



# HAU

KNOW HAU IT WORKS

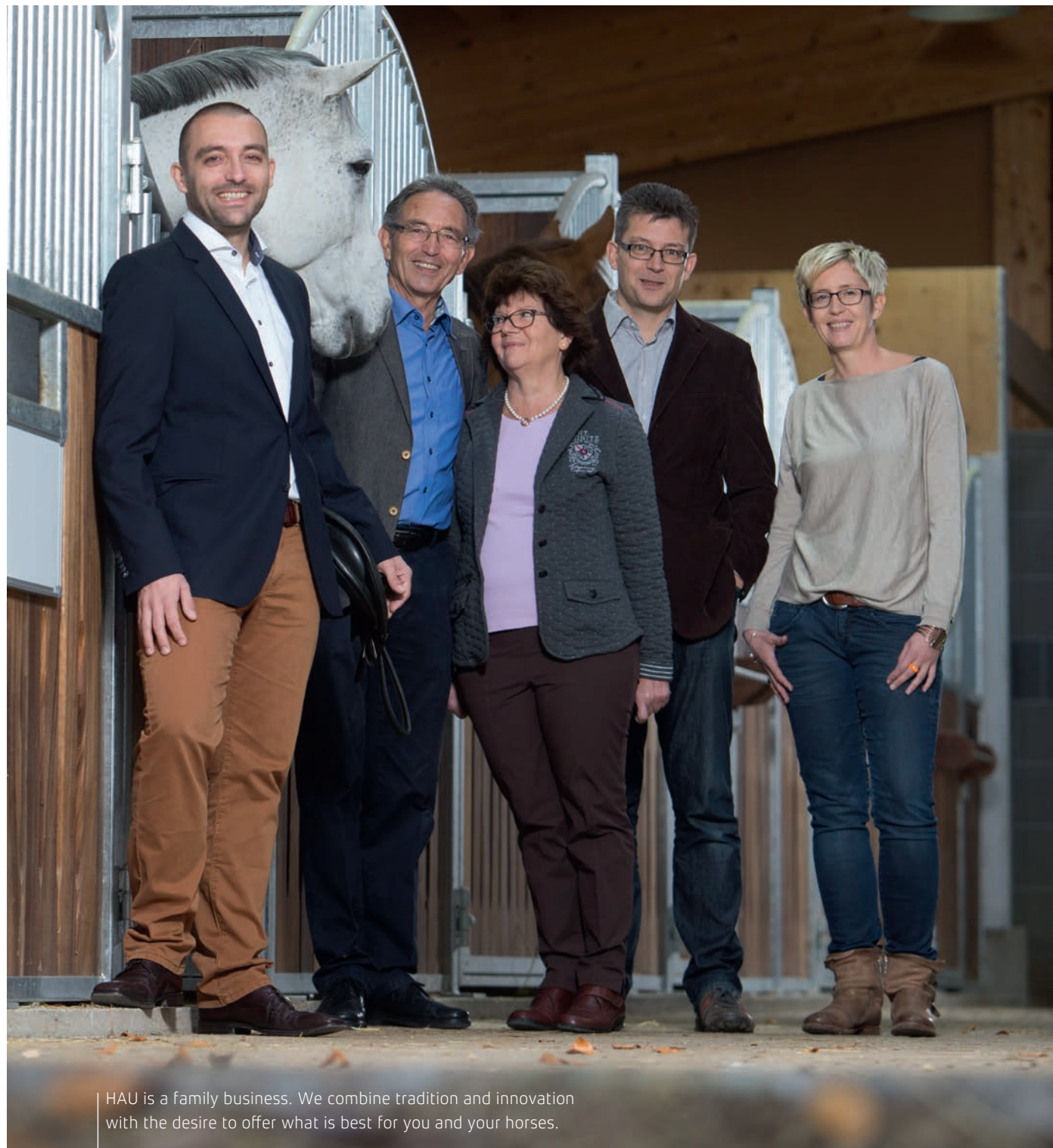
## KORN-MAX

*Your charming lad in the stable –  
cost-effective feeding suitable for horses*



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HAU is a family business. We combine tradition and innovation with the desire to offer what is best for you and your horses.

