



tks

AGRI

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TKS FeedRobot System

- *K2 FeedRobot 1600*
- *K2 FeedRobot 1200*



TKS FeedRobot System

A unique system for feeding of silage and concentrate in both free-stable or fixed-stable barns

TKS FeedRobotSystem is probably the only automatic feeding system that can handle roundbales directly without any processing in advance.

The FeedRobot collects the bale/block/silage automatically from the magazine when it needs to be refilled. The FeedRobot system is very flexible and can handle most feed types from slightly frozen round bales, silage and blocks to mixed feed from mixing systems.

The machine can also be equipped with a concentrated feed tank, which allows it to dispense concentrated feed or concentrated feed mixed with forage.

The wagon has a side-elevator, which feeds out on both sides.

Experience with automatic feeding and increased number of feeding times during a 24h period, shows that the animals eats more and performs better (produces more milk and grows faster).

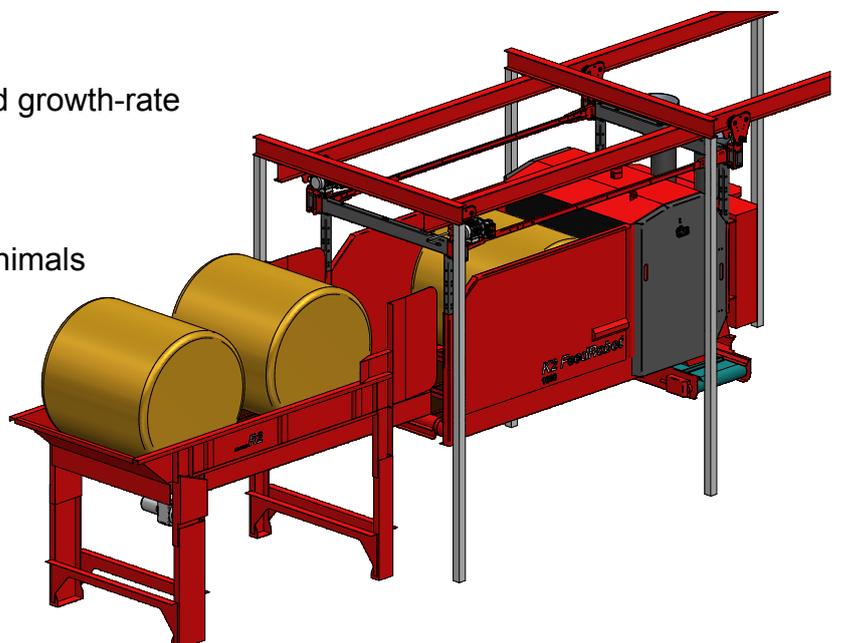
For maximum output it is in most cases ideal to have between 6 and 12 feeding cycles during a 24h period. This will give the best effect of the silage. The amount of feeding-material is adjusted individually/in sections. This ensures that even with several animals pr. Section, all animals will have enough food, without having too much material on the floor. If the barn is equipped with Milking robot, more feeding-cycles will give better and more constant flow through the robot, and also better utilization of the whole system. This can also in turn lead to better performance from the animals.

Satisfied animals produce more.

Every time the silage material is handled an oxidationprocess results in an decrease in quality and taste. By feeding more often, but in smaller portions this problem will almost disappear. The animals will eat up most of the material each time, and leave a minimum for waste. This results also in a much more quiet herd and the overall environment will be much better.

SAVE MONEY

- Better utilization of the feed
- The animals eat more
- Milk production increases more rapid growth-rate
- Increased growth
- Better flow in cow-traffic with VMS
- Better environment for farmer and animals
- Lower building costs
- Only refilling of feed



TKS FeedRobot 1600

User-friendly menus and interface

K2 FeedRobot is easy to operate and has self-explaining symbols and menus on the screen. Use the touch screen to easy shift from one menu to the other, change parameters, make adjustments, change language and more.

Step by step run through of all basic things that has to be programmed before startup.

The programming is basically to divide the barn into the right groups of animals, and tell the K2 FeedRobot start/stop points for each group on each side. The operator follow the wagon during these steps through the driving route.

Then the desired feeding-sequence is set. A feeding-sequence contains the programmed groups of animals to be fed.

