

# MILK & DAIRY PROCESSING AND PACKAGING PLANTS

36+

YEARS OF  
EXPERIENCE  
SINCE 1988



INNOVATIVE FARM TO TABLE ENGINEERING

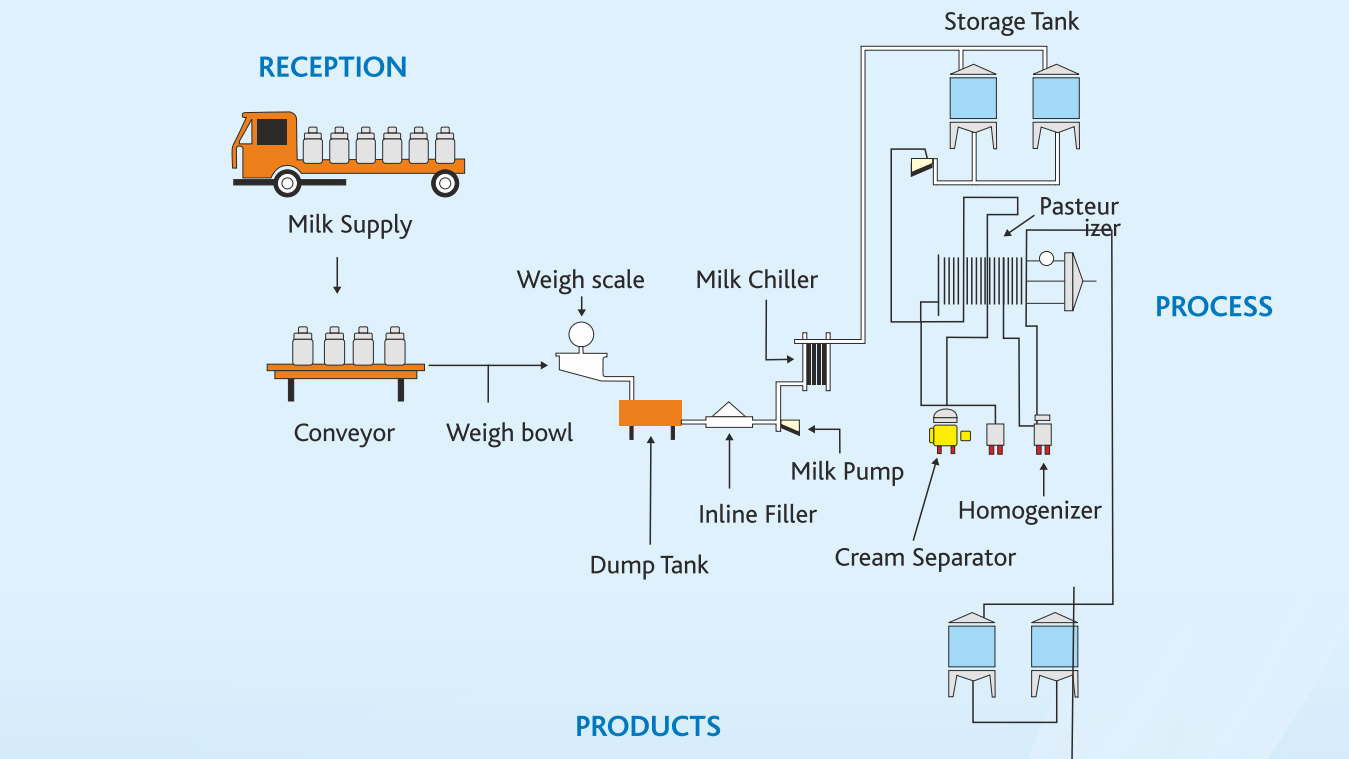
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*Adding value to milk... through technology*

# Milk and Dairy Plant

From milk reception to final packing



**Milk**

## Fresh Milk Processing & Packaging

- Milk collection
- Bulk milk chiller
- Milk storage tank
- Pasteurizer
- Homogenizer
- Glass bottle/pouch packaging machines/ UHT Pouch Packaging
- Cold storage

## Flavoured Milk

- Blending tank
- Sugar syrup preparation system
- Bottling machine for Glass/PP bottles
- Sterilizer



**Yoghurt**

## Yoghurt

- Powder mixing
- Incubation / culture inoculation tank
- Pasteurizer
- Homogenizer
- Cup filling
- Incubation
- Cold storage



