

FRONTMATEC

Beef Classification Center

BCC-3™





Highlights

- Precise carcass conformation and fat cover classification according to EUROP and similar standards
- Classification of both carcass halves – accurate, robust and reliable
- Non-contact equipment – can be implemented before the veterinary re-inspection enabling image documentation of veterinary decisions
- High accuracy prediction of commercial cuts in weights and geometries – giving a gold standard yield descriptor
- Order management – cuts are described prior to entering the chill room
- Breeding optimisation by feedback to the farmer for optimal retail value
- Fully-automatic, non-invasive and low maintenance
- Line speed up to 620 half carcasses/hour

The production management tool for the beef industry

Frontmatec has a long history within online beef carcass grading. The BCC-3™ is the third generation classification center - developed on the basis of our knowledge and expertise from the past 20 years. BCC-3™ revolutionizes the world's beef industry and brings the cattle slaughterhouses into a new era with its ability to accurately and automatically quantify the commercial value of beef carcasses. The BCC-3™ is a quantum leap in precision.

This is how it works

BCC-3™ uses advanced multi-view stereo imaging to create a full 3D reconstruction of each half beef carcass.

The system provides conformation and fat cover classification according to the EUROP grading system and similar standards.

A break-through for the BCC-3 was the first approval obtained in Denmark. The EU scores achieved were significantly above the required minimum for both conformation and fat cover and the percentage of graded carcasses was also extremely high (>99%).

BCC-3™ also enables prediction of primal and commercial cut weights. The yield information permits the slaughterhouse to optimize their product sorting and pay the farmers according to the true market value. This attracts the best cattle in the market and it encourages the breeding of cattle with high commercial value.

Precision in payment

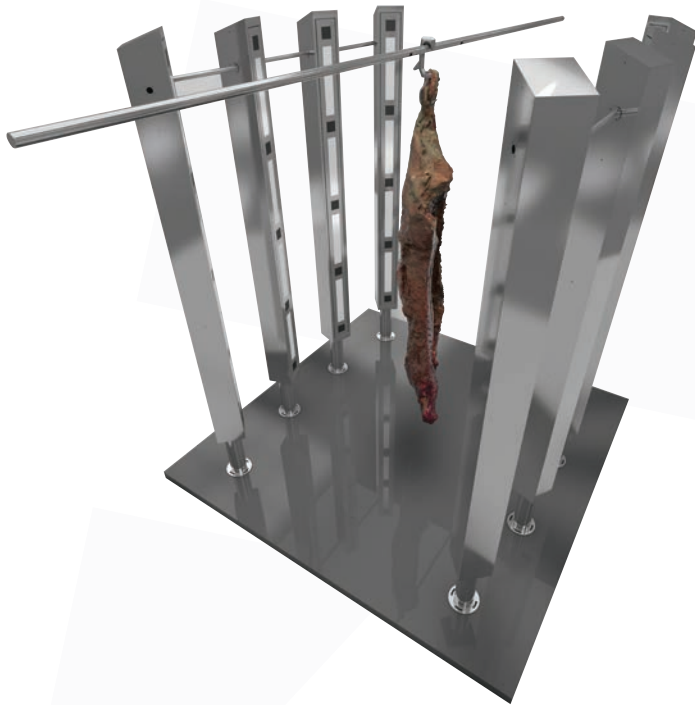
The absolute precision of the BCC-3™ is in a class of its own. In actual production, BCC-3™ moves grading from error prone subjective evaluation to objective grading. The fact that both carcass halves are graded decreases the number of non-classified carcasses dramatically. It also enables outputting the result based on an average score of both halves which increases the precision.

Payment by commercial value

The EUROP score and similar standards only explain in part the true value of a beef carcass. The information gained from BCC-3™ can be used for developing AutoFom™ style payment matrices based on primal and commercial cut weights, etc.

