

Operation manual

## **Safety instructions AMACS**

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<b>1</b>	<b>About this manual</b>	<b>1</b>
1.1	Structure of the safety instructions	2
1.2	Supplier's documentation	2
<b>2</b>	<b>Safety</b>	<b>3</b>
2.1	General safety regulations	3
2.2	Operator's responsibility	5
2.3	Staff qualifications	5
2.4	Personal protective equipment	6
2.5	Ordering of spare parts	6
2.6	Designated use	7
2.7	Safety instructions when operating electrical appliances	7
2.8	System-specific safety regulations	8
2.9	Safety instructions for operating Amacs	8
2.9.1	Autonomous starting control of drives and consumers	8
2.9.2	Passwords	9
2.9.3	Control cabinet	9
2.9.4	Alarms	10
2.9.5	Remote access	11
<b>3</b>	<b>Dismantling and disposal</b>	<b>12</b>



## 1 About this manual

Observe the instructions in this manual to ensure correct and safe use of the system.

Keep this manual safe for future use.

All persons assembling, operating, cleaning and servicing this system must be familiar with the contents of this manual.

These persons must always have access to the manual. Keep this manual in the immediate vicinity of the system for this reason.

Observe the comprised safety instructions!

If this manual is damaged or lost, request a new copy from **Big Dutchman**.

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The contents of this manual may be altered without prior notice.

If you find mistakes or unclear information in this manual, please do not hesitate to let us know.

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## 1.1 Structure of the safety instructions

### **DANGER!**

This indicates risks that will lead to personal injury resulting in death or to serious injuries.

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### **WARNING!**

This indicates risks that could lead to personal injury resulting in death or to serious injuries.

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### **CAUTION!**

This indicates risks or insecure procedures that could lead to moderate or minor injuries.

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### **NOTICE!**

This indicates notes preventing property damage and leading to an effective, economic and environmentally-conscious handling of the system.

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## 1.2 Supplier's documentation

The supplier's documentation includes all instructions for components that are supplied by **Big Dutchman** but not manufactured by **Big Dutchman**, for example motors. These instructions are usually supplied with the respective component. If this is not the case or if the language of the corresponding country is not included, please request this documentation from **Big Dutchman** .

It is essential to observe the instructions in the supplier's documentation!

## 2 Safety

### 2.1 General safety regulations

Only work with suitable tools and observe the local accident prevention regulations.

 **WARNING!**

Live parts may be bare when performing different types of tasks. Touching live parts can lead to injuries caused by electric shock and short circuits.

- ▶ Set the main switch to "Off" before starting any repair or maintenance tasks.
- ▶ Secure the system against reactivation.
- ▶ Attach a fixed sign to indicate that maintenance and repair tasks are in process!
- ▶ Never touch bare electrical components.
- ▶ Equipment with bare electrical components must not be used by the operating staff.

Check safety and function control devices to ensure safe and accurate operation after carrying out any tasks.

Observe the regulations of local water distribution and power supply companies.

 **WARNING!**

Defective or disassembled safety devices can lead to serious injuries or to death!

- ▶ It is strictly forbidden to remove or put out of operation any safety device.
- ▶ If safety devices are damaged, immediately put the system out of operation. Lock the main switch in zero position and eliminate any damage.
- ▶ Make sure that all safety devices are properly mounted and function after work on the system has been completed and before putting the system into operation (again).

**⚠ WARNING!**

- ▶ Parts lying about on the system and in its vicinity can cause persons to stumble and / or fall and thus risk injuring themselves by contact with system components.
- ▶ Parts lying about in or on the components can lead to serious damage of the system.
- ▶ Never deposit objects (e.g. spare parts, replaced parts, tools, cleaning tools etc.) in the accessible areas of the system or in the surrounding areas after having worked on the system!
- ▶ **Before** putting the system into operation again, assure yourself that all loose or replaced parts have been removed from the system components!

