

**SAHAKAR MAHARSHI SHANKARRAO KOLHE SAHAKHARI SAKHAR  
KARKHANA LTD.**

Sahajanandnagar, Post. -Shinganapur, Tal. -Kopargaon,  
Dist.-Ahmednagar, Pin. -423603, Maharashtra

[Email.-ssskltd@gmail.com](mailto:Email.-ssskltd@gmail.com)

**AS PER THE TENDER NOTICE, GIVE DETAIL TECHNO COMMERCIAL OFFER  
WITH FULL DETAILS IN ALL RESPECT**

**MEE plant capacity 600 M3 SS 304**

Give detail list of the equipment's, quantity required & make in the tender

Mention clearly scope of the client & supplier in the tender

Provide all the terms & conditions in details in the tender

**ATFD suitable to treat 1200 M3 juice spent wash for 180 days (Season) & 1000 M3 of  
molasses spent wash for 120 days (off season)**

Give detail list of the equipment's, quantity required & make in the tender

Mention clearly scope of the client & supplier in the tender

Provide all the terms & conditions in details in the tender

**Granulation plant 50 TPD for granulation of Spent wash powder of the ATFD dryer**

Give detail list of the equipment's, quantity required & make in the tender

Mention clearly scope of the client & supplier in the tender

Provide all the terms & conditions in details in the tender

For Sahakhar Maharshi Shankarrao Kolhe SSS ltd

Managing Director

**TECHNICAL DATA : BIOMETHANATED; SPENT WASH QTY: 600 KLPD**

**Configuration: DIRECT STEAM + ATFD SECTION – 1 : TRIPLE EFFECT BACKWARD FEED FALLING FILM FOLLOWED BY DOUBLE EFFECT FORCED CIRCULATION EVAPORATION PLANT**

		180 Days	120 Days	Ton/ Year
1.	Feed Rate	Kg/hr		
2.	Water Evaporation Capacity	Kg/hr		
3.	Total Solids in Feed	%		
4.	Concentrate Outlet (45%)	Kg/hr		

**SECTION – 2: AGITATED THIN FILM DRYER WITH CIGAR**

5.	Feed Rate (as per Max. TDS)	Kg/hr		
6.	Water Evaporation Capacity	Kg/hr		
7.	Solid Outlet (with 5% moisture) -	Kg/hr		
8.	Solid Outlet (with 5% moisture) -	TPD		
9.	PDM Granules	TPD		

**UTILITY**

		180 Days	120 Days	Ton/Year
<b>Steam Consumption @ 3.5 Kg/cm2 (g) &amp; Dry &amp; Saturated</b>				
BIOMETHANETED	Kg/hr			
ATFD@ 8.0 Kg/cm2 (g)	Kg/hr			
Total	Kg/hr			
<b>Total</b>	<b>TPD</b>	<b>120.7</b>	<b>172.1</b>	<b>42379.2</b>
<b>Cooling Water Circulation @ 6 Deg. C Delta T</b>				
BIOMETHANETED	M <sup>3</sup> /hr			
ATFD	M <sup>3</sup> /hr			
Total	M <sup>3</sup> /hr			
<b>Total</b>	<b>M<sup>3</sup>/DAY</b>			
<b>Power Consumption (Absorbed)</b>				
MEE	KW/hr			

ATFD	KW/hr
Cooling Tower	KW/hr
Fan and Cooling	
Water Circulation	
Pump	
<b>Total</b>	<b>KW/hr</b>
<b>Total</b>	<b>KW/DAY</b>

**PROCESS / PLANT EQUIPMENT SCOPE**  
**MATERIAL OF CONSTRUCTION / SCOPE OF SUPPLY**  
**DIRECT STEAM BASED EVAPORATOR + ATFD**

