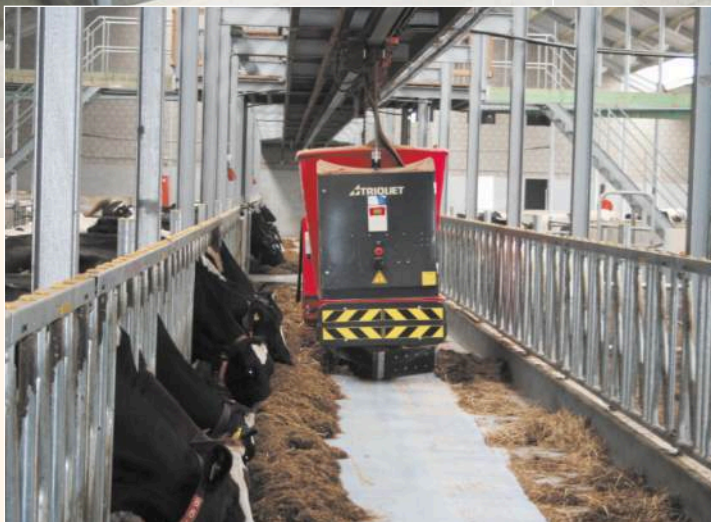


automatic feeding system

Triomatic

- Flexibility in time management
- Taylor made feeding for small groups possible
- High feed intake and feed efficiency
- Easy loading
- Optimal feed structure
- Unique cutting and mixing technology



Triomatic automatic feeding system

Feeding and milking more effectively...

Every dairy farmer would like to feed his animals better and more frequently. Many research results support that more frequent feeding results in higher feed intake and higher production. On top of that, it improves the cow's health, condition and lifespan. This is a fine and useful theory, but usually the labour involved is the limiting factor to implement it. Triomatic, the automatic feeding system by Trioliet, now enables you to make this wish come true without having to sacrifice any more of your precious time. The Trioliet automatic feeding system also improves your milking robot's milking frequency because fresh feed has a positive influence on cow traffic.

Triomatic: fully automatic feeding system...

The system consists of two components. The first component is the feed kitchen. The feed kitchen consists of several feeding stations that store each feed type for several days. It is provided with a movable cutting system that cuts off the quantity needed out of each feed station from the silage block and/or bale, without losses and without disturbing the remaining block.

The second component is the feeding robot, in fact a small diet feeder cart with vertical mixing augers that moves independently through the stable, suspended on an overhead track powered by an electric power supply rail. The system mixes and distributes the feed.





Process computer

Process computer...

A process computer controls the entire feeding process. In a conveniently arranged programme you enter all rations, feeding frequencies, feeding times and group classifications. The machine carries out your instructions line by line and, if required, exactly reports back to your feed management system or to your nutritionist what has been fed. Communication with (feed) management software on your home PC is easy.

On the touch screen you can easily

- * Change the number of animals per group, feed quantity or the ration itself. (if required by PDA) or
- * Read machine status and interfere with any specific task or setting

Flexible operations and less labour...

In the feedstations the required feed quantity for several days is stored. Obviously, you will have to fill the feed stations and keep them sufficiently filled, but you are free to decide when you do that. You only have to pick up the silage blocks or bales and place them on the bottom chain, after which the Triomatic fully automatically handles further processing.

That means optimal feeding and optimal control over what your animals get for dinner.



Blocks or bales are loaded easily

Easy loading...

Every bottom chain is readily controlled by radio from the tractor. This makes it easy to place blocks or bales on the transport chain directly next to the previous block or bale.



Unique cutting system with rotating roller

Cutting system...

Two blades moving in opposite directions cleanly cut off the block or bale slightly angled to the vertical plane. The remaining block is undisturbed and therefore remains free from over heating. A rotating roller transports the cut material on the cross conveyor, so the feed quantity is directly

weighed on the cross conveyor and added to the weight already in the feeding robot. Two electrically driven spindles run over a rack and arrange the up and down movement of the cutting system. The entire cutting system moves itself from one feed station to the next.

Cutting thickness setting...

If the desired feed quantity is not met when the cutting system has arrived in the lowest position, the cutting system is raised and the entire feed stock is moved towards and underneath the cutting system to restart the process. The slice thickness can be adjusted by moving the block or bale further under the blades. That is useful when your ration includes long hay or straw. Short and sharp-cut stems give the feed an optimum structure and are easy to mix.