BCC-3™ features

- Advanced multi-view stereo imaging
- No need for carcass orientation
- 100% automatic - no possibility for interfering with the grading results
- No risk of cross-contamination (non-contact grading)
- No moving parts and low maintenance costs
- Grades both carcass halves
- Line speed up to 620 half carcasses/hour
- Enables payment according to true market value

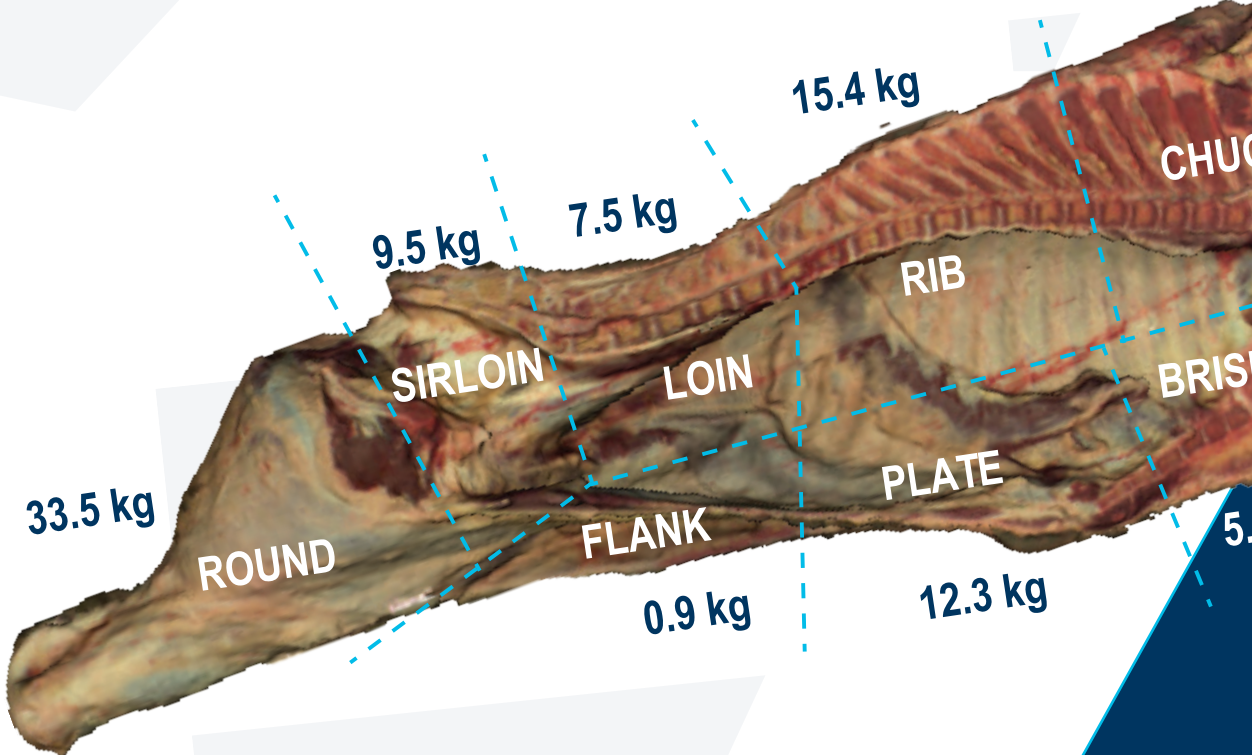
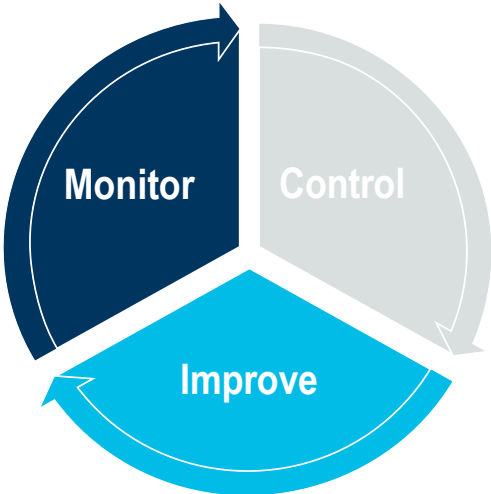


Yield management - a tool for the beef industry

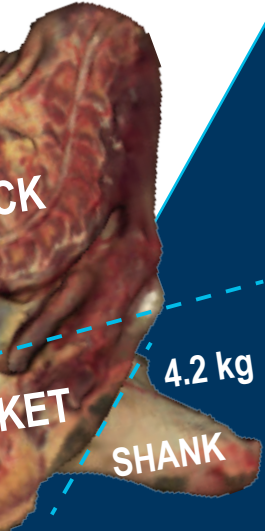
Continuous improvement with BCC-3™

The BCC-3™ is unique in the world in its ability to accurately predict the characteristics of a beef carcass prior to any processing steps.

With exceptional precision, BCC-3™ can define each primal cut and commercial cuts of a beef carcass, thereby enabling accurate yield management control of cut-floor performance. With a factory calibration it is possible to monitor changes and/or improvements in the yield.