## KNOW HAU IT WORKS

### THINK HAU

Our motivation is to enable you to easily practice animal keeping profitably. For all forward-thinking horse-keepers with an affinity to innovation we develop and manufacture first-class stable systems with passion. HAU allows for individual and suitable animal management for humans and animals to enjoy and stay healthy.

### KNOW HAU

For decades, the huge know-HAU of our successful family business in metalworking, our smart, honest team and the close interaction with customers have brought about prestigious and long-lasting stable furnishings.

### HAU IT WORKS

When developing Korn-Max we combined appropriate feeding and substantial reduction of workload for horse keepers and translated our know-HAU into feeding technology. This brochure introduces our horse hero by the name of Korn-Max.

As we know how to do it, we offer you the opportunity to realise your individual feeding solution using our Korn-Max. And we stand by your side with our full consulting competency – contact us!

### HAU. IT WORKS!



## FEEDING SUITABLE FOR HORSES

In nature, horses spend between 10 and 16 hours per day looking for and taking in food. In fact, they take in many small portions of fodder. Therefore, horses may aptly be called permanent eaters. The physiology of their entire digestive system is designed for that.

Despite domestication, their original eating habits have not changed. The horse's metabolic system is designed for the intake of numerous small portions of fodder during the day.

When horses are used for sports activities, hay is not sufficient as a basic fodder to provide the required energy. Therefore, fodder concentrate is added. It mainly consists of corn or mixes of cereals, minerals, and vitamins.

**Conclusion: to feed your horses appropriately, provide them with numerous small portions of fodder distributed across the day!**



## HEALTH RISKS IN HORSES

Feeding horses large portions may excessively burden the stomach and small intestine. Consequently, the fodder may be shifted into the colon which may lead to an unfavourable PH value causing poor digestion. However, this can also lead to more severe conditions:

### 1 Colic

When fodder concentrate is fed, it is particularly important not to give too much at once. Feeding too much oats may cause colic. Colic in horses include all signs of diseases in the stomach or intestine. Colic is not a disease in the proper sense, but an indication of a malfunctioning digestive system and is a common risk when feeding horses.

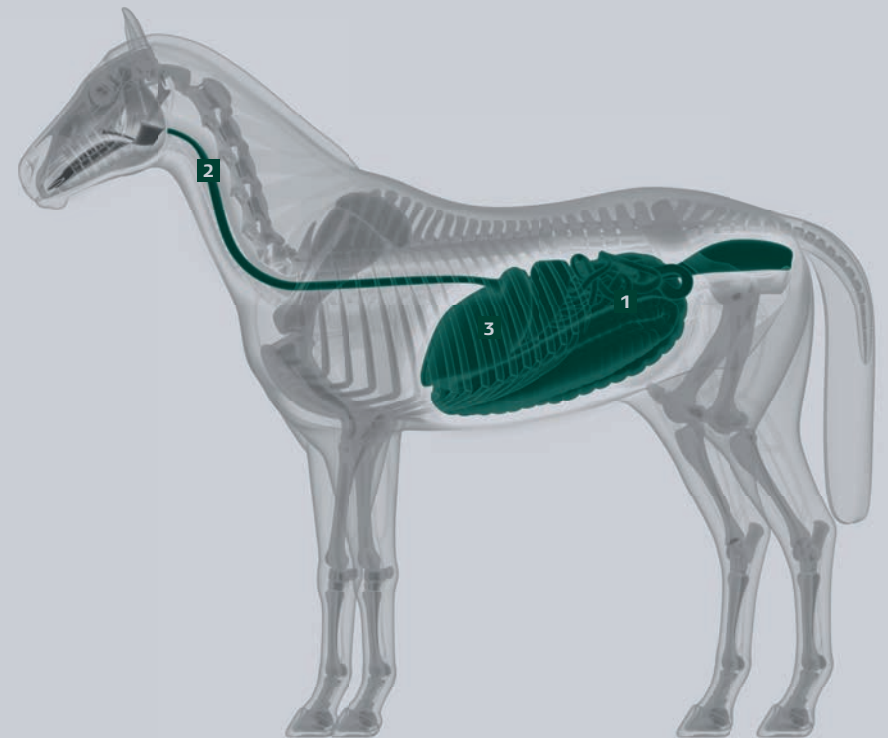
### 2 Throat obstruction

Voracious eating may cause life-threatening throat obstruction. Foreign bodies such as fodder particles may block the horse's throat. The muscles in the oesophagus contract and the foreign body cannot be swallowed.