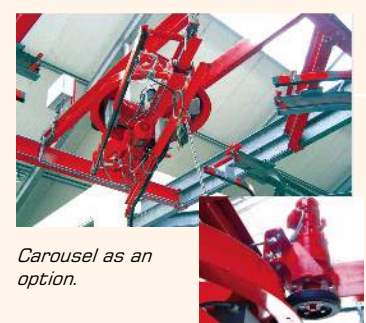
Cross conveyor with electronic weighing system

Precise loading...

Weigh bars mounted underneath the cross conveyor and elevator belt transmit the weight of the feed on the belts accurately to the feed robot. The feed robot knows what feed quantity is on its way, and adding it to the weight already loaded, the robot stops the loading process at exactly the right quantity. In this way small quantities of feed (e.g. straw) can be loaded reliably and precisely.



Solid drive system



Carousel as an option.

Triomatic



Feed robot

Feed robot with Trioliet vertical mixing technology...

Trioliet vertical auger technology makes for a proven system that produces fluffy mixtures while retaining the feed structure. The cross conveyor, infinitely variable in speed, distributes regularly and, if required, at a larger distance and on both sides, so the robot no longer has to be turned around. The mixing augers are also infinitely adjustable in speed. The weigh bars register the weight in the robot. This weight is shown on the display.

Solid drive...

The electric motor drives a spring loaded rubber drive wheel pressed against the overhead track profile. Simple, direct and low-maintenance. Two inductive sensors on the drive system read and verify the location of the various cow groups. One sensor counts the wheel revolutions to make various feeding programmes within a track section possible. An industrial electric guide rail with sturdy sliding contacts powers the feeding robot. That means sufficient power anywhere and at any time.



Open 24/7...

The Triomatic works 24 hours a day and can serve up to 60 different rations to the various animal groups every day.

The most important advantages of the Triomatic automatic feeding system:

1. Labour savings.

The required labour for mixing and discharge are no longer required.

2. Flexibility in time management.

You can choose the time to fill the feed stations at your convenience.

3. Nutritional advantages.

Tailor-made rations for small groups fed multiple times a day is possible, resulting in higher milk yields and improved health and condition.

4. Economical advantages.

- * Lower investment in building costs. (Of course you need to offset the space for the feed stations).
- * Lower machinery costs. Only one loader with a silage block cutter is required.
- * Lower energy costs. A limited quantity of electric energy is required to feed the cattle.
- * Reliable system with low maintenance costs.
- * Full electric drive for all components.

5. The system can perform other jobs as well.

For example, the system can be used to push the feed to the fence.

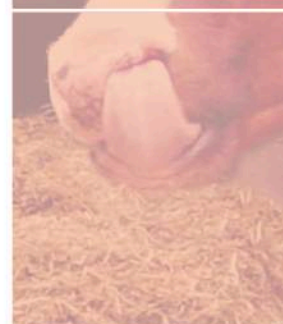
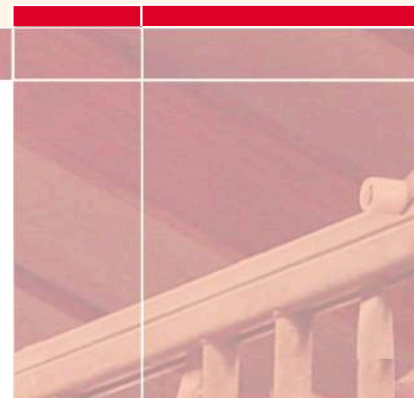
6. Suitable for a wide span in cow numbers.

The feeding robot can serve 70 as well as 500 cows without further adaptations.



