



Fermenting tanks and a pressurised balance tank for small-scale beer-brewing.



Complete sludge cooker. This is made for a dairy to handle the sludge from their separator.

Pilot plants/Special units

Together with our customers, we build special processing plant equipment and pilot plants for testing and development. Special units for very specific process problems in your factory – together we can find the solution.

Pilot plants from Unitstaal are as close to the real thing as possible for:

- Production testing
- Research
- Education

We develop and deliver your process plant in miniature.

Unitstaal - a safe choice

Unitstaal A/S is an established supplier of stainless steel units for the processing industry. Unitstaal is highly specialised within engineering and production, with 25 years of experience. Our customers are prominent companies within the food, medical and chemical processing industries in Denmark and on export markets. They set demanding requirements for us, which we satisfy, and we are known for high quality, delivery reliability and unique design. Our product range currently consists of a series of well-defined units, including CIP units, pasteurisation units with heat recovery, reception units, mixing systems and pilot plants.

A Unitstaal solution provides:

- ◀ Fully customised solution adapted to your needs
- ◀ Quality in design, production and documentation
- ◀ A safe choice

Case

Mini dairy, Olustvere School – Estonia

The dairy consists of the following main components:

1. Milk reception system with 300 l milk reception tank.
2. Milk pasteurisation unit for 150 l/h, consisting of:
 - 10-litre balance tank.
 - 7 small heat exchangers, each with its own independent heating circuit. Plate heat exchangers heat/cool the milk to the individual process temperatures as follows:
 - Separator to clean and skim the milk.
 - Homogeniser.
 - Holding cell tank to maintain the pasteurising temperature for between 30 and 300 sec. at intervals of 20 sec.
3. Cream pasteurisation unit for 50 l/h,
4. Tank unit consisting of 5 tanks.
 - 2 x 50-litre process tanks with cooling/heating jacket and frame agitator.
 - 3 x 30-litre process tanks with cooling/heating jacket and turbo agitator.
 - Each tank has an individual cooling circuit and a common heating circuit.
 - Centrifugal pump.
 - Positive pump.
 - CIP return pump.
5. Mother culture unit for 4 cans of 5 litres each.
6. 100 l cheeses vats with a heating unit for direct and indirect heating of curd. Equipment for the manufacture of Gouda, Tilsiter and cottage cheese.
7. Mini CIP unit for lye - acid and cold water.
8. Ice cream freezer.
9. Freezer box.
10. Cooling box.
11. Fermentation box.



Operation and control

The Siemens ET 200S is used to manage the mini dairy plant. The set-up consists of one master PLC and three decentralized IO devices.

The plant is operated using WinCC Flexible, on three touch panels.

Result

A complete mini dairy where you can gain practical experience with modern dairy systems, and at the same time have maximum opportunity to “connect” theoretical and practical dairy processes.