



**Gujarat Cooperative Milk Marketing Federation Ltd, Anand
AmulFed Dairy (Previously known as AmulFed Dairy)**

Plot No. 35, Nr. Indira Bridge,
Ahmedabad-Gandhinagar Highway
Village: Bhat, Dist: Gandhinagar
Gujarat, India-382428

Request for Bid (RFB) for **“Design, Supply (Including unloading at Site), Installation, Testing and commissioning of Electrification work at Buttermilk plant”** as per the scope of work described in Annexure-A

AFD: PUR: ENQ: 2024: 887





AMULFED DAIRY

(A Unit of Gujarat Co-operative Milk Marketing Limited)
Plot No. 35, Near Indira Bridge, Ahmedabad-Gandhinagar Highway
Village - Bhat, Dist - Gandhinagar - 382428
Phone: +91-79-3969055/56 Fax: +91-79-3969059

We invite sealed bids from eligible bidders for the following works: “**Design, Supply (Including unloading at Site), Installation, Testing and commissioning of Electrification work at Buttermilk plant**” as per the scope of work described in Annexure-A

Bid Reference	AFD: PUR: ENQ: 2024: 887
Bid Start	Starts from 09/12/2024
Bid Submission	Technical Submission up to 16/12/2024 before 6:00 PM
Last Date for Bid Submission	23/12/2024 before 4:00 PM
Completion period	2 months

Eligibility Criteria

- 1) The vendor must have executed similar nature of work within last three year (Require credentials for the same).

Technical Specification : As per the Annexure-A

Procedure to participate in the above inquiry:

- 1) All the interested bidders must participate in the inquiry through our purchase portal by registering your firm as a new vendor (if your firm already has registration in our PP, then you have to login to your account and request AFD to send RFQ).
- 2) Interested bidders have to register your firm in our Purchase portal.
 - a. Website for our portal is as >>>: <http://afdpurchase.amul.in/>
- 3) Offers through mail/hardcopy are not accepted and stand for rejection, your competitive bids should be submitted through our online portal only.
- 4) Detail technical specification as per Annexure-A for your reference.
- 5) Interested bidders must submit their technical specification/detail first, only after technical evaluation/approval, bidders will be invited for submission of commercial bid.

General Terms & Conditions

1. The price should be quoted with all details.
2. Specify your tax condition- Non indication of the above levies will mean that prices are inclusive of all taxes and above levies.
3. The realistic and earliest completion period should be indicated in the offer.
4. It will not be binding on us to accept the lowest offer.
5. The right to accept/reject any/all offers without assigning reason is reserved by us.
6. Offers which are incomplete or do not meet the conditions are liable for rejection.

7. We are an ISO 9001: 2015, ISO 14001:2015, ISO 22000:2018, ISO 50001:2018 and ISO 45001:2018 company; we follow sustainable eco-friendly processes in our organization and expect the same to be followed at your end. We emphasize on energy efficient system and utilization of renewable energy systems in eco-friendly and sustainable way.
8. Note: If required please visit premises with prior confirmation before the quote. Please arrange a visit between 2:00 P.M. to 5:00 P.M. on the working day.
9. We may go for reverse auction/negotiation.
10. The bidder must have a valid license as per CEIG.

Warranty: 12 months from date of commissioning

Payment term:-

Payment for supply, installation and commissioning contracts must be strictly as below:

- 1) 20% advance of total basic value of contract (Supply + Erection & Commissioning) on submission of following:
 - (i) **Acceptance of the order i.e.**
 - a. Submission of the Duplicate copy of the order duly signed by the authorised signatory putting stamp of the Organisation.
 - b. Against a bank guarantee for equivalent amount valid for 60 days beyond the stipulated delivery (as per schedule of delivery/supply)/ completion period.
- 2) Payment against Supply and erection of equipments/material: (with 100% taxes)
65% payment of supply value within 30 days on safe receipt of goods at site
- 3) 15% balance payment within 30 days of satisfactory commissioning of machine. On submission of:

The Performance Security shall be in the amount of 15% of the Contract price up to sixty days after the date of completion of performance obligations including warranty obligations.

Notes: For all the payments to be made against bank guarantees, The Bank Guarantees should be obtained from Nationalized Bank or ICICI Bank, HDFC Bank, IDBI Bank, Kotak Mahindra Bank or acceptable Bank by AFD.

Liquidated Damages

Bidder/Supplier fails to deliver any or all of the Goods or perform the Services within the time period(s) specified in the Contract, the Purchaser shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages as under:

- a. **For the Supply Component:**
A sum equivalent to 0.5% of the delivered price of the delayed goods (As per the price break up furnished by the supplier and accepted by the Purchaser, which the supplier fails to supply within the time period specified in the contract for each week of delay.
- b. **For the Erection and Commissioning Component:**
A sum equivalent to 0.5% of the un - executed portion of each week of delay or part thereof beyond the time specified in the contract for the successful completion of the plant.

