

**KERALA STATE CO-OPERATIVE FEDERATION FOR FISHERIES
DEVELOPMENT LTD
KAMALESWARAM, TRIVANDRUM – 695009, KERALA STATE
Phone: 0471 – 2457172, 2457756 Fax: 0471 – 2457752**

TENDER NOTICE NO.IV

Competitive tenders in separate sealed covers super scribed with the name and number of tender are invited in two-bid system for the supply and erection of the following machinery/equipments for its Glucosamine Plant as per European Pharma copeia standards from the manufacturers, authorised distributors reputable suppliers and sole agents.

Tender No.	Description.	Tender document price (Non Refundable).
No. IV	Purchase of Finished product equipments Drier, Multi mill, Vibro Sifter, Blender pump etc	Rs 1000+ tax

The tender forms with detailed specifications and terms and conditions may be had from Matsyafed Head Office at Trivandrum on payment of Rs 1000 + tax. and is not refundable under any circumstances. or can be downloaded from the web site www.matsyafed.org

The tenderers can submit tenders for either all the machinery/equipment or in part.

Due date and time for receipt of tenders at 3 PM on 23.09.2010

Due date and time for opening of tenders at 4 PM on 23.09.2010

The tender documents should contain two parts namely **Technical bid and financial bid.**

The technical bid should contain

- a) Prescribed tender form duly signed and sealed
- b) Detailed technical specifications with out price quote.
- c) Original brochure & literature supporting the technical specification.
- d) Earnest Money Deposit of Rs of 2.5% of quoted value or Rs 100000.
- e) Agreement in Rs100 stamp paper
- f) List of installations in India, fully your own installed or part.
- g) Details of service facility
- h) Compliance to payment condition

- i) Delivery period
- j) Place of delivery
- k) Warranty
- l) Training details etc
- j) The bidder should submit a quality assurance plan for the equipment they intend to supply

The Financial bid should contain

- a) Price of the equipment and its accessories
- b) AMC details
- c) Price list of essential spare parts
- d) Compliance to Time schedule and other Terms conditions etc

The tenders duly filled and signed by the tenderer along with necessary documents should be submitted to the Managing director, Kerala state co-operative federation for fisheries Development Ltd(MATSYAFED),Kamaleswaram, Manacaud. P.O Trivandrum-695009 on or before 3 pm on 23.09.2010.

Specimen of the agreement to be submitted in stamp paper is in the last page of the tender form. Earnest Money Deposit (EMD) amount of Rs 100000 or 2.5% of the quoted value shall be submitted by way of demand draft, deposit receipt or bank guarantee in favour of The Managing Director, Kerala state co-operative federation for fisheries Development Ltd(MATSYAFED),Kamaleswaram, Manacaud.P.O Trivandrum-695009. In the case of bank guarantee, its validity should be up to 30/6/2011.

The technical bids will be opened at 4 PM on 23.09.2010 at the office Managing Director, Matsyafed, trivandrum in the conference hall in the presence of such tenderers or their authorized representatives who may be present at that time.

The financial bids of the technically qualified firms will be opened at a later stage and the date will be intimated. The Managing Director, Matsyafed, Trivandrum reserves the right to accept or reject all or any tender at his sole discretion without assigning any reason. For legal purposes, the cause of action will be deemed to have arisen in Trivandrum, Kerala state.

TERMS AND CONDITIONS

1. The latest model shall be quoted and certified.
2. The Technical bid will be examined by a committee decided by the management to assess the technical capability, credibility and authenticity of the bidder.
3. The quoted price should include cost of the equipment, all duties and taxes, freight, insurance, installation and commissioning separately.
4. Payment condition:
If the price is quoted in Indian rupees, 90% payment will be released after successful commissioning. 10% of the price will be retained as security deposit and will be released on completion of the guarantee period.
5. Factory site/Installation site
All the equipments/machinery as per this tender is to be delivered & installed in the factory site in **Paravoor** village in **Alappuzha district**
6. The installation should be done by the supplier.
7. Delivery period: The equipment and its accessories should be completely supplied, installed and commissioned within 3 months from the date of supply order.
8. Warranty: The entire equipment and its accessories should have comprehensive warranty from the date of acceptance. Specify the warranty period
9. The rates and terms of AMC (both comprehensive and labor) for a minimum period of 5 years after the warranty period shall be clearly specified. The labor AMC amount will be taken in to consideration for final selection.
10. Raining should be given to the staff free of cost.
11. List of installations in India over past 5 years shall be provided
12. Duely completed document through registered post or in person will only be accepted as per the time schedule.
13. The detailed specification of the equipment are given in the website: www.matsyafed.org