**⚠ DANGER!**

Persons may be electrocuted or suffer serious electrical injuries if water from leaking hoses, seals and pipes reaches live parts.

- ▶ Disconnect the main power supply.
- ▶ Interrupt the main water supply.
- ▶ Only now may you enter the part of the house where large quantities of water have escaped.

**i NOTICE!**

Leaking hoses, seals and pipes can cause structural damage or destroy electrical systems by short circuits.

- ▶ Check regularly whether large quantities of water are escaping and eliminate the leaks as soon as possible.

**⚠ WARNING!**

Children must not access the system. The safety distances for the system are not designed for children. A risk of injury cannot be excluded, even for supervised children.

## 2.2 Operator's responsibility

The operator is subject to the legal obligations regarding occupational safety and is responsible for the staff's safety. All safety, accident prevention and environmental protection regulations applicable for the area of use of the system must be observed. The following is especially important:

The operator must clearly specify responsibilities for operation, maintenance and cleaning.

The operator must provide the staff with the necessary personal protective equipment.

The operator is responsible for

- using the system in compliance with the designated use;
- ensuring that the system is only operated in an excellent state from the technical point of view and that maintenance intervals are observed;
- ensuring that his staff is trained to use the system;
- ensuring that operation instructions are prepared for the system.

## 2.3 Staff qualifications

Staff must consist of qualified persons who can be expected to perform their tasks reliably. Persons whose ability to respond is impaired, e.g. by alcohol, drugs or medication, must not work on the system. The operator is responsible for which persons he employs. **Big Dutchman** does not assume any liability for personal injury and property damage caused by insufficiently qualified staff.

## 2.4 Personal protective equipment

### **WARNING!**

The following instructions apply to any task carried out on the system.

- ▶ Wear **close-fitting protective clothing** and **protective footwear**.
- ▶ Use **protective gloves** where there is a risk of hand injuries and **safety goggles** where there is a risk of eye injuries.
- ▶ Do not wear **any rings, necklaces, watches, scarves, ties or other items** which could get caught in parts of the system.
- ▶ Make sure that **long hair is always tied back**. Hair can get caught in driven or rotating working units or parts of the system, resulting in serious injuries.
- ▶ When working underneath the system **always** wear a **hard hat!**

## 2.5 Ordering of spare parts

### **CAUTION!**

For your own safety, use original **Big Dutchman** spare parts only. For third-party products that have not been released or recommended and for modifications (e.g. software, control units), judging whether there is a safety risk in connection with **Big Dutchman** systems is not possible.

### **NOTICE!**

The exact description of the spare parts to be ordered can be found by means of the position number in the spare parts list.

#### **Indicate the following when ordering spare parts:**

- the code number and description of the spare part;
- the customer number or order number;
- the current supply, e.g. 230 / 400 V – 3 Ph – 50 / 60 Hz.

## 2.6 Designated use

The **Big Dutchman"Amacs"** system controls a great variety of different components within your stall system. This is implemented via software amongst other things.

This forms the basis of the proper use of the Amacs.

The **Big Dutchman** system may only be used for the purpose for which it is designated.

Any deviating use is considered non-designated use. The manufacturer shall not be liable for any damage resulting from such non-designated use. The user alone bears the risk. The designated use also includes the exact compliance with operating, maintenance and assembly requirements of the manufacturer.

## 2.7 Safety instructions when operating electrical appliances

### NOTICE!

Only persons qualified according to electro-technical regulations (e.g. EN 60204, DIN VDE 0100/0113/0160) may install and work on electric parts / assembly groups.

### WARNING!

If an electric part is open, dangerous electric tensions are bare. Be aware of the danger and keep staff of other professions away from the danger zone.

### NOTICE!

Do not install control devices directly in the house but in the service room to prevent corrosion caused by e.g. ammonia gas.