Sr. No.	Description	Material of Construction	Qty
<b>EVAPORATOR</b>			
1.		Degasser Vessel	1 No.
	Shell	SS 304	
	Flanges	SS 304 Stub end with MS Backing Flange	
	Nozzles	SS 304	
	Gaskets	NAF	
	Nut & Bolt	GI	
2.		Vent Ejector	1 No.
	Body	SS 304	
	Diffuser	SS 304	
	Nozzle	SS 316	
	Flanges	SS 304 Stub end with MS Backing Flange	
		Blower with Base Frame, Foundation Bolts etc.	1 No.
3.		☐ Non-flameproof Electric Motor (IP – 55, 415 V, 50 Hz, 3 Phase, IE-2)	
	Body	CI	
	Impeller	SS 316	
	Shaft	SS 316	
	Hub	CI	
4.		Shell & Tube Type Calandrias	5 Nos.
	Main Shell	SS 304	
	Top Cover	SS 304	
	Bottom Cover	SS 304	
	Tube Sheet	SS 304	
	Tubes	SA 249 TP 304 (Avg. 1.2 mm Thickness)	

Flanges – Shell Side	SS 304 Stub end with MS Backing Flange	
Nozzles – Shell Side	SS 304	
Flanges – Tube Side	SS 304 Stub end with MS Backing Flange	
Nozzles – Tube Side	SS 304	
Gaskets	NAF	
Nut & Bolt	GI	
5.	Feed Pump – 1 ( <b>Degasser</b> ) with Base frame, Coupling, Coupling guard, NRV, Oil cup, Foundation Bolts, Gland Pusher, NRV etc. Non-flameproof Electric Motor (IP – 55, 415 V, 50 Hz, 3 Phase, IE-2) Mechanical Seal with set of Seal Water Supply Flexible Hose	1 No.
6.	Feed Pump – 1 Casing – CF8 Impeller – CF8 Shaft – SS 304 Sleeve – CF8 Feed Pump – 2 ( <b>MEE</b> ) with Base frame, Coupling, Coupling guard, NRV, Oil cup, Foundation Bolts, Gland Pusher, NRV etc. Non-flameproof Electric Motor (IP – 55, 415 V, 50 Hz, 3 Phase, IE-2) Mechanical Seal with set of Seal Water Supply Flexible Hose	1 No.
7.	Feed Pump – 2 Casing – CF8 Impeller – CF8 Shaft – SS 304 Sleeve – CF8 Recirculation Pumps with Base frame, Coupling, Coupling guard, Oil cup, Foundation Bolts, Gland Pusher etc. Non-flameproof Electric Motor (IP – 55, 415 V, 50 Hz, 3 Phase, IE-2) Mechanical Seal with set of Seal Water Supply Flexible Hose	5 Nos.
8.	Recirculation Pump Casing – CF8 Impeller – CF8 Shaft – SS 304 Sleeve – CF8 Transfer pumps - 1, 2, 3, 4 with Base frame, Coupling, Coupling guard, Oil cup, Foundation Bolts, Gland Pusher etc. Non-flameproof Electric Motor (IP – 55, 415 V, 50 Hz, 3 Phase, IE-2) Mechanical Seal with set of Seal Water Supply Flexible Hose	4 Nos
Transfer pumps - 1, 2, 3, 4	Casing – CF8 Impeller – CF8 Shaft – SS 304 Sleeve – CF8	

9. Concentrate Outlet Pump with Base frame, Coupling, Coupling guard, Oil cup, Foundation Bolts, Gland Pusher etc. 1 No.  
 Non-flameproof Electric Motor (IP – 55, 415 V, 50 Hz, 3 Phase, IE-2)  
 Mechanical Seal with set of Seal Water Supply Flexible Hose

Concentrate Outlet Pump Casing – CF8  
 Impeller – CF8  
 Shaft – SS 304  
 Sleeve – CF8

10.10. Condensate Outlet Pump with Base frame, Coupling, Coupling guard, NRV, Oil cup, Foundation Bolts, Gland Pusher, NRV etc. 1 No.  
 Non-flameproof Electric Motor (IP – 55, 415 V, 50 Hz, 3 Phase, IE-2)  
 Mechanical Seal with set of Seal Water Supply Flexible Hose

Condensate Outlet Pump Casing – CF8  
 Impeller – CF8  
 Shaft – SS 304  
 Sleeve – CF8

Vapour Separators (with Demister Pad except last effect) 5 Nos.

