

## Fresh and Soft Cheeses Making Equipment



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## **BATCH PASTEURISER (LTLT) AND CHEESE VAT**

This system is suitable for small scale cheese making operations where approximately 15, 25 or 50 kg (33, 55 or 110 lbs.) of fresh or soft cheeses are to be made per batch.

### **PROCESS DESCRIPTION**

The milk from the raw milk storage tank is forwarded to the batch pasteuriser at 4 deg C and heated to 63 deg C (150 deg F) for 30 minutes, fresh water is then flushed through the pasteuriser jacket to cool the cheese milk to the required cheese making temperature (between 30 and 40 deg C, 85 to 105 deg F). The pasteurised cheese milk is then forwarded to the cheese vat where the cheese making process is carried out.

### **PLANT SPECIFICATION:**

#### **Item 1. 1 x Raw milk pump for milk transfer to pasteuriser**

The milk is transferred via a centrifugal pump (complete with s/s shroud) from the raw milk storage tank to the pasteuriser balance tank.

#### **Item 2. 1 x Batch pasteuriser**

Product:	Raw whole milk
Incoming temperature of cheese milk:	4 deg C
LTLT pasteurising temperature:	63 deg C for 30 minutes
Outlet temperature from pasteuriser	Approx. 30 deg C

The jacketed and insulated stainless steel pasteurising vat is complete with it's own electric heating elements and controls, agitator motor and paddle, hot water expansion system, electronic and electrical wiring in a vat mounted stainless steel cabinet, which contains a chart recorder.

The raw product is pumped from the raw product tank to the pasteuriser via a removable pipe through the lid of the vessel. The switch on the control panel is turned to "heating", this will bring in the electrical elements. Once the product is at temperature the controls will indicate this and the timer will start. If the temperature remains above the set pasteurising temperature and the set duration then this is indicated. The milk is then deemed to be pasteurised and is safe to be cooled. The hot water in the jacket is then pushed out with the cooling water (fresh water) and the product is cooled to the desired temperature. The pasteurised product is then pumped to the cheese vats.

The units are compact, fully self contained and have adjustable feet. All components are manufactured of stainless steel to the highest international dairy industry standards and workmanship and the electric's are top quality, internationally available components. We build our batch pasteurisers to meet the dairy standard of the country that it will be used in, for example for the USA we manufacture to meet the PMO, in New Zealand we manufacture to meet NZCP7 etc.

Inclusions for the above item:

- 1 x Stainless steel pasteuriser vat jacketed and insulated with s/s cladding.
- 1 x Centrifugal pump for hot water complete s/s shroud.
- Electrical and electronic controls including chart recorder in a stainless steel cabinet.
- Operating and Maintenance Manual



## PLEASE NOTE

In order to avoid burn on of product or getting a caramel flavour in the product we modulate the hot water temperature and product temperature so there is not too much of a temperature split between the two. This does make batch pasteurisation or cooking slow compared to an in line (HTST) pasteuriser, in order to speed up this heating process, we can include a pre heating heat exchanger and a cooling heat exchanger.

### Item 3. 1 x Pasteurised milk pump for milk transfer to cheese vat

The milk is transferred via a centrifugal pump (complete with s/s shroud) from the pasteuriser to the cheese vat.

### Item 4. 1 x Rectangular cheese vat

Stainless steel semi circular bottomed rectangle cheese vat. This has a heating jacket and insulation on the sides and bottom, product drain on one end, and heating inlet and outlet on the other end. Depending on the cheese to be made we can add hot water generation and control for the pad heating. These are excluded in the base model; optional overhead stimes can also be added as well as other options.



Inclusions for above item:

- Hot water heating pad (hot water system is excluded, see later notes)
- Mounted on wheels with a working height of 900 mm.
- 63 mm outlet with a simple curd filter in the gullet.

### **Item 5. 1 x Estimated set of connecting pipe work, fittings and valves to connect above**

Connection from the raw milk storage pump to the pasteuriser and filler (10 metres maximum).

Inclusions for the above item:

- Stainless steel piping, valves and fittings.
- Flex hose plus fittings for the Clean In Place (CIP) return system.

Exclusions for the above item:

- Any automation for pumping or cleaning.

### **Item 6. 1 x support package**

We can supply and install the above equipment as well as commission the process. During this commissioning process we will show the cheese maker how to operate the batch pasteuriser. If needed we can offer a training program for cheese making as well, please see options below.

Inclusions for the above item:

- Installation
- Commissioning
- Operations Manual
- Spares

## **OPTIONS**

Depending on the type of cheese to be made, you may need other equipment such as

- Cream separator
- Stainless steel cheese working table.
- Curd cutting tools.
- Cheese hoops and presses.
- Brine tank.
- Cheese storage racks.
- Hot water system for the heating of the hot water jacket on the cheese vat. If needed we will supply 1 x electric hot water cylinder as the heating source, 1 x product temperature sensor and control valve to maintain and modulate the cheese milk temperature as required.
- Whey pump and storage.
- Milk Filter & Replacement Filters
- Spares

These are not included in the above package

## OTHER SERVICES

- If you are wanting a more sophisticated plant then we can design and build this for you, please contact us.
- As we are also air condition, ventilation, heating and refrigeration engineers, we can also provide the necessary positive air and any air conditioning that you will need. Once we have the site drawing etc we can quote you for this work.
- We have designed a Food Safety Program template that includes all the standard operating procedures in it. You can use this to produce a full scale food safety program for your site.
- Cheese making training. We can offer training for yourself or your staff for the above plant, this is conducted by a cheese maker who has had many years experience in cheese making and is keen to share this knowledge with you.
- We can also provide you a programmed maintenance schedule service on a three monthly, six monthly or yearly pre scheduled basis. Our experienced engineers will visit you and carry out this service on you plant so that it runs trouble free and your investment is kept at it's optimum.

## PLEASE NOTE

- The above pasteuriser has 4 x 3 kW electrical heating elements, these will draw approx 52 amps for a 220 volt single phase supply or 18 amps per phase for a 3 phase 230 volt supply.
- The batch pasteuriser can be used to generate a "Clean In Place" wash that can be pumped to other equipment, but some manual cleaning will also be needed.
- Specific process experience. As the owner of the above plant, you and your employees will need to have the ability to operate this plant in such away that it is run correctly but more importantly hygienically at all times. You will need to have in place strict product safety programs (PSP's) and your operators will need to have extensive training and experience to achieve the above. We do offer a training program, please see above.