

**Price Bid PART – II(A- DESIGN AND SUPPLY)**  
**JABALPUR SAHAKARI DUGDHA SANGH MARYADIT, JABALPUR**  
**(To be submitted along with the offer)**

Tender Ref No:                /JSDSM/ 2018/Jabalpur                Date-

**SCOPE DETAILS - BILL OF MATERIAL**

**(For 10tpd automated paneer plant)**

FULLY AUTOMATED PANEER PLANT				
S.NO.	ITEM DESCRIPTION	CAP	QY	UOM
<b>1.00</b>	<b>MILK RECEIVING STORAGE SECTION</b>			
1.01	Milk Storage Tank (VMST) with Level, Temp sensors and Transmitters Note: Agitator VFD Driven	10,000	2	Nos.
1.02	Milk Transfer Pump from VMST to PHE (VFD Driven) Make: Alfa Laval / SPX	Suitable	1	Nos.
1.03	CIP Return Pump (VFD Driven) Make: Alfa Laval / SPX	Suitable	1	Nos.
1.05	PLC Remote I/O Panel (Enclosure: SS-304, IP-67)	Std.	1	Nos.
1.06	<b>Automation Valve Cluster to support Fully Automatic operation of Milk Storage Section.</b> Automated Valve Cluster to support Storage Tanks Cap-10 KL 1. Storage Tanks - 02 Nos. 2. Milk Filling lines: 01 Nos. 3. Milk Dispatch lines: 01 No. 4. CIP Isolation header: 01 No. <b>SANITARY REMOTE-CONTROLLED VALVES</b> Type: TT / LL / Butter Fly etc. Gasket: EPDM MOC of Contact: SS 316, Size: 51 mm Type: All valves with Intelligent Control Top Head Unit Note: Mix-Proof Valves at Junctions Make: SPX / GEA	Suitable	1	Nos.
1.07	<b>Sanitary Remote-Control Valve to be installed in field</b> 1) Tank outlet 2) Water Flushing 3) CIP Supply etc. MOC of Contact: SS 316, Size: 51 mm Type: All valves with Intelligent Control Top Head Unit Make: SPX / GEA Note: Complete section of Milk Storage should work in Full Automation	Suitable	1	Lot
<b>2.00</b>	<b>PANEER MILK HEATER (SKID MOUNTED PANEER MILK HEATER INCLUDES)</b>			
2.01	Milk Balance Tank, Cap - 100 Litres compatible with Level switch mounting	Suitable	1	Nos.
2.02	Milk Inline filter (Pipe in Pipe), Size - 70 micron	Suitable	1	Nos.

2.03	Milk Pump, Cap - 3,000 LPH, Make - Alfa Laval / SPX, (VFD Driven)	Suitable	1	Nos.
2.04	Multi Section (03 Section) PHE Function - Stage-1: Heating from 4 Degree C to ambient Temperature by cooling Tower Water Stage-2: Heating to 90 Degree C by Hot Water and Holding for 10 Minutes Stage-3: Cooling to 77-78 Degree C Note: All Temperature profiles shall be settable through SCADA Make: Kelvion / Alfa Laval	3000 LPH	1	Nos.
2.05	Holding Tube (MOC - SS 304, Size: 76 mm)	10 min	1	Nos.
2.06	Flow Diversion Valve, (With Control Top) Make: SPX / GEA	Suitable	1	Nos.
2.07	Hot water PID Control Valve, Make: Forbes Marshall / Samson	Suitable	1	Nos.
2.08	Well Water PID Control Valve, Make: Forbes Marshall / Samson	Suitable	2	Nos.
2.09	Pneumatically actuated Butterfly Valve for Milk Inlet (with Control Top) Make: SPX / GEA	Suitable	1	Nos.
2.10	Pneumatically actuated Butterfly Valve for Water Inlet - balance tank (with Control Top) Make: SPX / GEA	Suitable	1	Nos.
2.11	Pneumatically actuated Butterfly Valve for CIP inlet (with control Top) Make: GEA / Alfa Laval	Suitable	1	Nos.
2.12	Instruments Includes:			
2.13	a) Level Switches for balance tank, Make: Anderson Negle/Baumer	Std.	2	Nos.
2.14	b) Flow Transmitter for Milk, Make: Emerson / Yokogawa	38 mm	1	Nos.
2.15	c) Temp. Transmitter	Suitable	8	No.
2.17	All interconnecting pipelines and fittings on skid	Suitable	1	Lot
2.18	SS Skid for the above	Suitable	1	Lot
2.19	Pneumatic Pipes and Fittings for Skid	Suitable	1	Lot
2.20	SS Cabling and Cable Trays on skid	Suitable	1	Lot
2.21	RIO Panel (SS 304, IP-67) PLC Make: Allen Bradley / ABB It should communicate with central PLC and SCADA system	Suitable	1	Nos.
2.22	Processed Milk Buffer Tank, Capacity - 1 KL Type - Insulated, MOC - SS 304 (Inner and Outer), Agitator with VFD	1000 Litrs	1	Nos.
2.23	Pneumatically actuated Valve for Water Make-up water Tank (Inlet and Outlet) Make: ASCO - Emerson / Burkert Type: Angle Valve	Suitable	2	Nos.
2.24	Hot water Re-circulation Pump for Heating Module (Pre-Heater) Type: Multi-stage Pump (VFD Driven) Make: Grundfos / Equivalent	Suitable	1	Nos.
<b>3.00</b>	<b>COAGULATION SECTION</b>			
3.01	Fully Automatic Paneer Coagulation Machine - 1) Automatic pH Controlled coagulation 2) Precise movement 3) Fully PLC and SCADA controlled 4) Automatic De-Vat operation	300-400 KG/Hr	1	Nos.
3.02	Operator Platform with SS Chequered Plate	Suitable	1	Nos.
3.03	Citric Acid Tank (Triple Walled Jacketed and Insulated- with Jacket Heating control valve)	300 Litres	1	Nos.