## 2.8 System-specific safety regulations

A great variety of different components within your stall system are controlled by Amacs. Amacs can switch the system stall components on and off, in accordance with the regulatory and control functions being implemented.

For this reason it is particularly important to define precautionary measures with **all** work being carried out on the system and to ensure that such measures are implemented.

### NOTICE!

It is essential to observe the manuals belonging to these components. In particular to the safety instructions contained within them.

## 2.9 Safety instructions for operating Amacs

### 2.9.1 Autonomous starting control of drives and consumers.

### WARNING!

**AMACS is able to switch on and off electrically switchable and controllable drives and consumers fully automatically in accordance with the regulatory and control functions being implemented, and also to change their position, speed or intensity. Any persons in the stall must be fully aware that any of these consumers can be started up at any time and without warning.**

- Never reach into system parts or consumers that could be automatically started up by the control system with parts of your body.
- Take care that items of clothing do not get into intake areas of rotating or moving system parts, even when these are not presently in operation! Wear protective equipment!
- Never remain underneath automatically lowering system parts.

## 2.9.2 Passwords

Many inputs in the Amacs software are sensitive and are therefore password protected. Passwords that have been lost or forgotten cannot be reinstated without the **USERMANAGEMENT** right.



### **WARNING!**

**Improper use of the AMACS by unauthorised persons can endanger their life as well as the lives of the animals.**

- The passwords should **never** be passed on to unauthorised persons.
  - Keep the passwords safely in a secure location.
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## 2.9.3 Control cabinet

Pay particular attention to the documentation for the switch cabinet, especially the safety instructions within.

## 2.9.4 Alarms

### NOTICE!

Amacs does **not** replace the safety devices normally installed in animal housing systems (e.g. emergency opening, alarm systems, emergency power supply etc.).

Alarms assist with the timely recognition of problems in the stall that may potentially endanger your health and the health of the animals. Alarms should not be viewed as disturbing but as a chance to be able to keep the productivity of the house at a consistently high level.

So, do not ignore an alarm lightly, but rather look into the potential cause.

### WARNING!

**All alarms are activated in the system as standard. Deactivation of an alarm prevents the detection of a problem in the house and can endanger your life as well as the lives of the animals.**

- **Before deactivating an alarm** you should make sure to check whether it is really not required.
- If necessary deactivate only those alarms that do **not** endanger your life, the lives of the animals or the functionality of the system.

## 2.9.5 Remote access

Remote access means that with the corresponding communications devices you can access the Amacs system in your stall directly and control its functions from remote locations.

### **WARNING!**

**You are solely responsible when using the remote access. Remote access tempts to make sensitive settings which should be carried out directly at the FarmController or in the house. This comprises e.g. the switching on of drive units which may be maintained at that moment. Inappropriate use of the remote access risks a safe operating status, production losses and/or life and limb of persons and animals.**

- Please note that technical defects may cause connection problems which may prevent operating the system. It is possible that the operating status of this system can only be changed on site in this case.
- Remote access is only recommended for error detection and assistance. **Do not use the remote access for the active control of house parameters.**
- Only change critical settings when you are **on site** in the house and can see the effects of your settings immediately.
- Actions which are carried out at the system via remote access should be calculated carefully. **Inform the staff on site about the planned action in any case.**
- For maintenance works at drive units, turn the M-0-A switch to 0 and also deactivate the protective motor switch. If applicable, activate the respective emergency switch. This prevents the drive from starting inadvertently.
- Please also advise your employees and colleagues.

### 3 Dismantling and disposal

** NOTICE!**

When disposing of the system, commission experts only.

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The operator is responsible for disposing of the system at the end of its service life. Observe the applicable statutory provisions when disposing of the system.

** NOTICE!**

Incorrect disposal can lead to environmental damage.

- ▶ The system and individual parts must be disposed of properly!
  - ▶ If necessary, commission a specialised company with the disposal.
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** NOTICE!**

Observe system-specific safety instructions during dismantling.

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