**Ice cream**

## Ice Cream

- Batch Pasteurizer
- Homogenizer
- Plate chiller
- Cooling/ageing vat
- Continuous freezer
- Chocolate dip tank /candy lolly tank
- Hardening room
- Cup/Cone filling



**Ghee/butter**

## Ghee/Butter

- Cream pasteurizer
- Butter Extruder
- Cooking kettle for ghee
- End packaging in HDPE/Metal container/ Pouches



**Cheese**

## Cottage Cheese

- Milk heating tank
- Coagulation vat
- Hoop pressing
- Cooling/Cutting
- Vacuum packaging

## Milk and Dairy Processing Plants for Processing of Milk into Value Added Products like Pasteurised / UHT / Flavoured Milk, Cheese / Cottage Cheese (Paneer), Curd / Yoghurt, Ghee/Butter, Ice Cream

We offer dairy processing plants to suit the requirements and needs of small/medium scale operations and businesses in the capacity range of 500-5000 lph for the following segments:

### MILK PROCESSING PLANT

We offer complete plants for value addition of milk into pasteurized, UHT and flavoured milk with options of end packaging in bottles, pouch and cans.

These plants are manufactured conforming to stringent quality standards to ensure food safety, quality of the final products while retaining valuable nutrients of milk.

**Liquid milk processing plant includes following process and equipment:**

- Reception / filtration and storage of raw milk
- Raw Milk Chiller- Bulk Milk Cooler (Conventional /Solar powered )
- Pasteurization / Sterilisation / Cream separation /Homogenisation
- Storage tanks / cold stores for further processing into other value added products
- Packaging machines for packing in pouches / bottles and aseptic packing
- Interconnection Pipelines / Transfer pumps / Valves and fittings



### CURD / YOGURT (STIRRED / SET) GREEK YOGHURT / LASSI / BUTTER MILK PROCESSING PLANT

The above products are prepared by the process of fermentation of milk. Yoghurt can also be further processed into traditional local drinks like Lassi and buttermilk by blending with Water and spices.

These can be offered on batch or continuous processing depending upon the plant capacities.

The process includes equipment like Milk Storage tanks, Pasteuriser, Homogeniser, Inoculation / Incubation tanks, Incubation Room, Blast / Cold rooms.

Packaging machines can be offered for packing in cups and pouches.



### COTTAGE CHEESE (PANEER) / CHEESE / WHEY / HARD CHEESE PROCESSING PLANTS

Paneer (Cottage Cheese) is a commonly derived Milk Product made by curdling milk with derived acids. We offer complete plants for manufacturing of Paneer which includes Paneer heating System, Pasteuriser, Paneer Press, Paneer Cutting and Chilling System.

We offer small-medium capacity plants for different types of Mozzarella and Cheddar cheese manufacturing. The lines include Cheese Vats (Open/Closed Models), Whey Draining Equipment, Cooker Stretcher, Cheddaring, Finishing Vats and Molding Solutions.



### ICE CREAM PLANT

We offer complete plants for ice cream and frozen desserts.

The complete plant includes ice Cream mixing Agitators, Ageing Vats, Homogenisers, Pasteuriser and end packaging machines for cup and cone filling and sealing.



# Milk Processing and packaging plant

2



## MILK COLLECTION / STORAGE / HEATING/ BLENDING TANK

Suitable to store / heat / chill / blend milk and other value added milk products. Available in single / double / triple layers with jacketing / insulation and stirrer for 200-10,000 ltr volume capacity in SS304/316 L.

3



## CREAM SEPARATOR

## BULK MILK COOLING TANKS

1



Suitable for cooling / storage of fresh milk at 4°C.

Available in capacities from 200-5,000 ltr milk storage capacities.

These can be offered in conventional electrical or solar powered units which can switch to grid electricity as a backup in case of low thermal energy levels.

## COLD STORE

8



Suitable for cold storage of raw intermediate / final milk products in temperature range between 2-15°C. These units can be set up in off grid areas or can be designed to work on solar power which can switch to grid electricity as a backup in case of low thermal energy levels.

These can be designed and offered for capacities ranging between 10-50 MT cold store capacity.

7



## CIP SYSTEM (CLEAN-

ing) Systems are required for cleaning of various equipment installed in dairy / food or pharmaceutical industries that reduce microorganisms in the product and enhance quality.

