



Big Dutchman®



Call-In^{pro} & CallMatic^{pro}

Electronic feeding systems for sows in group housing

Call-In^{pro} and CallMatic^{pro} – electronic sow feeding for pregnant sows

Big Dutchman offers two innovative electronic sow feeding (ESF) systems:

Call-In^{pro} and **CallMatic^{pro}**.

Each of these feeding systems is a perfect choice for pregnant sows kept in groups. They ideally combine the advantages of animal-friendly housing and a feeding

method specially adapted to the requirements of each individual sow.

For the sows, group management means more freedom to move, better health and robustness.

Individual, computer-controlled feeding allows the feed supply to be matched

precisely to the condition of the sow.

For the farm manager, this means healthy sows, performance-related feeding and best use of the house surface area. The feeding station can also be used to select sows automatically.



How electronic sow feeding works

Each sow is marked with a transponder ear tag. When a sow enters the feeding station, which is always open when no sow is inside the station, she passes a light barrier. As soon as the sow has entered the feeding station, the entrance gate closes. The sow is identified by the computer by means of an antenna located above the trough flap. If the sow is entitled to receive feed, the trough opens and feed is measured out in small portions. When the sow has finished eating, the trough flap closes. If the sow is not entitled to receive feed, the trough flap remains closed. The

entrance gate re-opens after a set time delay if a sow does not leave the station by herself. The next sow then enters the station and automatically drives out the last sow.

If a sow leaves the station even though she is still entitled to receive feed, the feeding process stops and the sow can eat her remaining share at a later point in time.



Highly accurate electronic sow identification

Data collection and sow identification are carried out by a very reliable and small ear tag transponder, which is inserted into the sow's ear by means of special pliers. This passive transmitter operates battery-free.

The sow is identified by means of an antenna in the trough area. The received data is transmitted to the control computer.

An additional antenna is installed at the boar pen if a separate unit for heat detection is used. This antenna collects further information regarding the sow's state.

All established ear tag types can be read, irrespective of the manufacturer.



Ear tag for rapid data collection

Advantages of the ESF station

- ✓ management of large groups
→ animal-friendly and economic housing system;
- ✓ individual feeding of all sows based on the current requirements of each sow for a better overall condition and healthy animals;
- ✓ trough flap remains closed if the sow is not entitled to receive feed;
- ✓ manual operation directly at the station is possible;
- ✓ pneumatic opening of the gates; the entrance gate is always open when the station is unoccupied, which makes training gilts much easier;
- ✓ solid side partitions for undisturbed feed intake;
- ✓ use of sound-absorbing materials to ensure a low noise level in and around the station.



Two modern ESF stations: all characteristics at a glance

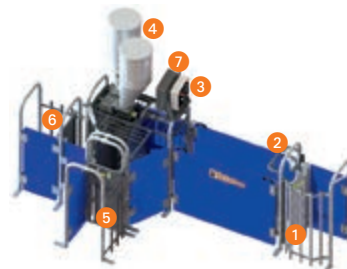
Key:

- ① Entrance gate
- ② Light barrier
- ③ Manual control unit
- ④ Feed hopper
- ⑤ Exit gate
- ⑥ Selection exit gate
- ⑦ Station computer

Call-In^{pro}



CallMatic^{pro}



Entrance gate: opening/closing	pneumatic	pneumatic
Trough flap: opening/closing	pneumatic	pneumatic
Feed trough material	stainless steel	stainless steel
Entire system	galvanized	galvanized
Floor fastening material	galvanized	stainless steel
Automatic selection, pneumatic	n/a	yes (option)
Colour markers	1 (option)	3 (option)
Feed types	1	1 (2 as an option)
Minerals	0	1 (option)
Heat detector	yes (option)	yes (option)
Manual control unit at the station	yes	yes
Entrance gate with light barrier	yes	yes
Emergency opening	option	yes
Dry feeding	yes	yes
Liquid feeding	no	yes
Control system	BigFarmNet	BigFarmNet
Mobile app	yes	yes
Station computer with display	no	yes
Delivery state	assembly set	pre-assembled

Call-In^{pro} – the economic option



The Call-In^{pro} ESF station is best suited for large stable groups. Feeding is possible with one type of dry feed and automatically adjusted to the sows' eating speed. Thanks to an electro-pneumatically driven dispensing mechanism, the metering precision is very high. If the sow is entitled to receive feed, approx. 60 g (2.12 oz) depending on the bulk weight, are dispensed into the trough. This process is repeated until the sow is no longer entitled to receive feed or until she leaves the station.

