



EQUIPMENTS FOR
MINI & LARGE FOOD
FACTORIES

Mini Dairy lines

SS Engineers & Consultants

Conveyors
Process
Equipment

Pressure
Vessels
Tub
Bin
Crate
Washers

CIP
Systems
Melt System

Food Processing Equipment requires hygienic design and thought. Equipment must be free from bacterial crevices and must be capable of easy manual cleaning or Clean in Place procedures. We understand that each processing task is different and has its own unique advantages and constraints, and that your business requires the correct tool for each step in the production process for optimum efficiencies and Advantages and constraints quality of your valuable products.

SS Engineers & Consultants are a leading supplier of Food Processing Equipment and solutions. When planning a new processing line in existing plant or putting in a new production building we can engineer and advise the layout to achieve the best and most productive solution, where the best products are produced. We can also plan where and how to make the milk-reception, pasteurizing-facility, filling/packing rooms, incubation, fermentation and cold-stores, where to install Generators, Compressors, Boilers etc.

We also design the Refrigeration Systems for the plants, if so required.

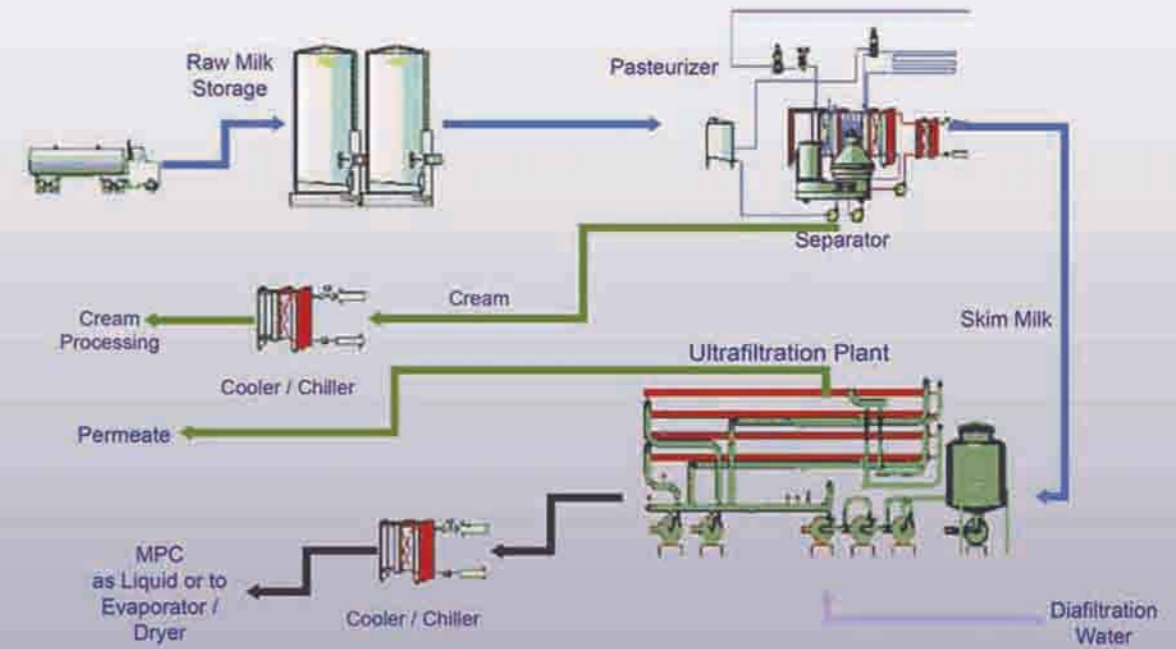
So when it comes to Dairy applications SSEC is a reliable and experienced partner.

SS Engineers can offer complete solutions which not only includes machinery but also complete flow layouts, where product lines and CIP lines are engineered as well as the steam, hot and cold water systems, piping's and drainage.

SS Engineers scope of supply includes Dairy, Beverage, Food Package, Winery, Brewery, Medicine Machineries, complete Plant and engineering consultation service.



Process Flow Chart



Process Vessels & Storage Tanks

SSEC has the depth and breadth of experience and expertise in the design and manufacture of stainless steel process and storage vessels and is able to offer capacities up to 100,000 liters although the majority are in the 100 to 30,000 liters range. A variety of features include agitation, heating/cooling systems, sterile air top blanket systems and hazardous environment working conditions.