11.11.

Shell SS 304  
 Flanges SS 304 Stub end with MS Backing Flange  
 Nozzles SS 304  
 Gaskets NAF  
 Nut & Bolt GI  
 Entrainment Separator with Demister Pad

1 No.

12.12.

Shell SS 304  
 Flanges SS 304 Stub end with MS Backing Flange  
 Nozzles SS 304  
 Gaskets NAF  
 Nut & Bolt GI  
 Shell & Tube Type Primary & Secondary Condenser 2 Nos.

13.1

3

.

Main Shell SS 304  
 Top Cover Carbon Steel  
 Bottom Cover Carbon Steel  
 Tube sheet SS 304  
 Tubes SA 249 TP 304 (Avg. 1.2 mm Thickness)  
 Shell side - Flanges SS 304 Stub end with MS Backing Flange  
 Shell side - Nozzles SS 304  
 Tube side - Flanges Carbon Steel  
 Tube side - Nozzles Carbon Steel

Gaskets

NAF

14.	Nut & Bolt	GI 1st Stage Steam Jet Ejector	1 No.
15.	Body Diffuser Nozzle Flanges Gaskets Nut & Bolt	SS 304 SS 304 SS 316 SS 304 Stub end with MS Backing Flange NAF GI Feed Tank – 1 & 2 / Concentrate Tank	3 Nos.
16.	Shell Nozzle Flanges Lining Gaskets Nut & Bolt	Carbon Steel Carbon Steel Carbon Steel Ebonite Elastomer Rubber (Shore 'D') NAF GI Condensate Collection Pot	1 No.
17.	Shell Nozzle Flanges Gaskets Nut & Bolt	SS 304 SS 304 SS 304 Stub end with MS Backing Flange NAF GI Electrical Panel (Semi-compartmentalized, Non-flameproof)	1 No.
18.	Electrical Panel	MS with 14 / 16 SWG Sheet, RAL 7035 Powder coated Feed and Transfer Line Piping and Fittings (Valves, Bends, Reducers, Flanges etc.)	1 Lot
19.	Pipe Flanges Ball Valves	SS 304 SS 304 Stub end with MS Backing Flange Body – CF8 Seat – PTFE	
19.	Butterfly Valves	Body – MS Disc – CF8 Shaft – MS Vapour Piping and Fittings (Valves, Bends, Reducers, Flanges etc.)	1 Lot
20.	Pipe	SS 304 Non condensable Piping and Fittings (Valves, Bends, Reducers, Flanges etc.)	1 Lot

Pipe	SS 304	
Flanges	SS 304 Stub end with MS Backing Flange	
Ball Valves	Body – CF8 Seat – PTFE	
Butterfly Valves	Body – MS Disc – CF8 Shaft – MS	
21.	Condensate Piping and Fittings (Valves, Bends, Reducers, Flanges etc.)	1 Lot
Pipe	SS 304	
Flanges	SS 304 Stub end with MS Backing Flange	
Ball Valves	Body – CF8 Seat – PTFE	
Butterfly Valves	Body – MS Disc – CF8	
Shaft – MS		
22.	Recirculation Piping and Fittings (Valves, Bends, Reducers, Flanges etc.)	1 Lot
Pipe	SS 304	
23.	Water Ring Vacuum Pump with Coupling, Coupling Guard, NRV, Base Frame, Suction and Discharge Matching Flange, Foundation Bolts etc. Non-flameproof Electric Motor (IP – 55, 415 V, 50 Hz, 3 Phase, IE-2)	1 No.
Casing	CI	
Side Covers	CI	
Impeller	SS 304	
Control Plates	SS 304	
Shaft	SS 410	
24.	Closed Loop system for Water Ring Vacuum Pump comprising of Seal Water Tank, Seal Water Cooler (PHE), Vacuum Pot, Seal Water Piping etc.	
Seal Water Cooler (Plate Type Heat Exchanger)	CS with SS 316 Plates	1 No.
Seal Water Tank	SS 304	1 No.
Seal Water Piping & Fittings	SS 304	1 No.
25.	Seal Water System for Mechanical Seal	
Seal Water Cooler	Frame – Carbon Steel Plates – SS 316 Gaskets – EPDM	1 No.



