

User manual

**Optical scale OptiScan (brief
instructions)**

Code No. 99-94-0935 GB

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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 operating, cleaning and servicing this device 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 device for this reason.

Observe the comprised safety instructions!

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

This manual is protected by copyright. The information and drawings included in this manual may not be copied without the manufacturer's consent, nor may they be misused or disclosed to third parties.

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 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 Designated use







The optical scale **OptiScan** is used exclusively to determine the weight of finishing pigs within a weight range from 50 kg to 125 kg.

NOTICE!

Piglets or sows cannot be weighed sufficiently accurately!

3 Scope of delivery

	<p>Vest with:</p> <ul style="list-style-type: none">• support for tablet, folding (at the front)• pocket for camera (on the right)• pocket for marking spray (on the left)• pocket for power bank (on the back, with opening for cable)
	<p>Tablet (Microsoft Surface Pro 8; Windows 11)</p>
	<p>3D camera (with infrared sensor)</p>
	<p>Case (including charging cable, tablet packaging, etc.)</p>

4 Technical information

- The optical scale **OptiScan** determines pig weights with an accuracy of $\pm 2\%$.
- The 3D camera does not have its own battery and therefore does not need to be charged.
- When the tablet is fully charged, the 3D camera can be used for approx. 2 to 3 hours, depending on the number of scans.
- For more details and information regarding the tablet, check Microsoft's supplier documentation, which is included in the tablet packaging.

5 Preparation

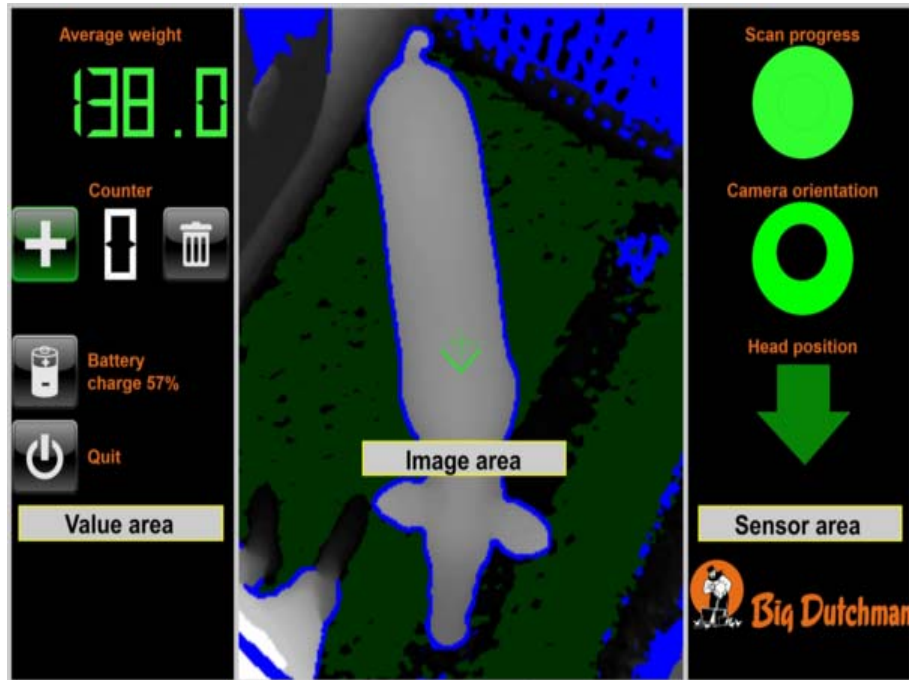
Before you enter the pen to scan the pigs, prepare the equipment.

Always follow the below steps to ensure a safe working environment and good scanning results:

- Put on the vest and close the fasteners so the vest fits tightly and the equipment cannot fall out.
- Place the tablet on the support at the front.
- Switch on the tablet.
- Connect the 3D camera to the tablet.
 - You will hear a sound once the tablet has found the camera.
- Double-tap on the tablet to start the pre-installed software (app).

6 Operation of the system

6.1 User interface



a) Value area

- **Average weight:** shows the determined weight in kg
- **"+" button:** tap on this button to save the scan
- **Counter:** counts the number of consecutive scans
- **"Recycle bin" icon:** tap on this icon to reset the counter to zero
- **Battery charge:** shows the charge state of the tablet in %
- Icon to quit the scanning software

b) Image area

- Display of the image detail that is scanned
- Cross hairs to select the pig to be scanned
- Camera direction to compare the image with the pig's orientation

c) Sensor area

- **Scan progress:** shows the progress of the scan while holding the release button. Green means that the scan was successful.