The total amount so deducted as per above, shall not exceed 5% of the Contract value. Once the maximum is reached, the Purchaser may consider termination of the Contract.

Rights Reserved by AmulFed Dairy (A unit of GCMMF Ltd).

AmulFed Dairy (A unit of GCMMF Ltd), at its sole discretion and without assigning any reason thereof, reserves the right to accept and / or reject the whole or part of any or all the bids received.

Validity:

The offer should be valid for 120 days from the date of Bid opening.

Contact details: For any techno-commercial query you may contact Yogendra Sodha (7046036777), or (E-mail- yogendra.sodha@amul.coop, bharat.naik@amul.coop) of Purchase department.

TECHNICAL SPECIFICATION

A) NON-COMPARTMENT- MCC FOR BUTTER MILK EXPANSION - MCC-A

Sr. No.	Description	Type	Rating
1	Incomer	MCCB -Four Pole ,50 kA with ROM with MP based OC, SC & EF protection released with RS485 multi-function meter. R/Y/B/ON/OFF/TRIP INDICATION	800 A
2	Vat to CDPL	VFD-DANFOSS FC-302 with Display <ul style="list-style-type: none"> • MPCB+VFD • ON/OFF/TRIP indication, Control MCB • Auto/Manul Switch, Relay • Run Command, run feedback, Trip feedback 	5.5 KW
3	SMS/ Tanker to CDPL	VFD-DANFOSS FC-302 with Display <ul style="list-style-type: none"> • MPCB+VFD • ON/OFF/TRIP indication, Control MCB • Auto/Manul Switch, Relay • Run Command, run feedback, Trip feedback 	5.5 KW
4	Kelvion Thermizer pump	VFD-DANFOSS FC-302 with Display <ul style="list-style-type: none"> • MPCB+VFD • ON/OFF/TRIP indication, Control MCB • Auto/Manul Switch, Relay • Run Command, run feedback, Trip feedback 	5.5 KW
5	IDMC Thermizer pump	VFD-DANFOSS FC-302 with Display <ul style="list-style-type: none"> • MPCB+VFD • ON/OFF/TRIP indication, Control MCB • Auto/Manul Switch, Relay • Run Command, run feedback, Trip feedback 	4 KW
6	CDPL feed	VFD-DANFOSS FC-302 with Display <ul style="list-style-type: none"> • MPCB+VFD • ON/OFF/TRIP indication, Control MCB • Auto/Manul Switch, Relay • Run Command, run feedback, Trip feedback 	7.5KW
7	CDPL hot water 1	VFD-DANFOSS FC-302 with Display <ul style="list-style-type: none"> • MPCB+VFD • ON/OFF/TRIP indication, Control MCB • Auto/Manul Switch, Relay • Run Command, run feedback, Trip feedback 	4 KW

8	Kelvion Thermizer feed	VFD-DANFOSS FC-302 with Display <ul style="list-style-type: none"> • MPCB+VFD • ON/OFF/TRIP indication, Control MCB • Auto/Manul Switch, Relay • Run Command, run feedback, Trip feedback 	7.5KW
9	Regeneration silo 1 pump	VFD-DANFOSS FC-302 with Display <ul style="list-style-type: none"> • MPCB+VFD • ON/OFF/TRIP indication, Control MCB • Auto/Manul Switch, Relay • Run Command, run feedback, Trip feedback 	18.5KW
10	Regeneration silo 2 pump	VFD-DANFOSS FC-302 with Display <ul style="list-style-type: none"> • MPCB+VFD • ON/OFF/TRIP indication, Control MCB • Auto/Manul Switch, Relay • Run Command, run feedback, Trip feedback 	18.5KW
11	Spare -1	VFD-DANFOSS FC-302 with Display <ul style="list-style-type: none"> • MPCB+VFD • ON/OFF/TRIP indication, Control MCB • Auto/Manul Switch, Relay • Run Command, run feedback, Trip feedback 	7.5KW
12	60 kl silo curd transfer	DOL-MPCB+Contactor Auto/Manual Switch On-Off PB With Indication Trip indication, Relay for Run Command, Run Feed Back, Trip Feed Back	7.5KW
13	60 kl silo Circulation pump	DOL-MPCB+Contactor Auto/Manual Switch On-Off PB With Indication Trip indication, Relay for Run Command, Run Feed Back, Trip Feed Back	7.5KW
14	CIP return 60 kl silo	DOL-MPCB+Contactor Auto/Manual Switch On-Off PB With Indication Trip indication, Relay for Run Command, Run Feed Back, Trip Feed Back	4 KW
15	CIP return 50 kl silo	DOL-MPCB+Contactor Auto/Manual Switch On-Off PB With Indication Trip indication, Relay for Run Command, Run Feed Back, Trip Feed Back	4 KW
16	CIP return BMS 4-5	DOL-MPCB+Contactor Auto/Manual Switch On-Off PB With Indication Trip indication, Relay for Run Command, Run Feed Back, Trip Feed Back	4 KW

