and Analytical Equipments: (Name of machine)" and sent to The Professor and Head, Dept. of Agricultural Engineering, College of Horticulture, Vellanikkara, Thrissur, Kerala 680 656.
- 6. Tenders received late or incomplete in any respect will be summarily rejected without notice and the decision of the undersigned on such matters will be final.
- 7. Successful tenderers will have to execute an agreement and remit security deposit @ 5% of the value of the articles ordered, less the amount of EMD, drawn as DD or fixed deposit receipt.
- 8. The items are to be supplied at the Dept. of Agricultural Engineering, College of Horticulture, Vellanikkara, Thrissur, Kerala 680 656 as per indent.
- 9. The supplier should give the details of the nearest service center and response time.
- 10. Details of warranty, after sale service offered on expiry of normal warranty period, available should be mentioned.

- 11. The undersigned reserves the authority to accept or reject any or all the tenders without assigning any reason.
- 12. The decision of the undersigned in finalizing the tenders shall be final and binding.
- 13. Leaflets/ brochures/ catalogues of the equipment describing its features, applications, specifications etc. should be provided along with tender. A drawing of the table assembly should be provided along with tender
- 14. Tenders will be received up to 12.30 PM on 07.03.2018
- 15. Tenders will be opened at 2.30 PM on 07.03.2018 in the presence of the tenderers present at that time.
- 16. The supply should be effected before 24.03.2018
- 17. All conditions of Kerala government tenders are applicable in this case also. Further information can be had from the web site <a href="http://www.kau.in/tenders">http://www.kau.in/tenders</a> or from the office of The Professor and Head, Dept. of Agricultural Engineering, College of Horticulture, Vellanikkara, Thrissur, Kerala 680 656.

## **ANNEXURE**

Sl.	Items	Specifications	Qty
No.			
1.	Vacuum	Chamber dimensions: Not less than 500x400x100 mm	
	Packaging	Seal length: Minimum 400 mm	
	Machines	Seal width: 2-3 mm	
		Pack size: Between 400 x 350 to 500 x 350 mm	1No
		Seal to distance: Minimum 300 mm	
		Number of sealing jaws: 2	
		Machine dimensions: Length between 700 to 800 mm	
		Operating Power: 240 V/50 Hz	
		Power: Less than 3 kW	
		Pump capacity: 20 to 25 m3/h	
		Gas flushing system	
2.	Table top	Load cells with approved standards	
	Texture	Load Range: 1-500N	
	Analyzer	Load time capacity: Minimum 500kg	
		Force Resolution : Maximum 1g	1No
		Force accuracy: Less than 1%	
		Distance between crosshead & surface: Greater than 500mm	
		Speed range: up to 20 mm/sec	
		Data acquisition rate: Minimum 1000Hz	
		Data collection: Minimum1000data per sec	
		Power supply: not more than 230VAC,50/60Hz	
		PC interface through USB	
		Data analysis: offline and online	
		Provision for replacing load cell, emergency switch for easy reach	
		Texture analyzer probes/fixtures: Puncture probe, Cylindrical	
		probe., Knife/shear probe	
3.	Steam & Air	Retort Chamber size: Maximum 600mm x 1000mm	
	Retort	Boiler Tank size: Max. 600mm x 1000mm	
		Single cage of size: Not less than 250 x 250 x 750 mm	

		Package material: Multi layer	1No
		Size of package: Minimum 100x200x20mm	
		Capacity: More than 60 packages/batch	
		Dimension of process vessel: Max. 600mm x 1000mm	
		Max. operation pressure: 2-2.5 bar Max. operational temperature: 130°C	
4.	Portable	Viewed area diameter: 20-25mm	
	colorimeter	Port size diameter: 30-35mm	
		Glass sample cup: 60-65mm	1No
		Provided with full featured colour quality control software program	
5.	Vacuum fryer	Vacuum frying system	1No.
	cum vacuum	Capacity: Up to 5 kg/batch	
	impregnation	Vacuum: 650 mmHg	
	machine	Temperature range: 80 to 200°C	
		De-oiling with adjustable speed of rotation	
		Operation: semiautomatic/ manual mode	
		Requirement should consist of:	
		Frying chamber	
		Hot oil storage tank	
		Filter	
		Vacuum pump	
		Heat exchanger	
		De-oiling system	
		Vacuum and temperature measurement	
		Impregnation system	
		Vacuum chamber: SS 304	
		inner diameter: 300-400 mm	
		height: 200-250 mm	
		Operating pressure: 1-2 bar	
		Hot water chamber and sugar syrup chamber: SS 304	
		Capacity of water chamber : 20-25 lt	
		Sugar syrup chamber capacity: 2-5 lt	
		Provision for measuring and controlling of vacuum level	
		Water heating set-up to control temperature	
		Data logging of pressure temperature and time	
		Common vacuum pump for both frying and impregnation system	

PROFESSOR & HEAD