

# CSD - FOOD & BEVERAGE EQUIPMENT



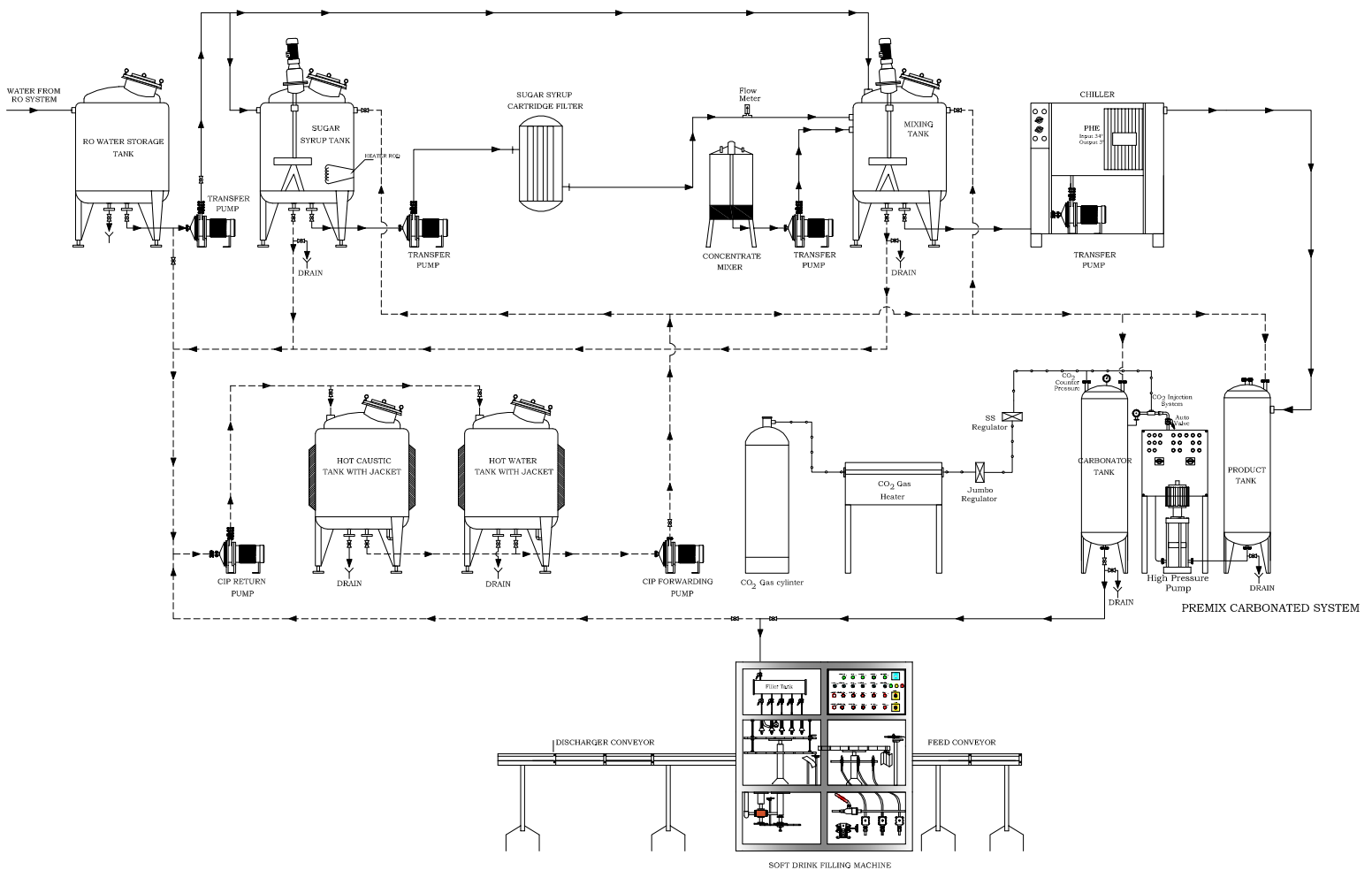
**25 Years Of**  
Complete Line Solutions

Seppa is the leading manufacturer in the field of providing complete solutions for CSD and Beverages Projects. Backed by latest process support facility and team of experienced professionals, we are able to meet handling demands of complete project on Turnkey Basis from start to finish. With our expertise in designing, developing and implementing of solutions as per the defined steps in the project areas, we are able to assure customers of best available services in the market for handling Juice and Soft drink projects.