Choose between 2 different feedingprograms

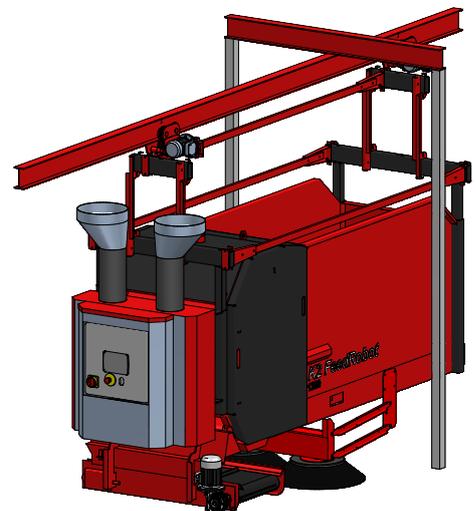
Standard-program (with two different options)

1

K2 FeedRobot sammen med magasin for rundballer
Option 1: Especially developed for roundbale feeding. The FeedRobot picks up new bale from magazine when empty.

2

The K2 FeedRobot is filled from a source for example FeedHopper or top-unloaders. etc. Specially developed for farmers that use feeding material other than round bales or a combination of several types of round bales and loose feed from silage pits or silage from silage towers etc. The K2 FeedRobot collects feed from the filling source automatically as required and dispenses it to each group of animals. This program can handle 1 filling source for silage/material and 3 for minerals/concentrate. The K2 FeedRobot can commute when filling, for better utilization of the space inside.



Menu-program

K2 Feed Robot can collect feed from up to 10 different sources and 3 different sources of minerals/concentrate. It can commute during filling, and different types of feed can be laid in layers to get a good mix of these. The K2 FeedRobot can then provide different mixes (recipies) to different groups of animals (milkingcows, bulls, young animals, calves etc.) All this can then be distributed in many cycles during a 24h period.

An example of this: Two FeedHoppers with different forage quality, one K2 CombiCutter with straw, a magazine of cracked grain and a magazine of spent grain. There are many options for setting up the combination you want, for both new and used equipment. This means that you only need to refill the feed in the different filling sources and the K2 FeedRobot does the rest.

When using several FeedHoppers/sources, communication between the K2 FeedRobot and the other equipment is done via radiosignals. The material can be loaded into the FeedRobot with a conveyor-belt from the sources, or directly if the sources are placed high enough.

With K2 FeedRobot system you will have one of the most expandable and reliable systems available today. It is also giving you the best possibilities to get the best overall economy for dairy farmers. Uses only electrical power – no pollution inside barn, less manual work in feeding process, more accurate and consistent feedingprocess – every day.



TKS K2 FeedRobot 1600



Feeding by weight

TKS FeedRobot have weight-cells that gives statistics for the amount of feed, each group of animals is fed. In the program you can enter the desired amount of feed for each day, and how many feedings you want for each group of animals. The computer divides the programmed amount into the entered number of feeding-times. For each feeding the computer calculates how much is left and then recalibrate, so that the total entered amount is fed at the end of the day.

This gives a unique possibility to monitor and adjust the amount of feed the animals eats. All changes in quality and type of material can be measured immediately. One can also optimize the total amounts of cycles pr. 24h, which suits the actual situation at your farm. Discover the best way of dispensing feed based on the feed intake. This system gives you the opportunity to design your specific feeding-schedule with the perfect amount of silage/straw material.