CIP system are available in manual / semi-automatic / fully automatic design models



# From milk reception to final packing - Adding value to milk

## HOMOGENIZER

4

Suitable for separating fat / cream from milk for standardization.  
Available in 200-5,000 L/h capacities.



Suitable to homogenize milk / ice cream mix / yoghurt, etc to even consistency.  
Available from 200-5000 lph.

5A



## PASTEURIZER

Suitable to pasteurize milk / skimmed milk / butter / whey / cream. Incorporates automation for steam / auto diversion / regeneration and chilling.  
Available in capacities from 200-5,000 L/h.

## UHT STERILIZER

5B



Suitable to sterilize milk for UHT / aseptic milk for long shelf life.  
Available in capacities from 200-5,000 L/h.

6



## UHT / Aseptic Pouch Packaging Machine

Suitable to packing pasteurized / UHT milk.  
Available in capacities from 1,000-5,000 pouches per hour.

(IN-PLACE)

for thorough  
ment / pipelines  
beverage  
robial growth  
es product

2/3 tank  
automatic

## CRATE WASHING & DRYING EQUIPMENT

### CRATE WASHER: CW-19

Suitable to wash and clean plastic crates, stainless steel / aluminum trays used in dairy, agro, confectionary, bakeries, sweet shops or in the catering industry.

The machine incorporates three-stage washing system with options of hot water or detergent wash. Fitted with high pressure jet spray and angular nozzles, variable speed chain drive and 2 oil skimmer system. The machine is completely made from SS 304.

**Available in single/twin track models in capacities from 300-1200 crates/hr.**

(Can also be designed for washing and cleaning dishes/bowl and kitchen utensils)



### CRATE DRYER: CD-24

Suitable for drying washed plastic crates, stainless steel / aluminum trays used in dairy, agro, confectionary, bakeries, sweet shops or in catering industry.

Incorporates hot air drying system for positive hot air blowing, high pressure air knif and centrifugal hot air circulation system.

The machine is made from SS304, complete with electrical control panel, variable frequency drive, temperature control system for accurate chamber temperature monitoring and control.

**Available from 300 -1200 crates per hour capacity.**



## PACKAGING MACHINE FOR FRESH MILK, YOGHURT IN BOTTLES / JARS / CUPS

Automatic Bottle / Can Filler



Bottle / Can Sealer



Automatic Glass Bottle Cap Sealer



Cup Filler / Sealer



**Available in capacities from 1000-10,000 bottles/hr**

## FLAVOURED MILK BOTTLING AND STERILIZATION EQUIPMENT FOR PP/GLASS BOTTLES

Automatic Rinser-filler-capper



Suitable for automatic rinsing / filling / sealing of flavoured milk, beverages in PET/PP/Glass Bottles

Automatic Counter Pressure Retort



Suitable for sterilization of cans and glass bottles after sealing. Cans or bottles are sterilized up to 110 - 120 °C for a period of 15 to 45 minutes as per process requirement.

**Available in capacities from 1000-10,000 bottles/hr**



## RASGULLA / GULABJAMUN / SWEETS PROCESSING AND PACKAGING EQUIPMENT

### Processing and Packaging Equipment for Rasgulla / Petha / Gulabjamun / Sweets

We offer equipment for preparation / filling / packaging of sweets in cans / glass bottles and post fill sterilizer / cooling tunnels.

#### Milk Boiling Kettle

Suitable to boil and concentrate milk into mawa/ chena/ khoa as per process requirements.

Available in 10/25/50/100/250/500 Ltr fresh milk holding capacities.



#### Rasgulla Filling Kettle

Suitable to heat and maintain accurate filling temperature of rasgulla / gulabjamun in sugar syrup before filling and seaming in cans.

This ensure and enhances shelf life of canned sweets.

Available in single/double kettle design of 25/50/70/100 ltrs kettle capacities.



#### Double Seamer BM 102-DS

(Can still type)

Suitable for seaming sugar syrup based products like rasgulla / gulabjamun in cans.

Available in capacities from 1200-1500 cans/hour.

#### Exhaust Box

Suitable to ensure filling temperature >85 °c and exhaust air entrapped in syrup before seaming to increase shelf life.

Available in 12/18 feet model (MS/SS).



#### Lug Cap Sealer

Suitable for sealing glass bottles with twist off lug caps. Pneumatically operated.

Available in capacities from 600-1200 bottle/hour.