### 3 Gastric ulcers

Large amounts of fodder concentrate fed over a longer period may lead to excessive acid in the stomach, which may irritate the gastric mucous membrane, which in turn may cause gastric ulcers.

**Conclusion: never feed large amounts of fodder concentrate at once to avoid jeopardizing your horses' health!**







## OPTIMAL HORSE FEEDING

Below, you will find some helpful recommendations to achieve optimal feeding of your horse:

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### Small portions

Use many small portions distributed across the day, especially when feeding fodder concentrate. Adjust the amount of fodder to the horse's needs. Moreover, it may be beneficial to change the size of the individual portions during the day.

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### High frequency

8 to 12 portions are considered beneficial for a well-balanced, healthy metabolism. Make sure to accommodate for the individual horse's needs and adjust the frequency accordingly.

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### Different feeding times

Not every horse has the same rhythm; not every horse has the same amount of exercise or rest. Make sure that feeding accommodates for that. Consequently, your horses may have to be fed at different times.

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### Individual fodder

Some of your horses may require more minerals or vitamins due to greater needs or diseases or they may prefer a special fodder. Therefore, you may want to adjust the type of fodder to the individual horse.

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### Calm behaviour

Due to conventional feeding in the stable, the horses may be restless when waiting their turn. This promotes jealousy and frequently leads to voraciousness. Feeding multiple portions works to the opposite: it calms down the horses and promotes healthy eating patterns. Moreover, breaks between portions ensure better conversion.

## KORN-MAX FEEDS APPROPRIATELY

Korn-Max is the horse-friendly, healthy, and economic alternative to work-intensive, time-consuming manual feeding.

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### Small portions

Korn-Max dispenses fodder concentrate in numerous small portions distributed across the day. The amount of fodder may be adjusted to the horse's individual need. Korn-Max doses accurately and reliably.

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### High frequency

Korn-Max dispenses fodder concentrate in up to 15 individual portions per day. The feeding frequency may be defined separately for each horse.

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### Different feeding times

With Korn-Max you can set different feeding times for each horse.

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### Individual fodder

With Korn-Max you can give each horse its individual fodder. Generally, all common fodder concentrates may be used – provided the concentrate is pourable. If you are not sure, we will find out for you. Just send us a sample of your fodder.

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### Calm behaviour

Our Korn-Max brings relaxation to the stable: calm, frequent, and individual portions have a positive impact on feeding behaviour and jealousy. This avoids throat obstructions. Extended feeding times ensure optimal energetic conversion and minimize the risk of colic. Moreover, it keeps the horses busy and reduces unnatural behaviour.

## WIN-WIN FOR HORSE AND KEEPER

### HEALTH BENEFITS

- Up to 15 portions per day: many small portions are appropriate and promote health.
- Reduced risk of colic, throat obstruction, and gastric ulcer.
- Calm feeding process in the stable.
- Calm feeding ensures optimal fodder conversion.
- Increased feeding duration facilitates digestion.
- Less stress during feeding: no jealousy, no voraciousness, no hasty intake of food.
- Precise feeding: no more inadequate amounts.
- Increased entertainment to reduce unnatural behaviour.
- Individual provision.



*KORN-MAX TIP:*

### **RELIABLE FEEDING**

No horse is forgotten or goes underfed. Each horse gets exactly the defined amount. The integrated error control records whether each horse received its portion including HCU notification if feeding problems occur. This puts you in full control – always!



## BENEFITS FOR HORSE KEEPERS

### Labour cost savings

- As significantly less time is required, cost savings are generated. There will be no more effort required to cope with many individual feedings with different fodder. Due to the large volume of the reservoir, Korn-Max automated systems need filling less frequently.
- No need to permanently instruct grooms on feeding.

### Latitude

- Flexible working times/independent feeding times.
- Due to mobile monitoring and control functions, you can even respond remotely with greater freedom when on the go.

### Fodder cost savings

- Less waste: fodder savings due to minimized loss of fodder, which occurs with manual feeding or when horses feed from full troughs.
- No trickling due to vibration (guaranteed trickle-free dosing technology).
- Less fodder required due to improved conversion.

