



3i TECH
ENGINEERS
Sapne Aapke, Sath Hamara



WE ARE OFFERING MILK PROCESSING PLANT

PROCESSING | FILLING | PACKING



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About Us



We are Preferred MEP Solution Provider for Supply, Installation, Testing and Commissioning (SITC) of Dairy, Food, Commercial-Industrial Refrigeration, Beverage, Pharma and cosmetics industries projects.

We have emerged as a leader in Turnkey Project Plant setup. We prioritize innovative design, durability, impeccable quality, excellent customer care, competitive prices, and prompt deliveries to our customers.

Our sophisticated and sound infrastructure is the spine of the Company which helps us to execute the business operations efficiently and effectively. We are embellished with an experienced team of technocrats who have more than 15 years of rich experience in the processing industries. Our team comprises engineers, project designers, chartered Accountants, food consultant and business consultants. Growing consistently with zeal and hard work in the industry, we aim at meeting the single objective i.e., "Customer Satisfaction"

In addition to our domestic achievements, we have successfully penetrated international markets, establishing a strong global footprint.

MILK PROCESSING PLANT

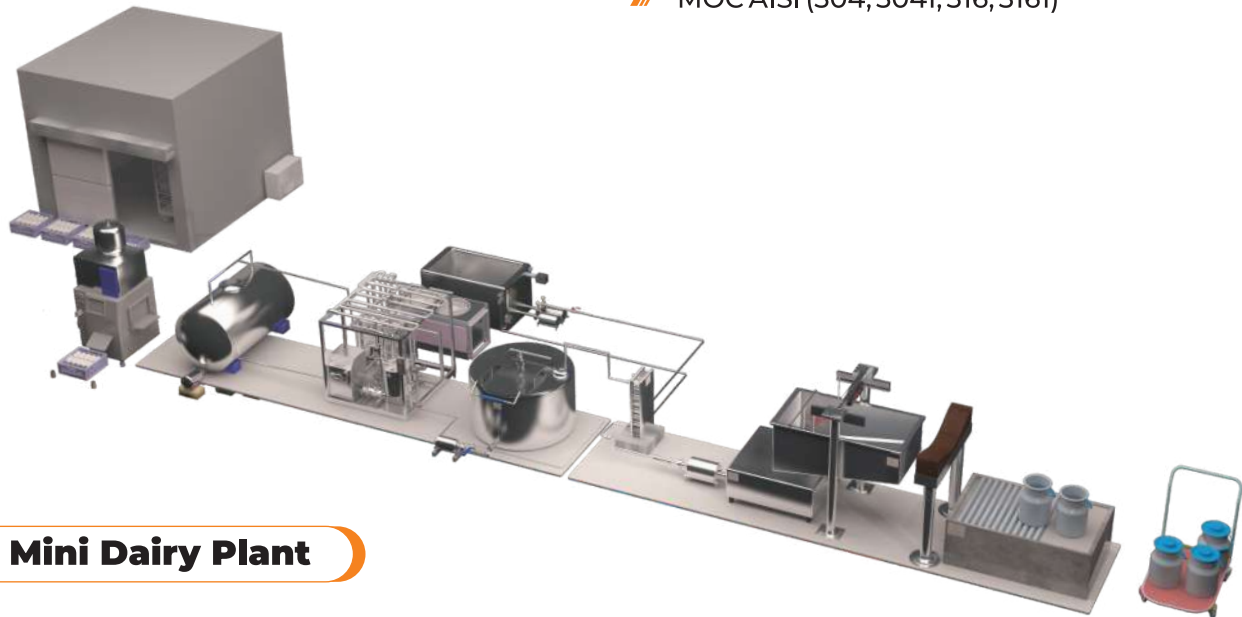
Whatever the dairy product is, 3i TECH is the right partner to work with. Whether it is a complete plant, a single piece of equipment, such as pasteurizer, Homogenizer or CIP unit, or the modernization of an existing plant, 3i Tech can bring their knowledge and experience to customers, providing use of the latest technology to maximize yield and quality, leading to increased competitiveness.

Our wide range of quality components for flow handling, agitation, mixing and blending with engineering expertise and process. We offer tailor-made solutions for producing dairy products and plant-based drinks.

We are close to our customers to guarantee a rapid and effective service from project development through to implementation and beyond, including post-sales and throughout the installation's useful life.