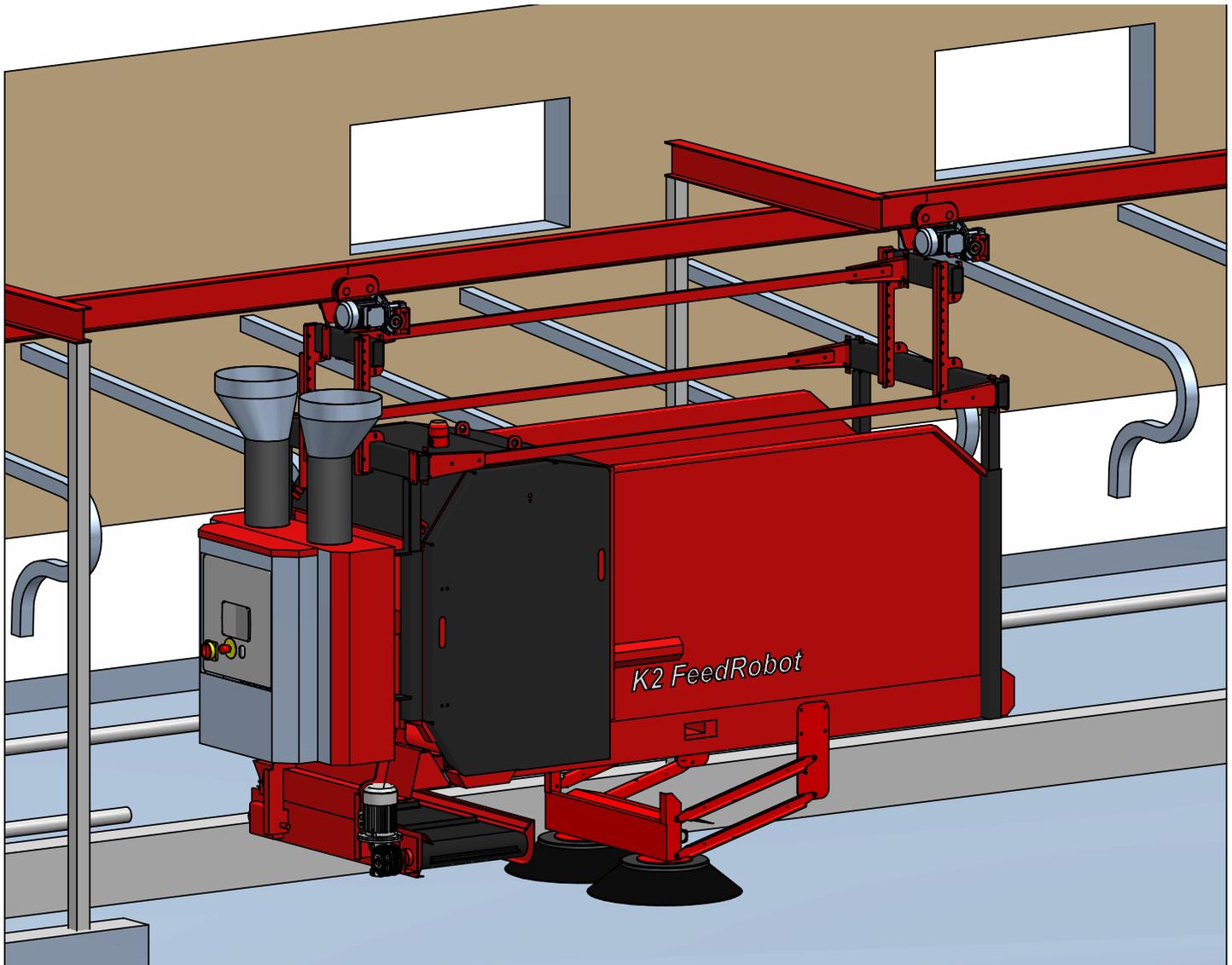
Feeding with minerals/concentrate and silage/grain material

A great advantage with K2 FeedRobot system is that you can integrate the automated system for minerals/concentrate. One can program specific cycles for distributing minerals/concentrate only, or it can be mixed in with the silage/straw material. The ability to mix these two feeds together, provides the best possibilities to get a stable pH-value in the animals digestive system. The system are also capable of giving exact amounts to individual animals (in fixed stalls).

One can have from 1 to 3 different containers with mineral/concentrate.



TKS FeedRobot 1200



K2 FeedRobot 1200, for narrow feed-trays.

