## Stick and Cone/Cup Ice-cream Production Line

## A. Mixing equipment



* Pictures above are just for reference.

Main Technical Parameter and Quotation

| No. | Items | Model | Qty. |  | Remark |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Mixing tank (Cooking tank) | 1000L | 2 pcs |  | Material: SUS304, cylinder type. Full closed type. With cone heads on the top and bottom of the tank. Inner tank thickness:3mm;dimple jacket thickness:2mm;polyurethane foam insulated; external package thickness:1.5mm;top vertical agitator, motor power:5.5kw,rotary speed:1450rpm.With manhole, dust-proof respirator, no-foam material inlet, thermometer, diameters of material inlet/outlet: $\varphi 38$,adjustable supports. |
| 2 | Sanitary pump | 5T/H | 1 pcs |  | The parts contact material are all SUS304. Hard alloy mechanical seal, Sanitary silicon rubber seal.Flow:5m3/h, lift: 24m, Motor power: 1.5 kw . Pump shell and support are all made of stainless steel. ABB motor. |
| 3 | Duplex tube filter | 5T/H | 1 pcs |  | Filtering area: $0.3 \mathrm{~m}^{2}$, diameters of material inlet/outlet: $\Phi 38$, stainless steel filtering barrel, stainless steel strain: 120mesh. 4 butterfly valves. |
| 4 | Plate pasteurizer | 1000L/H | 1 pcs |  | Temperature automatic control, Material inlet temperature: 25 ${ }^{\circ} \mathrm{C}$, Homogenization: $60 \sim 70^{\circ} \mathrm{C}$, Pasteurization: $95^{\circ} \mathrm{C}$ (15S), Material outlet: $4^{\circ} \mathrm{C}$. |
| 5 | Homogenizer | 1000L/H | 1 pcs |  | The parts contact material are all SUS304, Rated pressure: 25Mpa,one stage working pressure:0-12Mpa,Two stage working pressure:18Mpa.The homogenizer is coating with stainless steel. Motor power: $11 \mathrm{KW} / 380 \mathrm{~V}$. |
| 6 | Aging tank | 1000L | 2 pcs |  | Material: SUS304, Cylinder, full-closed type. With cone heads on the top and bottom of the tank, inner tank thickness:3mm,dimple jacket thickness:ס2mm,Polyurethane foaming insulated, External package thickness:1.5mm,Vertical agitator:1.5Kw,Rotary speed:43rpm.With manhole, dust-proof respirator, no-foam material inlet, digital thermometer, diameter of material inlet/outlet: $\varphi 38$,adjustable supports. |


| 7 | Sanitary pump | $3 \mathrm{~T} / \mathrm{H}$ | 1 pcs |  |  | The parts contact material are all SUS304.Hard alloy mechanical seal, Sanitary <br> silicon rubber seal.Flow:5m3/h, lift: 24m, Motor power: 1.5kw.Pump shell and <br> supports are all made of stainless steel. ABB motor. |
| :---: | :---: | :---: | :---: | :---: | :---: | :--- |
| 8 | Stainless steel <br> base for the <br> mixing tank and <br> aging tank |  | 2 pcs |  |  | Material: SUS304.Made of square steel tube. With adjustable supports. |

## B. Ice-cream Extrusion Production Line

------ Scope of Ice cream
Stick ice-cream

------ Ice-cream extrusion production line


* Pictures above are just for reference.


## 1. General Introduction

## Application

Series ice-cream extrusion tunnel is an ice-cream production system with the characters of extrusion forming, quick-frozen and hardening. It's mainly applicable to large-scale production of extrusion cutting ice-creams. By assembled with different accessories, this machine can also be used for producing cone ice-cream, double-layer ice-cream, strip ice-cream, cake ice-cream and some other special-shaped icecream. When equipped with matched manipulator, it is provided with the function of coating chocolate outside stick inserted ice-cream.

## System

Standard configuration of series ice-cream production line including product trays transport system, quick-frozen tunnel, freezing machine, wrapping machine, manipulator etc.. Products entrance and exit are in the front of the tunnel are connected with the working table, formed a circular transport system. The working table has some standard working stations for installing special devices when make different kinds of ice-creams, or can be used for pressing, filling or decorating ice-creams. New type manipulator device helps achieve the goal of coating chocolate. All above equipment's form a complete flow production line, including freezing extrusion, quick-frozen hardening, manipulator nipping, unloading and automatic packing.
The whole system adopts computer control, touch screen operation and Germany Festo pneumatic parts which make it all the equipment's are programmable controlled. With the character of working stable and convenient for adjusting, the machine possesses strong potential ability in new ice-cream products development. Nice shape, easy operation and the whole process is basically finished by machinery which has provided favorable hygiene conditions for the production, thus being applicable for large and medium sized companies.

## Working principle

Extrusion device of the production line extruding raw materials onto the products trays or fill raw material into redistribution cones. Then use different operating unit for different ice-cream products, like: insert device, distribution device, cone-filling device, surface decorating device, jam adding and nuts spraying device. After a series of operations, trays with products will through the quick-frozen tunnel and then the manipulator nip and bring ice-creams out from the trays to the next step-coating chocolate and send out after wrapping.