Advanced Key Features for Superior Quality & Safety

- » Precise Temperature Management
- » Efficient Heat Transfer Technology
- » Automated Controls for Seamless Operation
- » Versatility to Suit Various Dairy Products
- » Energy-Efficient Design
- » Comprehensive Safety Measures
- » Regulatory Compliance Assurance
- » Hygienic Stainless-Steel Construction
- » Real-time Monitoring and Data Logging
- » Space-Efficient Design
- » MOC AISI (304, 3041, 316, 3161)



Mini Dairy Plant

MEDIUM CAPACITY MILK PROCESSING PLANT (2000 TO 3000 LPH)

Multipurpose plant - Steam Operated

Temperature Range: 4/30 - 40/45 - 60/65 - 80/90 - 45/4

Daily Milk Handling Capacity: 10000 to 20000 LPD

Product Range: Milk, Paneer, Curd, Ghee, Cream, Khoya, Flavoured Milk

HIGHER CAPACITY MILK PROCESSING PLANT (5000 TO 20000 LPH)

Multipurpose plant - Steam Operated

Temperature Range: 4/30 - 40/45 - 60/65 - 80/90 - 45/4

Daily Milk Handling Capacity: 20000 to 100000 LPD

Product Range: Milk, Paneer, Curd, Ghee, Cream, Khoya, Flavoured Milk

MINI DAIRY PLANT

Capacity 200 LPH to 1000 LPH

3i Tech has developed a special mini dairy plant to help small dairy farmers process and package their produce for independent retailing.

For small dairy farmers, 3i Tech's mini dairy plant opens the doors to business prospects. We study individual requirements, needs and constraints, then customises the solution.

MINI DAIRY PLANT (200 LPH TO 1000 LPH)

Multipurpose plant - Electric / Steam

Temperature Program: 4/30 – 45/55 – 70/72 – 80/90 – 45/4

Daily Milk Handling Capacity: 5000 LPD to 10000 LPD

Product Range: Milk, Paneer, Curd, Ghee, Cream, Khoya



Milk Processing Plant

Advantages:

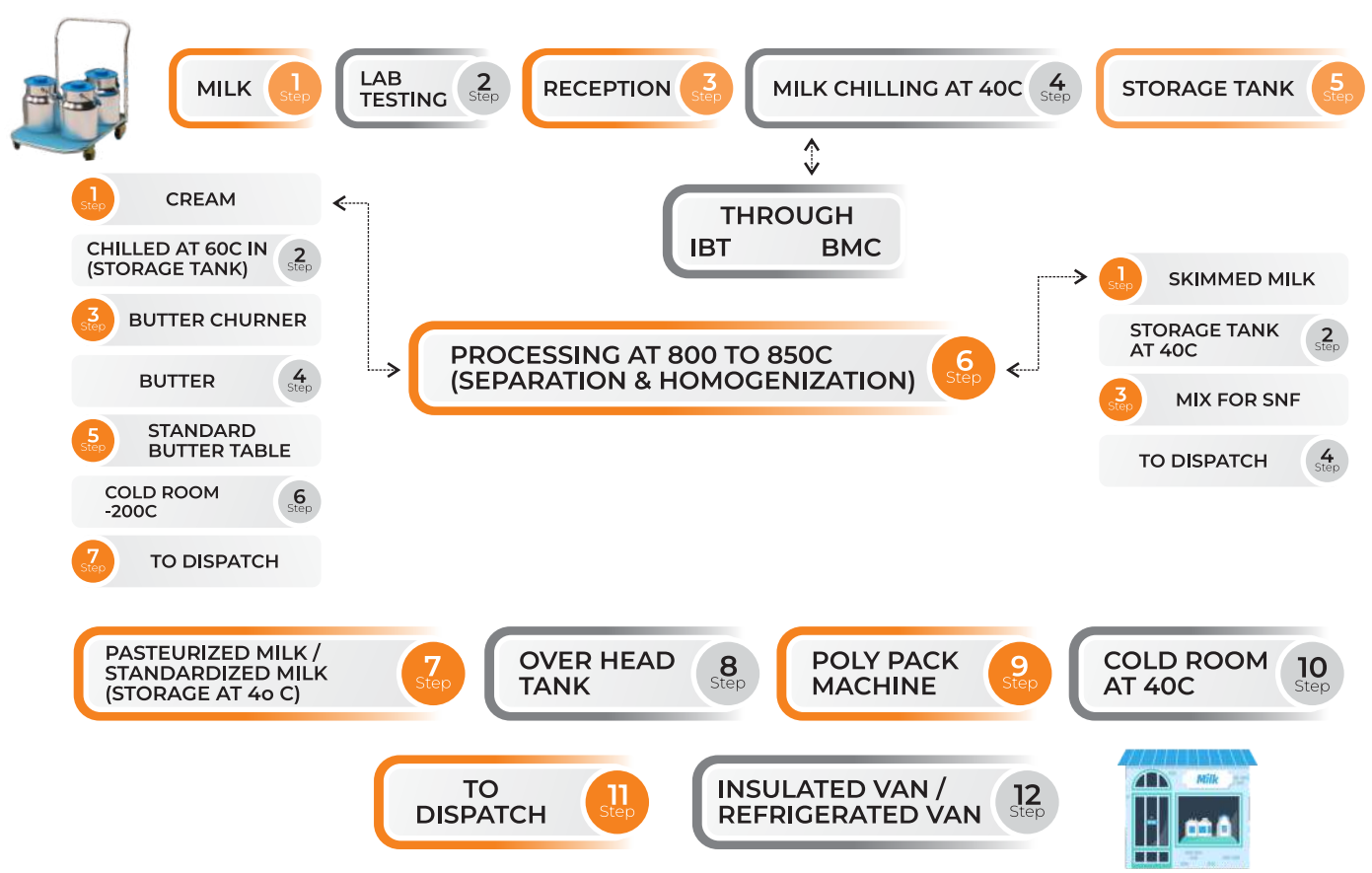
- » Expertise and Innovation
- » Cost-Effective Solutions
- » Energy-Efficient Designs
- » End-to-End Integration
- » Diverse Equipment Range
- » Scalability and Flexibility
- » Quality Assurance at Every Step
- » Comprehensive Support