TKS manufacture two models of the K2 FeedRobot

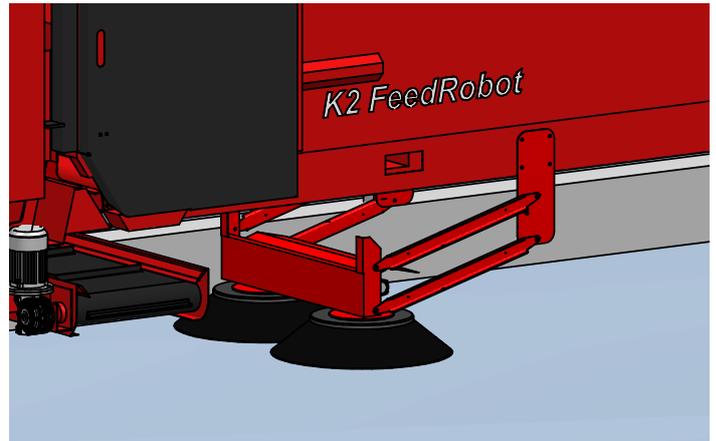
- A. Standard model, which is 1600mm wide
- B. Narrow model, which is 1200mm wide

1200 model can be used on feed-trays down to 1400mm width.
Depending if there are animals on both sides and how high the wagon is hanging.

The machine has the same basic construction and features as the standard model.
It can handle all types of feed, supplied from different sources/filling stations.
The only diversity is that it can not handle whole roundbales.

Both models can be equipped with a 1m extension which increases the volume inside. This can be applicable with long feed-trays, or if one need to get more material which has long and very dry straws.
Ideal width of the feed-tray is 1600mm, with a height of 500mm underneath the side-elevator.
The machine can be equipped with tank(s) for minerals/concentrate and the TKS FeedBrush system for wiping the feed back to the animals.

TKS FeedRobot System



TKS FeedBrush

Rotating brush

K2 FeedRobot can be equipped with rotating brushes mounted on a suspension rack underneath. These brushes keep the feed-tray clean and move the forage back to the animals.

TKS FeedBrush is fitted beneath the wagon and connected to the ceiling rail system, which controls the rotation direction and operation. The brush reduces manual labour on the bunk feeder to a minimum and improves feed utilisation by ensuring that the feed is kept within the reach of the animals at all times. Feed residue is reduced to a minimum.

