wesstron

HOPPER FOR LOOSE COMPONENTS

CYCLONE

RETURN TANK OF DIRTY WATER

CCM

MIXERS PUMP

TENSOMETRIC BARS

SCREW CONVEYOR

THE TANK WITH A STIRRER
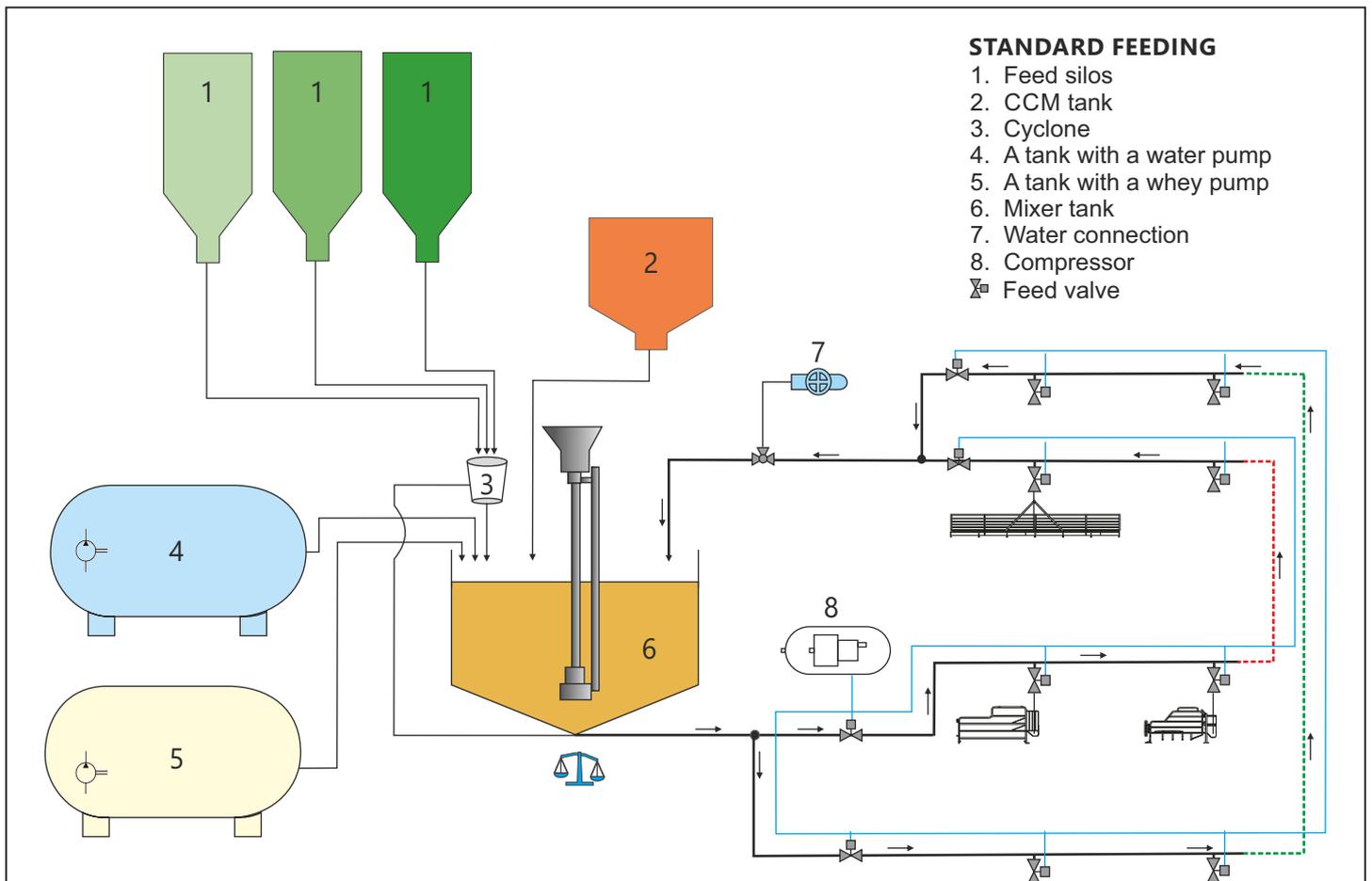
WET FEEDING

Wet feeding system

A Wet feeding system is the basis for the modern breeding of sows, piglets and fattening pigs on a farm of any size. It is fully automated and controlled by computer, providing the ability to set different combinations of preparations and food rations. A left-overs free feeding system with irrigation pipes ensures clean water in the pipes between feedings, eliminating the growth of bacteria and fungi. It guarantees a reduction of feeding costs through the use of alternative cheap fodders, such as:

- dairy industry by-products (whey),

- food and bakery industry by-products ,

- distillery industry by-products (distillers' grains, DDGS - Dried Distillers' Grains with Solubles)

- CCM – corn and cob maize silage

- by-products from rapeseeds processing, oil cake, extracted meal.
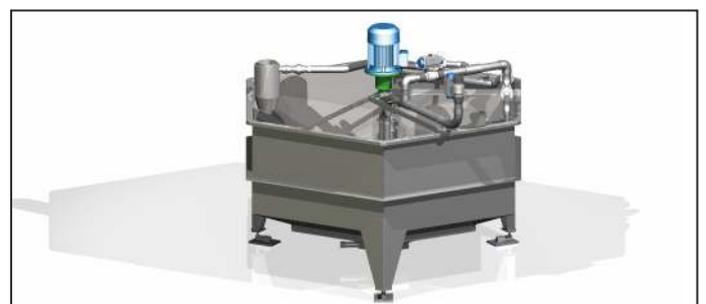
Principles of operation

The most important device in the system is the tank with a stirrer. It is provided with the ingredients of feed in various forms. It is firstly supplied with the liquid components (whey, tap water, distillers' grains, pure water). Then the dry components are introduced, i.e. CCM, fodders, occasional components. All the components are fed at a set amount, according to previously established procedures, and their amount is controlled by the electronic scales. The dosage of some ingredients (small amounts) can be controlled by the dosing time. Mixing in the tank occurs as a result of pumping feed back into the tank through appropriately directed outlet nozzles.

The thoroughly mixed components are collected by the feed pump and pumped to a trough in the livestock building. The feeding of the desired ration is completed by opening of the membrane valve for a specified time. The final portion of the feed is replaced by tap water. After feeding, the internal walls of the tank and pipelines can be rinsed with water, which returns to the return tank or to the mixing tank. Pipelines can be cleaned of residual feed also through the impulse of compressed air

STANDARD FEEDING
1. Feed silos
2. CCM tank
3. Cyclone
4. A tank with a water pump
5. A tank with a whey pump
6. Mixer tank
7. Water connection
8. Compressor
 Feed valve

Mixing tank

An open tank with a capacity of 2800 litres is made of stainless steel. Thanks to its hexagonal shape, the accuracy of mixing the feed has been improved. The tank is equipped with a three-point electronic scale. The easier access to the interior of the tank allows for cleanliness by washing and controlling the mixture being prepared.

mixing tank - capacity 2800 l

Zbiornik powrotny

A round and open return tank is used for large loops. It is entirely made of acid resistant steel with a maximum capacity of 1000 liters. It is offered in two variants:

- placed on a stand above the mixing tank with the trigger opened by an electric valve,

- placed directly on the floor, with an efficient immersion pump for dirty water.

Its design provides easy access to its interior for cleaning or content control

zbiornik na stojaku

zbiornik z pompą zanurzeniową

pompa w trakcie mieszania

pompa paszowa

Electronic scales

Measuring instruments used in the mixing tank. Each of the scales is connected to the three strain gauges in the mixing tank, and electric-electronic power distribution unit. This provides precise measurement and transmission of information to the control computer.

cyclone

schemat mieszania w cyklonie

Feed pump

A submersible pump is used to feed the feed, the use of which has eliminated problems with mechanical seals. Its design ensures adequate efficiency of 400l/min. The pump has two functions: the first is to prepare the mixture by mixing the contents in the tank and pressing the ready food for installation. A special design allows the pump to grind the mixture.
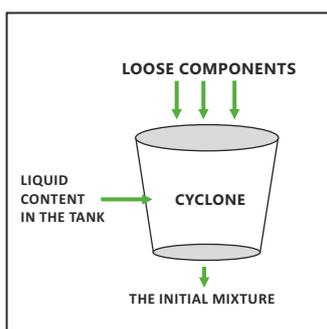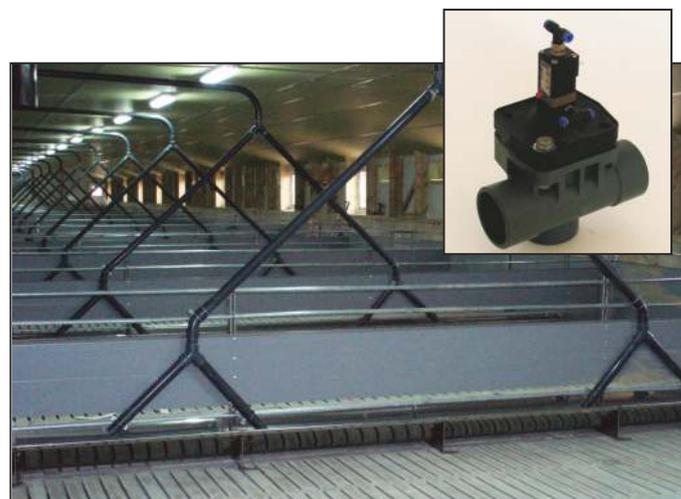