3.04	Inline filter (Pipe in Pipe)	Suitable	1	Nos.
3.05	Whey Transfer Pump, make: Alfa Laval / SPX (VFD Driven)	5000 LPH	1	Nos.
3.06	Acid Dosing Pump, Metering Type	Suitable	1	Nos.
3.07	Flow Transmitter for Milk and Acid, Make- E+H / Yokogawa	Suitable	2	Nos.
3.08	Sanitary Remote-Control Valve (Butter-fly) with C-Top Unit for a) Milk and Acid Inlet to coagulation	Suitable	2	Nos.
3.09	Sanitary Remote-control Valves (Butter Fly / L Type) with C-Top Unit a) CIP Return Valve before coagulation tank for Re-circulation CIP of Pre-Heater - 01 Nos. 2) CIP Stop Valve to enable Re-circulation CIP of Pre-Heater - 01 Nos. 3) CIP Supply Valve for Coagulation Tank CIP - 01 Nos. 4) RO water Inlet for Acid Tank 5) Milk Filling Line Check Valve - 01 Nos. Make: SPX / GEA	Suitable	5	Nos.
3.10	Sanitary Remote-control Valves (FDV / LL Type) with C-Top Unit Location: Milk Filling line to coagulation Vat Drain or CIP Return Make: SPX / GEA	Suitable	1	Nos.
3.11	SS Control Panel (Enclosure IP-67): For Citric Acid Tanks integrated PLC based RIO	Suitable	1	Nos.
<b>4.00</b>	<b>PANEER PRESS AREA, CONVEYING AND MOULD CLEANING AREA</b>			
4.01	<b>Paneer Moulds (Micro-perforated)</b> Size: 285 x 400 mm x 220 mm (Height) Material: HD Polyethylene (Food Grade) Stiffener: SS 304	12-13 KG	60	Nos.
4.02	<b>Paneer Press (Progressive Pressing)</b> Variable - Stage wise pressing shall be configurable through SCADA based on type of paneer	5 HEAD	2	Nos.
4.03	Fully Automatic Paneer Mould Cleaning Machine (PLC and HMI based) Capacity - 15-20 Moulds per Hour Type - Rapid Cleaning - Ultrasonic It shall support complete automatic wash along with Pre-Rinse, Deep Wash, Post Rinse along with complete conveying system	15-20 Moulds per Hour	1	Nos.
4.04	Mould Lid Opening Machine	Suitable	1	Nos.
4.05	De-Moulding Machine	Suitable	1	Nos.
4.06	<b>Automatic Modular Conveyor system (along with whey trough)</b> for Complete Mould Handling Right from Loading, Pressing, Cleaning etc. (complete with all instrumentation, VFD's etc. to support fully automatic operation through centralised Control system) 1. Mould loading 2. Loaded mould transfer to Pressing Machine 3. Automatic insertion into Pressing Machine 4. Automatic exit after Pressing 5. Transfer to De-Moulding 6. Empty Mould Transfer to Cleaning	Suitable as per Civil Layout	1	Set
<b>5.00</b>	<b>PANEER DIP CHILLING AREA</b>			
5.01	Chilled Water Tank -Insulated (Paneer Dip Chilling / soaking tank) to keep paneer Blocks	3000 Litres	1	Nos.