### Simplicity

- With the respective add-on features, the HAU Control Unit (HCU) can automatically control the feeding process in case a horse is absent.
- Easy handling: many horses are fed different fodders. With Korn-Max you can easily manage.



*KORN-MAX TIP:*

### **LOW EFFORT**

The greatest benefit of Korn-Max is that it has everything it takes for optimal horse feeding with low effort. Our technology reliably performs what would be impossible for you and your grooms. Korn-Max significantly reduces the effort and brings you optimal performance. It provides you with more time and labour cost savings and makes you independent from feeding times!

## FUNCTIONING

### Feeding process with individual breaks

At the set time, Korn-Max receives the command from the control unit to release a defined amount of fodder in palm-sized portions. One portion (dosing chamber filling) is approximately 20 g. If the total amount is 100 g, Korn-Max will dispense it in five portions. A break between the individual portions may be programmed. With Korn-Max you can feed up to 15 meals of different amounts. Thus, your horse will eat slowly without haste. It chews properly, which ensures improved conversion. With manual feeding, horses usually get their fodder by shovel. A shovel may hold between 800 – 1000 g. It is obvious! With Korn-Max you can ensure fine-tuned continuous feeding!

### Korn-Max brings calm to the stable

Horses are smart animals. Similar, currently available feeding systems come with a decisive drawback: in case of vibrations unlimited amounts of fodder trickle from the system until it is completely empty. Horses know how to utilize these weak spots. With Korn-Max by HAU this is not going to happen! We developed the trickle-free Cell-Dos technology to protect your horses from overfeeding.

### How to install Korn-Max

Naturally, we can do the full installation of our Korn-Max systems for you (see “Assembly” on page 20). Alternatively, you can also fit the systems yourself. A Korn-Max device may be installed in the aisle or the stall. The devices, however, should be connected by an electrician who can also provide you with the required cabling. Information on cables and the wiring diagram may be obtained from us. The system can then be put into operation by our experts.



*KORN-MAX TIP:*

### INDIVIDUAL FEEDING

Each horse may be provided with differently sized portions at different times.







## KORN-MAX MODELS

Our Korn-Max is available in two versions which differ in the size of the stainless-steel reservoir. The reservoir can hold either 43 litres or 55 litres. Both models are equipped with windows to show the filling level.

Both Korn-Max models may be purchased with different sensors for add-on features (see next page).

In case of larger quantities, we can even offer you customized models to accommodate for your requests!

Fodder	Korn-Max 43 L	Korn-Max 55 L
Oats	app. 22.8 kg	app. 29.2 kg
Muesli	app. 22.4 kg	app. 28.6 kg
Pellets	app. 28.0 kg	app. 35.6 kg





## ADD-ON FEATURES

Gain greater comfort and control with additional features. The following may be used with Korn-Max and the respective control unit:

### **Monitored dispense**

With this feature, you ensure reliable feeding. A sensor is installed in the pipe through which the fodder is dispensed into the trough. It monitors whether fodder is dispensed at the set time. If this is not the case e.g. because the system is empty, the control unit notifies malfunction. Obviously, it also provides information on the time when the horse was last fed successfully. Now, you can always respond adequately.

### **Presence monitoring**

This feature allows you to monitor the presence of a horse and its intake of fodder. Moreover, you can control how Korn-Max handles these situations (horse present or not).

### **Extension: watering trough monitoring**

Beyond the functionality of Korn-Max, our HCU control unit (see page 16) offers you the opportunity to monitor your watering troughs by sensors as well. You can see whether and how often your horses use them. If a horse fails to take in water for a longer time, you can set the HCU to display a message. Should a horse not drink due to a disease, you can respond in time.





## ADDITIONAL SOFTWARE FOR PC

Korn-Max itself is a fodder concentrate dispenser, which – depending on the add-on features it provides – is equipped with the respective sensors. To control feeding, you also need the HCU (HAU Control Unit). The software ensures communication between the HCU and the PC. For this feature, a network connection is required. With the optimal software, you can control Korn-Max remotely with a PC or mobile device. In this case, however, the HCU and PC or mobile device requires an internet connection.

### Software features:

- Individual feeding control for each horse regarding time, duration and amount.
- Settings for absence (presence monitoring).
- Settings for breaks between individual portions of a meal.
- Function monitoring: the software displays the status e.g. ready for operation, error or malfunction.