Key Features:

- » High Quality Raw Material
- » Excellent Finishing
- » Space-Efficient & Customized Design
- » Automated Systems
- » Regulatory Compliance
- » MOC AISI (304, 3041, 316, 3161)



Fresh Milk All The Way Through >>



Milk Reception Systems »»

Milk reception is initial stage where raw milk is collected, tested, and processed upon arrival at the dairy facility.

Efficient milk reception systems are essential for the dairy industry to uphold quality, traceability, and overall operational effectiveness.

Key Process cover at Reception: -

- »» Milk Collection Point
- »» Weighing and Measurement
- »» Testing and Quality Control
- »» Pump Systems
- »» Sample Collection
- »» Cooling and Storage



Industrial Chiller / IBT »»

Our Industrial Chiller/IBT system is an indispensable tool for the dairy industry, offering rapid and efficient cooling solutions while managing energy use effectively. Whether for small dairy operations or large-scale processing facilities, the IBT system provides the necessary cooling support to optimize milk processing and storage.



Features:

- »» No need of civil & fabrication work at customer site
- »» Easy to lift and shift
- »» 40% energy Efficient
- »» Better Insulation

Advantages:

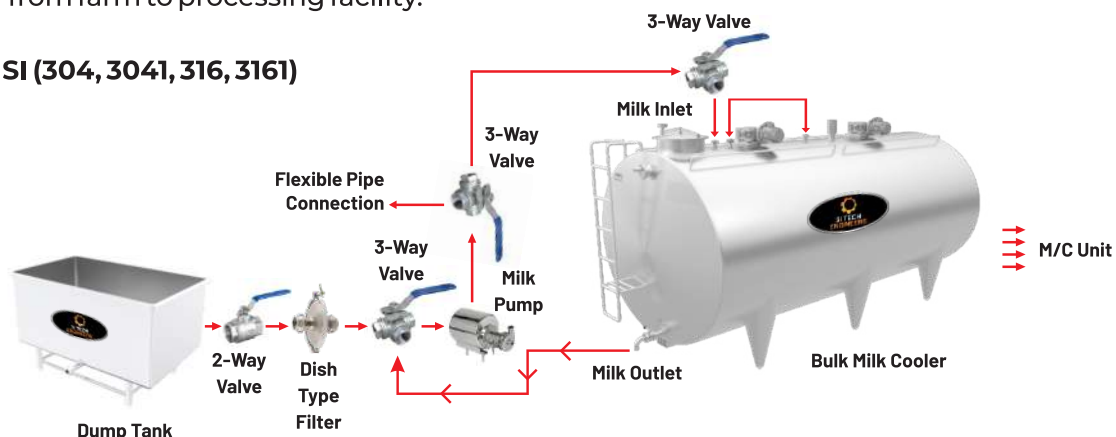
- »» Requires Less connected power load
- »» The Ice water intensively cools the product without any risk
- »» No requirement of Cooling Tower and Water Supply (For Air Cooled Type)

Industrial Chiller

Bulk Milk Cooler »»

Welcome to our collection of state-of-the-art Bulk Milk Coolers, where innovation meets reliability to enhance your dairy operations. Designed for optimal cooling performance and energy efficiency, our coolers ensure that your precious milk remains fresh and of the highest quality throughout the journey from farm to processing facility.