(Plate Type Heat Exchanger)			
Seal Water Tank	HDPE		1 No.
Seal Water Pump with Base Plate, Coupling, Coupling guard, NRV, Foundation Bolts etc.	1 No.		
☒ Non-flameproof Electric Motor (IP – 55, 415 V, 50 Hz, 3 Phase, IE-2)			
Seal Water Pump	Casing – CI Impeller – CI Shaft – EN-8		
Seal Water Piping & Fittings	SS 304		1 Lot
26.	Local Mountings (i.e. Pressure Gauge, Vacuum Gauge)		
Pressure Gauge RTD, PT-100	SS 304 Dial, 4" Size		1 Lot
Vacuum Gauge	-		1 Lot
<b>CIGAR SYSTEM</b>	SS 304 Dial, 6" Size		1 Lot
27.	Cigar	SS 304	1 No.
28.	Hot Well	SS 304	1 No.
29.	Transfer Pump – 1 with Base frame, Coupling, Coupling guard, Oil cup, Foundation Bolts, Gland Pusher etc. ☒ Non-flameproof Electric Motor (IP – 55, 415 V, 50 Hz, 3 Phase, IE-2) ☒ Double Mechanical Seal with set of Seal Water Supply Flexible Hose		1 No.
Transfer Pump – 1	Casing – CF8 Impeller – CF8 Shaft – SS 304 Sleeve – CF8		

30.	Transfer Pump – 2 with Base frame, Coupling, Coupling guard, Oil cup, Foundation Bolts, Gland Pusher etc. ☑ Non-flameproof Electric Motor (IP – 55, 415 V, 50 Hz, 3 Phase, IE-2) ☑ Double Mechanical Seal with set of Seal Water Supply Flexible Hose	1 No.
Transfer Pump – 2	Casing – CF8 Impeller – CF8 Shaft – SS 304 Sleeve – CF8 Process Piping and Fittings (Valves, Bends, Reducers, Flanges etc.)	1 Lot
31.		
Pipe	SS 304	
Flanges	SS 304 Stub end with MS Backing Flange	
Ball Valves	Body – CF8 Seat – PTFE	
Butterfly Valves	Body – MS Disc – CF8 Shaft – MS Vapour Piping and Fittings (Valves, Bends, Reducers, Flanges etc.)	1 Lot
32.		
Pipe	SS 304 Local Mountings (i.e. Pressure Gauge, Vacuum Gauge)	
33.		
Pressure Gauge	SS 304 Dial, 4" Size	1 Lot
RTD, PT – 100	–	1 Lot
Vaccum / Compound Gauge	SS 304 Dial, 6" Size	1 Lot
<b>*PLC BASED CONTROL SYSTEM</b>		
34.	Feed Flow Transmitter with Totalizer	1 No.
35.		
Body Electrode	Polyamide Lined SS 304 Feed Flow Control Valve	3 Nos.
36.		
Control Valve	CF8 Ultrasonic Type Level Transmitter for Feed Tank – 2 & Concentrate Tank	2 Nos.
37.		
	Level Transmitter in Falling Film Calandria	1 No.