17	Culture dosing	DOL-MPCB+Contactor Auto/Manual Switch On-Off PB With Indication Trip indication, Relay for Run Command, Run Feed Back, Trip Feed Back	3 KW
18	Vat to BMS 4-5	DOL-MPCB+Contactor Auto/Manual Switch On-Off PB With Indication Trip indication, Relay for Run Command, Run Feed Back, Trip Feed Back	5.5 KW
19	RNSM to BMS 4-5	DOL-MPCB+Contactor Auto/Manual Switch On-Off PB With Indication Trip indication, Relay for Run Command, Run Feed Back, Trip Feed Back	5.5 KW
20	Vat CIP return	DOL-MPCB+Contactor Auto/Manual Switch On-Off PB With Indication Trip indication, Relay for Run Command, Run Feed Back, Trip Feed Back	4 KW
21	CDPL booster	DOL-MPCB+Contactor Auto/Manual Switch On-Off PB With Indication Trip indication, Relay for Run Command, Run Feed Back, Trip Feed Back	7.5KW
22	CDPL hot water 2	DOL-MPCB+Contactor Auto/Manual Switch On-Off PB With Indication Trip indication, Relay for Run Command, Run Feed Back, Trip Feed Back	4 KW
23	Kelvion Thermizer booster	DOL-MPCB+Contactor Auto/Manual Switch On-Off PB With Indication Trip indication, Relay for Run Command, Run Feed Back, Trip Feed Back	7.5 KW
24	Kelvion Thermizer hot water	DOL-MPCB+Contactor Auto/Manual Switch On-Off PB With Indication Trip indication, Relay for Run Command, Run Feed Back, Trip Feed Back	4 KW
25	Kelvion Thermizer shear 1	DOL-MPCB+Contactor Auto/Manual Switch On-Off PB With Indication Trip indication, Relay for Run Command, Run Feed Back, Trip Feed Back	22 KW
26	Kelvion Thermizer shear 2	DOL-MPCB+Contactor Auto/Manual Switch On-Off PB With Indication Trip indication, Relay for Run Command, Run Feed Back, Trip Feed Back	22 KW
27	60 kl silo 1 agitator	DOL-MPCB+Contactor Auto/Manual Switch On-Off PB With Indication Trip indication,	3 KW