5.02	Pasteurizer for Chilled water (It shall be designed as per Milk Standards) Type: Fully Automated Capacity - 5 KLPH Regeneration Efficiency - Not less than 90% Sections: 04 section Pressure Drop - Not more than 1 bar (Including all sections Product side) Note: Shall be fully automatic along with all instrumentation and accessories like balance Tank, Feed pump, Plate Pack, Flow Transmitter, Balance Tank Level switches, Holding tube (20 sec holding), Automatic Flow Diversion valve, Automatic Re-circulation valve, Automatic controlled steam hot water control valve (PID based), automatic Chilled water valve (On/OFF) etc.	5000 LPH	1	Nos.
5.03	Chilled water Re-circulation Pump, Make - Alfa Laval / SPX	5000 LPH	1	Nos.
5.04	Paneer Trolley for sterilizer	Suitable	2	Nos.
5.05	Paneer Mincer (to Crush Paneer)	100 KG/Hr	1	Nos.
5.06	SS Remote Control Panel for Chilled Water Pasteurizer and dip chilling	Suitable	1	Nos.
5.07	Paneer Tray for Dip Chilling	Suitable	100	Nos.
<b>6.00</b>	<b>PANEER CUTTING AND PACKING</b>			
6.01	Paneer Block Cutting Machine: For Cutting 10 KG Block into 200 gm / 400 gm / 500 gm PLC and HMI based Fully Automatic	Suitable	1	Nos.
6.02	Weigh Scale Make: Matler Toledo/Promp	5 KG	1	Nos.
6.03	Vacuum Packaging Machine 2 chamber	Suitable	1	Nos.
6.04	SS Packing tables	Suitable	1	Nos.
<b>7.00</b>	<b>STERILISATION SECTION</b>			
7.01	SS Sterilizer for Paneer (Hot Water Spray Type) a) With Sliding Doors Pneumatically Operated With SS Trays, Trollies, and Carriage b) With all Controlled Valves for Hot Water, Air etc c) All Instruments Like TT, PT and Flow meters d) SCADA Controlled	300 KGS	1	Nos.
<b>7.00</b>	<b>ALL PIPING AND FITTINGS</b>			
7.01	SS Piping and Fittings with Supports (for the hall)	Suitable	1	Lot
7.02	All GI/MS Pipe and Fittings (Well water, Hot Water, Chilled Water, RO water-SS Pipes and Air Lines) Note: Utility lines shall come from respective sections to Paneer Plant	Suitable	1	lot
7.03	Insulation of Chilled Water, hot water Lines	Suitable	1	lot
<b>8.00</b>	<b>ELECTRICAL SECTION</b>			
8.01	MCC & VFD Panel	Suitable	1	Set
8.01	Cables , Cable Trays and Earthing's	Suitable	1	Lot
<b>9.00</b>	<b>CENTRALIZED AUTOMATION SYSTEM</b>			
9.01	<b>Centralized Control Panel</b> PLC: ABB / Allen Bradley	Suitable	1	Nos.
9.02	SCADA License with MES and MIS	Suitable	2	Nos.
9.03	Workstation for SCADA	Suitable	2	Nos.
<b>10.00</b>	<b>AUTOMATIC CIP SYSTEM (SINGLE CIRCUIT)</b>			

10.01	LYE AND ACID TANK MATERIAL OF CONSTRUCTION (INNER SHELL): SS 316 (Acid Tank) and (Lye Tank) SS 304 MATERIAL OF CONSTRUCTION (OUTER SHELL): SS 304 CAPACITY: 5,000 LITRES		2	Nos.
10.02	HOT WATER TANK MATERIAL OF CONSTRUCTION (INNER SHELL): SS 304 MATERIAL OF CONSTRUCTION (OUTER SHELL): SS 304		1	Nos.
10.03	RECUPERATION / SANITIZER TANK - UNINSULATED MATERIAL OF CONSTRUCTION: SS 304L CAPACITY: 5,000 LITRES		1	Nos.
10.04	SHELL AND TUBE (TUNE IN TUBE) HEAT EXCHANGER – WITH ALL INLET & OUTLET POCKETS FOR THEMOWELL /SENSERS. CAPACITY – 20,000 LPH HEATING MEDIUM – Steam TUBES: AISI 316 CONSTRUCTION		1	Nos.
10.05	STEAM CONTROL VALVE WITH ELECTRO-PNEUMATIC POSITIONER AND MANUAL HANDLE MAKE – SAMSON / FORBES MARSHALL / EQUI.		1	Nos.
10.06	INLINE FILTER COMPLETE WITH ACCESSORIES Capacity – 25 KLPH MATERIAL OF CONSTRUCTION: SS-304 WITH SANITARY FINISH		1	Nos.
10.07	CIP SUPPLY PUMP (MONOBLOCK TYPE) CAPACITY – 25,000 LPH HEAD - 40 MWC MAKE – APV/ ALFA LAVAL		2	Nos.
10.08	PNEUMATIC VALVES (SINGLE SEAT / BUTTER FLY) WITH TOP HEAD UNIT FOR CIP SYSTEM SIZE – 51 MM TYPE – L/ T/ TL TYPE MAKE – APV / ALFA LAVAL / GEA		1	Nos.
10.09	PNEUMATIC CONTROLLED MAKE-UP WATER VALVES FOR LYE AND RECUPERATION TANKS Size – 1.5 inch MAKE - DANFOSS / ASCO / GEA		4	Nos.
10.1	SS 304 SKID BASED STRUCTURE ENTIRE STRUCTURE OF CIP UNIT SHALL BE ON SKID BASED MODEL. EXCLUSION CAN BE ONLY LEGS OF CIP TANKS REST COMPLETE STRUCTURE SHALL BE BASED ON SKID MADE BY SQUARE SS-304 PIPES.		1	Nos.
10.11	SS PIPES, BENDS, CLAMPS, SS SUPPORT PIPES ETC: COMPLETE WITH ALL ACCESSORIES TO MAKE THE SYSTEM COMPLETE		1	Nos.
10.12	PNEUMATIC PIPING (TUBING) COMPLETE WITH ALL ACCESSORIES MAKE (PU TUBES & ACCESSORIES) – FESTO / LEGRIS / SMC		1	Nos.
10.13	FR (FILTRATION – REGULATION) UNITS SIZE – 1/2” MAKE: FESTO / LEGRIS		1	Nos.
10.14	COMMUNICATION CABLE WITH REQUIRED CONVERTERS		1	Nos.