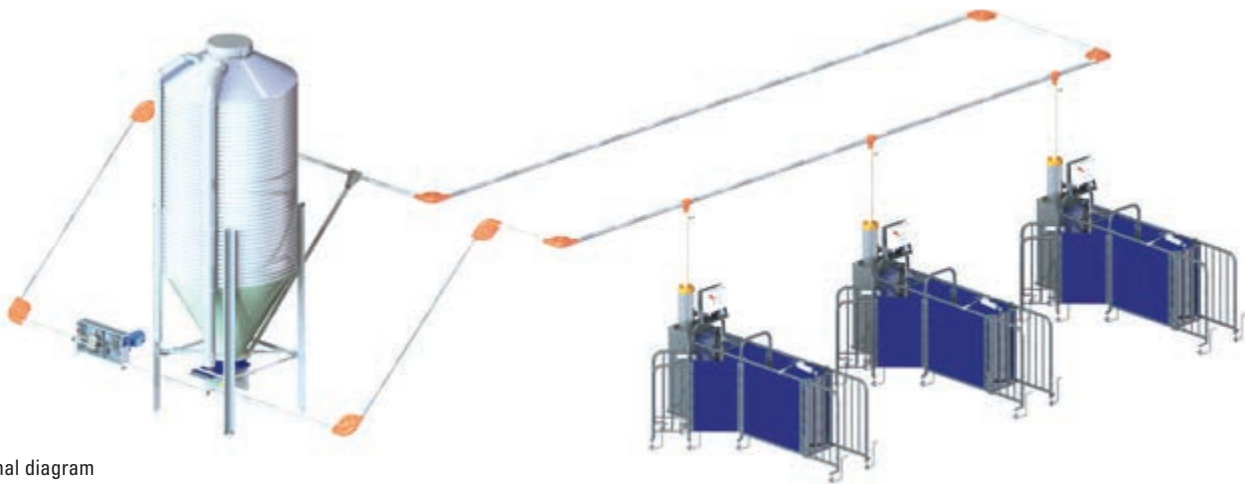
Entrance door and trough flap open and close pneumatically.

Call-In^{pro} only available for dry feeding

Each feeding station is equipped with a feed hopper supplied by the silo. A sensor

in one of the hoppers supplying a group of stations registers when the feed level

drops below a set minimum value. All feed hoppers are then immediately filled again.



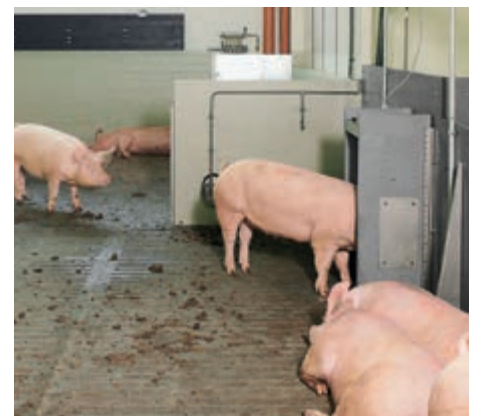
Functional diagram

Color markers can be added to both ESF stations as an option. If the station indicates that the entering sow must be marked, the spray can is automatically activated.

A separate unit for heat detection (optional) makes identifying sows which are returning to service very simple. These can then also be marked by color.



Color marking (optional)



Heat detection (optional)

CallMatic^{pro} – the professional option



The CallMatic^{pro} ESF station is suited for both stable and dynamic groups of sows. The sows can be fed either with two types of dry feed, automatically adjusted to the sows' eating speed, or with liquid feed. Thanks to the modular design of the station, it is very easy to adapt it to any space requirement. CallMatic^{pro} offers the option to select sows automatically. A sensor at the exit gate to the selection area registers the number of selected pigs and prevents overstocking of the selection pen. The station can also easily be opened in case of an emergency – thanks to the swing-type side walls.

Guiding post – for easy access to the station

The guiding post – fixed or pivoting – helps the sows to find the entrance of the feeding station. This makes it much easier particularly to train gilts that are in the selection aisle on how to use the feeding station. Double occupancy is avoided. The installed door can also be used by the farm manager to access the animal area, for example for inspection purposes.