SD/-
THE MANAGING DIRECTOR
KERALA STATE CO-OPERATIVE
FEDERATION FOR FISHERIES
DEVELOPMENT LTD.
KAMALESWARAM, MANACAUD P.O,
THIRIVANANDAPURAM PIN - 695009,
KERALA Phone: 0471 – 2457172,2457756
Fax: 0471-2457752

ANNEXURE-1

AGREEMENT

[to be executed on Rs.100/- Kerala Stamp Paper (non-judicial) and submitted with the tender documents – technical proposal]

Articles of agreement executed on this the day of two thousand BETWEEN the Managing director, Kerala state co-operative federation for fisheries Development Ltd(MATSYAFED),Kamaleswaram, Manacaud. P.O Trivandrum-695009 herein after called MATSYAFED and (here enter name and address of the tenderer) (hereinafter referred to as “the bidder”) of the other part.

WHEREAS in response to the Notification Nodated the bidder has submitted to MATSYAFED a tender for the supply and erection of the machinery/equipments fro its Glucosamine plant as per European pharma copeia standards. subject to the terms and conditions contained in the said tender.

WHEREAS the bidder has also deposited with MATSYAFED, a sum of Rs. (Rupeesonly) as earnest money for execution of an agreement undertaking the due fulfillment of the contract in case his tender is accepted by Matsyafed

NOW THESE PRESENTS WITNESS and it is hereby mutually agreed as follows:

1. In case the tender submitted by the bidder is accepted by Matsyafed, and the contract for the supply & erection of the machinery/equipments for its Glucosamine plant has been awarded to the bidder, the bidder shall within 14 days of acceptance of his tender, execute an agreement with Matsyafed incorporating all the terms and conditions under which Matsyafed accepts his tender.
2. In case the bidder fails to execute the agreement as aforesaid incorporating the terms and conditions governing the contract, MATSYAFED shall have power and authority to recover from the bidder any loss or damage caused to Matsyafed by such breach as may be determined by Matsyafed by appropriating the earnest money deposited by the bidder and if the earnest money is found to be inadequate, the deficit amount may be

recovered from the bidder and his properties movable and immovable in the manner hereinafter contained.

3. All sums found due to Matsyafed under or by virtue of this agreement shall be recoverable from the bidder and his properties movable and immovable under the provisions of the Revenue Recovery Act for the time being in force as though such sums are arrears of land revenue and in such other manner as Matsyafed may deem fit.

In witness where of Sri..... (here enter name and designation) for and on behalf of Matsyafed and Sri.

the bidder have hereunto set their hands, the day and year shown against respective signatures

Signed by (date) (for Matsyafed)

In presence of witnesses:

1.

2.

Signed by (date) (for bidder)

In the presence of witnesses:

1.

2.

ANNEXURE-II

CONTRACT AGREEMENT

(to be executed by the successful bidder on award of the contract on Rs. 100/- Kerala Stamp Paper(Non Judicial))

This agreement made on this day of between the Managing director, Kerala state co-operative federation for fisheries Development Ltd(MATSYAFED),Kamaleswaram, Manacaud. P.O Trivandrum-695009 herein after called MATSYAFD which expression shall include its administrators, successors, executors and assigns) of the one part and (name of contracting company), a company/firm incorporated under the having its registered Office at (herein after referred to as “Contractor”, which expression shall include its administrators, successors, executors and permitted assigns) of the other part.

WHEREAS MATSYAFED has invited bids for supply and erection of the machinery/equipments for its Glucosamine plant as per European pharma copeia standards from manufacturers ,authorized distributors,reputable suppliers (briefly describe scope of the works) as per its Tender notice No.dated AND

WHEREAS *..... had participated in the above referred bidding vide their proposal no. dated and Matsyafed accepted the aforesaid proposal and awarded the contract to

*..... on terms and conditions contained in its work order No.dated and the documents referred to therein,

which have been accepted by

*..... resulting into a “Contract”.