38.	Condensate Flow Transmitter with Totalizer		1 No.
	Body	Polyamide Lined	
	Electrode	SS 304	
39.	Condensate Flow Control Valve		1 No.
	Control Valve	CF8	
40.	Condensate Pot Level Transmitter (Capacitive Type)		1 No.
41.	Steam Flow Transmitter		1 No.
42.	DP Type Level Transmitter for Entrainment Separator		1 No.
43.	DP Type Level Transmitter for Flash Vessel		1 No.
44.	Flow Control Valve – 1 & 2		1 No.
	Control Valve	CF8	
45.	PLC Panel		1 No.
46.	SCADA (Runtime)		1 No.
47.	PC & Printer		1 No.
<b>COOLING TOWER SYSTEM</b>			
48.	Cooling Tower	FRP	1 No.
49.	Cooling Water Circulation pump with Non-flame proof electric motor (1 W + 1 SB)	CI	2 Nos
50.	Cooling Water Circulation Piping & fittings	CS	1 Lot

**SITE ACTIVITIES & OTHER SCOPE:**

51.	Instrument Air Piping & fittings from Air compressor to Instruments (MOC : GI)	1 Lot
52.	Antiscalant system comprising of Antiscalant Dosing Tank Antiscalant Dosing Pump Antiscalant Dosing Piping & fittings	1 Set
53.	Supply & laying of Electrical cable and Cable trays within battery limit of Evaporator (From Panel to each electric motor). Distance between Panel to plant would be 10 mtr. only.	1 Lot
54.	Supply & laying of Instrument cable and Cable trays within battery limit of Evaporator (From Panel to each instruments, JB). Distance between Panel to plant would be 10 mtr. only.	1 Lot
55.	Erection of Equipments within battery limit of Evaporator	1 Lot
56.	Erection and Fabrication of Piping and Piping supports at site within battery limit of Evaporator	1 Lot
57.	Supply and laying of Insulation for equipments and piping within battery limit of Evaporator	1 Lot
58.	Supply, erection, fabrication of Supporting Structure for Evaporator	1 Lot
59.	First fill oil up to commissioning	-
60.	Packing & forwarding	-
61.	Transportation from Ex-works,	-
62.	Transit Insurance	-

## AGITATED THIN FILM DRYER

**AGITATED THIN FILM DRYER (HTA: 40 X 4 Nos. working + 1 No standby = 160 M<sub>2</sub>)**

1. Vertical Agitated Thin Film Dryer 5 Nos.  
with Agitator, Lantern  
Assembly, Gear Box etc.  
☑ Non-flameproof Electric  
Motor (IP – 55, 415 V, 50 Hz, 3  
Phase, IE-2)

### Variable Frequency Drive

- |                      |  |        |
|----------------------|--|--------|
| Inner Shell          | SS 304                                 |        |
| Jacket Shell         | Carbon Steel                           |        |
| Rotor                | SS 304                                 |        |
| Shaft                | SS 304                                 |        |
| Flange – Shell Side  | SS 304 Stub end with MS Backing Flange |        |
| Flange – Jacket Side | Carbon Steel                           |        |
|                      | Entrainment Separator                  | 5 Nos. |

2.

- |            |  |        |
|------------|--|--------|
| Shell      | SS 304                                 |        |
| Flanges    | SS 304 Stub end with MS Backing Flange |        |
| Nozzles    | SS 304                                 |        |
| Gaskets    | NAF                                    |        |
| Nut & Bolt | GI                                     |        |
|            | Shell & Tube Type Condenser            | 5 Nos. |

3.

- |                      |  |       |
|----------------------|--|-------|
| Main Shell           | SS 304                                 |       |
| Top Cover            | Carbon Steel                           |       |
| Bottom Cover         | Carbon Steel                           |       |
| Tube sheet           | SS 304                                 |       |
| Tubes                | SA 249 TP 304 (Avg. 1.2 mm Thickness)  |       |
| Flanges – Shell Side | SS 304 Stub end with MS Backing Flange |       |
| Nozzles – Shell side | SS 304                                 |       |
| Flanges – Tube Side  | Carbon Steel                           |       |
| Nozzles – Tube side  | Carbon Steel                           |       |
| Gaskets              | NAF                                    |       |
| Nut & Bolt           | GI                                     |       |
|                      | Process Condensate Tank                | 1 No. |

4.