Guiding post with pivoting door
Floor fastening made of stainless steel



Gilts can easily enter the training station from the aisle

Station computer – reliable and user-friendly operation

The station computer has a clearly arranged display and shows important information such as the status of the sow, the daily ration, the remaining feed quantity or the number of sows which have already eaten. It operates independently from the central PC in the office for a high functional reliability. Sows that require special attention are identified by the control system and automatically selected. The farm manager is the one to define when and why a sow needs special attention.

Another advantage is that the station computer does not have to be installed at the ESF station but can also be installed in the aisle. This makes for better accessibility (animal-free area) so that adjustments are easily possible.

In addition to the station computer it is possible to connect a separate PC which can, for example, be located in the farm office or the farm manager's home. Both computers communicate in real-time.



Station computer

CallMatic^{pro} for dry feeding

Each feeding station is equipped with one hopper per feed type (max. 2). Feed for the hoppers is supplied from the respective

silos. A sensor in one of the hoppers supplying a group of stations registers when the feed level drops below a set

minimum value. All feed hoppers are then immediately filled again.



Functional diagram of a CallMatic^{pro} for dry feeding, used of two types of feed



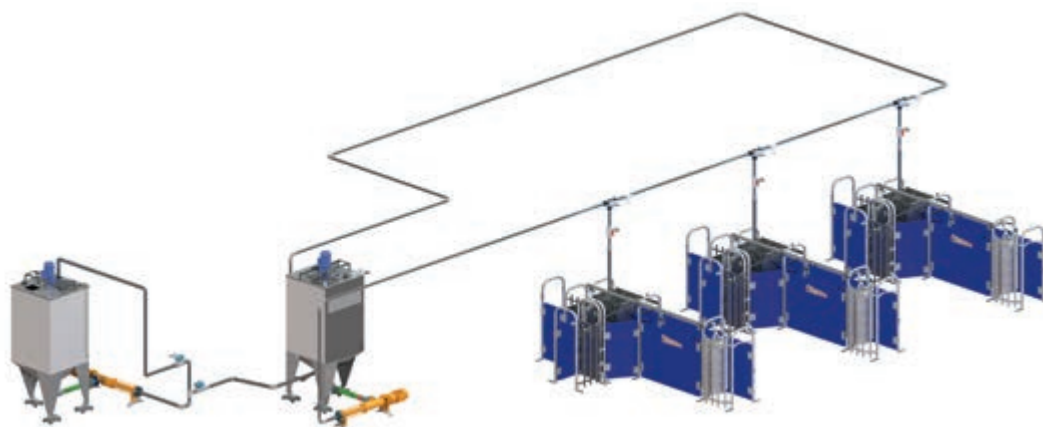
Feed trough – open trough flap

CallMatic^{pro} for computer-controlled liquid feeding

The installation of an ESF system with liquid feed is particularly cost-effective if other pigs are already supplied with liquid feed by means of a HydroMix liquid

feeding system. In this case, the computer of the ESF system is able to communicate with the liquid feeding system control. This means the ESF system requests feed

from the liquid feeding system which in turn prepares the requested feed ration and pumps it into the storage tank of the ESF system.



Functional diagram of a HydroMix liquid feeding system with storage tank for electronic sow feeding



Pneumatic ball valve

The liquid feed circulates through a pipeline system installed above the ESF stations. If a sow that is entitled to receive feed is identified, the pneumatic, low-maintenance three-way ball valve opens. Feed is dispensed into the trough over a time interval set by the farm manager. This process is repeated until the sow has received her pre-set feed ration.

The exact amount of dispensed feed is determined by weighing the feed in the mixing tank. If the stored feed mix drops below a certain minimum, the liquid

feeding system receives a new request for feed. Moreover, the tank of the electronic sow feeding system returns feed which has not been consumed to the main system's mixing tank. This ensures that feed remains fresh and increases hygiene.

Through this method, the feeding system is constantly calibrated, thus achieving a very high metering precision during the entire feeding process.

Storage tank to supply CallMatic^{pro}



The BigFarmNet control newly developed by Big Dutchman is a state-of-the-art software solution. It allows the farm manager to collect data continuously and to control and monitor all ESF stations in real time. The software's modular design makes it possible to control an unlimited number of feeding stations and to connect additional systems

such as heat detection for example, without the need for further control elements. All the data from individual houses displayed in the form of graphs and the transmission of live pictures directly from the house are further advantages.