NOW THEREFORE THIS DEED WITNESSETH AS UNDER:-

1. AWARD OF CONTRACT

1.1 MATSYAFED has awarded the contract to *..... for the work of the supply and erection of on the terms and conditions contained in its work order No.....dated..... and the documents referred to therein. The award has taken effect from ie., the date of issue of the aforesaid letter. The terms and expressions used in this Agreement shall have the same meaning as are assigned to them in the “Contract Documents” referred to in the succeeding Article.

2. CONTRACT DOCUMENTS.

2.1 The contract shall be performed strictly as per the terms and conditions stipulated as per the

following documents attached herewith (hereinafter referred to as “Contract Documents”):

i)MATSYAFED’s Tender Documents in respect of tender No.datedconsisting of Notice inviting Tender and conditions of contract including all amendments issued vide its letter(s) no(s). dated (Volume-I)

ii)Matsyafed’s Schedule and Technical Specification (including Amendments issued vide its letter no..... dated (Volume-II)

iii) proposal no..... dated along with proposal sheets, payment terms and work schedules submitted by Contractor for the supply and erection of the Glucosamine plant (Volume-III)

* Brief name of the contracting company

iii) Agreed Minutes of the meeting held on between MATSYAFED and the Contractor. (Volume-IV)

iv)MATSYAFED’s Work Order No.dated duly accepted by the Contractor. (Volume-V)

2.2 All the aforesaid contract documents shall form an integral part of this Agreement, in so far as the same or any part thereof conform to the Bid Documents (Volume I & II) and what has been specifically agreed to by Matsyafed in its Work Order. Any matter inconsistent therewith, contrary or repugnant thereto or any deviations taken by the Contractor in its“Proposal” (Volume-.III) but not agreed to specifically by Matsyafed in its Work Order shall be deemed to have been withdrawn by the Contractor. For the sake of brevity, this Agreement along with its aforesaid contract documents shall be referred to as the “Agreement”.

3. CONDITIONS AND COVENANTS

3.1 The scope of contract, consideration, terms of payment, price adjustment, taxes wherever applicable, insurance, liquidated damages, performance guarantee and all other terms and conditions are contained in MATSYAFED’s Work Order No.dated..... read in conjunction with other aforesaid contract documents. The contract shall only be performed by the Contractor strictly and faithfully in accordance with the terms of the Agreement.

3.2 The scope of work shall also include supply and installation of all such items which are not specifically mentioned in the contract documents, but which are needed for successful, efficient, safe and reliable operation of the equipment unless otherwise specifically excluded in the specification under “exclusions” or Work Order.

3.3 TIME SCHEDULE

Time is the essence of the contract and schedules shall be strictly adhered to.

The Contractor shall perform the work in accordance with the agreed schedule as given in the work order.

3.4 The Contractor guarantees that the equipment package under the contract shall meet the ratings and performance parameters, as stipulated in the Technical Specifications (Volume II) and in the event of any deficiencies found in the requisite performance figures, the MATSYAFED may at its option reject the equipment package or alternatively accept it on the terms and conditions and subject to levy of the liquidated damages in terms of contract documents. The amount of liquidated damages so leviable shall be in accordance with the contract documents and without any limitation.

3.5 It is further agreed by the Contractor that the contract performance guarantee shall in no way be construed to limit or restrict the Matsyafed 's right to recover the damages/compensation due to short-fall in the equipment performance figures as stated in para 3.4 above or under any other clause of the Agreement. The amount of damages/compensation shall be recoverable either by way of deduction from the contract price, contract performance guarantee and/or otherwise.

3.6 This agreement constitutes full and complete understanding between the parties and terms of the presents. It shall supersede all prior correspondence to the extent of inconsistency of repugnancy to the terms and conditions contained in the Agreement.

Any modification of the Agreement shall be effected only by a written instrument signed by the authorised representatives of both the parties.

4. SETTLEMENT OF DISPUTES

4.1 It is specifically agreed by and between the parties that all the differences of disputes arising out of the agreement or touching the subject matter of the agreement, shall be decided by process of settlement & arbitration as specified in the relevant clauses of the conditions of the contract and the provisions of the Indian Arbitration Act, 1940 shall apply and Kerala Courts at Alappuzha alone shall have exclusive jurisdiction over the same.

4.2 Notice of default given by either party to the other party under the Agreement shall be in writing and shall be deemed to have been duly and properly served upon the parties hereto if delivered against acknowledgement or by telex or by registered mail with acknowledgement due, addressed to the signatories at the address mentioned herein above.