weight

Cyclone

It is made of stainless steel. It prevents dusting of loose components during the preparation of a feed mixture. Initial mixing of these components is possible thanks to a specially designed structure and injection of liquid content from the mixing tank through the feed pump. An additional advantage is significantly increased mixing efficiency.

Feed valves and feed system

The special membrane valves driven by compressed air are used to supply the feed to the trough. The valve body is made of PVC-U, while enhanced rubber is used in the membrane production. They ensure the precise administration of the measured dose of the mixture. The installation is made of PCV-U tubes and moulders, joined together by glue. These elements are resistant to corrosion, damage by lime scale and the action of weak acids. They are characterized by very low hydraulic resistance. They do not require any maintenance or operation.

Feed valves and feed system

Wess-30 software

The program controlling the operation of the wet feeding system is the complete, stable and extremely easy to use solution. The user can apply a modern, readable start screen, providing access to all data and system functions.

Parameters

The success of the system depends to a large degree on the precision of the selection of feeding parameters. Specification of components and feed substitutes and the choice of feed mixture composition are done using Formula function. The program enables the economical use of components, allowing free mixture formulation and their use at any time. Feeding efficiency is improved by the Curve function, giving unlimited possibilities (9 curves) for changes in the doses and proportions of the feed at subsequent stages of breeding. Stocking is a function which allows the user to specify the size and age of the animal groups, as well as to assign them to individual feed valves. The parameters of individual components are entered in the Components function.

Review

Any change in the parameters of the system: a modification of preparations, nutritional curves of feed valves or stocking is immediately stored in the database. The system collects information concerning the course of feeding during the installation operation. This creates a history of system use, which can be used both to verify current and to optimize future feeding plans. The program enables obtaining data on valves, transfers, losses and sales. These data are the basis to create statistics on, inter alia, daily consumption of ingredients, the cost of fattening in various daily, monthly, annual, seasonal configurations.

Start-up

The program allows you to start automatic and manual feeding. It is possible to start feeding manually at any moment and with any set mixture, by selected valves according to the needs and will of the user.

The comfort of using this system, however, results from automatic feeding. Up to 15 starts per day can be programmed automatically with various programs. The user indicates the time and selects the valves, the feeding of which is to start at a specific time. The program allows you to create multiple feeding plans. Each start can refer to a different pre-defined group of valves. Each of the automatic starts may apply to another, pre-defined set of valves.

Control system

The automation control devices consist of a main computer and a transfer case. The computer acts as a management centre. The installed software provides the opportunity to complete the most demanding tasks. The transfer case built of electrical and electronic parts, through which actuators of the automation are activated.

Computer – Wess-30 is a feeding device that uses the latest technology. LED display 16x40, keyboard, high-performance 32-bit driver with an additional RISC processor, 16 built-in controllers, two weight systems and 8 input systems are standard equipment. You can also connect a PC keyboard if it is necessary. There is an electronic clock on the motherboard. Everything is protected by a battery against power failure.

controle computer

Advantages:

- the system can simultaneously control two different kitchens,
- you can connect two weighing systems,
- you can prepare 30 mixtures from 40 different ingredients
- controls 999 feeding valves,
- manages 9 feeding curves,
- in addition to feeding, it can also be used to control the mill or to fill tanks.

Transfer case – consists of electrical and electronic devices, which directly control a set of automation components.

Alarm - a device which notify us about the occurrence of a failure or provides us with other information. The notification method is extended with sound signalling and SMS notification. In addition, the emergency control panel is equipped with an emergency power supply.

Remote control – the attached adapter allows you to connect the wess - 30 system to a PC, you can control the entire system remotely, via mobile devices and directly from a PC. Full system functionality is available without restrictions during remote control.