SS Engineers has more than 30 years experience in supplying solutions to the dairy food and liquid processing industries. Our wealth of experience and continued development work enables us to offer a broad range of solutions to satisfy customer's individual requirements. S S Engineers recognizes that every client has specific needs varying from highly automated systems to budgetary constraints. Each & every S S Engineers design is based on a consolidation of the customer's core requirements and the experience and know how of S S Engineers. Consideration is always given to pre-piping and wiring in order to minimize site time and any disruption to production during installation. This can give rise to significant time / cost saving. S S Engineers is a leading provider of quality capital equipment and turnkey systems to the hygienic liquid process industries and supplies a large number of household names.

vessel types

Single skin, Jacketed for heating and/or cooling (e.g. dimple or plain), Insulated, Clad, (e.g. fully welded stainless steel, riveted, plastic coated steel), Agitated (e.g. turbine, impellor, gate, high shear)

Mixing and Blending
Heat Treatment / Pasteurisation
Separation and Homogenisation
Process Vessels / Storage Tanks
Cleaning in Place
A full range of support services are available to complement all or any of our process systems including:
Process Design
Project Management
Construction Design and Management
After Sales Service
S S Engineers offers a complete design and manufacture service from its Rajahmundry base which incorporates a fully equipped design office and a 2,000 square meter fabrication shop with additional assembly / testing and polishing workshops. From complete systems to individual pieces of equipment and from components to service, at S S Engineers we with our engineers and staff will work with you to insure your plant achieves the quality of product and efficiency you require.

Let's Process Milk



Applications
Food
Chemical
Pharmaceutical
Genetic Technology
Cosmetic
Biotechnology

Sanitary

General Supplies

Manual Valves
Pneumatic Valves
Butterfly Valves
Divert Valves
Flow Control Valves
Ball Valves
Pipe Fittings
Sanitary Filters
Pipe, Pipe Supports
& Other Accessories



ISO CERTIFIED COMPANY



We Make you Flow The Most Efficient Way

Sri Pumps Manufacturing Company welcomes you to the dazzling world of pumps manufacturing. Our company is amongst prominent centrifugal pumps manufacturers and suppliers based in India. We offer wide range of centrifugal water pump, hot water pump, and engine coupled pumps.

Our company is well equipped with hi-tech manufacturing facilities for precision casting, sophisticated fabrication, CNC machining and assembling of product under one roof to achieve self reliance and efficiency. We engage best quality machineries and skilled professionals to produce high performance products. Our company has complete marketing infrastructure all over India to meet the customer's requirements with its competitive products and reliable services. We follow stringent quality control norms in our production process.

Sanitary Stainless Steel

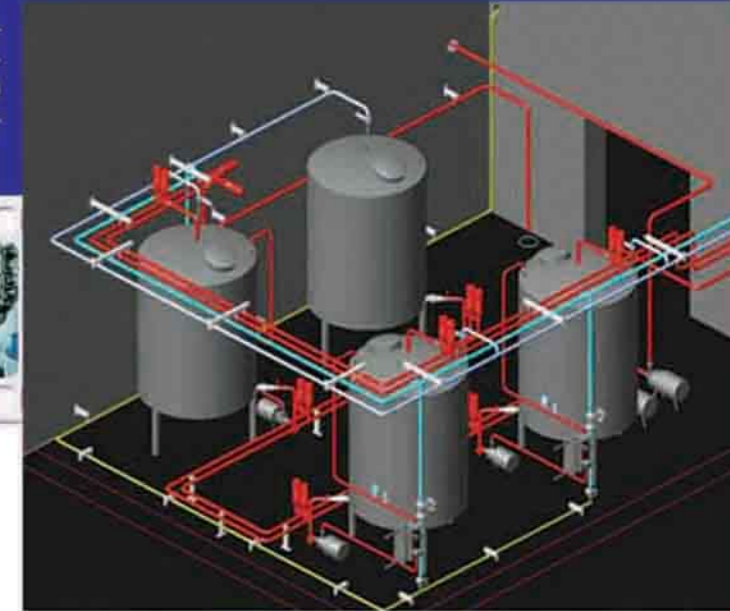
Our R & D and executional capabilities cover the entire gamut of pumping solutions in food processing segment. Our range of pumps starts from 0.37KW to 11.15KW. So if there's one thing our clients can be sure of with us, it is the certainty that there's no problem too big, no hurdle too small.

SRI PUMPS



Cleaning In Place Systems

In many processes it is necessary to clean processing and storage vessels during the production period. A number of those vessels may also contain product when the process piping is subsequently cleaned in-place



SS Engineers & Consultants Clean In Place Systems automatically control wash programs for cleaning tanks, piping and other process equipment.