IN WITNESS WHEREOF, the parties through their duly authorised representatives have executed these presents (execution whereof has been approved by the competent authorities of both the parties) on
the day, month and year first above mentioned at Thiruvananthapuram.

For KERALA STATE CO-OPERATIVE FEDERATION FOR FISHERIES
DEVELOPMENT LTD

(Signature)

(Name), (Designation)

(Seal)

for Contractor

(Contractors signature),

(Name), (Designation)

(Seal)

Witnesses:

1.

2.

Witnesses:

1.

2.

KERALA STATE CO-OPERATIVE FEDERATION FOR FISHERIES DEVELOPMENT LTD

Specification sheet for tender No. IV

PURCHASE OF CHEMICAL PLANT PROCESS MACHINERY

Tray Dryers,Multi mill,sifters,blenders

Sl. No.	Description	Purpose	Quantity	Rate / unit	Amount	Remarks
1	Stainless steel 316 GMP model Atmospheric tray drier with 96 trays	Product drying	02			For Details refer Anne.16
2	Stainless steel 316 GMP model, vertical & portable type Multi mill 250 kg/hr cap.	For micronizing.	01			For details refer Annexure-17
3	Stainless steel 316 Mechanical vibrosifter GMP model 30" dia	To achieve uniform sizing	01			For details Annexure-18
4	Stainless steel 316 GMP model octagonal blender capacity 2000 lts with powder charging system.	To achieve uniform product	01			For details refer Annexure-19
5	PP Transfer pump mounted on trolley	As a spare	01			For details annexure-20

ANNEXURE-16

DOCUMENT NAME :	DATA SHEET FOR 96 TRAYS ATD
DOCUMENT NUMBER :	CON / KER / DS ATD 96 / 18

Sl. No	Description	Specified	Vendor compliance	Remarks
1)	Model	GMP Model		
2)	No of Trays	96		
3)	Tray Volume	10L		
4)	Type	Vertical , Rectangular		
5)	No of Doors	2		
6)	Tray Dimensions	**32 x 16 x 1.25 inches		
7)	Temperature Range	Up to 100°C Max		
8)	Motor Rating	**FLP 1.0HP415V/3Phase/50Hz – 2 No's (CG make)		
9)	Steam Consumption :	**80lbs/hr(@3.3kg/cm ²)		
10)	Body Insulation Thickness	75 mm		
11)	Inlet Filters	**05 microns		
12)	Explosion Provision	**500 X 500 mm rupture disc		
13)	Control Panel Type	Flame proof		
14)	Control Indicators	Chamber air Temp. Controller FLP		
15)	Sensors	PT-100 Temperature Sensor		
16)	No of trolleys	**01 No		
17)	Wheels	** 2 No's, Movable 3" PU Self aligned, SS 304 Bracket		
18)	Drain	**SS 304, 1" ball valve		
19)	Over all dimensions	**2300Hx3800LWx1300B in mm+50mm		

	Material of Construction:			
1)	Body External Lining	**1.6mm, SS 304		
2)	Body Internal Lining	**1.2mm, SS 316		
3)	Trolley	SS 316		
4)	Trays	**1.2mm, SS 304L		
5)	Blower	SS 304		
6)	Insulation	Glass wool		
7)	Heater Coils	SS 304		
8)	Gaskets	Food Grade Silicon		
9)	Body internal structural Frame	** 3mm, MS with SS 304 cladding		
	Finishing:			
1)	Internal Finish	Mirror 240 grit		
2)	External Finish	Matt 80 grit		
3)	Contact parts	Mirror 240 grit		

	Spare Parts:			
01	Inlet Air Filters	05 microns		
02	Heater	SS coil type tubes with fins		
	<u>Optional Items:</u>			
01	<u>PID Temperature Controller:</u>	To maintain the temperature within $\pm 2^{\circ}\text{C}$ to the set value.		
02	Explosive Vent	**Validated-BS&B/Fike make		
03	Coating for 96 dryer	**Halar coating, Inner Chamber Food grade Quality (800Microns)		

04	Halar coating for 96 Trays	with test certificate) **Halar coating, Inner Chamber Food grade Quality (800Microns with test certificate)		
----	----------------------------	--	--	--

SI No	Notes
1.	Surface finish External SS & cladded to be finished to 80 grit matt
2.	Spare nozzles to be provided with Gasket and Blinds
3.	All nozzles shall be provided with blind flanges
4.	**vendor to verify the design & give specifications
5	Vendor to quote along with the supply ,errection & commissioning.
6	Vendor to submit G.M.P related documents such as IQ,PQ&DQ etc.
7	Any other accessories & additional features can be quoted as optional.
8	AHU system should be quoted as an optional.