MOC AISI (304, 3041, 316, 3161)



MILK PASTEURIZER

PASTEURIZERS (200 LPH TO 20,000 LPH)

3i Tech Milk Pasteurizer is designed for the process of heating milk and then quickly cooling it down to eliminate certain bacteria. The purpose is to make the product safe for consumption and to enhance product's shelf-life.

3i Tech supplies the best quality equipment by using effective manufacturing technology and following good standards yet available at very competitive price.

Application

The pasteurization unit (HTST) is designed for the thermal treatment of milk and dairy products. The process eliminates pathogenic microorganisms by heating the product to a moderately high temperature for a certain period.

Technical specifications

- » Flow: 300L/H - 500 L/H - 1000 L/H - 2000 L/H - 3000 L/H - 5000 L/H - 10000L/H
- » Product temperature (inlet): 4 °C
- » Pasteurising temperature: 72 °C to 80 °C
- » Product temperature (outlet): 4 °C
- » Holding time: 15 s
- » Hot water temperature: 74 °C
- » Glycol water temperature: 4 °C
- » Operation: Semi-Automatic/Fully Automatic PLC based

Features:

- » Highly Durable
- » Good Quality Raw Material
- » MOC AISI (304, 304I, 316, 316I)
- » Reliable & Optimal
- » Excellent Finish
- » Affordable Price
- » MOC AISI (304, 304I, 316, 316I)

Key Aspects of Pasteurization in Milk Production:

Germination Elimination:

To kill disease-carrying germs, pathogens, and bacteria present in the raw milk.

Nutritional Preservation:

Minimize the impact on the nutritional content and natural qualities of the milk.



Milk Pasteurizer

Swift Chilling:

Following the heating stage, the milk undergoes rapid chilling. This rapid cooling process is essential for preserving the quality of the milk and preventing potential recontamination.

Storage Temperature:

Once pasteurized and chilled, the milk is stored at a temperature of 4°C. This storage temperature further inhibits the growth of any remaining microorganisms.

Quality Assurance:

Pasteurization acts as a quality assurance measure, meeting stringent industry standards for food safety.

Balancing Safety and Quality:

Ensuring the safety of the milk through germ elimination and maintaining the desired taste, texture, and nutritional profile

Horizontal Milk Storage Tank (HMST) >>>

With the assistance of our professionals, we are proficient in providing HMST and VMST Milk Storage Tank. HMST and VMST are insulated tanks, used for storing chilled milk at milk chilling centers. Due to its good design and insulation, the temperature of the milk is maintained and the milk is held in it until further processing.

Due to their easy operation and longer operational life, this equipment are highly admired in dairy industry.

Features:

- » Low maintenance
- » Easy installation
- » Longer service life
- » Maintains stored milk temperature
- » Sturdy construction
- » Corrosion resistant
- » High tensile strength
- » MOC AISI (304, 304L, 316, 316L)

Horizontal Tank with Double Compartment (HMST)

Vertical Milk Storage Tank (VMST)

Capacity 300 Ltr To 100000 Ltr



Horizontal Milk Storage & Vertical Milk Storage

HOMOGENIZER

Homogenization gives better consistency to the milk which ultimately results in richer taste and good quality product. Also, it provides an excellent creamy texture.

After pasteurization of milk it is fed into homogenizer. Homogenizers function as mixers that reduce particle size or force immiscible liquids to mix. It is homogenized up to 180-250 bar. It makes viscosity of mix uniform throughout its volume.