Here, we are successfully providing complete engineering consultancy support including customized engineering support for meeting the needs of installing plants that are designed for the production of wide variety of beverages. The services of experienced project team comprising technical staff and service engineers also ensure that the complete project is implemented in a smooth manner while taking responsibility right throughout the project.

## CARBONATED SOFT DRINK

The soft drink line is customized in accordance to the industry needs. This soft drink line is developed in adherence to the quality standards by using quality material & advance techniques. Also, our quality controllers check this soft drink line at various quality parameters to assure a flawless dispatch.



**Flow Chart of Carbonated Soft Drink Processing Line**

Taken various fresh fruit , juice concentrate, juice powder as main raw material, through dilution, extraction, cooking, grinding, homogenization, degassing and filling etc flow procedures, which can be manufactured into various fruit juice, flavor juice beverage.

High standard design, manufacture and project installation requirements, which guarantee the first-class finish products in various beverage Production line.

PLC control the whole production line, saving labor force and facilitate production management.

Full-auto CIP cleaning, to ensure whole production line equipments meet food sanitary safety requirements.



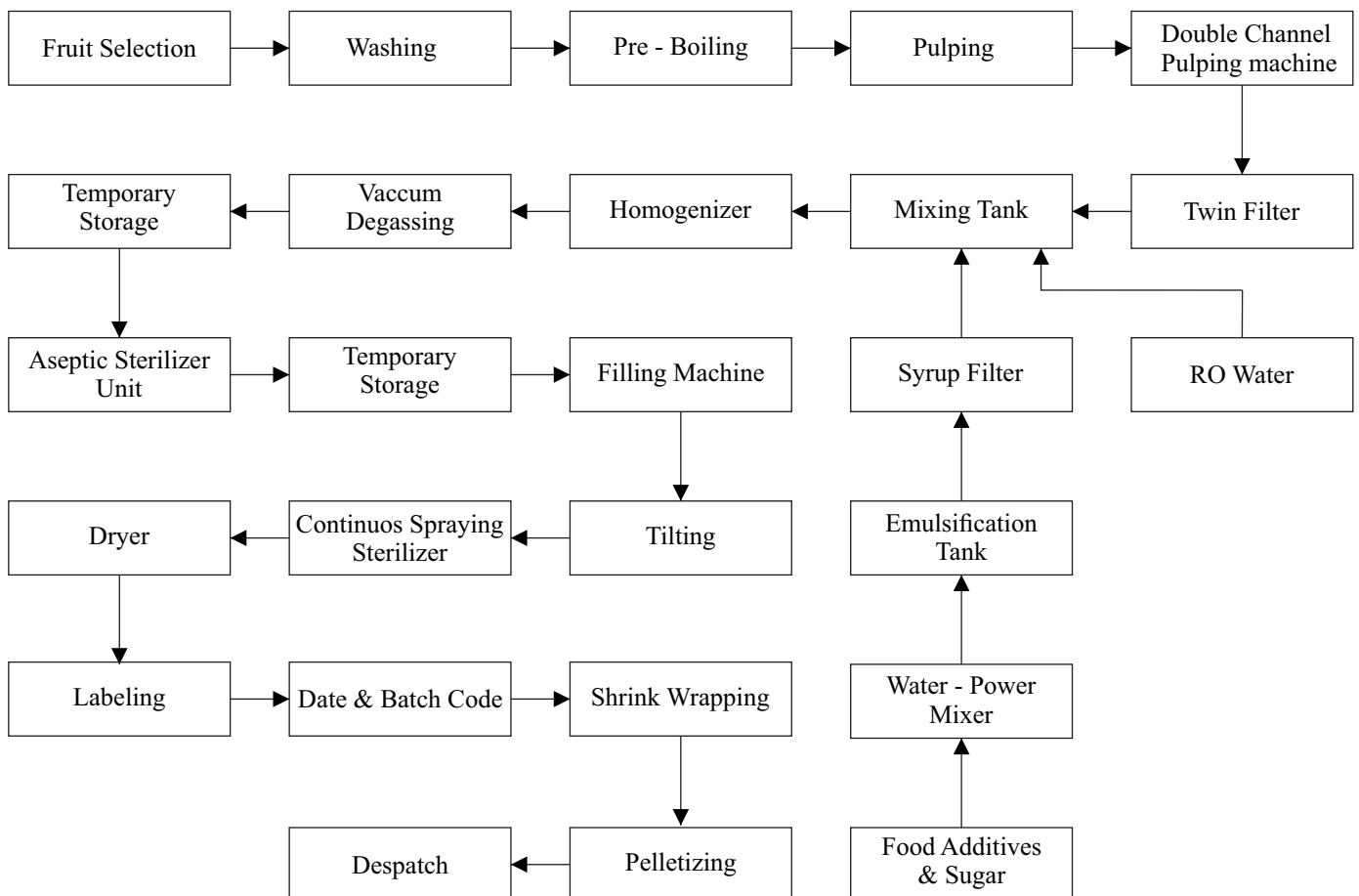
**The whole line including:**

1. Water Treatment section
2. Fresh Fruit Production Section
3. Preparation section
4. Sterilization Section
5. Filling & Packaging Section
6. CIP Cleaning Section
7. Chiller
8. Compressor
9. Steam boiler
10. Installation Material