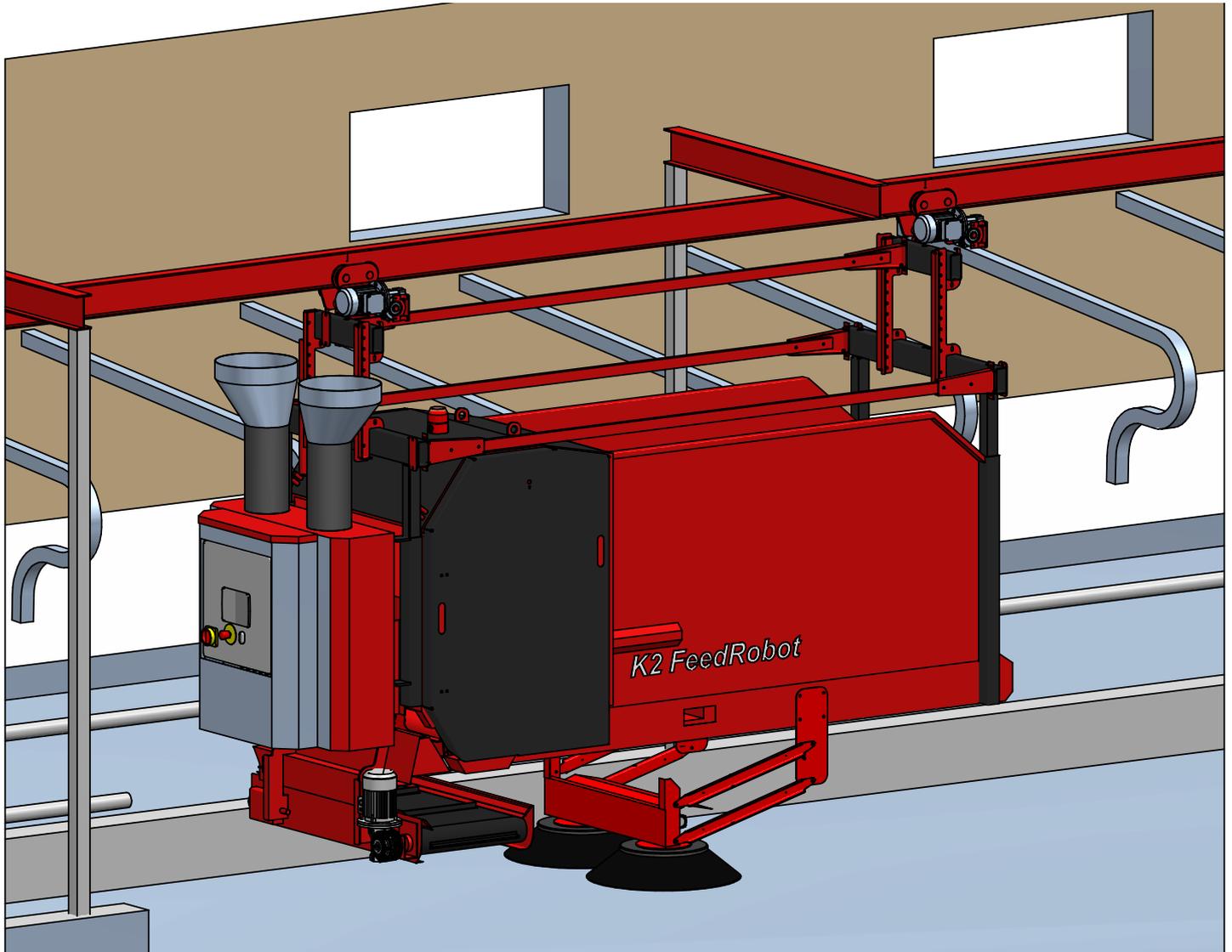
New knives

The drum is now equipped with 62 double blades that are not attached with screws, but easily inserted into tracks in the drum and secured using a rubber mallet. They are easy to replace even after a long period of use when only one blow of the mallet is required to loosen them. The drum must rotate upwards, and the blades will never come loose because the rotation direction presses them even more securely into the tracks. If the machine is to function optimally, it is very important that the blades are replaced once they are worn out. If the machine is used with worn-out blades or with blades missing, the material will be pressed against the drum where it will not be torn/cut away, therefore increasing the amount of force required. The drum will wear out and the pressure will transfer to the bearings and axles.

Regular sharpening of the blades will also facilitate operation and improve cutting.



TKS FeedRobot System



You only need to refill material

- TKS K2 FeedRobot system is the only system on the market that can handle all kinds of silage directly without pre-processing; long or short material, wet or dry, roundbales, blocks or precut material.
- It is easy to build up an automatic system that mixes different types of forage and provides you with statistics for the amounts dispensed.
- You only need to refill material
- You can use the concentrated feed dispenser on the machine to mix the concentrated feed into the feed ration by running it either before, after or at the same time as forage distribution.
- With many feeding-cycles pr. 24h, and the FeedBrush that always keeps fresh material available, ensures that the animals gets enough eating time. It also ensures the right mix of silage and minerals/concentrate.
- The system provides the ability to feed with a certain mix of concentrate and silage. This secures a stable pH-value, even with larger amounts of concentrate-feed.

TKS FeedRobot System

TKS FeedMixer

The FeedMixer is specially designed to provide good mixing results in a short time. It is therefore suitable for mixing full feed, which often involves mixing feed types of a very different consistency and character. It is important that finer ingredients and smaller quantities are mixed in quickly before the mixer has been running for so long that the structure of the feed is damaged. FeedMixer is ideal for cutting and mixing round bales of all types; with its powerful motor and auger design, it will quickly produce a loose and fine material that can be easily dispensed by all types of feed wagons.

FeedMixer has vertical augers that produce a fine material in which the structure of the feed is retained. It is particularly important with pre-dried material that the feed is not compressed into wet lumps. This will reduce the feed intake.