10.15	SS OPERATOR PLATFORM COMPLETE WITH LADDER, GRILL, CATWALK AND ACCESSORIES Chakker Plate – SS 304		1	Nos.
10.21	TEMPERATURE SENSOR WITH HIGH MANUFACTURING CLASS (SANITARY TYPE WITH WATER RESISTANT ENCLOSURE) ACCURACY – CLASS 'A' MATERIAL OF CONSTRUCTION – SS 316 NOTE – CIP SUPPLY AND RETURN LINES QTY:07 Nos.		1	Nos.
10.22	TRANSDUCER / SIGNAL CONDITIONERS TYPE – ISOLATED PROCESSOR – UDIAN AI ASIC CHIP FIELD CONFIGURATION – REMOTE PROGRAMMABLE THROUGH E8 REMOTE DISPLAY MOUNTING – PANEL MOUNTED NOTE – CIP SUPPLY AND RETURN LINES QTY: To accommodate 05 Nos. temperature sensors		1	Nos.
10.23	CONDUCTIVITY SENSOR (TOROIDAL TYPE) + TRANSMITTER (COMPLETE WITH ADAPTOR FOR FLOW THROUGH & IMMERSION MOUNTING) SENSOR: TOROIDAL TYPE (NON-CONTACTING) SENSOR MATERIAL - TEFLON MAKE: ROSEMOUNT / ANDERSON / GLI (USA)		2	Nos.
10.24	LEVEL TRANSMITTER –0.075% OF SPAN ACCURACY AND 100:1 RANGE ABILITY; SUPPLY COMPLETE WITH ALL MOUNTING AND ACCESSORIES. (IT WILL BE COMPATIBLE WITH CIP TANKS DIAMETER, HEIGHT AND DIMENSIONS FOR ACCURATE LEVEL MEASUREMENT) DIAPHRAM – SS 316		4	Nos.
10.25	ALL CABLES - ELECTRICAL POWER & CONTROL AND INSTRUMENTATION CABLES TO COMPLETE THE JOB • CABLE TRAYS – PERFORATED TYPE (GI – GALVANISED AND POWDER COATED). ALONG WITH C-TYPE CLAMPS AND COVER PLATES • CABLE LAYING (IN ENCLOSURE) FOR CARRYING THE SIGNALS FROM EACH SIGNAL POINTS TO PLC PANELS & COMPUTER. • CABLE TAGS AND MARKERS ARE PROVIDED AT EACH CABLE END. • ALL POWER CABLES ARE COPPER AND ARMORED. MAKE: FINOLEX, POLYCAB  ALL SIGNAL/CONTROL CABLES ARE SHIELDED / BRAIDED		1	Lot
10.26	ALL NECESSARY ACCESSORIES LIKE JUNCTION BOXES, ADAPTORS, GLANDING, LUGS ETC. FOR MOUNTING ALL THE MENTIONED FIELD DEVICES TO MAKE THE SYSTEM COMPLETE		1	Nos.
10.27	MAGNETIC FLOW METER TYPE – SANITARY MAX CAPACITY – 20 KLPH MAKE: ROSEMOUNT / YOKOGAWA NOTE – It shall be installed at CIP Supply line		1	Nos.
10.28	WORKSTATION PROCESSOR along with SCADA License – Processer I5 (2.93 GHz, 1066 MHz FSB, 3 MB Cache) HDD-250GB) WITH 24" LCD / TFT Ultra Sharp MONITOR MAKE: DELL / LENOVO MONITOR MAKE: DELL / LENOVO TYPE – Ultra Sharp MONITOR [ALONG WITH WINDOWS 7 LICENSE – 64 BIT]		1	Nos.

10.29	CIP RETURN PUMPS TYPE – SELF PRIMING Make – APV / Alfa Laval		2	Nos.
<b>11.00</b>	<b>OTHER UTILITY LINES</b>			
11.01	Material for Cooling Tower line (Includes GI Pipes, bends, MS Supports, other accessories to make the job complete)	Suitable	1	Lot
<b>11.00</b>	<b>WHEY STORAGE AREA</b>			
11.01	Whey balance tank with strainer	80 Lts	1	Nos.
11.02	Inline filter (Pipe in Pipe)	Suitable	1	Nos.
11.03	Whey Transfer Pump, make: Alfa Laval / SPX (VFD Driven)	5000 LPH	1	Nos.
11.04	Whey Chiller Make: Kelvion / Alfa Laval Temp. 78-25-4 Deg C	2000 LPH	1	Nos.
11.05	CIP Return Pump Make: Alfa Laval / SPX	20,000 LPH	1	Nos.
11.06	Whey Storage Tank	10,000 Lts	1	Nos.
11.07	<b>Automation Valves to support Fully Automatic operation of Whey Storage Tanks.</b> Automated Valve Cluster to support Whey Storage Tanks Cap-10 KL 1. Whey Storage Tanks - 01 Nos. 2. Milk Filling lines: 01 Nos. 3. Milk Dispatch lines: 01 No. SANITARY REMOTE-CONTROLLED VALVES Type: TT / LL / L / Butter Fly etc. Gasket: EPDM MOC of Contact: SS 316 (With Intelligent Control Top Head Unit)	Suitable	1	Nos.
11.08	<b>Sanitary Remote-Control Valve to be installed in field (For Whey Storage Tanks)</b> 1) Tank outlet 2) Water Flushing 3) CIP Supply etc.	Suitable	1	Lot
11.09	SS -304 RIO Panel (Enclosure IP-65) for Whey Section	Suitable	1	Nos.
11.10	Blast and Cold room Blast Room Size - 3000 x 3200 x3000 (H) mm Cold Room Size - 300 x 3200 x 3000 (H) mm Product - Paneer Product Inlet Temp - 35-40 C Product Out from Blast Room Temp - 3-4 C Pull down time - 7 Hr Product Out from Cold Room - 1 C	Mentioned	1	Set
	<b>TOTAL DESIGN AND SUPPLY EX. SITE</b>			