- **Camera orientation:** shows the horizontal position of the 3D camera
 - Red means that the camera is not yet in the correct position.
 - Green means that the camera orientation is okay.
- **Head position:** shows the pig's orientation

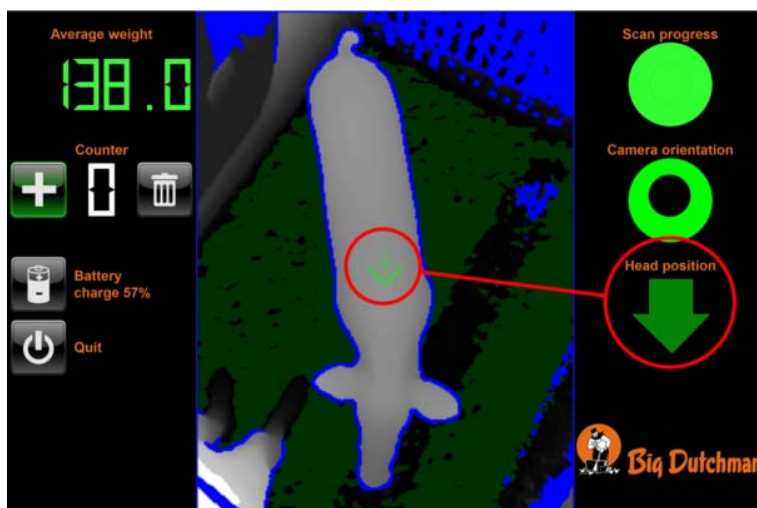
6.2 Operating the camera

The 3D camera is equipped with a position sensor that checks whether the camera's position is horizontal.

An infrared camera is also integrated. It determines the pig's height.

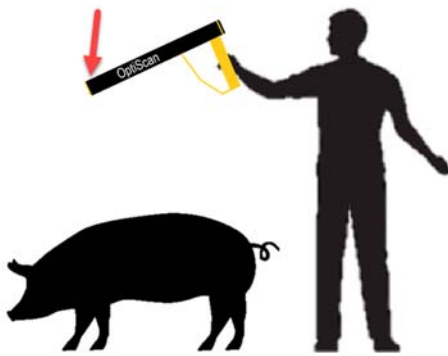
Matching the pig's orientation

The camera settings must match the pig's actual orientation because the software uses specific body features for orientation. This is necessary for a correct result.



Pig's head towards the operator:

Tilting the camera **upwards** makes the arrows on the display point towards the operator, both in the camera image and in the sensor area.

**Pig's head away from the operator:**

Tilting the camera **downwards** makes the arrows on the display point away from the operator, both in the camera image and in the sensor area.

6.3 Scanning process

To start scanning, press and hold the camera's release button.

- Scanning only starts when the pig is surrounded by a blue outline. To achieve this,
 - keep the camera high enough so you can scan the entire pig;
 - make sure that the camera is horizontal;
 - ensure that single pigs can be scanned. Other pigs may be visible in the image detail, but must not cover one another.
- On the display, the sensor area shows the scan progress.
- The scan result is displayed in the value area.

**NOTICE!**

A red frame around the image area means that the camera is not yet ready for scanning. Make sure that the camera has been aligned correctly and that it can scan the entire pig.

- When a pig has been scanned successfully, the "+" button in the value area has a green background.
 - Tap on the button to save the scan.
 - The counter now adds one scan.

If the displayed weight corresponds to the set target weight, you can now mark the pig with standard marking spray.



6.4 Saved scans

All scans that have been saved by tapping on the "+" button are stored in a CSV document. This document can be used to evaluate **the group's uniformity** later on.

A new CSV document is created every day. It contains the scans of the current day. The CSV documents are stored on the tablet, with the date as the file name.

The saved values are separated by a comma in the CSV document. This document can be opened and edited with the correct editor, e.g. Microsoft Excel. Text editors are also supported, but the results are more difficult to review.

The data are represented per row as follows:

- The first value is the scanning date, in the format `yyyymmdd` (year, month, day).
- The second value is the scanning time in the format `hhmmss` (hour, minute, second).
- The third value is the number of the scan, consisting of four digits. ("0000" means that scanning was reset at this point. The next saved scan starts with "0001".)
- The fourth value is the scanned weight in kg.

7 Troubleshooting

7.1 General information

For a correct scanning result, some requirements are necessary and must be met.