**Technical parameters**

- Raw material : Various fruit juice, juice concentrate, juice powder
- Product : Fruit juice, juice beverage, etc
- Product package : Brick shape aseptic carton (like Tetra pack), gable top carton, plastic bag, Plastic cup, plastic bottle, glass bottle, can etc.

**Flow Chart of Fruit Juice Processing Line**



Tomatoes are usually processed for paste and the processing line mainly includes five parts: fresh tomato receiving, pre-washing and sorting section; extracting section; concentrating section; pasteurizing or sterilizing section; aseptic filling section. It is mainly composed of discharge system, hydraulic convey system, bucket elevating, washing and sorting system, crushing system, pre-heating system, pulping and refining system, evaporating& concentrating system, sterilizing system, aseptic filling system. Tomato paste in aseptic drum can be further processed to ketchup, sauces, juices in tin can/bottle/pouch, etc.

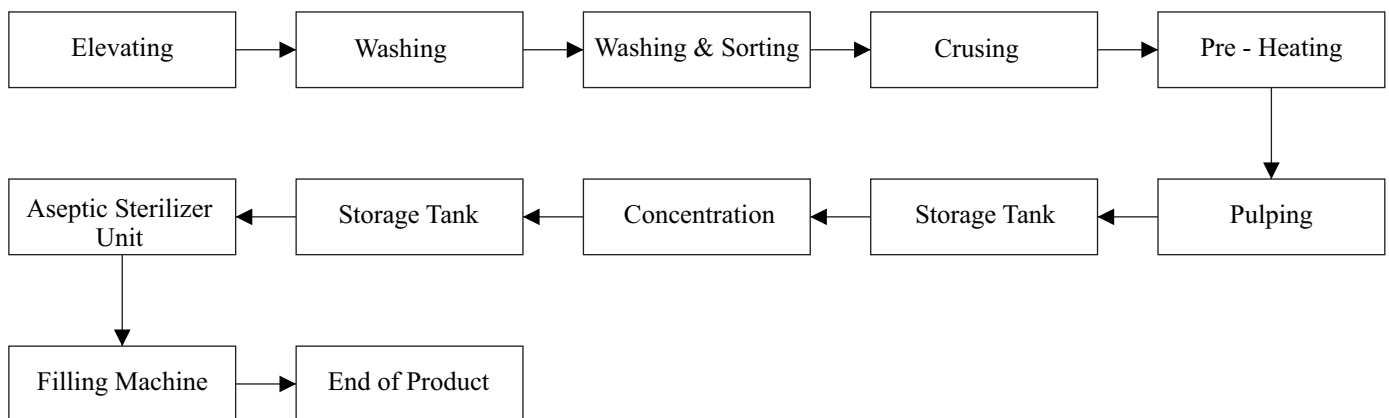
### Application of the tomato processing line:

1. Tomato Puree from tomato processing plant
2. Tomato Paste from tomato paste processing plant
3. Tomato Ketchup/Sauces from tomato ketchup puree plant
4. Tomato Juices from tomato juice processing plant
5. Tomato Powder from tomato powder processing plant



### Advantage of the tomato processing line:

- \* Advanced technology.
- \* High quality material, the reasonable component of the market.
- \* Semi-automatic as well as fully automatic system available.
- \* Field start and related training.
- \* The finished product quality is excellent, and the color is delicious.
- \* High productivity, flexible production, can be customized according to customer demand.
- \* Complete supervision system, equipped with control room to monitor each processing stage.
- \* Daily output can be clearly revealed.