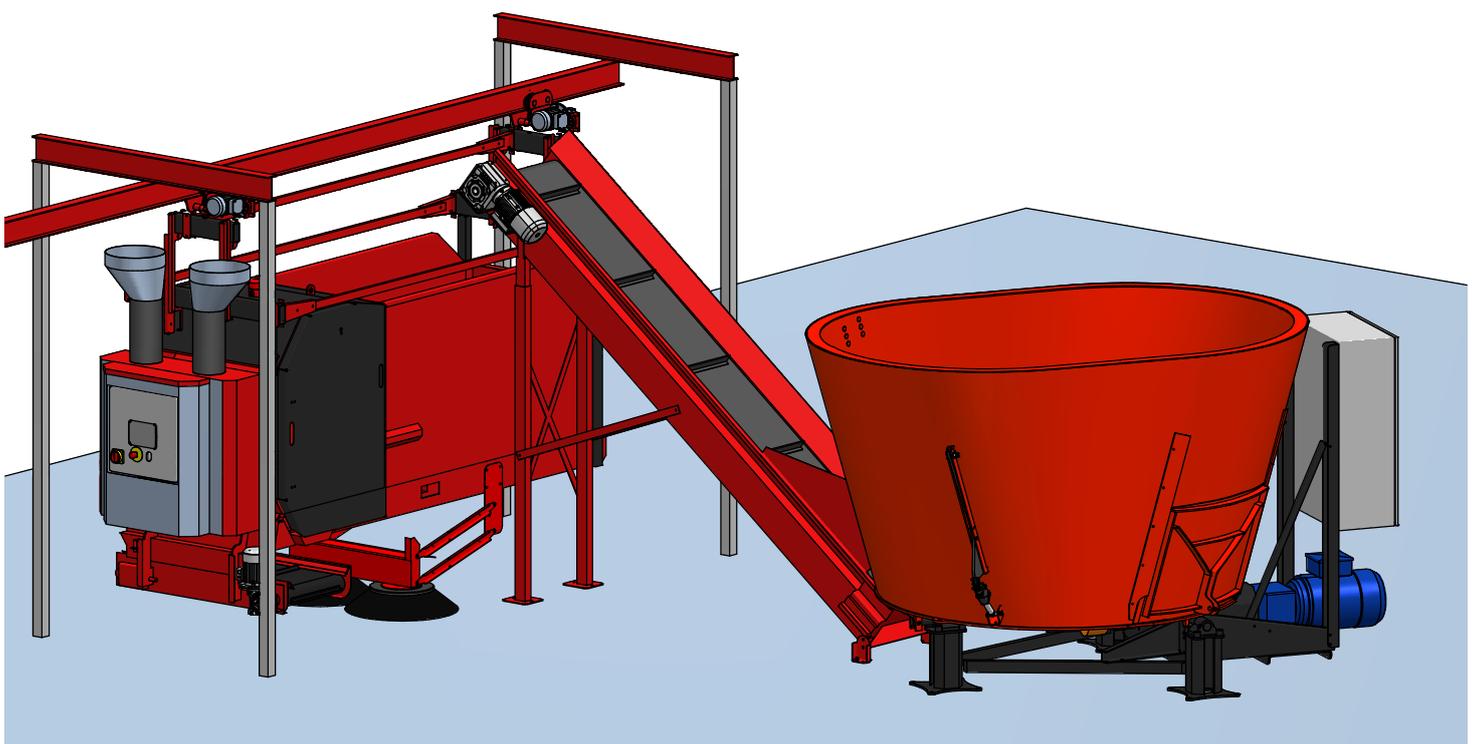
More time and involvement is required to achieve the best possible result. The quantities of individual feed types and the duration of the mixing process must remain the same every time in order to retain the composition and consistency – otherwise feed intake and production will be affected.

That is why the FeedMixer is equipped with powerful motors. This means that the FeedMixer always has enough power to mix quickly, regardless of whether it is mixing whole round bales or another type of feed.