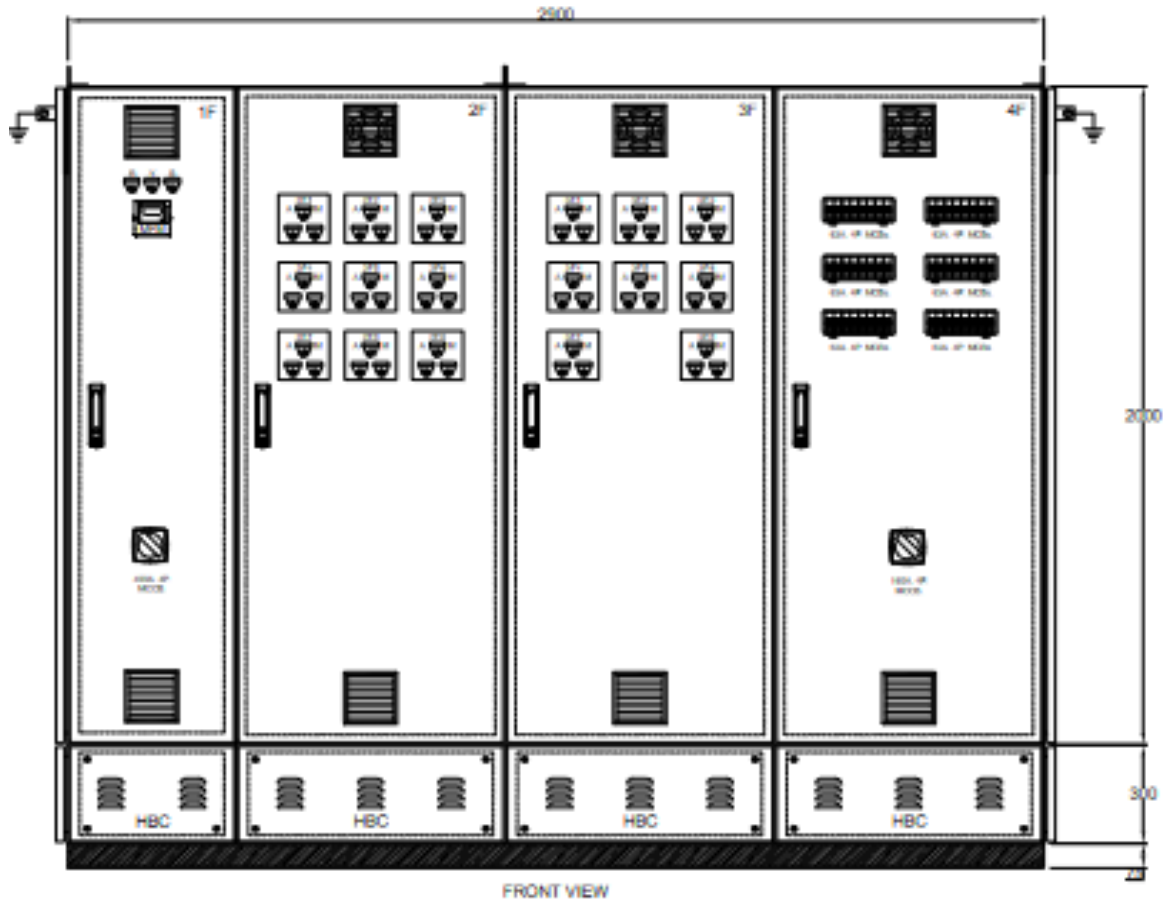
		Relay for Run Command, Run Feed Back, Trip Feed Back	
28	60 kl silo 2 agitator	DOL-MPCB+Contactor Auto/Manual Switch On-Off PB With Indication Trip indication, Relay for Run Command, Run Feed Back, Trip Feed Back	3 KW
29	BMS 4 agitator	DOL-MPCB+Contactor Auto/Manual Switch On-Off PB With Indication Trip indication, Relay for Run Command, Run Feed Back, Trip Feed Back	2 KW
30	BMS 5 agitator	DOL-MPCB+Contactor Auto/Manual Switch On-Off PB With Indication Trip indication, Relay for Run Command, Run Feed Back, Trip Feed Back	2 KW
31	Spare -2	DOL-MPCB+Contactor Auto/Manual Switch On-Off PB With Indication Trip indication, Relay for Run Command, Run Feed Back, Trip Feed Back	7.5 KW
32	Spare -3	DOL-MPCB+Contactor Auto/Manual Switch On-Off PB With Indication Trip indication, Relay for Run Command, Run Feed Back, Trip Feed Back	5.5 KW
33	Sapre-4	DOL-MPCB+Contactor Auto/Manual Switch On-Off PB With Indication Trip indication, Relay for Run Command, Run Feed Back, Trip Feed Back	22 KW
34	MARSHILING COMPARTMENT	<ul style="list-style-type: none"> • Communication Protocol Is Profinet. • ET 200SP Station for Marshaling Rack. • Each DOL /VFD has 2 Nos DI Input (Run +Trip),1No. Output DO (Cmd). • VFD has 1 No. Analog Input for Current And 1 Nos. Analog Output for Control. • Dual Power Supply with Diode Module for IM and Field. • Relay Terminal For DO. • Standard Color Code Wiring For DI, DO, AI And AO • Consider 30% Spare Input Output for Further Expansion. 	
35	Welding points	63A-RCCB=1 NO, 63A-MCB=2 NOs, 32A-DP MCB=4 NOs	

B) NON-COMPARTMENT- MCC FOR IDMC CIP -MCC-B

Sr. No.	Description	Type	Rating
1	Incomer	MCCB -Four Pole ,50 kA with ROM with MP based OC, SC & EF protection released with RS485 multi-function meter. R/Y/B/ON/OFF/TRIP INDICATION	200 A
2	CIP Supply ckt 1	VFD-DANFOSS FC-302 with Display <ul style="list-style-type: none"> • MPCB+VFD • ON/OFF/TRIP indication, Control MCB • Auto/Manul Switch, Relay • Run Command, run feedback, Trip feedback 	7.5 KW
3	CIP Supply ckt 2	VFD-DANFOSS FC-302 with Display <ul style="list-style-type: none"> • MPCB+VFD • ON/OFF/TRIP indication, Control MCB • Auto/Manul Switch, Relay • Run Command, run feedback, Trip feedback 	5.5 KW
4	CIP Supply ckt 3	VFD-DANFOSS FC-302 with Display <ul style="list-style-type: none"> • MPCB+VFD • ON/OFF/TRIP indication, Control MCB • Auto/Manul Switch, Relay • Run Command, run feedback, Trip feedback 	5.5 KW
5	Acid circulation	DOL-MPCB+Contactor Auto/Manual Switch On-Off PB With Indication Trip indication, Relay for Run Command, Run Feed Back, Trip Feed Back	2 KW
6	Lye circulation	DOL-MPCB+Contactor Auto/Manual Switch On-Off PB With Indication Trip indication, Relay for Run Command, Run Feed Back, Trip Feed Back	2 KW
7	Water recovery pump	DOL-MPCB+Contactor Auto/Manual Switch On-Off PB With Indication Trip indication, Relay for Run Command, Run Feed Back, Trip Feed Back	5.5 KW
8	Acid tanker unloading pump	DOL-MPCB+Contactor Auto/Manual Switch On-Off PB With Indication Trip indication, Relay for Run Command, Run Feed Back, Trip Feed Back	4 KW
9	Lye Tanker unloading	DOL-MPCB+Contactor Auto/Manual	4 KW