SS Engineers & Consultants has vast experience with a wide range designs to address specific applications, and optimize cleaning performance with the lowest long term operating costs.

SS Engineers & Consultants Multi-tank CIP System is an innovative CIP design that is self-cleaning and performs as a recirculated system. It is very flexible to change volumes, flow rate, and pressures depending upon sizing of different line circuits or spray devices in process vessels.

SS Engineers design of a special CIP unit is influenced by the following factors:

- Required Delivery – Lpm /Gpm
- Delivery Pressure – Psig
- Required Sequence of Treatment
 - Pre-flush
 - Alkaline
 - Post-rinse
 - Recirculated acid rinse
- Number of Tanks Required
- Delivery
- Required Sequence of Treatment

SS Engineers & Consultants will assist you in evaluating which design best suits your plants operation.

Washdowns?



Hygienic Crate/Tray/ Basket Washing system For Food Industry

SS Engineers & Consultants container washing plants fulfill the most demanding requirements for capacity, efficiency, hygiene, energy consumption and environmental protection. This applies to all sectors of the food industry - whether it concerns plastic crates for fruit and vegetables, bakery products, fresh fish and meat, dairy products or beverages - and also the pharmaceutical industry. Whenever appropriate we work closely with the customer to incorporate their washing plants into a HACCP system that the company may be operating as part of its overall food hygiene management system



Conveyors

SS Engineers manufacture numerous types of conveyors. Benefits of our conveyors includes.

- Stainless Steel Construction
- Full-Engineering Capabilities Included
- Available Attachments as well as Installation
- Sanitary Standards up to and including Ready-to-Eat
- High-Pressure Wash Down Capable

Available Models:
Chain Conveyors
Belt Conveyors
Roller Conveyors
Screw Conveyors
Modular Conveyors.

Large or small, SS Engineers & Consultants can design a product that is right for your company





SS Engineers high pressure, high quality Homogenisers have established a growing reputation, particularly in India. The new Millennium Series Homogenisers are supplied for every growing range of products, machines are available for 100 – 10,000 lph production volumes and pressures up to 500 bar can be supplied upon request. Models available are;

- Sanitary
- Aseptic for UHT
- Two Stage Homogenisation
- Standard for Processing Milk, Yoghurt, Cream etc.
- Abrasives for Processing Fruit, Ice Cream, Ketchup etc.

Machines can be fully customized to specific needs, options include:

- Control System for fixed and variable capacity.
- Partial Automation for Control by other systems.
- Pulsation dampers on inlet/outlet.
- Pressure Transmitter complete with Digital Display of Homogenisation Pressure.
- Partial Homogenisation Systems.

Homogeniser

The Process making stable emulsion of MILK FAT with MILK SERUM by mechanical treatment is termed as HOMOGENISATION [August Gaulin of Paris in 1889]

What happens in Homogenisation?

When two compounds are finely mixed and a homogeneous liquid is formed that is a fat globule with a uniform coating on protein Nucleus. When fat globes are sub divided the fresh fat surface represents an attraction hydrophobic side of the sub micells and they coat the fat globes forming a new membrane. The most important element in the milk which is responsible for the shelf life as the un uniform fat globes size. In order to enhance the shelf life of milk to a maximum possible extent is known on "PASTEURISATION" and it not possible without HOMOGENISATION, Which uniformly divides and distributes the fat globes to the tune of 2.2µm As such a Homogenizer is used for making milk, ice cream, more stable against creaming and for giving the product a richer mouth feels due to a straight increase in viscosity and has a uniform appearance.

One of the oldest applications of homogenization is in milk processing, where the aim is to prevent or delay the natural separation of cream from the rest of the emulsion. The fat in milk normally separates from the water and collects at the top. Homogenization is the process of breaking up that fat into smaller sizes so that it no longer separates from the milk, allowing the sale of non-separating 2% and whole milk. This is accomplished by forcing the milk at high pressure through small orifices.