#### Seamer SS Model

Suitable for seaming dry products in cans like namkeen / dry fruits in tin / PET / composite cans with/without Nitrogen flushing.

Available in capacities from 600-1200 cans/hour.



#### Cooling Conveyor

(for cans, bottles and pouches)

Suitable for cooling of hot filled cans/bottles after sealing to create vacuum for long shelf life.

Available in capacity from 1000-6000 cans/bottles per hour

## AUTOMATIC FORM-FILL-SEAL MACHINE FOR PASTEURIZED / UHT MILK IN POUCHES

### Automatic Pouch Packaging Machine (for Pasteurized Milk)



Suitable for filling pasteurized milk / curd in pouches for filling range of 200-1000 ml.

Available in single / double head models with capacity range from 2000-5000 pouches per hour.

### Automatic Pouch Packaging Machine (for UHT Milk)



Suitable for filling sterilized UHT milk in pouches for filling range of 200-1000 ml.

The machine enables long shelf life of milk between 3-6 months.

Available in single / double head models with capacity range from 2000-5000 pouches per hour.

## BULK MILK COOLERS - SOLAR POWERED /HYBRID ICE STORAGE TECHNOLOGY

Bulk milk coolers are manufactured and offered with a hybrid ice storage technology, which integrates BMC compressor and ice energy storage tank to ensure fast cooling and high quality milk. Available from 200-2000 Ltrs capacity.

The new-age solar powered bulk milk coolers are designed to overcome the challenges of operating conventional bulk milk coolers and offer new age environmentally friendly solutions.

**Available in holding capacities from 250-5000 Litres per batch.**



**Conventional Bulk Milk coolers**

Constant and slow cooling rates for milk chilling, even at different milk temperatures.

Unreliable power source requiring 24/7 power backup by diesel gensets - high operation cost diesel pilferage and high maintenance cost.

Environment pollution due to diesel genset effluents.

Requirements of BMC operator at site for genset switching on/switching off BMC compressor at 3°C to avoid freezing of milk.



**V/S New-Age Solar Powered Bulk Milk Coolers**

Automatic temperature modulation and cooling rates to adjust to different cooling temperatures. 300% cooling rate@35°C milk temperature v/s 70% cooling rates at 4°C milk temperature - high efficiency, low cooling time and better quality.

System has in built cooling backup for 1 day and switches to Grid /solar mode automatically.

Environmentally friendly.

System is fully automatic and doesn't require user intervention.

## BIOMASS POWERED COLD ROOMS

Biomass Powered Cold Rooms Work on patented Adsorption Refrigeration technology that incorporates Off-Grid & compressor Less Refrigeration Unit to provide refrigerated cold storage of perishable produce to increase shelf life.



### SALIENT FEATURES

- Off grid and compressor-less refrigeration unit - Zero greenhouse gas emission
- **Clean Cooling: 40 T CO2 emission saving** compared to conventional unit
- No 3 Phase power/DG back up Genset required ,requires less than 0.6Kw of single phase power
- **10x Pre-cooling** capacity vs. alternate technologies
- 90% less electricity consumption compared to conventional cold rooms
- The biomass unit runs on rice husk, cotton stalk, husk, cashew shell, coffee husk
- Alternatively, it can also be connected with waste heat, steam, biogas etc

### TECHNICAL FEATURES

- Multipurpose off grid-biomass powered cold room
- Available in capacity range from 10-40 MT (and its multiple units )
- Temperature Range +2 C to +25 C.
- Humidity Range - 65-95%
- Utilises biomass (50-100 Kg/day) or biogas/waste sheat/Steam as energy source to power the refrigeration Unit,
- Suitable for Multiple Applications like Fruits, Milk, Flower, vegetables etc with variable temperature range, suitable to be used as Pre cooling, ripening chamber, Cold Storage and Natural dehydrator.

## COLD STORES - SOLAR POWERED HYBRID ICE STORAGE TECHNOLOGY

### SALIENT FEATURES

- Offers a steady temperature range between 0-15°C based on thermal energy storage.
- The solar energy is stored in thermal energy storage units that is used for providing cooling during non-solar hours.
- The system can switch to grid electricity as a backup in case of low thermal energy levels.
- Can be designed and offered for capacities ranging between 10-50 MT cold store capacity.
- Can be designed as independent units or integrated container design for quick site deployment.



INNOVATIVE FARM TO TABLE ENGINEERING

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