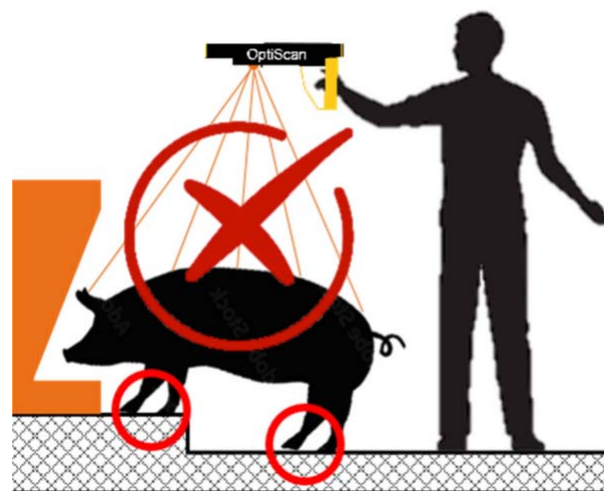
1. **The pig needs to stand.**

Lying or sitting pigs cannot be scanned correctly.

2. **Position of the pig**

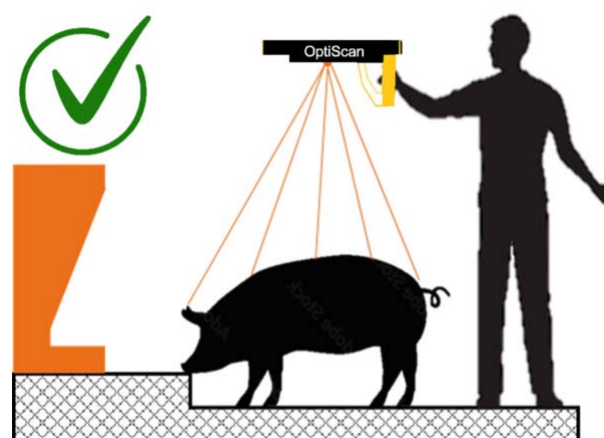
a) **The pig stands on different levels:**

The pig's size cannot be determined correctly.



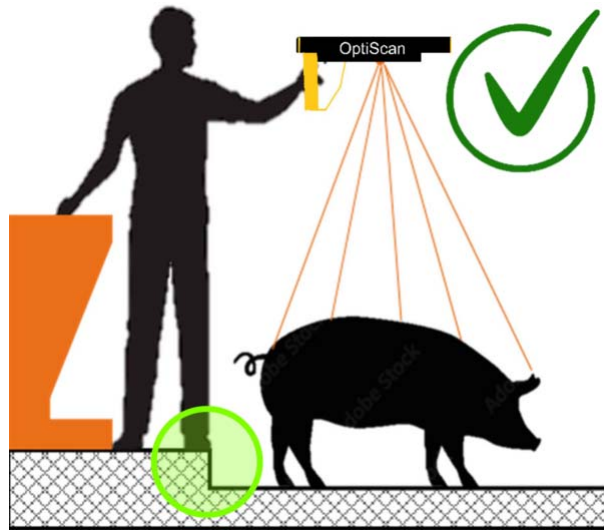
b) **Pig and operator stand on the same level:**

The scan can be performed correctly.



c) **Pig and operator stand on different levels:**

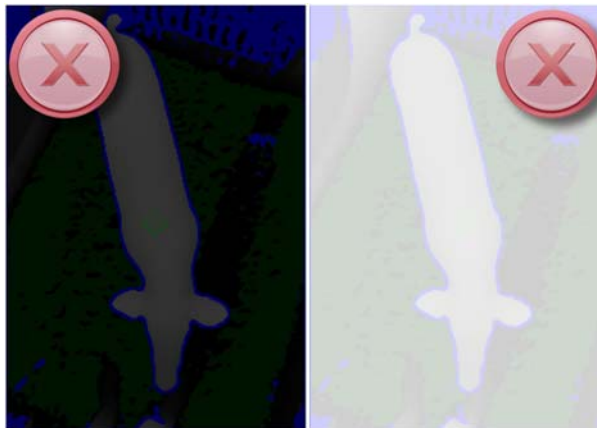
The scan can be performed correctly.



3. **Lighting in the house**

The house is too dark or too bright, i.e. the pig's outline cannot be determined accurately.

- Change the light intensity in the house.



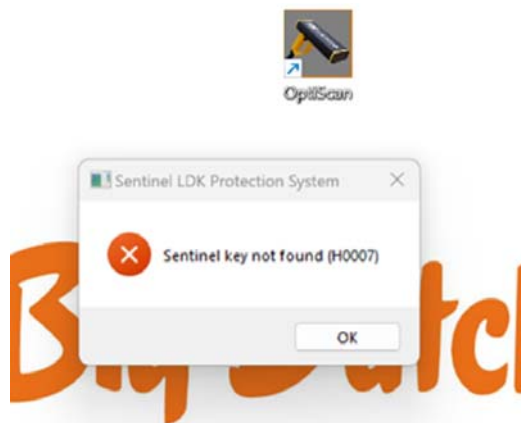
7.2 Possible errors of use

Errors can be made before and during scanning. This chapter describes causes and possible solutions.