VENDOR SCOPE OF WORK

Equipment	Yes	Fasteners	Yes
Access Ladder	Nil	Gaskets	Yes
Blind Flanges	Yes		

INSPECTION AND TESTING	To be offered	To be Witnessed by party
Test Certificate	Yes	Yes
Material	Yes	Yes
Hydro.	NIL	NIL
Dimensional Check	Yes	Yes
Temperature mapping	Yes	Yes
Any other routine inspection	Yes	Yes

Prepared by	Approved by
Checked by	Authorized by

ANNEXIRE-17

DOCUMENT NAME :	DATA SHEET FOR MULTI MILL
DOCUMENT NUMBER :	CON / KER / CF / 36" / 19

	DESCRIPTION	SPECIFICATION	Vendor Compliance	Remarks
1.	PROCESS & OPERATING DATA			
	Type	GMP model Std Unit is mounted on platform cum Trolley with direct drive		
	Capacity	**25-300 Kg/hr,		
	Sieve size	**1 mm / 0.5mm		
	Input material	Free flowing		
	Output produced	Sized product		
2.	DESIGN DATA			
	Overall dimensions	**770 L X 880 B X 1890 H (WITHOUT BELT)		
	Quality Assurance	Design, manufacture, installation and documentation in accordance with current Good Manufacturing Practice.		
	Weight of machine	**400 Kg		
	Finish	**Product contact parts internally mirror finished to 320 grit Parts externally mirror finished to 240 grit C.S Parts to be SS304 lined to be finished to 240 grit.		
	Electrical rating	FLP, 415 V, 50 Hz, 3 phase		
3.	MAIN COMPONENTS			
3.1	Drive Unit Motor	3.0 H.P / 1440 RPM / TEFC FLP		

3.2	Blade Assembly	Fitted on Rotor shaft consists of 12 Nos. Knife (Impact) edge-swinging blades.		
3.3	Charging Hopper	Rectangular charge Hopper with Slide valve for regulating the in feed of material.		
3.4	Perforated Screens	Fairly large aperture screens with sizes 3mm, 4mm, 6mm, 8mm, & 12mm. Additionally for wet material. For dry materials the screen of 0.5mm, 1.0mm, 1.5mm or 2mm aperture can be used.		
3.5	Gaskets	White Food Grade Neoprene Ensures powder tight interface between the two hopper faces.		
4	MATERIAL OF CONSTRUCTION			
	Product Contact Parts	SS 316		
	Non Contact Parts	SS 304		
	Motor Mounting Plate	C.S(with SS 304 cladding		
	Castor Wheel	Nylon Lockable with S.S.304 bracket.		
	Perforated Sieves	S.S. 316		
	Direct drive	VFD (Mitsubishi/ ABB make), Drive unit: Non-FLP, placed at 25 m with regulator in FLP enclosure fitted near to the equipment		
	Sealing Bush	Teflon.		
5	ELECTRICAL CONTROLS	Reversible switch Starter		
	Speeds of the Beater Shaft	** Direct drive to be operated by VFD		
6	SAFETY FEATURE			
	Noise Level	**The noise level should be 70 DB or less		
	Protection of Milling Area	All moving parts should be covered.		

7	UTILITY REQUIRED	To be specified by the vendor		
8	DOCUMENTATI ON	Spares List Material test certificate for contact parts Surface Finish Test report Installation & Maintenance Manual Warranty Certificate of machine Certificates & manuals of bought out items Electrical Circuit Diagram Schematic Diagram GA diagram.& FAT		
09	INSPECTION	By us		
10	TRIAL	No load / load Running Trial should be offered for ½ hr.		
11	PACKING	Wooden Crate / Wrapped in Plastic / Seaworthy Packing		

Notes:

1. fabrication of equipment and accessories should comply with latest GMP standards such as no sharp edges, corners pin holes etc. should be there in the process wetted part and only use PTFE gasket material
2. minimum thickness should be indicated in the drawing
3. ** to verified by the vender
4. all nozzle pipes shall be seamless
5. the equipment should have earthling boss, name plate and lifting legs as per standard practice
6. MOC with traceability should be submitted for all contact parts vendor to submit detailed fabrication drawing in 3 copies and

7. Documentation at an extra cost : Functional design Specifications FDS Design Qualification DQ Quality Assurance Plan QAP Factory Acceptance Test FAT

VENDOR SCOPE OF WORK

Equipment	Yes	Fasteners	Yes
Access Ladder	Nil	Gaskets	Yes
Blind Flanges	Yes		

INSPECTION AND TESTING	To be offered	To be Witnessed by party
Test Certificate	Yes	Yes
Material	Yes	Yes
Hydro.	NIL	NIL
Dimensional Check	Yes	Yes
Temperature mapping	NA	NA
Any other routine inspection	Yes	Yes

Prepared by	Approved by
Checked by	Authorized by

ANNEXURE -18

DOCUMENT NAME :	DATA SHEET FOR 30 INCHES SS 316 VERTICAL VIBRO SIFTER
DOCUMENT NUMBER :	CON / KER / DS VS 30" SS 316 / 20

	DESCRIPTION	SPECIFICATION	Vendor Compliance	Remarks
1.	PROCESS & OPERATIONAL DATA			
	Purpose	Sieving of powders or granules.		
	Type	Stand alone, floor-supported unit. The whole unit along with the motor, sieves, hopper etc should be covered by a SS skirt.		
	Working capacity	Maximum : <u>300 Kg/hour</u> & Minimum : <u>40 Kg/hour</u>		
	Charging Inputs	The Powder is loaded manually		
2.	DESIGN DATA			
	Overall Dimensions	a) **Overall 1200 mm L x 750 mm W x 1270 mm H b) **Base 520 ID x 520 Height (for Standard 750 discharge) c) **Upper deck 710 ID x 1.6mm thick x 150 H d) **Central Shell 710 mm ID x 150mm H x 1.6 mm Thick		
	Quality assurance	Built as per Good Engineering Practice and to comply GMP		
	Electrical Rating	415V, 50 Hz, 3 phase		
3	MAIN COMPONENTS			
i.	DRIVE ASSEMBLY			

	Type	Vibratory,		
	Motor Make	Crompton greeves		
	Motor Specifications	FLP 0.5 H.P./ 1440 RPM		
	Motor Mounting	Flange mounted.		
	Mounting	Drive assembly mounted to be on a tubular framework, with help of motor mounting plate.		
	MOC	Frame Work: SS 304 & Guards Mounting Plates: CS with SS 304 lined		
	BASE	Cylindrical with welded flange face at the top and bottom. Base with inspection / access window on hinges for approach to the motor. Made of SS 304 Flanges. Inspection window 200 X 300. Base with lockable castors with SS bracket & rubber wheels.		
ii	LOWER HOPPER			
	Type	Central cylindrical shell with welded conical frustums at both ends. Cones having included angle between 30-50 ^o .		
	Discharge port	**Discharge Port is rectangular to circular, with an effective radial opening of 500 approx. x 100 dia at the outlet		
	<u>UPPER DECK</u>			
	Construction	Cylindrical with lip faces at both ends.		
	MOTOR MOUNTING PLATE	**12 mm thick C S plate with a suitable design		
	TRANSMISSION SPRINGS	**8 nos. springs to fixed on the upper girth flange of the base.		

	SKIRT FOR SPRINGS	SS 304 Cylindrical ring skirt to protect the springs from exposure		
	CLAMPS	'C' section clamps in two halves with hinging arrangement.		
	GASKET	White food Grade Neoprene 'C' section gasket.		
	STARTER	DOL Starter		
	FINISH	SS 316 Contact Parts internally 240 grit mirror. SS 304 cladded/covered Parts externally 180 grit Matt.		
1	MOTORS	Std make FLP.		
2	Ultrasonic probe	for anti blinding		
3	Dust Hood With Charging Port	To be provided		
4	Vent nozzle	**1 ½" with T C connection.		
5	Vent Filter	**0.2 micron		
6	Discharge port on upper deck	**To be provided to suite the machine		
7	Butterfly dampers	**To be provided		
8	PU coated wheels	PU coated wheels available as a option		
9	Moulded neoprene rubber ring	Moulded neoprene rubber ring on the outer periphery. To be provided		
10	Moulded Silicon ring	Moulded Silicon ring on the outer periphery. To be provided		
11	Charging and Discharge Interfaces	**Food grade rubber belows should be used		