**Flow Chart of Tomato Processing Line**



With a product that can be stored for long periods without spoiling and with no need for refrigeration, there are many advantages for both the producer, the retailer and the consumer. This includes expensive products such as cream, desserts and sauces.

In a modern UHT plant (Ultra High Temperature) the milk is pumped through a closed system. On the way it is preheated, highly heat treated, homogenized, ultra highly heat treated, cooled and packed aseptically. Low acid (pH above 4.5 – for milk more than pH 6.5) liquid products are usually treated at 135 – 150C for a few seconds holding, by either indirect heating or direct steam injection or infusion. High acid (pH below 4.5) products such as juice are normally heated at 90 – 95C for 15 – 30 seconds holding. All parts of the system downstream of the actual highly heating section are of aseptic design to eliminate the risk of reinfection, include aseptic packaging in packages protecting the product against light and atmospheric oxygen. Ambient storage is normal.



Various UHT systems

There are two main types of UHT systems on the market.

1. In the direct systems the product comes in direct contact with the heating medium, followed by flash cooling in a vacuum vessel and eventually further indirect cooling to packaging temperature. The direct systems are divided into:
  - a. steam injection systems (steam injected into product),
  - b. steam infusion systems (product introduced into a steam-filled vessel).
  
2. In the indirect systems the heat is transferred from the heating media to the product through a partition (plate or tubular wall). The indirect systems can be based on:
  - a. plate heat exchangers,
  - b. tubular heat exchangers,
  - c. scraped surface heat exchangers,

Furthermore it is possible to combine the heat exchangers in the direct systems according to product and process requirements

**Whole line including**

1. Water Treatment section
2. Milk Receiving or powder dissolving Section
3. Preparation Section
4. UHT Sterilization Section
5. Filling & Packaging Section
6. CIP Cleaning Section
7. Chiller
8. Compressor
9. Steam Boiler
10. Installation Material

**Technical parameters**

- Raw material : Fresh cow milk, powder milk
- Product : UHT whole milk, UHT skimmed milk, UHT flavor milk, etc
- Product package : Brick shape aseptic carton, (like Tetrapack), Pillow shape aseptic pouch, plastic bottle, etc

## PASTEURIZED MILK PRODUCTION LINE

The Production line produce several types of pasteurized milk products, i.e. whole milk, skimmed milk and standardized milk of various fat contents.

First the milk is preheated and standardised by in line milk fat standardisation system. The purpose of standardisation is to give the milk a defined, guaranteed fat content. Common values are 1.5% for low fat milk and 3% for regular grade milk, fat contents as low as 0.1 and 0.5% is skimmilk.

Then the standardised milk is homogenised. The purpose of homogenisation is to disintegrate or finely distribute the fat globules in the milk in order to reduce creaming. Homogenisation may be total or partial. Partial homogenisation is a more economical solution, because a smaller homogeniser can be used.

The milk, now is pumped to the heating section of the milk heat exchanger where it is pasteurised. The necessary holding time is provided by a separate holding tube. The pasteurisation temperature is recorded continuously. Pump is a booster pump which increases the pressure of the product to a level at which the pasteurised product cannot be contaminated by untreated milk or by the cooling medium if a leak occur in the plate heat exchanger. If the pasteurisation temperature should drop, this is sensed by a temperature transmitter. A signal activates flow diversion valve and the milk flows back to the balance tank.

After pasteurisation the milk continues to a cooling section in the heat exchanger, where it is regeneratively cooled by the incoming untreated cold milk, and then to the cooling section where it is cooled with ice water. The cold milk is then pumped to the filling machines.

Temperature and pasteurisation holding time are very important factors which must be specified precisely in relation to the quality of the milk and its shelf life requirements. The pasteurisation temperature is usually 72 – 75C for 15 – 20 sec. A common requirement is that the heat treatment must guarantee the destruction of unwanted microorganisms and of all pathogenic bacteria without the product being damaged.



## **The whole line including**

1. Water Treatment section
2. Milk Receiving or powder dissolving Section
3. Preparation Section
4. Pasteurization Section
5. Filling & Packaging Section
6. CIP Cleaning Section
7. Chiller
8. Compressor
9. Steam boiler
10. Cooling Room
11. Installation Material

## **Technical parameters**

Raw material : Fresh cow milk, powder milk  
Product : Pasteurized whole milk, pasteurized skimmed milk, pasteurized flavor milk, etc  
Product package : Gable Top carton, plastic pouch, plastic bottle, etc

Enhance  
Productivity  
Hygiene  
And Line Speed



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