Advantages:

- » Richer Taste
- » Improve product stability and shelf life
- » Consistency and uniformity of the emulsion
- » Subsides the cream layer
- » Increases Viscosity
- » Enhances whiteness & richness to the product
- » Smoothens texture of the product
- » Excellent blending of additives
- » Lower curd tension in the case of curd processing
- » Accelerated chemical reactions
- » Uniformity of density

Homogenizer Specification

Capacity Range	100 LPH To 20000 LPH
Input used	White Milk, Cream without additives
Model	Heavy Duty
Design pressure	200 Kg/cm ²
Working pressure	175 Kg /cm ²
Maximum operating temp	85° C
Homogenizer speed	235 stroke per minute
Plunger & Pistons	3 No's
Pressure stage	Double Stage
MOC AISI	(304, 3041, 316, 3161)

Features:

- » Low SPM plunger speed
- » Pressure adjustment by hand / hydraulic
- » High performance
- » Heavy-duty Stable structure frame
- » Easy maintenance, cleaning and operation
- » Low-cost production
- » Less energy consumption



Homogenizer

PACKAGING MACHINE

Milk pouch packing machines are designed to automate the process of filling and sealing milk into pouches, ensuring high efficiency, hygiene, and accuracy.

Material used	Stainless Steel
Automation Grade	Automatic
Sealing System	Impulse

Operating Function:

Milk is required to be fed to mechanical float operated balance tank by gravity, from balance tank product shall be fed by gravity to both filling heads. The machine will form pouches, fill the product and seals the same.

Features:

- » Automatic PCB/ PLC based Functions
- » Independent head operation/functions
- » Electric Motor driven Mechanical functions
- » Higher output with better filling accuracy
- » Minimum film wastage/ leakage
- » Fill different quantity in two different head at the same time
- » MOC AISI (304, 3041, 316, 3161)

Advantage:

- » Easy Operation
- » Low Maintenance
- » Robust Structure
- » Easy to Replace Strap
- » Versatile Pouch Sizes
- » Mobility



Single Head/Double Head Pouch Packing Machine

COLD ROOMS

Cold rooms and Cold storages are preservation chambers, usually assembled at the deployment site to desired dimensions and cooling specifications for the end user.

3i tech is a leading manufacturer and supplier of highly efficient cold room and storage that is easy to operate and know for outstanding performance.

Features:

- » High ambient refrigeration design
- » Most durable and Easy Maintenance
- » Fully Customized, Compact and portable
- » Easy to assemble and dismantle
- » Wide temperature range from +15c to -40c
- » Food safe and CFC free
- » Auto & manual operation
- » Electronic control panel board, digital temperature indicator



Cold Storage Room

MILK BOTTLE FILLING MACHINE

A milk bottle filling machine automates the hygienic, precise filling of milk into bottles. It minimizes spillage, ensures accurate volumes, and integrates with capping and labeling systems for a complete packing solution. This boosts efficiency, reduces errors, and maintains consistent product quality in dairy operations.

- » 2 Head Milk Filling Machine
- » Turn Table + 4 Head Milk Filling Machine+ Capping Machine+ Labling Machine/Line
- » Turn Table + 6 Head Milk Filling Machine+ Capping Machine+ Labling Machine/Line

Features of Milk Bottle Filling Machine

- » Automated Operation
- » High Precision Filling
- » Adjustable Filling Volumes
- » Semi/Fully Automated Operation
- » Easy Maintenance
- » User-Friendly Interface
- » Energy Efficient
- » MOC AISI (304, 3041, 316, 3161)



Operating Function:

Milk is required to be fed to mechanical float operated balance tank by gravity, from balance tank product shall be fed by gravity to both filling heads. The machine will form pouches, fill the product and seals the same.

Benefits of Milk Bottle Filling Machine

- 1. Efficiency:** Automates filling, speeding up production and reducing labor.
- 2. Quality:** Ensures accurate, uniform filling, minimizing waste.
- 3. Hygiene:** Made from food-grade materials, easy to clean.
- 4. Flexibility:** Accommodates various bottle sizes.
- 5. Safety:** Prevents spillage and ensures secure sealing.



CLEAN-IN-PLACE (CIP) SYSTEMS

Clean-in-Place (CIP) systems ensure hygiene in milk processing by automatically cleaning equipment interiors, enhancing safety and meeting industry standards. Using cleaning agents to remove residues and bacteria.

- » Trolley Mounted CIP System (100 Ltr to 200 Ltr)
- » Semi- Automatic CIP System
- » Single/Double Circuit, CIP System (300 Ltr to 1000 Ltr)
- » PLC Based 4 Tank Based CIP System

Features:

- » Automated Cleaning Cycle
- » Customizable Cleaning Programs
- » Efficient Use of Resources
- » Real-Time Monitoring
- » Multi-Circuit Capability
- » Traceability and Reporting
- » MOC AISI (304, 304L, 316, 316L)



Trolley Mounted CIP Systems

Benefits of Clean-in-Place (CIP) Systems

- » **Enhanced Hygiene:** Minimizes contamination and ensures safety.
- » **Increased Efficiency:** Reduces downtime with automated cleaning.
- » **Consistent Quality:** Delivers uniform cleaning for reliable product quality.
- » **Cost-Effective:** Lowers labor and material costs.
- » **Eco-Friendly:** Optimizes resource use and reduces waste.
- » **Regulatory Compliance:** Meets industry standards, ensuring consumer trust.