		Switch On-Off PB With Indication Trip indication, Relay for Run Command, Run Feed Back, Trip Feed Back	
10	Spare-1	DOL-MPCB+Contactor Auto/Manual Switch On-Off PB With Indication Trip indication, Relay for Run Command, Run Feed Back, Trip Feed Back	7.5 KW
11	MARSHILING COMPARTMENT	<ul style="list-style-type: none"> • Communication Protocol Is Profinet. • ET 200SP Station for Marshaling Rack. • Each DOL /VFD has 2 Nos DI Input (Run +Trip),1No. Output DO (Cmd). • VFD has 1 No. Analog Input for Current And 1 Nos. Analog Output for Control. • Dual Power Supply with Diode Module for IM and Field. • Relay Terminal For DO. • Standard Color Code Wiring For DI, DO, AI And AO <p>Consider 30% Spare Input Output for Further Expansion.</p>	
12	Welding points	63A-RCCB=1 NO, 63A-MCB=2 NOs, 32A-DP MCB=4 NOs	

APPROX. DESIGN ARRANGEMENT



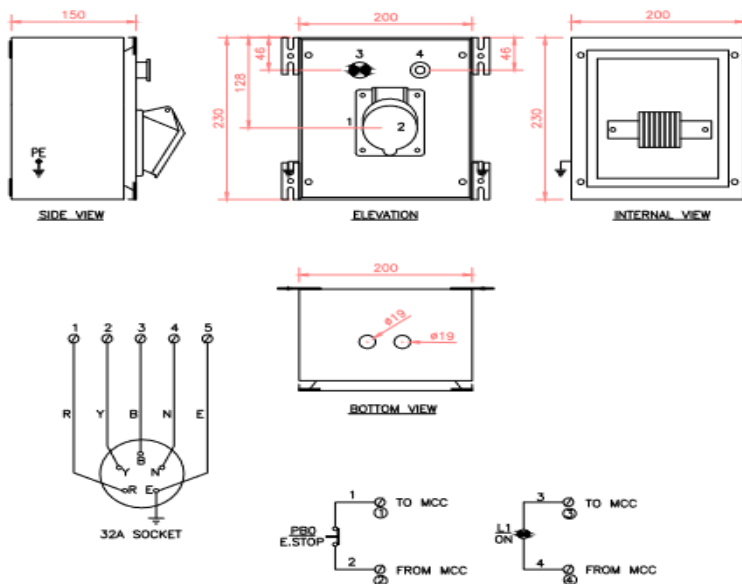
MAKE LIST:

MCCB/MCB/MPCB/CONTACTOR/ REPLAY	LK-L&T/SCHNEIDER/SIEMENS PLA/OMRON
LED PUSH BUTTON WITH INDICATION	TEKNIC/ LK-L&T/SCHNEIDER/SIEMENS
MULTI FUNCTION METER/DIGITAL AMETER/DIGITAL VOLT METER	LK L&T/SCHNEIDER/ SIEMENS/CONSERVE
POWER-CONTROL CONNECTOR	ELMAX/CONNECTWELL
WIRE-FRLS	RR/KEI/POLYCAB/HAVELLS
AURO/MANUAL SELECTROR SWITCH	SALZER/ LK-L&T/ SCHNEIDER/SIEMENS
EPOXY RESIN CURRENT TRNSFORMER	RISHABH/ ASHMOR/VIRAT
PLC MODULE	SIEMENS/SCHNEIDER/ROCKWELL
POWER SUPPLY	MEANWELL/OMRON/SIEMENS
PLUG SOCKET-IP 67	LEGRAND/SCHNEIDER
POWER CABLE-COPPER	POLYCAB/KEI/RR KABEL/LAPP
CONTROL CABLE-COPPER SHIEDED	LAPP
VFD	DANFOSS FC-302 WITH DISPLAY

GENERAL REQUIRMENTS:

- Required Valid Electrical Contractor License.
- Required CPRI Approval for Panel.
- Bidder has to Visit the Location and Area for New Panel Installation Work and entire scope of work.
- Panel Should Be Non-Compartmental Type.
- Panel Material Should be MS CRCA Powder Coating Door/Partitions/ Mounting Plate/Gland Plate-2 Mm, With Siemens Grey-7032 Color
- Control Wire-FRLS 1.5Mm² Copper,1.1 Kv for Indication Ckt,2.5Mm² For Ct/Pt,4 Mm² for Earthing.
- CT Should Be Epoxy Resin Type.
- Main Busbar -Aluminum with Current Density 0.8 A/M²
- Copper Power Cable as Per Load Requirement. (As per attached sheet)
- Degree Protection Ip - 55 (IS/IEC 61439-2: 2011) With PU Gasket and Heavy-Duty Door Locks for All Doors.
- Hardware Zinc Passivated (Golden & Silver Plated) Corrosion Resistance.
- Ferrules Computerized Printed on White Sleeve at Both End of Control & Power Ckt.
- Cable Entry Incoming Top Side, Out Going Top Side.
- Fault Level 50Ka. Rms For 01 Sec. (Is 8623 - Part 1 - 1993)
- Name Plate & Labeling Self Adhesive, Laser Engraved with Black Background & White Letters.
- Loading And Unloading of All Materials Are in The Scope of Vendor.
- Supply, Installation testing and commission of Instruments Cable and Power Cable Are in the Scope of Vendor.
- Instruments Cable Should Be Shielded Copper Cable.
- For FT/FM=4 Core *0.75 Mm² Copper Shielded Cable and Other Instruments 3 Core*0.75 mm² Cables are required. All Instruments are supplied by AmulFed Dairy. Vendor has to Supply, lay and terminate cable as per cable size list attached sheet.
- Separate SS Cable Tray/Ss Conduit Required for Instrument Cabling.
- Rubber mat 15652.2006 (1.5 mm thickness) is required Infront as well as back side of both MCC panel are in the scope of vendor.
- Available room size for Butter milk plant Panel= L=4300 MM, W=3300 MM, H=2200MM
- Emergency Push button and field DOL and VFD JB's are as per attached drawing.
- All instruments i.e. TT/FT/LT/PT act cabling are in the scope of Vendor including connection, Lug, Ferruling and termination.
- Approx. 256 nos field instruments Cable connection and termination are in the scope of vendor.
- AS-Interface or Asi) Cable will be supplied by AmulFed Dairy for Valve, Vendor has to lay/installed and terminate cable as per filed engineer requirements.
- SS Gland plate hole in all JB's for cable gland are in the scope of vendor.
- Required double compression cable gland, lug, ferruling and termination are in the scope of vendor.

DOL FIELD JB:

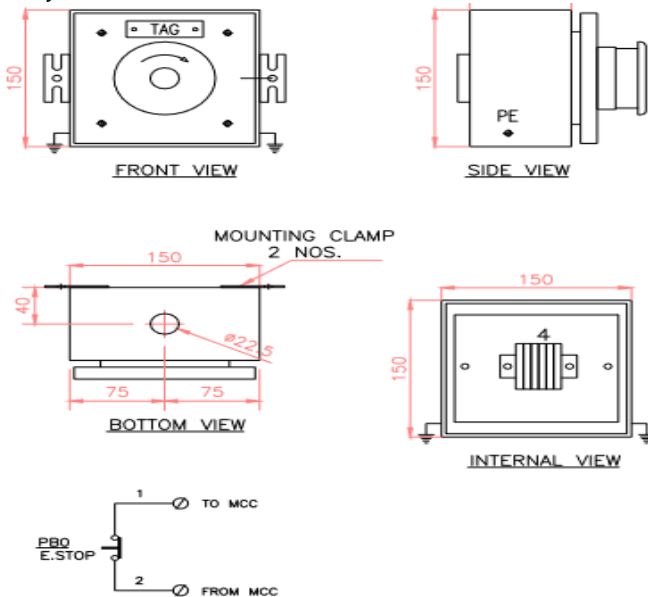


GENERAL SPECIFICATIONS :

ALL DIMENSIONS ARE IN MM
 ENCLOSURE TYPE : NO-COMPARTMENTALISED
 PROTECTION CLASS : IP 55
 INSTALLATION : WALL MOUNTING
 CABLE ENTRY : BOTTOM
 LABELLING : BWB SHEET
 TAG : 50X15MM
 FABRICATION : SS 304 SHEETS
 STRUCTURE COVER : 1.5 mm
 STRUCTURE FINISH : MATT (SANITARY)
 INTERIOR : ACID WASH
 EXTERIOR : 150 GRIT
 WIRING : 'LAPP/SBEE' MAKE, FLEXIBLE COPPER
 CONTROL : 1.5 SQ MM GRAY
 POWER : MIN. 6 SQ MM COLOUR CODED CABLE R,Y,B,N,E
 EARTHING : BRASS SCREWS (2 NOS)

