Thermal treatment
STOLZ thermal conditioner guarantees the sanitary quality, improves the meal flow and starch digestibility and increases the water content of the product.

The super conditioner has an angle of inclination to prevent all deterioration and provides a proper filling and retention time control.

Features

- the unit always operates when completely filled without steam leakage
- fully made with stainless steel
Thermal conditioners CTID/CTIS

Principle

Operating principle

The meal is inserted into the body via a feed screw always ensuring a complete filling of the conditioner. The product is mixed by the rotor blades. It is submitted to a shearing effect and a residence time before discharge until the opening order is given according to the temperature and the selected treatment time.

Such treatment provides a direct steam injection and a homogeneous cooking of the product. The long lasting treatment capacity (up to 6 minutes) of this unit guarantees a perfect mixing of starch and gluten molecules. The transverse and horizontal shearing suffered by the product increases water addition options into meal thus improving the quality of pellets produced by the pellet mill and decreasing the energy consumption.

The outlet sluice provides for a regular feeding and a quick response time of the pellet mill. It is designed to be cleaned easily and to avoid any leak-off leakage steam.

1. Overfilling
2. After overfilling the conditioner, the feeding screw stops
3. Steam addition up to the preset point temperature
4. Continuous discharging by maintaining a constant product temperature, the conditioner being 100% refilled with material
Mashfeed cooking and heat treatment

**Purposes**
- Digestibility
- Flowability
- Feed integrity
- Higher conversion ratio
- Entero bacteria free

**Optimized processing**
- FIFO
- 100% refilling level
- Regular flowrates
- Digestibility
- Accurate monitoring of residence time and temperatures

**Drying-cooling**
- Specific design for mash feed
- Exchange areas optimized
- Fines agglomeration

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![Stable product temperature - resident time](image)

![Dryer-cooler](image)

![Layer equalizer and stirrer](image)

![Product flowability measurement](image)

![Paramétrage des points de consigne et affichage](image)

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Before heat treatment

After heat treatment

Contact: contact@stolz.fr  •  www.stolz.fr
1 Clogging screw
2 Thermal conditioner
3 Counter-flow dryer-cooler
4 Micro-filter
5 Air heating
6 Suction air fan
7 Chain conveyor
8 Elevator
9 Mixer
10 Pneumatic transfer

Raw material

Product outlet
Long term conditioning before pelletizing

When installed upstream a pellet mill, the super conditioner increases its capacity from 15 to 30%, and dramatically improves its P.D.I. (Pellets Durability Index).

The super conditioner has a slope angle improving avoiding any damage of the mixing and allowing a good filling control and retention time.

**Purposes**
- Easy maintenance
- Low running costs
- Lack of steam leakage
- Decrease of wearing

**Typical flowsheet**
- Capacity improvement
- Energy saving
- Management of shrinkage
- Improved durability

**Adjustable feeding**
- Long term conditioning
- Adjustable flowrates
- Pelletizing
- Cooling

*Images and schematics are non-contractual / Photos et schémas non contractuels*
Photos et schémas non contractuels / Non contractual drawings and pictures

Steam injection

Clogging screw
Thermal conditioner
Pellet mill
Counter-flow cooler with built-in filters
Crumbler
Reclaiming handling
Elevator
Pellets and crumb sifter
Fines reclaiming screw
Good product outlet
Reclaiming of big crumbs
Suction air fan
Micro filter
The cooler is designed to lower the temperature and moisture of the product to values close to ambient temperature. Such operation improves the durability and preservation of the pellets.

**Principle**

The warm products produced by the pellet mill are placed into the horizontal cooler via a swivelling valve distributing them uniformly all over the machine width. The pellets to be cooled down are thus laid down onto a metal belt made of bored components conveying them and preventing them from moving, thus not breaking them, for a preset time and speed to reach a temperature between 5 to 10°C maximum above the ambient temperature.
Horizontal coolers RHS
Features and options

**Operating principle**

1. A swivelling valve ensure a uniform and regular feeding all over the belt width.
2. Conveying belt designed with bored components assembled on traction chains. The sliding paths of the chains are isolated from the product avoiding any risks of damaging the pellets.
3. Automatic device for pellets cooling level change ensuring the layer height uniformity. A permanent cleaning device is installed at the end of each level.
4. Guide flaps forcing the air to pass through the pellets layer.
5. Complete cleaning of the cooler with a silent bottom scraping brush device.
6. Flap for layer height control.
7. Warm air suction.

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The cooler is designed to lower the temperature and moisture of the products to values close to ambient temperature. This operation improves the durability and preservation of the pellets.

**Features**

The RCCS is a machine with a simple and compact design.
It is designed to lower the maintenance costs, to limit the remaining particles that can contaminate the product or increase the amount of bacteria and mould.
The limited power cost results from an optimization of the internal air flow.
Several types and variants can meet any application with or without built-in filters.
Vertical counter-flow coolers RCCS

Features and options

**Features**
- First In First Out
- Optimized filling rate
- Output evenness
- Reliability and simplicity
- Control of the residence times and temperatures
- Dynamic optimization of the exchange areas

**Options**
- Possibility of several levels to lower time waste between 2 batches
- Thermal insulation
- Built-in filters
- Driven mechanically
- Drying level
- Extracting system by rotating flaps
- Inerting by gas injection
- Product layer levelling system

![Diagram of Vertical counter-flow coolers RCCS](image)

**Working principle (version without built-in filters)**

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