7.2.1 General errors

a) Problem:

The program does not open after starting the software. The display shows an error message.



Cause:

The software was started before the scanner was connected via USB-C cable.

Solution:

Close the error message and connect the scanner to restart the software **afterwards**.

7.2.2 Implausible weight

The displayed weight is not plausible:

a) Orientation of the pig

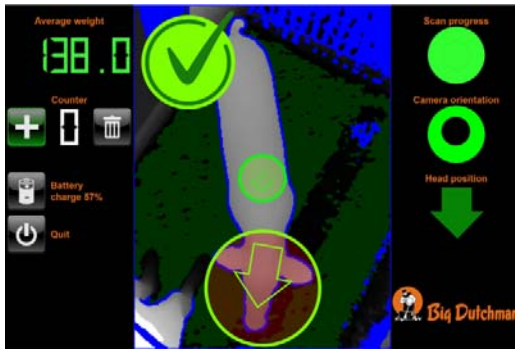


Cause:

The head position does not match the pig's orientation.

Solution:

Tilt the camera as required until the display is correct.



Correct display and scan.

b) Pigs cover one another



Cause:

The camera cannot identify individual pigs.

Solution:

Separate the two pigs so the pig to be scanned has a full blue outline.

Other pigs may be in the scanning area.

c) Equipment covers the pig



Cause:

The camera cannot identify the pig.

Solution:

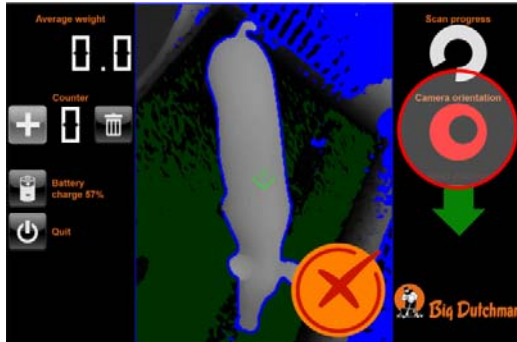
Make sure that you are only scanning the pig.

Remove all objects that may interfere in the scanning area.

7.2.3 Scanning does not start

The scan cannot be performed:

a) Camera orientation



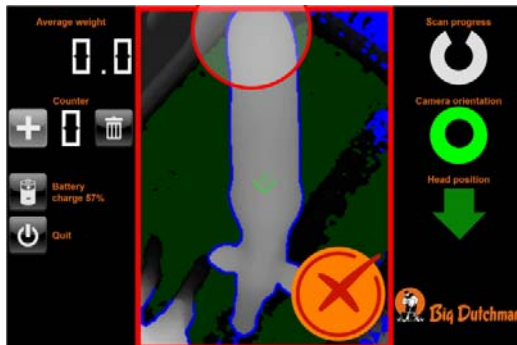
Cause:

The camera is not in a horizontal position.

Solution:

Keep the scanner as horizontal as possible. On the display, the black dot shows the position.

b) Scanning area



Cause:

The pig is not fully in the camera's scanning area.

Solution:

Change your position.

Hold the scanner higher so the entire pig is inside the scanning area.

8 Maintenance and cleaning



NOTICE!

Do not use a high-pressure washer and no cleaning agents!

If necessary, clean the device with a damp cloth.

Vest:

- If necessary, clean the vest with standard detergent and lukewarm water.
- Make sure that all parts are completely dry before using the equipment again.
- If the vest's Velcro fasteners do not close well due to dirt or threads, clean the fasteners so the vest still fits tightly when worn.

Tablet:

- Observe the cleaning instructions in the manufacturer's manual.

Transport case:

- Clean the case with just a damp cloth, if necessary.
- Make sure you only put clean equipment back into the case after use to avoid soiling of the camera lens.



9 Dismantling and disposal

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



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.
-

Recycle components parts, if possible.



EG-Konformitätserklärung Declaration of Conformity

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Erklärt, dass das Produkt
Declares, that the product

optiSCAN (Ver. 17630 Rev. 1)

konform ist mit folgenden Richtlinien, Normen und/oder Verordnungen.
Is in conformity with following directives, norms and/or regulations.

EMV Richtlinie 2014/30/EU / EMC directive 2014/30/EU
EN IEC 61000-6-3: 2021
EN IEC 61000-6-1: 2019

RoHS Richtlinie 2011/65/EU / RoHS directive 2011/65/EU

CE-Zeichen auf dem Produkt / CE marking on product



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