## Price Bid PART – II

(B-INSTALLATION, TESTING, COMMISSIONING AND TRAINING)

**JABALPUR SAHAKARI DUGDHA SANGH MARYADIT, JABALPUR**

(To be submitted along with the offer)

**Tender Ref No: /JSDSM/ 2018/Jabalpur Date-**  
**(For 10tpd automated paneer plant)**

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1.01	Milk Storage Tank (VMST) with Level, Temp sensors and Transmitters Note: Agitator VFD Driven	10,000	2	Nos.
1.02	Milk Transfer Pump from VMST to PHE (VFD Driven) Make: Alfa Laval / SPX	Suitable	1	Nos.
1.03	CIP Return Pump (VFD Driven) Make: Alfa Laval / SPX	Suitable	1	Nos.
1.05	PLC Remote I/O Panel (Enclosure: SS-304, IP-67)	Std.	1	Nos.
1.06	<b>Automation Valve Cluster to support Fully Automatic operation of Milk Storage Section.</b> Automated Valve Cluster to support Storage Tanks Cap-10 KL 1. Storage Tanks - 02 Nos. 2. Milk Filling lines: 01 Nos. 3. Milk Dispatch lines: 01 No. 4. CIP Isolation header: 01 No. <b>SANITARY REMOTE-CONTROLLED VALVES</b> Type: TT / LL / Butter Fly etc. Gasket: EPDM MOC of Contact: SS 316, Size: 51 mm Type: All valves with Intelligent Control Top Head Unit Note: Mix-Proof Valves at Junctions Make: SPX / GEA	Suitable	1	Nos.
1.07	<b>Sanitary Remote-Control Valve to be installed in field</b> 1) Tank outlet 2) Water Flushing 3) CIP Supply etc. MOC of Contact: SS 316, Size: 51 mm Type: All valves with Intelligent Control Top Head Unit Make: SPX / GEA Note: Complete section of Milk Storage should work in Full Automation	Suitable	1	Lot
<b>2.00</b>	<b>PANEER MILK HEATER (SKID MOUNTED PANEER MILK HEATER INCLUDES)</b>			
2.01	Milk Balance Tank, Cap - 100 Litres compatible with Level switch mounting	Suitable	1	Nos.
2.02	Milk Inline filter (Pipe in Pipe), Size - 70 micron	Suitable	1	Nos.
2.03	Milk Pump, Cap - 3,000 LPH, Make - Alfa Laval / SPX, (VFD Driven)	Suitable	1	Nos.



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2.09	Pneumatically actuated Butterfly Valve for Milk Inlet (with Control Top) Make: SPX / GEA	Suitable	1	Nos.
2.10	Pneumatically actuated Butterfly Valve for Water Inlet - balance tank (with Control Top) Make: SPX / GEA	Suitable	1	Nos.
2.11	Pneumatically actuated Butterfly Valve for CIP inlet (with control Top) Make: GEA / Alfa Laval	Suitable	1	Nos.
2.12	Instruments Includes:			
2.13	a) Level Switches for balance tank, Make: Anderson Negle/Baumer	Std.	2	Nos.
2.14	b) Flow Transmitter for Milk, Make: Emerson / Yokogawa	38 mm	1	Nos.
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2.18	SS Skid for the above	Suitable	1	Lot
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2.21	RIO Panel (SS 304, IP-67) PLC Make: Allen Bradly / ABB It should communicate with central PLC and SCADA system	Suitable	1	Nos.
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<b>3.00</b>	<b>COAGULATION SECTION</b>			
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4.05	De-Moulding Machine	Suitable	1	Nos.
4.06	<b>Automatic Modular Conveyor system (along with whey trough) for Complete Mould Handling Right from Loading, Pressing, Cleaning etc. (complete with all instrumentation, VFD's etc. to support fully automatic operation through centralised Control system)</b> 1. Mould loading 2. Loaded mould transfer to Pressing Machine 3. Automatic insertion into Pressing Machine 4. Automatic exit after Pressing 5. Transfer to De-Moulding 6. Empty Mould Transfer to Cleaning	Suitable as per Civil Layout	1	Set
<b>5.00</b>	<b>PANEER DIP CHILLING AREA</b>			
5.01	Chilled Water Tank -Insulated (Paneer Dip Chilling / soaking tank) to keep paneer Blocks	3000 Litres	1	Nos.