Semi Automatic 3 Tank CIP System



PLC Based 4 Tank Based CIP System

VARIOUS DAIRY EQUIPMENT



Weighing Bowl
(300-2000Ltr)



Dump Tank
(100 Ltr -2000 Ltr)



SS Centrifugal Pump
(0.5 HP TO 20 HP)



Inline Filter
(1000 LPH to 20000 LPH)



Cream Separator- Off line
(65 LPH TO 1000 LPH)



Cream Separator- Online
(1000 LPH TO 5000 LPH)



PHE
(100 LPH TO 20,000 LPH)



Industrial Chiller
(1 TON TO 200 TON)



**Steam Fired Khoya/
Mawa Kettle**
(120 Ltr to 200 Ltr)



**Mawa Gas Fired Khoya/
Mawa Kettle**
(120 Ltr to 200 Ltr)



**Non IBR Steam Boiler-
Wooden Fired**
(100 KG to 2000 Kg)



Curd Culture Tank
(50 LTR TO 3000 LTR)



Curd Storage Tank
(100 TO 20000 LTR.)



**Round Shape
Butter Maker/Churner**
(25 Kg to 1000 KG)



**Conical Shape
Butter Maker/Churner**
(25 Kg to 1000 KG)



Ghee Clarifier
(60 LPH to 2000 LPH)



Ghee Kettle
(100 to 1000 Ltr.)

VARIOUS DAIRY EQUIPMENT



Cream Tanks
(100 to 3000 Ltr.)



Butter Melting Vats
(100 to 5000 ltr.)



Hot Room
(All Sizes Available)



Curd Incubation With Chilling
(50 to 1000 ltr. Per batch)



Mix Powder Bending Machine
(2HP to 5 HP)



Paneer Coagulation Dump Tanks
(100 to 1000 ltr)



Paneer Hoops-
5 kg, 8 kg, 12 kg



Paneer press cum Hoops
5 kg, 8 kg, 12 kg



Pneumatic Paneer Press Machine- Single Head



Pneumatic Paneer Press Machine-Double Head



Pneumatic Paneer Press Machine-Three Head to Five Head



Paneer Block Cooling Tank
(100 to 1000 Ltr)



Paneer Vacuum Packing Machine Singal Head



Paneer Vacuum Packing Double Head

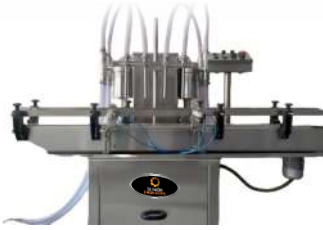


Single/Double Head Pouch Paking Machine



2 Head Semi Automatic Bottle Filling Machine

VARIOUS DAIRY EQUIPMENT



4 Head Semi Automatic
Bottle Filling
Machine



Single Head Capping
Machine



Round Sticker
Labling Machine



Cup Filling Machine



4 Head Filling Machine+
Capping Machine+
Labeling Machine/Line



6 Head Filling Machine+
Capping Machine+
Labeling Machine/Line



Glass Bottle Scrubbing
Machine



MS Frame Khoya/
Mawa Kettle



Single / Double Circuit
Semi Automatic CIP System
(500 ltr to 2000 ltr)



Automatic CIP System
(500 ltr to 5000 ltr)



ETP Plant



Whey Separator Machine
(65 LPH to 3000 LPH)



Cooling Tower
(10 Ton to 500 Ton)



Incubation chamber
Indoor Unit



Cold Room Condenser



Condensing Unit

VARIOUS DAIRY EQUIPMENT



Batch Pasteurizer
(100 Ltr to 1000 Ltr)



Ageing Vat
(100 Ltr to 1000 Ltr)



Flavour Tank /
Flavour Mixing Vat
(10 to 100 Ltr)



Continuous Freezer
(200 Ltr to 500 Ltr)



Batch Freezer
(10 Ltr to 20 Ltr)



Tunnel Type- Hardener



Cold Stone Ice Cream



Blast Freezer Room



Air Compressor



SS Fittings Materials



Customized Refrigerator
Van



Mobile- Road Milk
Tanker



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