	DOCUMENTATIONS	Scope of Standard Documentation Material test certificate for contact parts. Installation & Maintenance Manual Spare Part List. Warranty Certificate of machine Certificates, Manual for Brought out items. Electrical Circuit Diagram Schematic Diagram of machine. GA Diagram. Instrument List with manufacturer's calibration Certificate.		
--	----------------	---	--	--

SI No	Notes
1.	exposed parts & supports etc to be finished to 240 grit mirror finish
2.	Spare nozzles to be provided with Gasket and Blinds
3.	All nozzles shall be provided with blind flanges
4.	**vendor to verify the design & give specifications
5	Vendor to quote along with the supply ,errection & commissioning.
6	Vendor to submit G.M.PO related documents such as IQ,PQ&DQ etc.
7	Any other accessories & additional features can be quoted as optional

VENDOR SCOPE OF WORK

Equipment	Yes	Fasteners	Yes
Access Ladder	Nil	Gaskets	Yes
Blind Flanges	Yes		

INSPECTION AND TESTING	To be offered	To be Witnessed by party
Test Certificate	Yes	Yes
Material	Yes	Yes
Hydro.	NIL	NIL
Dimensional Check	Yes	Yes
Temperature mapping	NA	NA
Any other routine inspection	Yes	Yes

Prepared by	Approved by
Checked by	Authorized by

ANNEXURE-19

DOCUMENT NAME :	DATA SHEET FOR 2000 LITRS SS 316 HORIZONTAL OCTAGONAL BLENDER
DOCUMENT NUMBER :	CON / KER / DS OB 2000 LITRS SS 316 / 21

SL. NO.	DESCRIPTION	SPECIFICATION	Vendor compliance	Remarks
1.	PROCESS & OPERATIONAL DATA			
	Purpose	For blending & mixing operations to achieve the uniform material size.		
	Type	Stand alone, floor-supported, mounted on 'A' frame.		
	Operating temperature	Ambient		
	Working capacity	2000 ltrs		
	RPM	**8		
	Charging Inputs	The Dry mass either loaded manually or by Charging Drum assembly		
	Discharging of Outputs	The Blend mass either un loaded manually or by Charging Drum assembly		
2.	DESIGN DATA			
	Dimensions –	a) Machine: **3200mm L X 2400mm H X 3300mm W b) Control Panel with ** Suitable dimensions		
	Code	As per cGMP		
	Electrical Rating	415V, 50 Hz, 3 phase		
3.	MAIN COMPONENTS			
3.1	DRIVE ASSEMBLY			

	Type	**Geared direct driven		
	Motor Specifications	**5 H.P./ 960 RPM / FLP		
	Motor Mounting	Foot mounted.		
	Gear Box	**Ratio: 300:1		
	Coupling	**Rigid		
	Mounting	On A SS tubular frame & motor gear box to be covered with SS304 cover.		
	MOC	All contact parts : SS316 All non contact parts like, Frame Work & Guards : SS 304 Mounting Plates : C S		
3.2	Shaft	SS 304; Solid with flange connection.		

3.3	SUPPORT FRAME			
	Type	**SS304 Rigid Tubular A-frame		
	Size	**Square / Rectangular pipe section / A profiled plate construction of suitable dimensions		
3.4	BLENDER BODY			
	Type	octagonal profiled and divided into three sections:		
	MOC	SS 316		
	Dimensions	Profile : suitable with dimensions Lower cone: **Square to round frustum. 300 Outlet Diameter X 475 mm Height X 4mm Thickness with discharge valve. Upper section : **Rectangle with Suitable Height, Upper end with a rectangular opening for man entry. 4mm thickness		

	Charging Port	**Rectangular 750 mm Length X 450 mm Width. Port . Loose independent lid sitting flush to the body with suitable food grade Gasket. Fastening by swing bolts with ring nuts all along the opening sides, to ensure powder tight closure.		
--	---------------	--	--	--