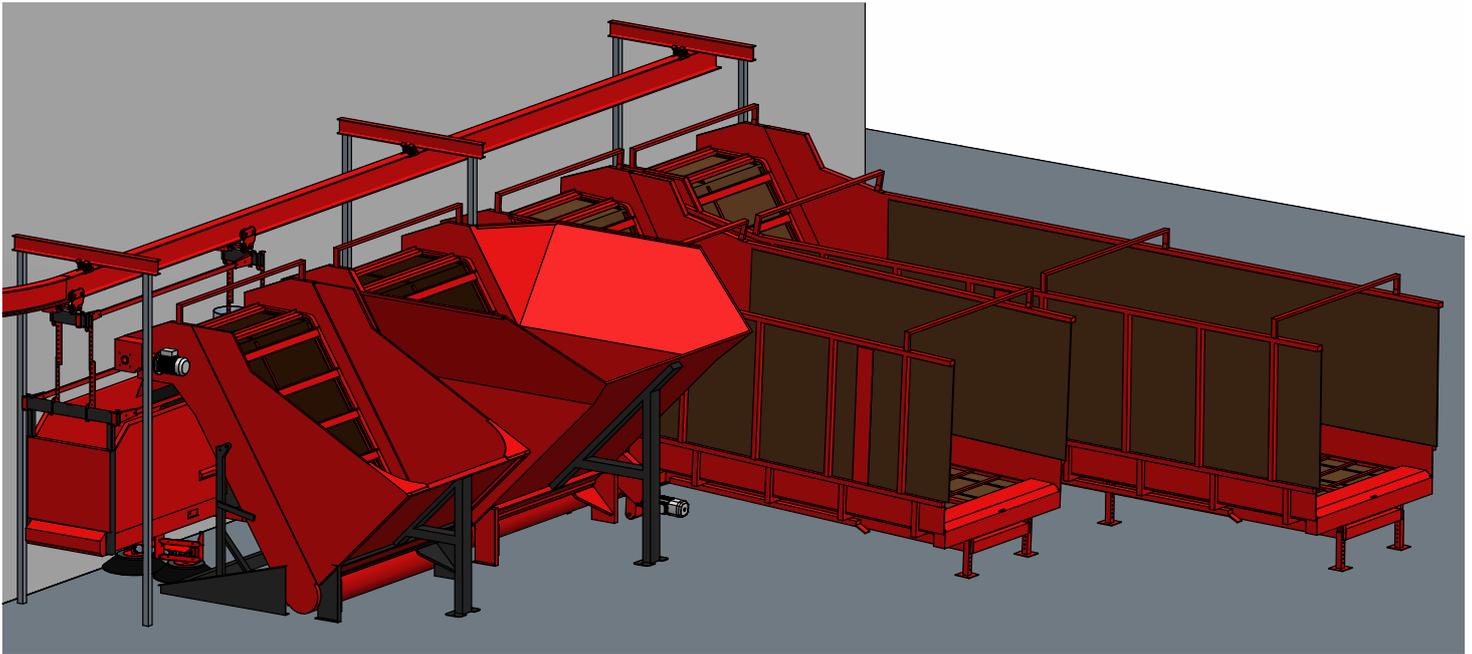
All functions are electrically operated. The side blades are folded away during mixing and extended during the dispensing process. If the mixer dispenses feed more than once a day, the output hatch should be kept closed between each session. The mixer can be equipped with a sensor that starts the mixing process when a new bale arrives. When the scales record weights under 200 kg in the mixer (while dispensing) they will increase the rotational speed in order to clean the screws and expel the rest of the feed.

The TKS FeedMixer is available in sizes from 4 m³ to 30 m³. Sizes up to 15 m³ are supplied with one auger, the rest with two augers.

The FeedMixer we use is a Kuhn mixer that we integrate into our own system, making it possible to communicate with almost all types of feeding systems.



TKS FeedRobot System



TKS FeedHopper

The FeedHopper is suitable for all types of feed such as round bales, silage, finely-cut silage forage, silage forage in blocks and freshly-harvested feed. The FeedHopper is ideal as a filling source for the K2 FeedRobot. It is solidly built to tolerate the splitting of round bales.

The K2 FeedRobot collects the feed from the FeedHopper when it needs to be refilled.

The FeedHopper can be used to mix different types of feed, and further mixing is carried out when the K2 FeedRobot is filled from the FeedHopper and during dispensing from the K2 FeedRobot.

The bottom-conveyor can be operated manually back and forth, to ensure maximum filling capacity.

The FeedHopper can be filled either from the back-end or from the side, using a front loader.

Trailer-loads has to be delivered in the back-end.