5.02	Pasteurizer for Chilled water (It shall be designed as per Milk Standards) Type: Fully Automated Capacity - 5 KLPH Regeneration Efficiency - Not less than 90% Sections: 04 section Pressure Drop - Not more than 1 bar (Including all sections Product side) Note: Shall be fully automatic along with all instrumentation and accessories like balance Tank, Feed pump, Plate Pack, Flow Transmitter, Balance Tank Level switches, Holding tube (20 sec holding), Automatic Flow Diversion valve, Automatic Re-circulation valve, Automatic controlled steam hot water control valve (PID based), automatic Chilled water valve (On/OFF) etc.	5000 LPH	1	Nos.
5.03	Chilled water Re-circulation Pump, Make - Alfa Laval / SPX	5000 LPH	1	Nos.
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5.05	Paneer Mincer (to Crush Paneer)	100 KG/Hr	1	Nos.
5.06	SS Remote Control Panel for Chilled Water Pasteurizer and dip chilling	Suitable	1	Nos.
5.07	Paneer Tray for Dip Chilling	Suitable	100	Nos.
<b>6.00</b>	<b>PANEER CUTTING AND PACKING</b>			
6.01	Paneer Block Cutting Machine: For Cutting 10 KG Block into 200 gm / 400 gm / 500 gm PLC and HMI based Fully Automatic	Suitable	1	Nos.
6.02	Weigh Scale Make: Matler Toledo/Promp	5 KG	1	Nos.
6.03	Vacuum Packaging Machine 2 chamber	Suitable	1	Nos.
6.04	SS Packing tables	Suitable	1	Nos.
<b>7.00</b>	<b>STERILISATION SECTION</b>			
7.01	SS Sterilizer for Paneer (Hot Water Spray Type) a) With Sliding Doors Pneumatically Operated With SS Trays, Trollies, and Carriage b) With all Controlled Valves for Hot Water, Air etc c) All Instruments Like TT, PT and Flow meters d) SCADA Controlled	300 KGS	1	Nos.
<b>7.00</b>	<b>ALL PIPING AND FITTINGS</b>			
7.01	SS Piping and Fittings with Supports (for the hall)	Suitable	1	Lot
7.02	All GI/MS Pipe and Fittings (Well water, Hot Water, Chilled Water, RO water-SS Pipes and Air Lines) Note: Utility lines shall come from respective sections to Paneer Plant	Suitable	1	lot
7.03	Insulation of Chilled Water, hot water Lines	Suitable	1	lot
<b>8.00</b>	<b>ELECTRICAL SECTION</b>			
8.01	MCC & VFD Panel	Suitable	1	Set
8.01	Cables , Cable Trays and Earthing's	Suitable	1	Lot
<b>9.00</b>	<b>CENTRALIZED AUTOMATION SYSTEM</b>			
9.01	<b>Centralized Control Panel</b> PLC: ABB / Allen Bradly	Suitable	1	Nos.
9.02	SCADA License with MES and MIS	Suitable	2	Nos.
9.03	Workstation for SCADA	Suitable	2	Nos.
<b>10.00</b>	<b>AUTOMATIC CIP SYSTEM (SINGLE CIRCUIT)</b>			

10.01	LYE AND ACID TANK MATERIAL OF CONSTRUCTION (INNER SHELL): SS 316 (Acid Tank) and (Lye Tank) SS 304 MATERIAL OF CONSTRUCTION (OUTER SHELL): SS 304 CAPACITY: 5,000 LITRES		2	Nos.
10.02	HOT WATER TANK MATERIAL OF CONSTRUCTION (INNER SHELL): SS 304 MATERIAL OF CONSTRUCTION (OUTER SHELL): SS 304		1	Nos.
10.03	RECUPERATION / SANITIZER TANK - UNINSULATED MATERIAL OF CONSTRUCTION: SS 304L CAPACITY: 5,000 LITRES		1	Nos.
10.04	SHELL AND TUBE (TUNE IN TUBE) HEAT EXCHANGER – WITH ALL INLET & OUTLET POCKETS FOR THEMOWELL /SENSERS. CAPACITY – 20,000 LPH HEATING MEDIUM – Steam TUBES: AISI 316 CONSTRUCTION		1	Nos.
10.05	STEAM CONTROL VALVE WITH ELECTRO-PNEUMATIC POSITIONER AND MANUAL HANDLE MAKE – SAMSON / FORBES MARSHALL / EQUI.		1	Nos.
10.06	INLINE FILTER COMPLETE WITH ACCESSORIES Capacity – 25 KLPH MATERIAL OF CONSTRUCTION: SS-304 WITH SANITARY FINISH		1	Nos.
10.07	CIP SUPPLY PUMP (MONOBLOCK TYPE) CAPACITY – 25,000 LPH HEAD - 40 MWC MAKE – APV/ ALFA LAVAL		2	Nos.
10.08	PNEUMATIC VALVES (SINGLE SEAT / BUTTER FLY) WITH TOP HEAD UNIT FOR CIP SYSTEM SIZE – 51 MM TYPE – L/ T/ TL TYPE MAKE – APV / ALFA LAVAL / GEA		1	Nos.
10.09	PNEUMATIC CONTROLLED MAKE-UP WATER VALVES FOR LYE AND RECUPERATION TANKS Size – 1.5 inch MAKE - DANFOSS / ASCO / GEA		4	Nos.
10.1	SS 304 SKID BASED STRUCTURE ENTIRE STRUCTURE OF CIP UNIT SHALL BE ON SKID BASED MODEL. EXCLUSION CAN BE ONLY LEGS OF CIP TANKS REST COMPLETE STRUCTURE SHALL BE BASED ON SKID MADE BY SQUARE SS-304 PIPES.		1	Nos.
10.11	SS PIPES, BENDS, CLAMPS, SS SUPPORT PIPES ETC: COMPLETE WITH ALL ACCESSORIES TO MAKE THE SYSTEM COMPLETE		1	Nos.
10.12	PNEUMATIC PIPING (TUBING) COMPLETE WITH ALL ACCESSORIES MAKE (PU TUBES & ACCESSORIES) – FESTO / LEGRIS / SMC		1	Nos.
10.13	FR (FILTRATION – REGULATION) UNITS SIZE – 1/2” MAKE: FESTO / LEGRIS		1	Nos.
10.14	COMMUNICATION CABLE WITH REQUIRED CONVERTERS		1	Nos.