	Discharge	Manually operated Butterfly valve	
	MOC	All contact parts : SS 316 All non- contact parts: SS304	
	Gasket	Silicon food grade	
	Dummy plate at valve	Required	
3.5	GUARD RAIL		
	Type	SS304 guard, made out of SS304 rectangle pipe (detachable type) to be made surrounding the blender to avoid man entry during operation	
4.0	AUTOMATION & CONTROLS		
	Operating panel	SS 304	
	Location	Machine Mounted	

	Operation Control	The machine should have the following controls: Emergency Stop – Push to operate, twist to release and following buttons: Start Blending – Push and release Stop Blending – Push and release LED's to confirm – Blend on Key Lock for Auto Manual operation. Timer Interlock for safety guard	
5.0	SAFETY & INTERLOCKS		
	Low voltage earthing	Ensure earthing, interlock to be provided.	
	Safety Barrier	Positively interlocked safety barrier with limit/ safety switch. In case barrier is even partially open the machine should not run.	
	Over load protection relays	Required	
6.0	SURFACE FINISH	All internal parts : 320 grit mirror All external parts : 240 grit mirror	

SI No	Notes
1.	exposed shell & supports etc to be finished to 240 grit mirror finish
2.	Spare nozzles to be provided with Gasket and Blinds
3.	All nozzles shall be provided with blind flanges
4.	**vendor to verify the design & give specifications

VENDOR SCOPE OF WORK

Equipment	Yes	Fasteners	Yes
Access Ladder	Nil	Gaskets	Yes
Blind Flanges	Yes		

INSPECTION AND TESTING	To be offered	To be Witnessed by party
Test Certificate	Yes	Yes
Material	Yes	Yes
Hydro.	NIL	NIL
Dimensional Check	Yes	Yes
Temperature mapping	NA	NA
Any other routine inspection	Yes	Yes

Prepared by	Approved by
Checked by	Authorized by

ANNEXURE-20

DOCUMENT NAME :	DATA SHEET FOR SS TRANSFER PUMP MOUNTED ON TROLLY
DOCUMENT NUMBER :	CON / KER / DS TPMT / 22

Sl.No	Operating Condition	Specified	Vendor compliance:	Remarks:
1)	Capacity m ³ / hr	5.0		
2)	Head mts	20		
3)	Pump suction size mm	**80		
4)	Pump discharge size mm	**50		
5)	Temperature °C	0 to 100		
6)	Fluid to be pumped	Methanol & Slight acidic MLR		
7)	Specific gravity m ³ / kg	0.8 to 1.8		
8)	Viscosity Cp	100 to 7000		
9)	Corrosion	Yes,		
10)	pH	4 to 8		
	<i>Design Conditions</i>			
1)	Design Code	Std engg practice		
2)	Design temperature °C	-5 to 125		
3)	Design head mts	25		
4)	Capacity m ³ / hr	6.0		

Construction data				
1)	Type	Centrifugal with motor coupled		
2)	Base frame	** Made out of MS Channels		
3)	Vibration pad	** Anti vibration dampening pad		
4)	Coupling	** Star coupling		
5)	Seal	**Single seal mounted on sleeve of reputed make		
6)	Motor	** 5 HP, 2800 RPM, 3 Phase, 50 cps, FLP motor		

Dimensions / Nozzle Schedule				
01	Suction	** 80 mm dia with flange ASA 150 std.		
02	Discharge	** 50 mm dia with flange ASA 150 std		
Material of Construction				
1)	Pump	SS 316		
2)	All contact parts	SS 316		
3)	Non-Contact parts	CS / MS with epoxy spray grey coated		
4)	Impeller	** SS 316		
5)	Shaft	** SS 316		
6)	Sleeve	** SS 316		
7)	Coupling	CS		

8)	Base frame	MS		
----	------------	----	--	--

SI No	Notes
1.	Surface finish cs/ms External portion epoxy spray coated paint
2.	Spare nozzles to be provided with Gasket and Blinds
3.	All nozzles shall be provided with blind flanges
4.	**vendor to verify the design & give specifications

VENDOR SCOPE OF WORK

Equipment	Yes	Fasteners	Yes
Access Ladder	Nil	Gaskets	Yes
Blind Flanges	Yes	FAT	Yes

INSPECTION AND TESTING	To be offered	To be Witnessed by party
Test Certificate	Yes	Yes
Material	Yes	Yes
Hydro. test	NA	--
Inspection	Yes	Yes

Prepared by	Approved by
Checked by	Authorized by