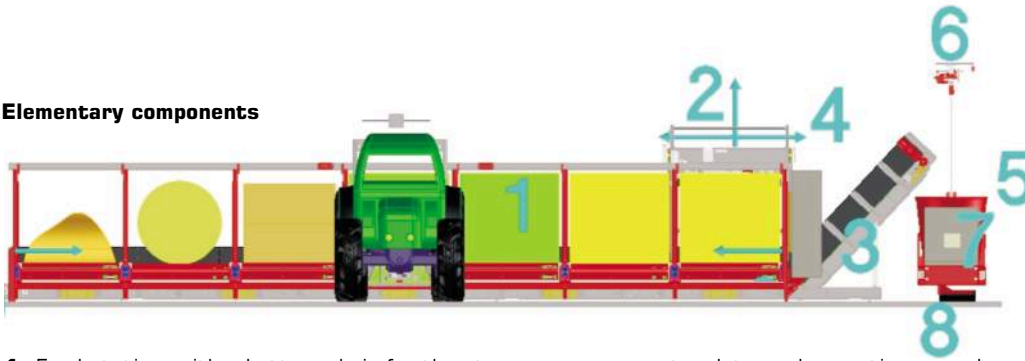
Stainless steel bunker as an option.

Slide to push the feed to the fence as an option.



Trioliet: Invents for you.

Elementary components



- 1** Feed station, with a bottom chain for the storage of the different forage types such as maize, grass, hay, straw, etc. Electrical drive, remote control.
- 2** Cutting system, which moves horizontally and vertically. Fully electrically driven and it consists of two double reciprocal knives and a roller to drop the cut forage on the conveyor-belt.
- 3** Cross conveyor belt with weighbars, which transports and elevates the cut forage and determines the weight of the feed on its way to the feeding robot.
- 4** The operating computer, in which the farmer can enter data such as rations, number and size of the feeding groups, feeding times, etc.
- 5** Feeding robot, with two vertical cutting and mixing augers and a cross conveyor belt.
- 6** The feeding robot is installed on a rail track and the drive gear is equipped with a weighing system and sensors to locate its position. A sliding power rail supplies electric energy to the robot.
- 7** The operating computer, which controls the mixing and the discharge of the forage according to the imported data.
- 8** Optional: feed pusher.

Standard features...

The feed kitchen is standardly equipped with: 4 feed stations (L = 6.0 m.) cutting system with double knives and roller with cutting slice thickness control, comprehensible touch screen processcomputer for entering rations, machine settings etc., durable built feed stations, full electric drives with remote radio control, wide cross- and elevating conveyor with weighing system incorporated.

The feed robot is standardly equipped with 2 vertical augers, discharge belt for discharge on both sides, rugged drive gear with double positioning system, including display and terminal for hand-control displaying weight and machinestatus, complete with electronic weighing system, sliding power take off system and safety bumper.

The suspension rail consists of a power supply rail with 3 Phase and earth conductors (for outdoor use optional Chloropene seal IP 44 available), mounted with zinc plated and coated materials.



Technical Specifications

Feed station, cutting system and side conveyor

Max. number of feed stations	8
Length m.	6.0 or 7.3 or 8.7
Width m.	2.05
Width of the conveyor m.	1.0
Cutting system	double knives, electrically driven with roller
Installed electrical capacity cutting system kW.	1.1 + 7.5 + 2.2 + 0.37
Installed electrical capacity side conveyor kW.	1.5 + 2.2
Installed electrical capacity per feed station kW.	2.2
Average power consumption while cutting kWh.	3.0
Slice thickness	0 – 25 cm (per 2.5 cm)
Max. bale or block height m.	1.8
Required loading clearance feedstations m.	3.8
Required electrical connection, 3 Phase	2 connections 3 x 35 A or 1 connection 3 x 50 A

Feed robot

Capacity m ³ .	3
Length m.	3.13
Width m.	1.35
Weight kg.	1.500
Loading capacity (max.) kg.	1.250
Wall thickness mm.	4
Auger blade thickness mm.	8
Width of the conveyor m.	0.62
Minimum track height m.	2.85
Power supply	sliding contacts in rail system
Installed electrical capacity kW.	11.0 + 0.55 + 0.50
Average power consumption while mixing kWh.	4.0
Average power consumption while discharging kWh.	4.0

Drive gear and overhead rail

Required size at 4.0 m span	IPE 180 (19.2 kg/m)
Installed electrical capacity kW.	1.5
Advisable width feed corridor m.	2.7
Recommended power consumption kWh.	0.55

Power supply and overhead rail

Maximum power A	50
Distance power rail to track cm.	20
Radius m.	1.0



Trioliet reserves the right to make changes in design and specifications, or to add new features without obligation on implements before or after such changes are made.



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