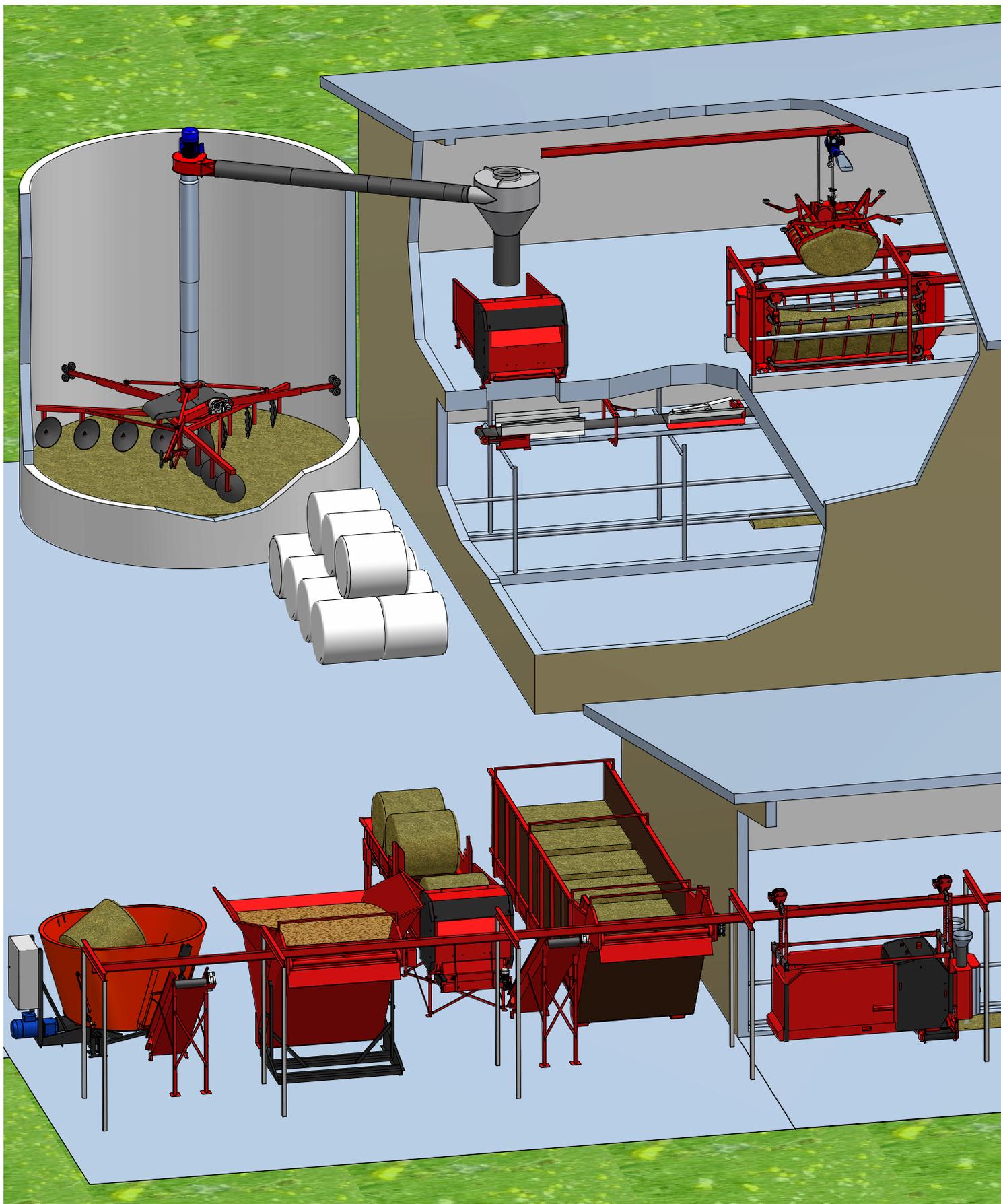
The system is simple, flexible and ideal for anyone bringing forage into their cowshed from several farms, some of which have round bales and others tower silos or silage pits. If you want to change harvest line or storage method later, this will not affect the dispensing system in the cowshed since both the FeedHopper and K2 FeedRobot can handle all types of feed from long to short or wet to dry.

The TKS FeedHopper is available in four sizes: 5, 11, 20 and 30 m³. The size of the FeedHopper required depends on the daily consumption of feed and whether you only want to refill the FeedHopper once a day.

The great benefit of combining the K2 FeedRobot with the FeedHopper is that you always have an automatic feeding system, regardless of the type of feed, storage or harvest method. You only need to refill with feed.

The K2 FeedRobot does the rest.

TKS Feed System



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