*KORN-MAX TIP:*

### **WE BRING YOU FLEXIBILITY**

With the remote control for our HCU and a mobile device you can always check the status of the control unit and change the settings – no matter where you are.

## CONTROL UNIT: HCU

Our HAU Control Unit (HCU) provides a quick overview of your system at a glance. In addition, it controls all connected Korn-Max devices. Usually the HCU is placed in the aisle or tack room.



### Features

- Suitable for an unlimited number of Korn-Max devices.
- Sophisticated feeding control: variable breaks between individual feeding intervals.
- Status of the entire system at a glance.
- Error notification / with internet connection: error messages by email (optional).
- HCU touch panel upon request for your individual stable layout.
- Connects to your network.
- Remote maintenance: As manufacturer, we can offer remote maintenance for your control unit. In case of errors, we can help you quickly. Via this route, we can also install software updates for you. Obviously, remote maintenance features use a secure connection.
- Remote control: control the features of your HCU via mobile devices, such as smartphone or tablet.

### Additional features upon request

- Presence monitoring
- Monitored fodder dispense
- Monitored watering troughs





## REFERENCE PROJECTS

### HUBERTUSHOF

**Project:** new building  
**Implementation:** 2011 – 2013 in several construction phases  
**Scope of project:** 82 horse stalls from the Derby series, 10 stalls from the Partner series, 82 Korn-Max devices, 82 hay racks, doors, gates and windows including extensive accessories.

**Special requests:** feeding technology was customized to accommodate for the farm structure: each Korn-Max is equipped with a key switch and control lamp. Only authorized staff in possession of a key may deactivate individual Korn-Max devices. If this happens, the control lamp lights up.





## REITSTALL WASSMANN

**Project:** Modernisation of an existing horse farm  
**Implementation:** 2013  
**Scope of project:** 64 Korn-Max devices including absence monitoring

**Special requests:** special fittings were provided for some of the devices, such as protective grating and adjustment to building conditions. Moreover, the customer favoured feeding at floor level.



*KORN-MAX TIP:*

### **ASK FOR REFERENCE PROJECTS**

Call us for additional information.  
We are glad to inform you on a  
reference project near you.





## FULL SERVICE

### **Consulting & Planning**

No matter whether you plan to rebuild or modernise: make use our Know-HAU! We will advise and plan the use of our Korn-Max technology with you to accommodate for your special needs. This includes assembly of devices in the stalls and the position of the control unit(s). We will also help you with the distribution in case of several facilities and horse-proof cabling.

### **Assembly**

We can do the entire deployment of all components for you i.e. fitting of devices, cabling, connections, and taking the system into operation. Naturally, you may also take care of that yourself or call in a specialist of your choice. Our experts are happy to put the system into operation for you.

### **Maintenance**

If your HCU is connected to the internet, we can offer remote maintenance and check functionality, trace errors or install software updates for you. You do not have to wait for technicians or pay travel expenses anymore. We offer quick response and peace of mind!



## FREE TEST DEVICE

We can provide you with a free test device equipped with all features. All you must pay is freight.

Also in this case, of course, Korn-Max comes with the respective control (HCU). Call now and experience the benefits during a 3-week test!



*KORN-MAX TIP:*

### **CALL NOW FOR A FREE TEST DEVICE**

Call now and get a free Korn-Max test device including control:

call +49 (0) 7961 9113-0 or send an email to [info@korn-max.de](mailto:info@korn-max.de)

## STABLE SYSTEMS

We at HAU are not only a specialist in feeding technology; we also offer a broad range of products for your stable beyond that. High-quality craftsmanship, modern manufacturing, and customization to accommodate for your needs are the hallmark of our stable systems. Discover some of our products and services below:



### Products

- Indoor and outdoor stalls
- Pens
- Fence systems: panels and paddocks
- Doors, gates, and windows
- Watering and feeding technology
- Flooring and impact protection mats
- Care: examination stands, tying bars and more
- Accessories and extras

### Services

- Consulting
- Planning
- Individual design and manufacturing
- Assembly



To discover the complete range of our products, please visit us at:

[WWW.HAU-PFERDESPORT.DE](http://WWW.HAU-PFERDESPORT.DE)









Korn-Max also convinced the expert jury at the EQUITANA world fair of horse sport and received the prestigious Innovation Award in 2013.



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