3.5 kg



4.2 kg

2 kg

Modelling

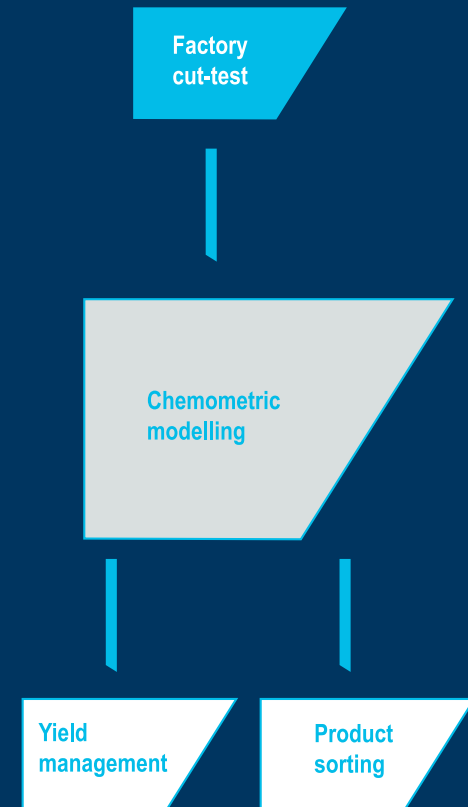
Custom calibrations and modelling

Frontmatec offers to help develop customer specific models for predicting weight of primals or various commercial cuts in your slaughterhouse.

Frontmatec offers planning of a factory cut-test and execution support by experienced meat scientists. This ensures that modelling is based on cuts that are reproducible and prediction models can be developed and implemented in the BCC-3™ using state-of-the-art chemometric modelling.

The purpose of modelling

- To develop factory specific sorting specifications
- To develop yield management software to help ensure consistency between BCC-3™ predictions and available data