10.15	SS OPERATOR PLATFORM COMPLETE WITH LADDER, GRILL, CATWALK AND ACCESSORIES Chakker Plate – SS 304		1	Nos.
10.21	TEMPERATURE SENSOR WITH HIGH MANUFACTURING CLASS (SANITARY TYPE WITH WATER RESISTANT ENCLOSURE) ACCURACY – CLASS 'A' MATERIAL OF CONSTRUCTION – SS 316 NOTE – CIP SUPPLY AND RETURN LINES QTY:07 Nos.		1	Nos.
10.22	TRANSDUCER / SIGNAL CONDITIONERS TYPE – ISOLATED PROCESSOR – UDIAN AI ASIC CHIP FIELD CONFIGURATION – REMOTE PROGRAMMABLE THROUGH E8 REMOTE DISPLAY MOUNTING – PANEL MOUNTED NOTE – CIP SUPPLY AND RETURN LINES QTY: To accommodate 05 Nos. temperature sensors		1	Nos.
10.23	CONDUCTIVITY SENSOR (TOROIDAL TYPE) + TRANSMITTER (COMPLETE WITH ADAPTOR FOR FLOW THROUGH & IMMERSION MOUNTING) SENSOR: TOROIDAL TYPE (NON-CONTACTING) SENSOR MATERIAL - TEFLON MAKE: ROSEMOUNT / ANDERSON / GLI (USA)		2	Nos.
10.24	LEVEL TRANSMITTER –0.075% OF SPAN ACCURACY AND 100:1 RANGE ABILITY; SUPPLY COMPLETE WITH ALL MOUNTING AND ACCESSORIES. (IT WILL BE COMPATIBLE WITH CIP TANKS DIAMETER, HEIGHT AND DIMENSIONS FOR ACCURATE LEVEL MEASUREMENT) DIAPHRAM – SS 316		4	Nos.
10.25	ALL CABLES - ELECTRICAL POWER & CONTROL AND INSTRUMENTATION CABLES TO COMPLETE THE JOB • CABLE TRAYS – PERFORATED TYPE (GI – GALVANISED AND POWDER COATED). ALONG WITH C-TYPE CLAMPS AND COVER PLATES • CABLE LAYING (IN ENCLOSURE) FOR CARRYING THE SIGNALS FROM EACH SIGNAL POINTS TO PLC PANELS & COMPUTER. • CABLE TAGS AND MARKERS ARE PROVIDED AT EACH CABLE END. • ALL POWER CABLES ARE COPPER AND ARMORED. MAKE: FINOLEX, POLYCAB  ALL SIGNAL/CONTROL CABLES ARE SHIELDED / BRAIDED		1	Lot
10.26	ALL NECESSARY ACCESSORIES LIKE JUNCTION BOXES, ADAPTORS, GLANDING, LUGS ETC. FOR MOUNTING ALL THE MENTIONED FIELD DEVICES TO MAKE THE SYSTEM COMPLETE		1	Nos.
10.27	MAGNETIC FLOW METER TYPE – SANITARY MAX CAPACITY – 20 KLPH MAKE: ROSEMOUNT / YOKOGAWA NOTE – It shall be installed at CIP Supply line		1	Nos.
10.28	WORKSTATION PROCESSOR along with SCADA License – Processer I5 (2.93 GHz, 1066 MHz FSB, 3 MB Cache) HDD-250GB) WITH 24" LCD / TFT Ultra Sharp MONITOR MAKE: DELL / LENOVO MONITOR MAKE: DELL / LENOVO TYPE – Ultra Sharp MONITOR [ALONG WITH WINDOWS 7 LICENSE – 64 BIT]		1	Nos.