## 2. Main technical parameters

| No. | Parameters |  | Unit |  |
| :---: | :---: | :---: | :---: | :---: |
| 1 | Production Capacity | For special-shaped ice-cream: (55-60g) | Piece/min | 80 |
|  |  | For cone ice-cream: (50-60g) |  | 50 |
|  | Production capacity can be adjusted by controlling the running speed of the machine. |  |  |  |
| 2 | Ice-cream material feeding temperature |  | ${ }^{\circ} \mathrm{C}$ | Below - $4^{\circ} \mathrm{C}$ |
| 3 | Ice-cream discharging temperature |  | ${ }^{\circ} \mathrm{C}$ | Below -220 |
| 4 | Refrigerating capacity ( $+30^{\circ} \mathrm{C} /-30^{\circ} \mathrm{C}$ R404A) |  | $\begin{gathered} \mathrm{Kw} \\ (\mathrm{Kcal} / \mathrm{h}) \end{gathered}$ | $\begin{gathered} 75 \\ (64500) \end{gathered}$ |
| 5 | Water consumption (water temperature: $8--20^{\circ} \mathrm{C}$ ) |  | T/h | About 20 |
| 6 | Capacity (defrosting heater power is not included) |  | Kw | About 80 |
| 7 | Power |  |  | 3phase/380V/50Hz |
| 8 | Total weight |  | T | About 10 |
| 9 | Area (L×W) |  | mm | $9200 \times 6500$ |


| 10 | Frozen <br> Tunnel | Ambient temperature $25^{\circ} \mathrm{C}$ | ${ }^{\circ} \mathrm{C}$ | Below $-40^{\circ} \mathrm{C}$ ( thermometer value) |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Refrigerating capacity ( $+30^{\circ} \mathrm{C} /-30^{\circ} \mathrm{C}$ R404A) | $\begin{gathered} \mathrm{Kw} \\ (\mathrm{Kcal/h}) \end{gathered}$ | $\begin{gathered} 2 \times 29 \\ (2 \times 25000) \end{gathered}$ |
|  |  | Transport tray number | piece | 500 |
|  |  | Capacity (defrosting heater power is not included) | Kw | About 55 |
|  |  | Defrosting heater power | Kw | 35.8 |
|  |  | Air consumption | L/min | About 90 |
|  |  | Water consumption (water temperature: $8--20^{\circ} \mathrm{C}$ ) | T/h | About 18 |
|  |  | Weight | T | About 8 |
|  |  | Dimension(LXWXH) | mm | 8500X2500X2880 |
| 11 | Freezer | Production capacity | L/h | 300 (adjustable) |
|  |  | Refrigerating capacity ( $+30^{\circ} \mathrm{C} /-30^{\circ} \mathrm{C}$ R404A) | $\begin{gathered} \mathrm{Kw} \\ (\mathrm{Kcal/h}) \end{gathered}$ | $\begin{gathered} 8.5 \\ (7300) \end{gathered}$ |
|  |  | Feeding temperature | ${ }^{\circ} \mathrm{C}$ | $+4^{\circ} \mathrm{C}$ |
|  |  | Discharging temperature ) | ${ }^{\circ} \mathrm{C}$ | $-4^{\circ} \mathrm{C}$ |
|  |  | Expansion rate |  | 100\% (adjustable) |
|  |  | Water consumption | T/h | About 1 |
|  |  | Power | Kw | 9.5 |
|  |  | Weight | T | 0.5 |
|  |  | Dimension(LXWXH) | mm | 1250X800X1600 |
| 12 | Wrappin <br> g <br> machine | Working capacity | Piece/min | 90 |
|  |  | Power | Kw | 5.5 |
|  |  | Weight | T | 0.6 |
|  |  | Dimension(LXWXH) | mm | 3600X1900X2000 |
| 13 | Other | Stick size (LXWXH) | mm | $95 \times 10 \times 2$ |
|  |  | Cone size (cone-shape dia. X L) | mm | \$54×125 |
|  |  | Material of wrapping paper |  | Composite membrane |
|  |  | Width of wrapping paper | mm | 230 |
|  |  | Recommended Air compressor | $\mathrm{m} / \mathrm{min}$ | 0.6-0.9 |

## 3. Equipment's list and quotation

| No. | Equipment | Model \& Specifications | Quantity |  | Remarks |
| :---: | :---: | :---: | :---: | :---: | :---: |
| I | Extrusion Ice cream | Capacity: 5000-6000 | 1 set |  |  |



| 5.1 | Chocolate coating tank | Material: SS304 |  |  |  |
| :---: | :--- | :--- | :--- | :--- | :--- |
| 5.2 | With electrical <br> thermometer thermostat and <br> outlet tap |  |  |  |  |
| 5.3 | Adjustable legs |  |  |  |  |
| 5.4 | Electrical box |  |  |  |  |