SR.NO	DESCRIPTION	MAKE
06	COLOURED POWER TERMINAL	CONNECTWELL
05	CONTROL TERMINAL	CONNECTWELL
04	STAY PUT TYPE EMERGENCY STOP	SCHNEIDER
03	RED INDICATING LAMP, 230 V AC	SCHNEIDER
02	ANGULAR PLUG 32A 3P+N+E,IP-67	LEGRAND
01	INCLINED SOCKET 32A 3P+N+E,IP-67	LEGRAND

VFD JB:



GENERAL SPECIFICATIONS :

ALL DIMENSIONS ARE IN MM
 ENCLOSURE TYPE : NON-COMPARTMENTALISED
 PROTECTION CLASS : IP 55
 INSTALLATION : WALL MOUNTING
 CABLE ENTRY : BOTTOM
 LABELLING : BWB SHEET
 TAG : 50X15MM
 FABRICATION : SS 304 SHEETS
 STRUCTURE COVER : 1.5mm
 GLAND PLATE : NOT APPLICABLE
 STRUCTURE FINISH : MATT (SANITARY)
 INTERIOR : ACID WASH
 EXTERIOR : 150 GRIT
 WIRING : 'LAPP' MAKE, FLEXIBLE COPPER
 CONTROL : 1.5 SQ MM GRAY
 EARTHING : M.S. SCREWS (2 NOS)

SR.NO	DESCRIPTION	CAT. NO.	MAKE
01	STAY PUT TYPE EMERGENCY STOP	LA38-112S	TEKNIK
02	CONTROL TERMINAL	CTS 2.5UN	CONNECTWELL

POWER CABLE SIZE AND DETAILS FROM MCC TO FILED CABLING (BUTTER MILK MCC)

	Description	Area	DOL/VFD	Kw	POWER CABLE	EMERGENCY PB	EARTHING
					4 CORE COPPER-ARMOURED	2 CORE COPPER-ARMOURED	1 CORE COPPER DOUBLE EARTHING
1	Vat to CDPL	Old building	VFD	5.5	2.5	1.5	4
2	SMS/ Tanker to CDPL	Tanker Bay	VFD	5.5	2.5	1.5	4
3	Kelvion Thermizer pump	New building	VFD	5.5	2.5	1.5	4
4	IDMC Thermizer pump	New building	VFD	4	2.5	1.5	4
5	CDPL feed	New building	VFD	7.5	4	1.5	4
6	CDPL hot water 1	New building	VFD	4	2.5	1.5	4
7	Kelvion Thermizer feed	New building	VFD	7.5	4	1.5	4
8	Regeneration silo 1 pump	New building	VFD	18.5	16	1.5	6
9	Regeneration silo 2 pump	New building	VFD	18.5	16	1.5	6
10	Spare Complete feeder	New building	VFD	7.5			
11	60 kl silo curd transfer	New building	DOL	7.5	4	1.5	4
12	60 kl silo Circulation pump	New building	DOL	7.5	4	1.5	4
13	CIP return 60 kl silo	New building	DOL	4	2.5	1.5	4
14	CIP return 50 kl silo	Old building	DOL	4	2.5	1.5	4
15	CIP return BMS 4-5	New building	DOL	4	2.5	1.5	4
16	Culture dosing	New building	DOL	3	2.5	1.5	4
17	Vat to BMS 4-5	Old building	DOL	5.5	2.5	1.5	4
18	RNSM to BMS 4-5	Old building	DOL	5.5	2.5	1.5	4
19	Vat CIP return	Old building	DOL	4	2.5	1.5	4
20	CDPL booster	New building	DOL	7.5	4	1.5	4
21	CDPL hot water 2	New building	DOL	4	2.5	1.5	4
22	Kelvion Thermizer booster	New building	DOL	7.5	4	1.5	4

23	Kelvion Thermizer hot water	New building	DOL	4	2.5	1.5	4
24	Kelvion Thermizer shear 1	New building	DOL	22	16	1.5	6
25	Kelvion Thermizer shear 2	New building	DOL	22	16	1.5	6
26	60 kl silo 1 agitator	New building	DOL	3	2.5	1.5	4
27	60 kl silo 2 agitator	New building	DOL	3	2.5	1.5	4
28	BMS 4 agitator	New building	DOL	2	2.5	1.5	4
29	BMS 5 agitator	New building	DOL	2	2.5	1.5	4
30	Spare Complete feeder	New building	DOL	7.5	4	1.5	4
31	Spare Complete feeder	New building	DOL	5.5	2.5	1.5	4
32	Sapre-4	New building	DOL	22			

POWER CABLE SIZE AND DETAILS FROM MCC TO FILED CABLING (CIP MCC)

