

VS 1000 / 2000 / 4000

Advanced Soymilk Technology

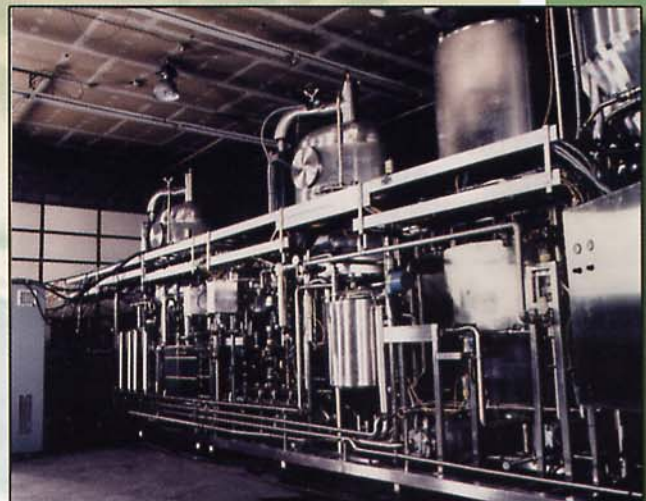
This large-scale soymilk production system embodies new and advanced concepts to produce what is considered by many as the smoothest, most neutral tasting soymilk base in the world.

FEATURES

- ▶ All ProSoya's large continuous systems are designed, fabricated and automated to operate optimally at their rated capacities.
- ▶ Includes a number of process and equipment patents including ProSoya's patented "airless cold grinding" technology.
- ▶ All stainless steel skid mounted system for quick installation and commissioning.

BENEFITS

- ▶ Easy to install, operate, clean and maintain
- ▶ Produces a non-beany soymilk base with smooth mouthfeel, excellent protein yield and high functionality
- ▶ ProSoya soymilk does not leave a chalky after-taste present with most other processing methods
- ▶ The soymilk base makes excellent beverages, yogurt, ice cream, tofu, etc.
- ▶ The soymilk base can also be concentrated and spray-dried to produce a soymilk powder with high solubility and dispersibility in water
- ▶ No chemical treatment or additives
- ▶ Uses any average quality of soybean without de-hulling and still makes an excellent soymilk base
- ▶ Okara, the fibrous by-product, is a good source of dietary fibre in human foods and animal feeds



SPECIFICATIONS TABLE

OPERATION

1. Dry soybeans are conveyed to the bean soaking system using a liquid transfer medium, which gently conveys and cleans the beans at the same time.

2. The beans enter the soaking system and reside in the vessels for the required time. Soaking water is continuously removed as fresh water (recovered from the process) enters the vessels.

3. The soaked beans are transferred hydrostatically into a feed hopper, along with an appropriate amount of water or "rewash milk", from the 2nd stage of the extraction system.

4. The soybeans are ground with water under 'airless' conditions and the resulting slurry exposed directly to culinary steam to instantaneously heat the slurry to the desired temperature.

5. The soya slurry is held for the appropriate time in an insulated holding coil.

6. For the most neutral tasting soymilk, the cooked soya slurry is released from the holding coil into a vacuum deodorization tank. The volatile off-flavors are removed via a condenser.

7. The soya slurry is then sent to the 1st stage of the extraction system, which separates the soymilk from the fibre (okara). The okara is mixed with water and sent to the 2nd stage extractor, where a "rewash milk" is extracted and sent back to the feed hopper. The okara then exits the system. An optional moist okara conveying system sends the okara to a remote location, up to 25 m away.

8. The soymilk can then be cooled using heat exchangers, and/or sent for further formulation or processing and packaging.

Production Volume (L/h)	
- @ 5% protein	1000-4000
- beverage (std. 1.75% protein)	2500-10000
Soybean consumption (Dry), (kg/h)	200-800
Okara Produced (kg/h)	350 - 1400
Electrical Loading (kW)	50-80
Water requirements	
-process (L/h)	1500-6000
-cleaning, other (L)	4000-10000
Steam Requirements (kg/h @ kg/cm ²)	250-1000 @ 8-10
Foot Print (m ²)	15-35
Extraction Method	Continuous with okara rewash
Deodorization	Vacuum
Labour Requirements:	
-Processing	1-2
-Bean soaking & Okara Removal	1-2
-Cleaning*	2
-Maintenance*	1
-Boiler, Chiller, Compressor	Optional
-CIP	Included
-Moist Okara Conveying System	Optional
-Dry Bean Conveying System	Included
-Packaging Options	Optional
-Powder Production Equipment	Optional
-Tofu Production Equipment	Optional
-Yogurt Production Equipment	Optional
-Full Automation	Optional
-UHT Treatment of Soymilk	Optional
-Cooling Tower	Optional
Fabrication Materials:	Stainless steel and other food-grade materials
*Can be production staff	