Technical Data

Designed pressure	230 Bar
Test Pressure	220 Bar
Operating pressure	200 Bar
Speed Strokes/minute	240



The Drive End

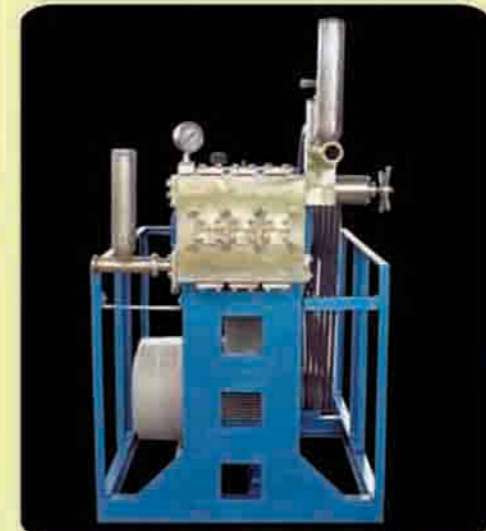
Crank case - from casting
 IS210 FG 200
 Crank shaft – from
 EN-19, Nitrided and ground
 Connecting rods –
 forged from SG Iron
 Cross head – E N 8 Hard Chromium
 Plated
 Moter power TEFC/3Ø415V/Class F
 Insulation/Protection IP55/960 rpm
 Torque transmission V belt
 Speed Reduction Pullies

The design Principle:

The high pressure Homogenizer consists of a single acting triplex plunger pump to pump the liquid into three cylinders, each cylinder consisting a suction and delivery valve. The delivery Valve empties into a chamber where placed a specially designed valve as such it is called two stage HOMOGENISER.

Design data and Specification

The unit is made with two Sections
 1. Drive end unit
 2. Liquid end unit



Liquid End unit

Liquid Head, 2 stage
 Homogenising Head,

Suction and Delivery
 Valve

Homogenizing
 Valves gland con-
 struction & packing

MOC of all Parts -
 ASTM A 351 CF 8/AISI 304

Plunger Ground, hard
 chromium plated
 ground and glazed.

Wing type with
 stellite S-20 coated
 and laped.

Double stuffing Box
 stuffed with Aramid
 fiber with PTFE
 Imprigenated

Typical
 Products
 requires
 homogen-
 isation

Milk
 Chocolate
 Cream
 Yoghurt

Jelly
 Custard
 Syrups
 Fruit Juices

Desserts
 Sauces
 Ice Cream
 for Making emulsion &
 Polymers

SS Engineers

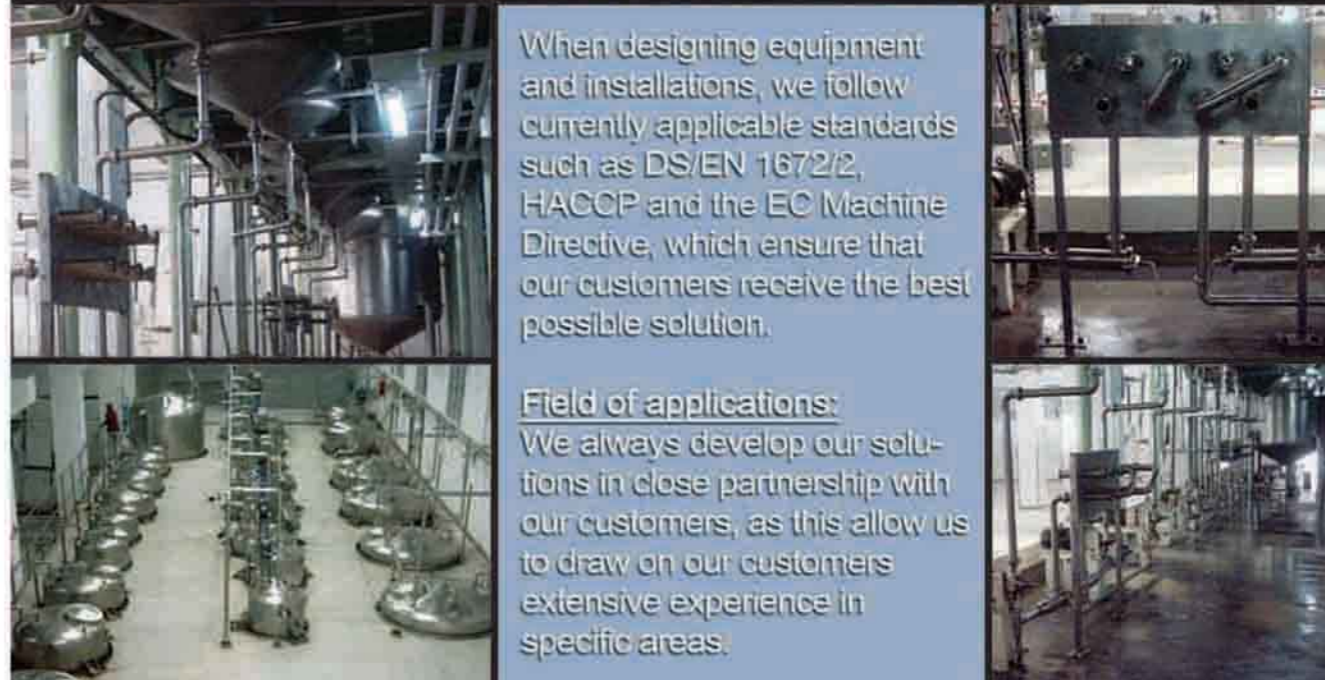


At Work



Installations

In our design and development department, we use the very latest design and calculation tools. In addition, we employ a staff of highly qualified engineers and technicians with the necessary experience.