Remarks: 1. For picking up the hardened stick ice-cream from tunnel and coat chocolate, then deliver finished products to the conveyor for wrapping, which is fully synchronized with the tunnel.
2. Stainless dipping tank with pneumatic pump for chocolate circulation
3. Electrical parts are all Schneider, Siemens PLC and touch screen, pneumatic parts are [ECTn


| 8.2 | Conveyor | The wrapper works fully Synchronized with tunnel and conveyor by means of special frequency converter and servo motor controlled by PLC. | 1 unit |  |
| :---: | :---: | :---: | :---: | :---: |
| 8.3 | Electrical and Pneumatic box | Electrical parts: <br> Mitsubishi PLC, Touch screen \& Servo system, top brand unit Pneumatic parts: FESTO | I unit | 3phase $380 \mathrm{v} / 50 \mathrm{~Hz}$ |
| Remarks: Recommend wrapping material: polypropylene film type MOBIL OPP MB, thickness: 26-40 micron. |  |  |  |  |
|  |  |  |  |  |
|  | Total |  |  |  |
|  |  |  |  |  |

## C. Ice-cream Filling Machine (Cone/Cup filling)

------ Scope of ice-cream
Cup and cone ice-cream

------ Ice-cream filling machine


* Pictures above are just for reference.


## HUASHENG-EUROPE

## 1. General Introduction

## Application

Series Ice-cream Filling Machine is intermittent-type linear-movement filling machine, which can fill icecreams with multiple filling heads, it's a multifunctional filling equipment. This product is mainly used in producing cone ice-cream, cup ice cream and different garland and rotary ice-cream. Also, it can produce double-color, triple color ice-creams and add jam and chocolate on ice-creams as well as filling plane cutting products.

## System

Series Ice-cream Filling Machines are equipped with stations of automatic cup falling, cup arranging, inner chocolate spraying, ice-cream filling, nuts sprinkling, jam adding, chocolate dripping, garland, cover adding, cover pressing (heat-sealing) lid and products sending out etc. We can also design special working stations according to the customers' requirements. This equipment adopts PLC computer control and touch screen, mechanical operation composed control to make it easy for adjusting and operation. The machines are with good shape, and it's convenient to clean. With the characteristic of large output and products are the same standards, it's now the advanced ice-cream filling equipment in China.

## 2. Main technical parameters

| No. | Parameter |  | Unit |  |
| :---: | :---: | :---: | :---: | :---: |
| 1 | Output | Filling speed | Cup/h | 6500-8000 |
|  |  | Weight/piece | g | $50 \sim 500^{*}$ (Cone ice-cream is $70 \mathrm{~g} / \mathrm{piece}$ ) |
| 2 | Shape of filling container |  |  | Cone and wrapping paper, regular-shape plastic or paper cups |
| 3 | Plate quantity on table |  | Piece | 25 |
| 4 | Total plate |  | Piece | 60 |
| 5 | Power | Voltage | V | 380 |
|  |  | Frequency | Hz | 50 |
| 6 | Total power |  | Kw | 3 |
| 7 | Compressed <br> Air | Pressure | Mpa | $0.6 \sim 0.7$ |
|  |  | consumption | $\mathrm{m}^{3} / \mathrm{min}$ | 1.0 |
| 8 | Machine Weight |  | Ton | About 2 |
| 9 | Dimension ( $\mathrm{L} \times \mathrm{W} \times \mathrm{H}$ ) |  | mm | $4500 \times 1500 \times 2500$ |

*When the weight of each filling cup is increased, the filling speed will reduce.

## 3. Components and Quotation

| Item | Model | QTY |  |
| :--- | :--- | :--- | :--- |


| I | lce Cream Filling Machine | 1 unit |  |  |
| :---: | :--- | :---: | :--- | :--- |
| Composed parts: | 1 unit |  |  |  |
| 1 | Cup falling station | 1 unit |  |  |
| 2 | Cup and cone tidying up station | 1 unit |  |  |
| 3 | Inner chocolate spraying station | 1 unit |  |  |
| 4 | Ice cream filling station(servo) | 1 unit |  |  |
| 5 | Decorating station | 1 unit |  |  |
| 6 | Jam filling | 1 unit |  |  |
| 7 | Dry nut sprinkling | 1 unit |  |  |
| 8 | Chocolate dripping | 1 unit |  |  |
| 9 | Cover adding | 1 unit |  |  |
| 10 | Cover pressing | 1 unit |  |  |
| 11 | Cup ejection | 1 unit |  |  |
| 12 | Cup extract | 1 unit |  |  |
| 13 | Cone ejection | 1 set |  |  |
| 14 | Conveying function | 2 sets |  |  |
| 15 | Stainless plate | 1 unit | FESTO of Germany |  |
| 16 | Nylon mold | 1 unit | Schneider of Germany |  |
| 17 | Pneumatic component | 1 unit |  |  |
| 18 | Electrical parts |  |  |  |
| 19 | Ice-cream and chocolate tank |  |  |  |
|  |  |  |  |  |