Sr. No.	Description	Area	DOL/VFD	KW	POWER CABLE	EMERGENCY PUSH	EARTHING
					4 CORE COPPER	4 CORE COPPER	1 CORE COPPER DOUBLE EARTHING
1	CIP Supply ckt 1	CIP	VFD	7.5	4	1.5	4
2	CIP Supply ckt 2	CIP	VFD	5.5	2.5	1.5	4
3	CIP Supply ckt 3	CIP	VFD	5.5	2.5	1.5	4
4	Acid circulation	CIP	DOL	2	2.5	1.5	4
5	Lye circulation	CIP	DOL	2	2.5	1.5	4
6	Water recovery pump	CIP	DOL	5.5	2.5	1.5	4
7	Acid tanker unloading pump	CIP	DOL	4	2.5	1.5	4
8	Lye Tanker unloading	CIP	DOL	4	2.5	1.5	4
9	Spare-1	CIP	DOL	7.5			

INSTRUMENT CABLE SIZE AND DETAILS. (AVERAGE LENGTH PER INSTRUMENTS ARE 25 M)

SR NO.	INSTRUMENTS	QTY.	CABLE SIZE
1	LSH/LSL SWITCH	50	3 CORE ,0.75 MM2 SHIEDED CABLE-LAPP
2	FLOW SWITCH	3	3 CORE ,0.75 MM2 SHIEDED CABLE-LAPP
3	PROXY SWITCH	49	3 CORE ,0.75 MM2 SHIEDED CABLE-LAPP
4	CT 2 WIRE SUPPLY	5	3 CORE ,0.75 MM2 SHIEDED CABLE-LAPP
5	CT 2 WIRE FB	5	3 CORE ,0.75 MM2 SHIEDED CABLE-LAPP
6	FT 2WIRE	5	3 CORE ,0.75 MM2 SHIEDED CABLE-LAPP
7	TB 2 WIRE SUPPLY	3	3 CORE ,0.75 MM2 SHIEDED CABLE-LAPP
8	TB 2 WIRE FB	3	3 CORE ,0.75 MM2 SHIEDED CABLE-LAPP
9	TT	53	3 CORE ,0.75 MM2 SHIEDED CABLE-LAPP
10	PT	26	3 CORE ,0.75 MM2 SHIEDED CABLE-LAPP
11	LT	15	3 CORE ,0.75 MM2 SHIEDED CABLE-LAPP
12	FT 4 WIRE	12	4 CORE ,0.75 MM2 SHIEDED CABLE-LAPP

SCOPE FOR BUTTER MILK PLANT EXPANSION AND IDMC CIP ROOM.

SR NO.	DISCRIPTION
1	DSITC-DESIGN SUPPLY INSTALLATION TESTING COMMISSIONING OF NON-COMPARTMENT- MCC-A FOR BUTTER MILK EXPANSION
2	DSITC-DESIGN SUPPLY INSTALLATION TESTING COMMISSIONING OF NON-COMPARTMENT- MCC-B FOR IDMC CIP ROOM
3	DSITC SS JB WITH EMERGENCY PB AND IP 67 PLUG AND SOCKET(FILED) WITH SS CONDUIT, SS CABLE TRAY, SS SUPPORT AND STAND.AS PER ATTACHED DRAWING.
4	SITC 4 CORE COPPER ARMoured CABLES FOR EMERGENCY PUSH BUTTON (FIELD)
5	SITC POWER EARTHING FOR Both MCC, MOTORS AND OTHER EQUIPMENTS=4 CONTROL COPPER EARTING FOR INSTRUMENT=2 NOS DOUBLE EARTHING FOR ALL MOTORS AND JBS.
6	SITC POWER ARMoured CABLES FROM PCC TO BOTH MCC AND BOTH MCC TO FIELD SS JB AND FLEXIBLE SCREEN CABLE FROM JB TO MOTORS. ALUMINIUM CABLE=PCC TO MCC (CABLE SUPPLY BY AFD) REST ALL CABLES ARE COPPER ONLY IN VENDOR SCOPE.
7	SITC CONTROL CABLES, FILED INSTRUMENT CABLES, COMMUNICATION CABLES FOR FILED EQUIPMENTS AND JBs AS PER CABLE SIZE LIST.
8	SITC SS CABLE TRAY IN PROCESS PLANT, GI CABLE TRAY IN MCC ROOM
9	SITC SS BOX PIPE SUPPORT IN PROCESS PLANT AND GI SUPPORT IN MCC ROOM

10	SITC SS JB FOR FILED INSTRUMENT-JUNCTION WITH CONNECTORS AND MCB. (I/P=32 A DP MCB, O/P=10 NOS 6A MCB)
11	SITC SS EARTHING JB INCULING COPPER BUSBARS AND INSULATORS.
12	SITC CAT 6 SHIELDED COPEER CABLE FOR RIO PANEL=1000 METER

SITC=SUPPLY, INATALLATION, TESTING AND COMMISSIONING

DSITC=DESIGN, SUPPLY, INATALLATION, TESTING AND COMMISSIONING