- |            |  |       |
|------------|--|-------|
| Shell      | SS 304                                 |       |
| Nozzle     | SS 304                                 |       |
| Flanges    | SS 304 Stub end with MS Backing Flange |       |
| Gaskets    | NAF                                    |       |
| Nut & Bolt | GI                                     |       |
|            | Common Condensate Outlet               | 1 No. |

5.

- Pump with Base frame,

	Coupling, Coupling guard, NRV, Oil cup, Foundation Bolts, Gland Pusher, NRV etc. ☑ Non-flameproof Electric Motor (IP – 55, 415 V, 50 Hz, 3 Phase, IE-2) ☑ Mechanical Seal with set of Seal Water Supply Flexible Hose	
6.	Condensate Outlet Pump	Casing – CF8 Impeller – CF8 Shaft – SS 304 Sleeve – CF8 Blower with Base Frame, 5 Nos. Foundation Bolts etc. ☑ Non-flameproof Electric Motor (IP – 55 , 415 V, 50 Hz, 3 Phase, IE-2)
7.	Body Impeller Shaft Hub	CI SS 304 SS 304 CI Feed and Transfer Line Piping 1 Lot and Fittings (Valves, Bends, Reducers, Flanges etc.)
8.	Pipe Flanges Ball Valves Butterfly Valves	SS 304 SS 304 Stub end with MS Backing Flange Body – CF8 Seat – PTFE Body – MS Disc – CF8 Shaft – MS Vapour Piping and Fittings 1 Lot (Valves, Bends, Reducers, Flanges etc.)
9.	Pipe Flanges	SS 304 SS 304 Stub end with MS Backing Flange Process Condensate Piping and 1 Lot Fittings (Valves, Bends, Reducers, Flanges etc.)
10.10.	Pipe Flanges Ball Valves Butterfly Valves	SS 304 SS 304 Stub end with MS Backing Flange Body – CF8 Seat – PTFE Body – MS Disc – CF8 Shaft – MS Local Mountings (i.e. Pressure Gauge, Vacuum Gauge)

Pressure Gauge	SS 304 Dial, 4" Size	1 Lot
RTD, PT – 100	-	1 Lot
Vacuum Gauge	SS 304 Dial, 6" Size	1 Lot

## System Terminals

Sr. No.	Description	Terminal Point
1.	Biomethanted Feed	At the inlet of Tank
2.	Soft / DM Water	At Inlet of Seal Water Tank & Cooling Tower
3.	Steam	At the Inlet of Equipment
4.	Steam Condensate	At the outlet of ATFD & Calandria
5.	Process Condensate	At the outlet of Process Condensate Pump
6.	Drain	At the outlet Drain Header
7.	Power	At the Inlet of Electrical Panel
8.	Chemicals	At the inlet of Dosing Tank

## Exclusions on Project Execution

- All kind of Civil work / foundation for equipment, Structure, Pipe racks, Supports, DG, Warehouses, flooring, MCC & PLC control room, shed, office & laboratory building etc., at site
- Steam Boiler with its accessories, IBR piping, chimney, APH, Dust collector, Bag filter etc.,
- Hydro jet machine, Laboratories Hardware & Instruments
- Transformer, Main Incomer Cable to Electrical Panel
- Street Lightning
- DG Set with wiring (for emergency power)

**REQUIREMENTS FOR SMOOTH PLANT OPERATION:**

**GENERAL NOTE FOR OPERATING PARAMETERS:**

1. Final Product outlet
2. All capacities and Utility consumption data specified in proposal are guarantee
3. warranty on suitability of Material of Construction selected
4. Any engineering specifications/ additional requirement has to be submitted and confirmed before finalization of order.
5. Plant performance
6. documents, process calculations
7. Commissioning.
8. plant performance



**Payment Details:-**

Bank: - ICICI BANK BRANCH KOPARGAON

Name: - Sahakar Maharshi Shankarrao Kolhe S S K Ltd Sahajanandnagar.

Account No: - 145205006939

IFSC Code:-ICIC0001452

**Thank You**