



7-IN-1 PROCESSING

TEC SQUARE 7-IN-1 PROCESSING TECHNOLOGY

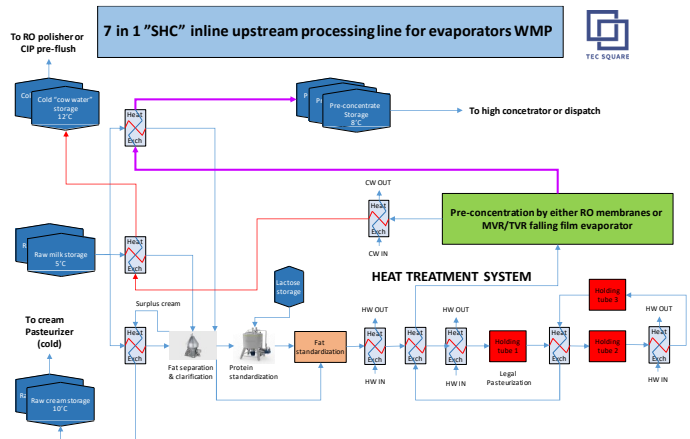
TEC Square applies the “straight-through” principle in its design of standardization plants in order to provide an energy efficient solution from Raw milk storage to pre-evaporation. Our design does the following operations in one step:

- ◆ Fat standardization +/- <0.03%
- ◆ Protein standardization +/- <0.03%
- ◆ Milk clarification
- ◆ WPNI heat treatment (low, medium, high heat)
- ◆ Integrated legal pasteurization
- ◆ Pre-concentration of product (up to 35% TS)
- ◆ Cooling of pre-concentrate, condensate & raw cream

These 7 processes are further designed to use less energy by recuperation of energy stored in the product to a maximum. Provided that the raw milk temperature is less than 5°C, we do not require any chilled water for normal operation.

7-IN-1 CONFIGURATION

This system can save 5-10% energy on traditional systems, depending on the requirements. We also design plants for operational convenience and easy maintenance.



7-in-1 Processing is a simple concept

SPECIFICATIONS AND ADVANTAGES

	TEC Square 7-in-1 Processing	Advantages
Investment in Buildings	Our solution requires less processing equipment, therefore less construction.	Less capital investment required due to lower building volumes.
Straight Through Processing	TEC Square provides an integrated process solution from raw milk storage directly to pre-concentrate storage.	Savings in storage investment, a half the volume of pasteurized product storage is required.
In-line Pre-evaporation	We provide in-line pre-evaporation with maximum balanced heat recuperation. We store concentrate at temperatures < 8°C, using incoming raw milk at 5°C as a cooling medium. Further raw cream and "cow" water is cooled down to 10 and 12°C respectively allowing a prolonged storage time before usage or treatment.	In-line pre-evaporation has advantages: <ul style="list-style-type: none"> ◆ No chilled water required if raw Milk is stored at < 5°C. ◆ Pre-concentrate is stored at maximum 8°C , allowing immediate dispatching.
Heat Treatment Including Legal Pasteurization	TEC Square does not use steam injection and flash cooling to have quick heat treatment. We prefer heat treatment through plate heat exchanger technology.	Our technology has several advantages: <ul style="list-style-type: none"> ◆ Easier cleaning. ◆ No culinary steam required (no boiler water make-up either). ◆ Less evaporation required (approx.8% savings). ◆ Low energy consumption.
Heat Treatment Specific for each Product	Heat treatment is done with plate heat exchangers, which are flexible by nature.	We provide temperature holding solutions for each specific product.
CIP Planned every 10-12 Hours	We do not believe in long running times. As such we do not use steam injection as heat treatment. We prefer smooth and efficient running conditions with intermediate cleaning afterwards.	This results in many advantages <ul style="list-style-type: none"> ◆ We can guarantee low-thermophile operation. ◆ 60 Hours accumulation of pre-concentrate is possible, allowing for more continuous running of the spray dryer (e.g. no weekend drying is required in the low season).

TEC Square Project Management S.L.
Calle Sebastian Souviron 18, Ático 2
29005 Málaga, Spain
Tel : +34 664 389873

TEC Square Electrical B.V.
de Biestraat 18
4751 HC Oud Gastel
the Netherlands
Tel : +31 6 30894398

TEC Square Solutions Inc.
Robinland Business Center
Zeullig Avenue, North Reclamation Area
Mandaue City, Cebu, Philippines
Tel : +63 32 5205899

