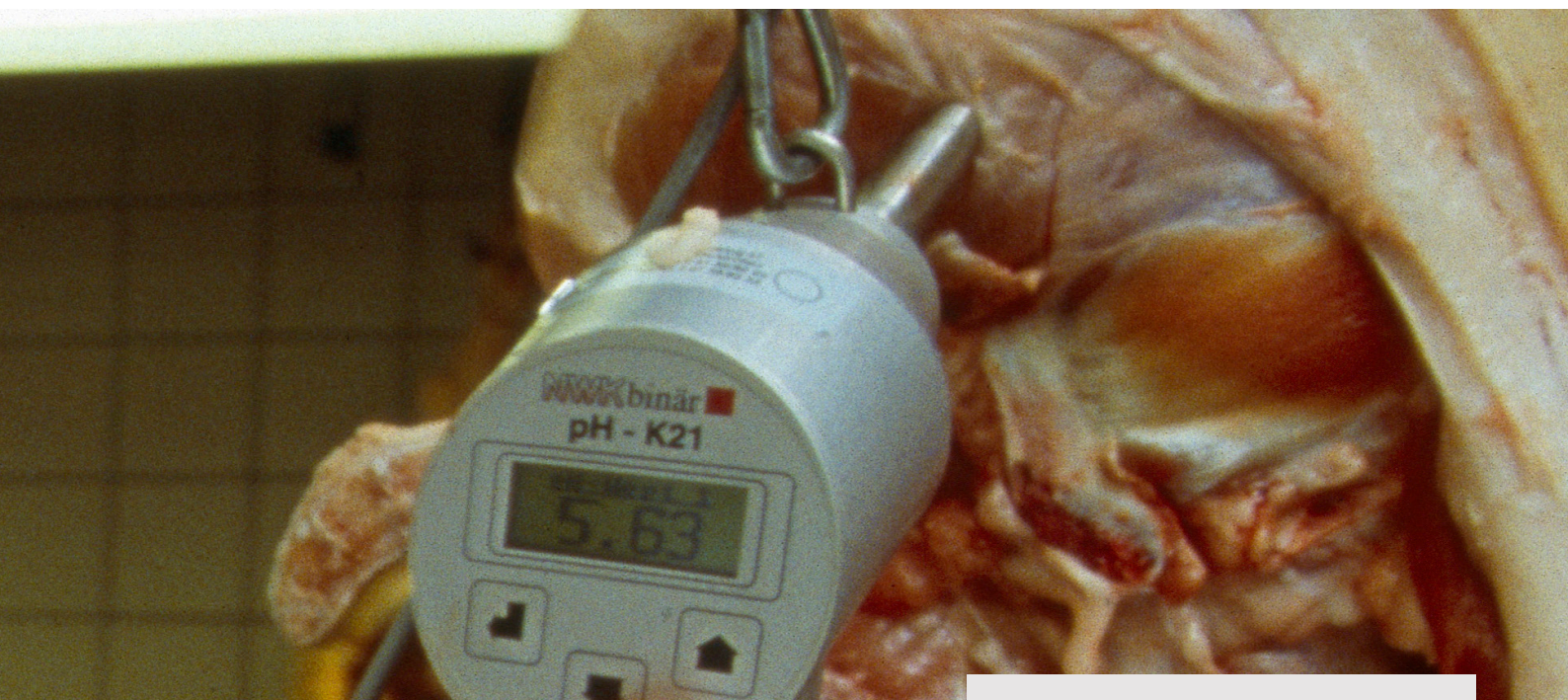




## PORK SOLUTIONS // QUALITY CONTROL

# PH-K21 EVALUATION OF MEAT TECHNOLOGICAL QUALITY

The decline of pH after slaughter until rigor sets in as well as the ultimate pH value of the muscle markedly affect several technological meat quality traits such as colour, water-holding capacity, shelf life and eating quality traits like texture and juiciness.

pH is an important criterion for quality classification, for upstream feedback on pre-slaughter live animal handling and for downstream product optimization

### Measurement tool pH\*K21

The pH\*K21 provides accurate and fast online measurement of the pH-value. It can be used at the slaughter line or in the cold room to determine the pH and thereby enable sorting of meat products based on the expected quality, or it can be used for the control of the incoming products by the meat processing companies.

### The pH value

The pH value must be measured in the muscle of interest.

The pH\*K21 allows for two pH measurements to be monitored:

- Measurement of pH1 (e.g. 45 min after slaughter)
- Measurement of pH2 (e.g. 24 hours after slaughter)
- Measurement of pH2 can either manually or automatically be related to the pH1 identification number

Recording of pH1 is subject to higher inaccuracy compared to ultimate pH due to the presence of energy reservoirs in the muscles preventing stabilization of pH. As rigor develops the energy reservoirs becomes depleted and the pH stabilizes (ultimate pH).



### Value for you!

- High measuring frequency (600 measurements per hour)
- High storage capacity (4,000 data records)
- Long work sessions (10 hours without recharging)
- Easy to handle and free from interface
- IP67 (Completely waterproof)
- Protected glass electrode

Determining both pH1 and pH2 will enable evaluation of the two stress-induced conditions PSE (Pale, Soft and Exudative) and DFD (Dark, Firm and Dry), which have marked deteriorating effects on meat quality. PSE is caused by a rapid pH decline after slaughter (low pH1) in combination with a high muscle temperature resulting in high drip loss and pale (grayish) colour. The DFD condition originates from energy depletion of the muscles at the time of slaughter and will result in a high pH2 value. This results in low drip loss but favorable conditions for microbial activity resulting in poor shelf life.

### Durable probe

The glass electrode is covered and protected by a telescopic steel sleeve for pigs or a knife for beef and lamb. The glass electrode will only leave the protective sleeve when penetrating the tissue and during the measuring process. The knife protection is needed on dehided carcasses due to the harder meat surface when penetrating the tissue. Unintentional damage to the electrode is therefore largely prevented by the protective sleeve or the knife. The internal memory of the pH\*K21 enables storage of 4,000 data records consisting of up to two pH measurements (pH1 and pH2). The pH\*K21 has a serial interface which can be used for communication with external equipment.

### Technical Data

|                             |                                 |
|-----------------------------|---------------------------------|
| Dimensions (HxWxD)          | 23x25x10 cm                     |
| Weight                      | 1 kg / 2.2 lbs                  |
| Ingress protection          | IP67                            |
| Line speed                  | Up to 600 carcasses / hour      |
| Measurement depth           | 20 mm/ 0.8"                     |
| Supply voltage              | 12V                             |
| Temperature range           | 0-80°C / 32-176°F               |
| pH range (glass electrode)  | 1 to 14 pH                      |
| Measuring precision         | +/- 0.03 pH in solution         |
| Integrated memory storage   | 4.000 data records              |
| Probe interface             | RS-232                          |
| Battery (rechargeable) life | Up to 10 hours of continual use |



## CONTACT

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