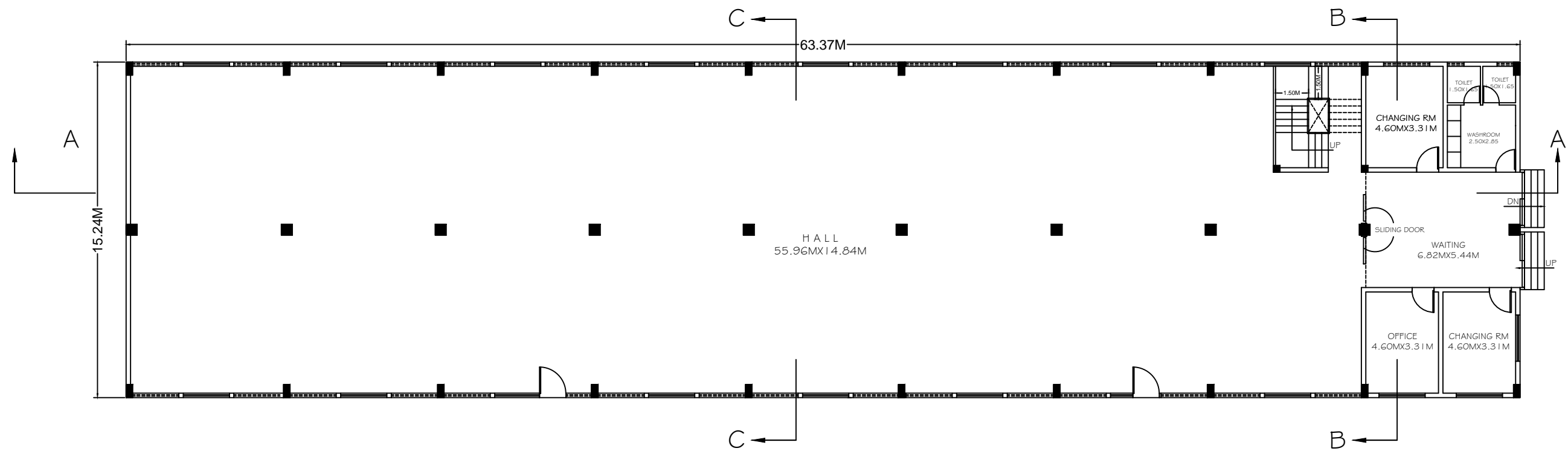
10.29	CIP RETURN PUMPS TYPE – SELF PRIMING Make – APV / Alfa Laval		2	Nos.
<b>11.00</b>	<b>OTHER UTILITY LINES</b>			
11.01	Material for Cooling Tower line (Includes GI Pipes, bends, MS Supports, other accessories to make the job complete)	Suitable	1	Lot
<b>11.00</b>	<b>WHEY STORAGE AREA</b>			
11.01	Whey balance tank with strainer	80 Lts	1	Nos.
11.02	Inline filter (Pipe in Pipe)	Suitable	1	Nos.
11.03	Whey Transfer Pump, make: Alfa Laval / SPX (VFD Driven)	5000 LPH	1	Nos.
11.04	Whey Chiller Make: Kelvion / Alfa Laval Temp. 78-25-4 Deg C	2000 LPH	1	Nos.
11.05	CIP Return Pump Make: Alfa Laval / SPX	20,000 LPH	1	Nos.
11.06	Whey Storage Tank	10,000 Lts	1	Nos.
11.07	<b>Automation Valves to support Fully Automatic operation of Whey Storage Tanks.</b> Automated Valve Cluster to support Whey Storage Tanks Cap-10 KL 1. Whey Storage Tanks - 01 Nos. 2. Milk Filling lines: 01 Nos. 3. Milk Dispatch lines: 01 No. SANITARY REMOTE-CONTROLLED VALVES Type: TT / LL / L / Butter Fly etc. Gasket: EPDM MOC of Contact: SS 316 (With Intelligent Control Top Head Unit)	Suitable	1	Nos.
11.08	<b>Sanitary Remote-Control Valve to be installed in field (For Whey Storage Tanks)</b> 1) Tank outlet 2) Water Flushing 3) CIP Supply etc.	Suitable	1	Lot
11.09	SS -304 RIO Panel (Enclosure IP-65) for Whey Section	Suitable	1	Nos.
11.10	Blast and Cold room Blast Room Size - 3000 x 3200 x3000 (H) mm Cold Room Size - 300 x 3200 x 3000 (H) mm Product - Paneer Product Inlet Temp - 35-40 C Product Out from Blast Room Temp - 3-4 C Pull down time - 7 Hr Product Out from Cold Room - 1 C	Mentioned	1	Set
	TOTAL FOR INSTALLATION, COMMISSIONING, TESTING EX. SITE			

**(2). ABOVE PRICE BID FOR SUPPLY AND INSTALLATION ARE TO BE FILLED AS FOLLOWS:**

- 1. BASIC PRICE**
- 2. PACKING & FORWARDING CHARGES**
- 3. INSURANCE**
- 4. TRANSPORTATION**

**5. GST % AND AMOUNT****6. TOTAL PRICE INCLUSIVE OF ALL**

A	<b>FINAL PRICE EX-WORKS WITH INSTALLATION AND COMISSIONING (FREIGHT, INSURANCE, GST )</b>			
B	<b>PACKING &amp; FORWARDING, FREIGHT AND INSURANCE</b>			
C	<b>GST ON SUPPLY</b>			
D	<b>GST ON INSTALLATION AND COMISSIONING</b>			
E	<b>GRAND TOTAL (ALL INCLUSIVE)</b>			



## GROUND FLOOR PLAN

<b>PROJECT:</b> PROPOSED CONSTRUCTION OF PANEER PLANT BUILDING UNDER CAMPUS DUGDH DAIRY AT NEAR KARONDIYA NALA JABALPUR	<b>OWNER: JABALPUR SAHAKARI DUGDH SANGH MARYADIT</b>				<b>CONSULTANTS/ARCHITECT</b> <b>MARIGO CONSULTANTS</b> ENGINEERS, ARCHITECTS & PROJECT CONSULTANT. GII NILGIRI APARTMET, PLOT NO.-249, ANOOP NAGAR A.B. ROAD INDORE (M.P) MOB. :- 98270 - 65342 Email :- marigo_consultants@rediffmail.com
	<small>NOTE :- 1) THIS DRAWING SUPERSEDES ALL PREVIOUS &amp; ISSUED TILL DATE          2) ANY CHANGE/ MODIFICATION IF NECESSARY WHILE EXECUTION SHOULD BE DONE WITH PREVIOUS CONSENT OF THE ARCHITECT/ENGINEER          3) NO PART OF THIS DRAWING SHOULD BE USED COPIED OR USED FOR ANY OTHER PROJECT IN WHATSOEVER MANNER</small>				
<b>TITLE:</b> GROUND FLOOR PLAN	<b>DATE:</b> 05/01/2019	<b>DWG.BY:</b> RAKHI GOUR			
	<b>DWG.NO.:</b>	<b>SCALE:</b> N.T.S			



