

INSTRUMENTS // Q-FOM™ BEEF

OBJECTIVE RIBEYE GRADING EATING QUALITY AND YIELD

Q-FOM™ Beef is a grading camera designed for fast, easy, and intuitive grading of all ribeye traits, and it can be used both on the chiller floor and at grading stations.

With an integrated high-performance 1D/2D barcode scanner, camera viewfinder, and handles with physical buttons at the fingertip, it is an efficient tool for an operator after less than one hour of training.

More than 200 carcasses per hour can be graded on marbling, eye muscle area, meat and fat colors and rib fat thickness. A sorting code table is contained in the grading camera and the sorting code is calculated on the spot.

The grading camera also doubles as a data capture unit. The touchscreen can be configured with one-touch entry of measurements of pH, core temperature, ossification, etc. As pH-meters and thermometers become Bluetooth enabled, their measurement data can be captured automatically by Q-FOM™ Beef with a Bluetooth option.

Ribeye grading

Grading of the ribeye is done to predict the **eating quality**, **visual appeal**, and **sellable meat yield**, especially for the premium cuts of a carcass.

The grading results are used to pay the suppliers for quality, and to sort carcasses in the chiller. Proper sorting of carcasses ensures conformity to quality standards for the meat products and maximizes profit for the slaughterhouse.

The carcass is graded on the cut surface that is exposed when the carcass is “ribbed” prior to or during quartering. Q-FOM™ Beef can be used at any ribbing site from 4th rib (chuck end) to after 13th rib (loin end), and for extra accuracy the instrument uses distinct software packages for each end.



Measured traits

EYE MUSCLE

- Marbling (master grader)
- IMF% (Soxhlet extraction)
- Eye Muscle Area (cm², in²)
- Meat Colour (master grader)

FAT

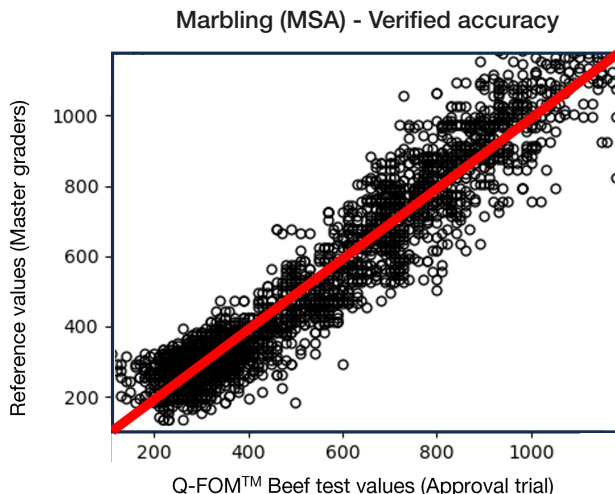
- Fat Colour (master grader)
- Rib fat thickness (cm, in)

Ribeye (chuck end)



Ribeye (loin end)





User Experience

Hardware and software of Q-FOM™ Beef has been designed not only for high performance, but also for user friendliness and ease of use.

The camera is designed ergonomically with a large touch screen, handles, and physical buttons to make the camera easy and fast to operate for extended periods of time even when wearing gloves.

Automated data flow

Q-FOM™ Beef includes both Wi-Fi and ethernet connectivity. As an option, a GOSystems software module for automating the two-way data flow between the plant's ERP/MES system and the Q-FOM™ Beef grading cameras can be installed.

A complete list of ID's and data on the carcasses ready for grading is then automatically exported from the plant's production system to the Q-FOM™ Beef grading cameras, and the ribeye images, grading results and sorting codes for each carcass ID are automatically sent from the Q-FOM™ Beef grading cameras back to the production system.

Accuracy

Q-FOM™ Beef has been subject of independent approval trials and extended use, and the high accuracy of Q-FOM™ Beef measurements has proven to be very robust and able to handle cattle variations in terms of:

- Breed (dairy/beef/wagyu, temperate/tropical, mixes)
- Category, sex/age (veal, young, heifer, cow, bull)
- Weight/size (small/large, skinny/muscular)
- Feed (grain, grass, mixed feed)

The original measurement calibrations for Q-FOM™ Beef have been made and approved according to the recognized standards of MSA and AUS-MEAT.

Adaptation to other national standards or customer specific standards can be made on request.

Technical data

When used at a grading station, the grading camera is suspended with a spring-loaded hanger to make it easy to grab and operate the camera with one hand. The camera is powered by the internal battery or via a cable, and the data transfer is wireless or by ethernet cable.

When used by an operator moving around in the chiller or elsewhere, the camera is carried in a neck strap and powered by the internal or external battery. Data transfer can be done real time by Wi-Fi or later by ethernet. The camera has an integrated web browser, so it is easy to download the grading results when the camera is later connected to a LAN network.

Q-FOM™ Beef has sufficient internal memory to store thousands of grading pictures and results with a validation log for audits, but historical data may best be downloaded regularly and stored on a PC or server for later reference.

Working temperature	0 to 45°C (32 to 113°F)
Relative humidity	0 to 100% condensing
Enclosure rating	IP54
Input voltage (PoE++ 90 W)	100 to 240 VAC, 50 to 60 Hz
Batteries	Lithium, 3.7V, 15-30 A
Internal battery capacity (8 pcs)	Approx. 400 gradings
External battery capacity (14 pcs)	Approx. 700 gradings
Touchscreen	10" PCAP
Barcode scanner	1D, 2D, stacked codes
Dimensions	42x19x9 cm (17x7x4")
Weight	2.3 kg (5.1 Lbs.)

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