When designing equipment and installations, we follow currently applicable standards such as DS/EN 1672/2, HACCP and the EC Machine Directive, which ensure that our customers receive the best possible solution.

Field of applications:
We always develop our solutions in close partnership with our customers, as this allows us to draw on our customers' extensive experience in specific areas.



Pasteurising systems Custom designed

SS Engineers has more than 30 years experience in pasteurisation and has over the last 10 years installed in excess of 50 pasteurising systems for a wide range of products with varying capacities

Continuous imported Pasteurisation

A plate heat exchanger unit is at the centre of every SS Engineers continuous pasteuriser and has been developed over many years on a range of products including milk, desserts, soft drinks, jelly and sauces to provide solution for a variety of industry needs

In addition to the plate heat exchangers, SS Engineers also supplies pasteurisers with tubular and scraped surface heat exchangers that are used to process high viscosities and/or particulate food products.

Batch pasteurization

SS Engineers has taken into consideration the demand for small throughputs and very specific product needs, and is able to offer a range of vessels available with or without control/validation.

General

Compliance with the latest standards Varying levels of automation available Custom built systems designed to meet individual customer needs

Skid-mounted option so that the whole package can be pre-wired, pre-piped and pre-tested at the SS Engineers manufacturing plant prior to delivery (reducing costs and down-time) Full design and build service including controls (all in-house)



SSEC

PLATE HEAT EXCHANGER (PHE)



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SSEC

INTAKE & STORAGE SYSTEMS
CUSTOM ENGINEERED SOLUTIONS



SS Engineers & Consultants
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SSEC

MIXING AND BLENDING SYSTEMS
"MAKING THE RIGHT CHOICE"



SS Engineers & Consultants
E-Mail: info@ssengrindia.com

SS Engineers & Consultants was established as a Subsidiary of Sri Pumps & Fittings Industrial Corporation in 1999 and specializes in Design, Engineering and Fabrication of automated, special purpose Machinery for a wide Range of Industries, all Types of Materials handling equipment including Conveying Systems, computerized loading and unloading Equipment for both solid and liquid Products.

Our Manufacturing

With over 15 years of electro-mechanical product excellence, we have several unique advantages. Our Manufacturing process involves close collaboration with clients, rapid manufacturing of highly specialized products, and 100% testing at every stage of development.

"One Department"

Being a focused niche manufacturer, our strengths is its "One Department" attitude. This corporate culture and the complementary integrated business and information systems allow design changes and improvements to be communicated and propagated quickly. The production team works closely with our engineers to maintain a continuous design and production feedback loop. SSEC tightly interdependent team results in an unparalleled quality of communication.

Superior Quality

Quality is paramount at SSEC. Our commitment to ongoing improvement methodologies is aimed at producing products of the highest quality. Fully documented assembly and test procedures facilitate communication of design changes and assembly techniques across all departments. Moreover, our longstanding relationships with key suppliers have garnered us a 'tried and true' reputation in the industry, instilling confidence that SSEC will meet delivery expectations and performance specifications.

Continuous Improvement

Production at SSEC is a continually evolving process of innovation and enhancement. As such, our corporate culture encourages open communication. Most importantly, early identification of potential pitfalls or inefficiencies, before they can become a problem, leads to overall cost savings. By applying feedback at each step of the process, we are able to continually adapt our operation to meet your objectives. Learning from our 15 years of manufacturing experience, and detailed analysis of case studies, allows us to improve design themes that span all of our projects.

SSEC

SEPARATION & HOMOGENISATION SYSTEMS



SS Engineers & Consultants
E-Mail: info@ssengrindia.com

SSEC

PASTEURISING SYSTEMS
CUSTOM DESIGNED



SS Engineers & Consultants
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SSEC

PROCESS VESSELS
AND STORAGE TANKS
FOR EVERY APPLICATION



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Mini Dairy lines

Conveyors

Process

Equipment

Pressure
Vessels

Tub
Bin
Crate
Washers

SS Engineers & Consultants

CIP
Systems

Milk System



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