Technical data



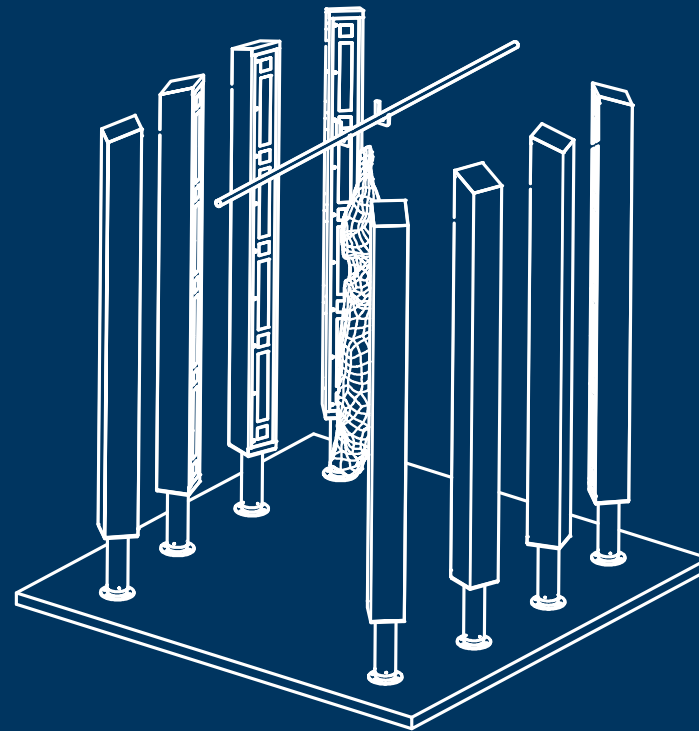
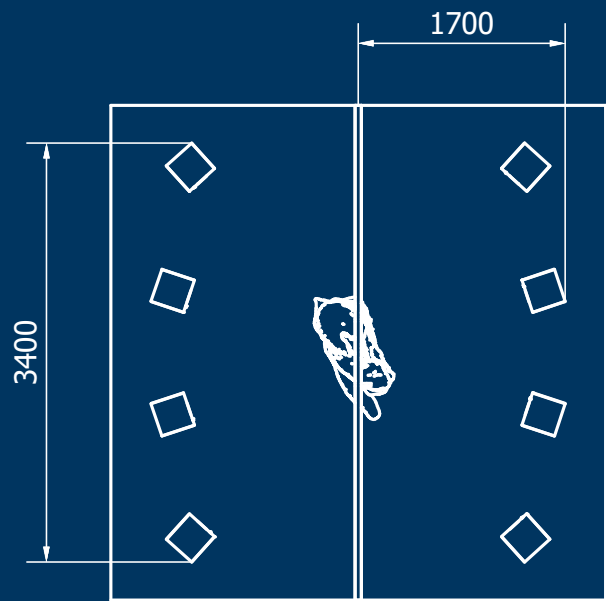
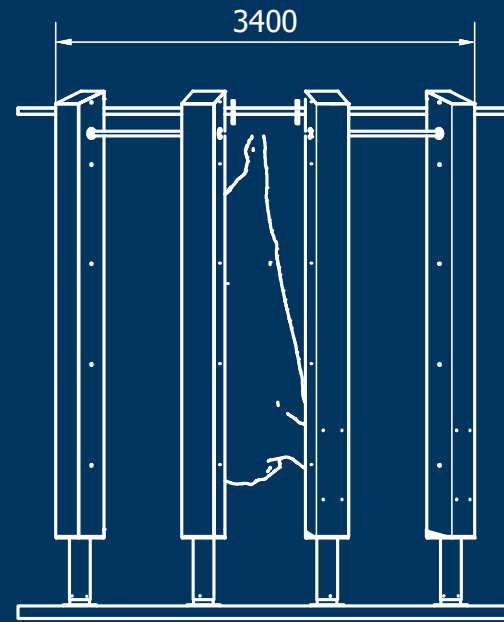
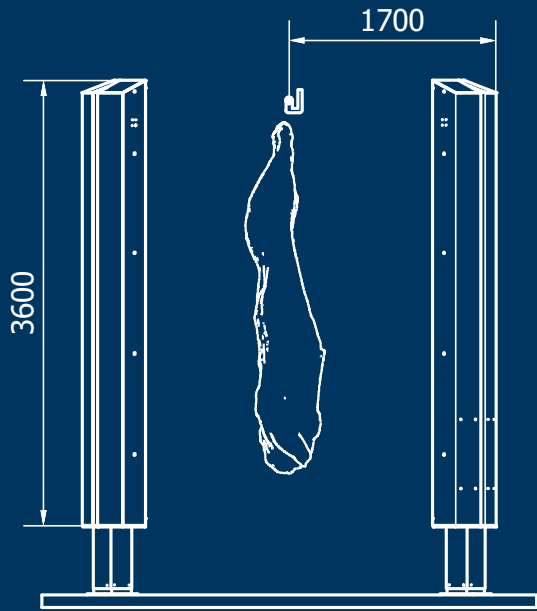
Specifications

	Imaging column (8 pcs)	Control panel	Computer rack
Working temperature range	0°C to +45°C (32°F-113°F)	0°C to +45°C (32°F-113°F)	0°C to +45°C (32°F-113°F)*
Storage temperature range	0°C to +70°C (32°F-158°F)	-10°C to +60°C (14°F-140°F)	-40°C to +60°C (-40°F-140°F)
Relative humidity	0 to 100% condensing	0 to 100% condensing	5 to 95% non-condensing
Mechanical environment	2014/32/EU Class M2	2014/32/EU Class M2	2014/32/EU Class M1
Enclosure rating	IP65	IP69K	IP40
Maximum power consumption	1920 Watt	30 Watt	1980 Watt
Input voltage and frequency (single phase)	90 to 264 VAC 47 to 63 Hz	100 to 264 VAC 47 to 63 Hz	100/120/160/184 V to 284 VAC 40 to 70 Hz**
Resistance to airborne contaminants	ISA 71.04 Class GX	ISA 71.04 Class GX	ISA 71.04 Class G1
Size (HxWxD)	360x27.5x27.5 cm Min. standoff 15 cm	40x53x13 cm	119x62x204.5 cm
Weight	8 x 105 kg	17.5 kg	200 kg
Compliance with EN 1672-2 guidelines for hygienic design	Yes	Yes	No
EMC	2014/32/EU Class E2	2014/32/EU Class E2	2014/32/EU Class E1

*Dew point must be below 29°C (84°F)

**Without using batteries

Technical data may be subject to changes



FRONTMATEC

Frontmatec develops world-leading customized solutions for automation in the food industry, other hygiene sensitive industries and the utilities industry. We are especially renowned for our high-quality systems for the entire value chain of the meat industry – from carcass grading, slaughter lines, cutting and deboning lines, hygiene systems and control systems, to logistics and packaging.

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