What can BigFarmNet do?

- ✓ thanks to the modular design, it is possible to control a practically unlimited number of ESF stations;
- ✓ settings of the ESF stations can be made or changed at the office PC;
- ✓ freely programmable feed curves are shown on the PC;
- ✓ the start of feeding, dosing speed and length of feeding times can be freely selected;
- ✓ the heat detection system is also controlled by the station computer (no additional electronic equipment required);
- ✓ new sows can be added easily by entering the sow and transponder numbers and assigning an individual feed curve;
- ✓ the integrated sow manager function allows the farm manager to filter the sows and to change their status or feed ration.



An app for smartphones and tablets (iOS and Android) is optionally available as a mobile management tool. The newly developed BestReader electronically reads the sows' ear tags during the inspection rounds. The transponder number is then transmitted to the smartphone or tablet

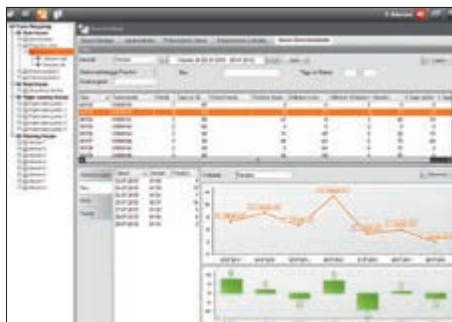
via Bluetooth. This ensures that changes, such as adjusting the feed quantity, can be made quickly and easily on the smartphone. All data are synchronised automatically and in real time with the office PC.

BigFarmNet software extension for health monitoring

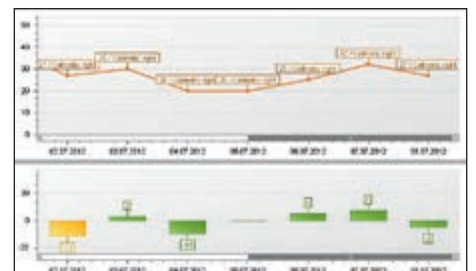
Health monitoring of sows in group housing is extremely important and not always easy to accomplish by the farm manager. Big Dutchman now offers a unique software solution that helps the farm manager to monitor the health status of the sows and detect and treat symptoms of illness early on.

The system is based on the daily recording of eating times and the visiting sequence of each sow measured over a longer period of time. These data are collected by means of the ear tag and displayed at the PC in the form of graphs and lists. If there are strong changes in the behaviour of the sow, the farm manager receives an alarm message indicating possible problems.

This allows the farm manager to check out the respective sow already at an early stage of illness and take the required measures.



Overview of possible selection criteria



Visualisation of the visiting sequence of a sow

Housing options with Call-In^{pro} and CallMatic^{pro}

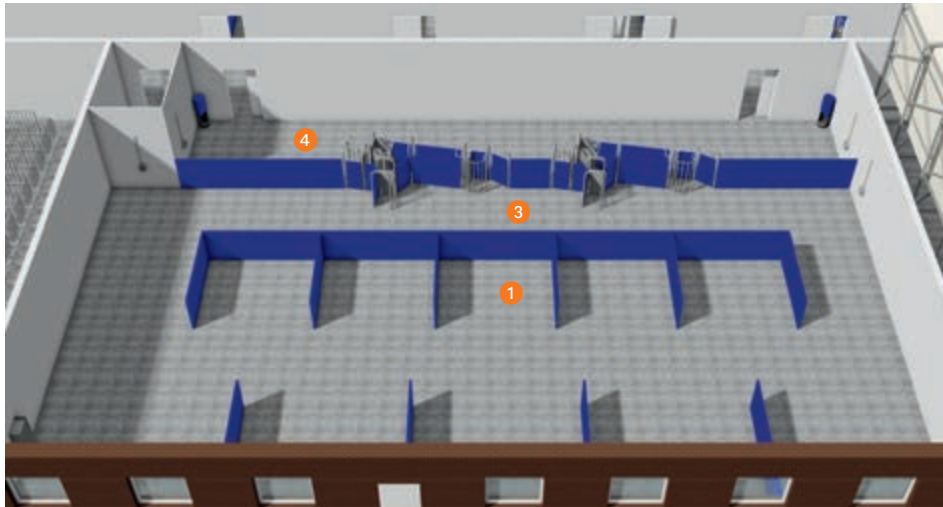
Call-In^{pro} and CallMatic^{pro} have been designed to offer flexibility with different space requirements and can therefore be integrated into many building plans, including older existing houses with

difficult dimensions. The following points are especially important:

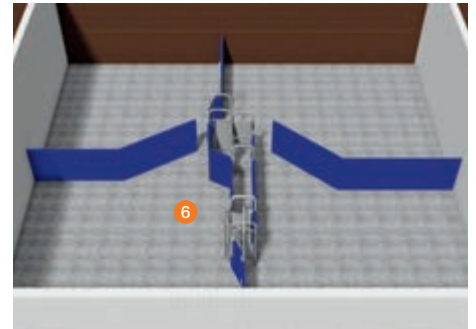
- ✓ sufficient space in front of the feeding station;
- ✓ separation of lying and activity areas;

- ✓ installation of drinkers in the activity area (10-12 sows per drinker). Let our experts advise you on all the options Big Dutchman offers you for successful sow management.

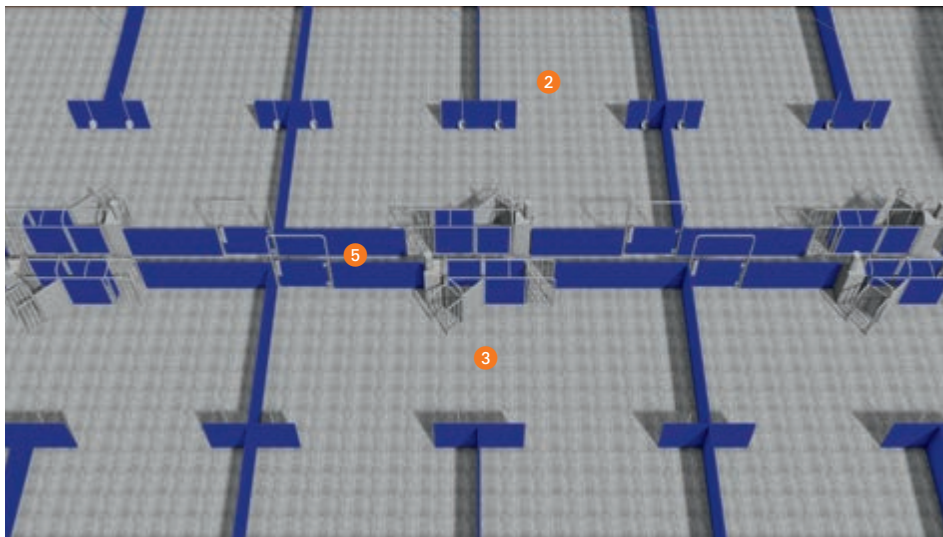
Waiting area: CallMatic^{pro} with selection into the aisle for sows in stable or dynamic groups



Pen with ESF station for training of gilts



Waiting area: Call-In^{pro} for sows in stable groups



Key

- 1 Small lying spaces
- 2 Large lying pens
- 3 Activity area
- 4 Selection into the aisle
- 5 Inspection and driving aisle
- 6 Pen for training of two groups of gilts



Big Dutchman.

USA:

Big Dutchman, Inc.

3900 John F. Donnelly Dr. · Holland, MI 49424-7277

Tel. +1 616 392 5981 · Fax -6899

bigd@bigdutchmanusa.com

www.bigdutchmanusa.com

Germany: Big Dutchman International GmbH

Tel. +49 (0) 4447 801-0 · big@bigdutchman.de · www.bigdutchman.de

Brazil: Big Dutchman (Brasil) Ltda.

Tel. +55 54 2101 5900 · bdb@bigdutchman.com.br

www.bigdutchman.com.br

Russia: 000 "Big Dutchman"

Tel. +7 495 229 5161 · big@bigdutchman.ru · www.bigdutchman.ru

Asia/Pacific: BD Agriculture (Thailand) Ltd.

Tel. +66 2 349 6531 · info@bigdutchman.com · www.bigdutchman.com

China: Big Dutchman (Tianjin) Livestock Equipment Co., Ltd.

Tel. +86 10 6476 1888 · bdcnsales@bigdutchman.com

www.bigdutchman.cn