REALCOLD MILMECH PTY. LTD.

Sheep Mid Voltage Stimulation

Beef Low Voltage Stimulation

NEW GENERATION ELECTRONIC ENHANCEMENT FOR MEAT QUALITY

Computer Process Management System features and benefits include:

Features:

- High Frequency Immobilisation.
- Electronic Bleeding.
- Low Voltage Stimulation.
- Mid Voltage Stimulation.
- Reduced Health and Safety Risk.
- Improved Eating Quality.
- Improved Blood Recovery.
- Reduced Inventory and Energy Costs.

Design:

- Reliable, hygienic construction.
- Compliant with relevant design standards.
- Customised configurations and solutions available.

Additional Products & Equipment:

- Industrial Refrigeration Systems.
- Chilling & Freezing Systems:
  - Plate Freezers;
  - Multiple Retention Time (MRT) Tunnels;
  - Single Retention Time (SRT) Tunnels;
  - Spiral & IQF.
- Control & Automation Systems.
- Conveying & Product Handling Systems.
- Meat Processing Systems.
- Meat Machinery & Hygiene Equipment.

Taking the Guesswork Out Of Electrical Stimulation

New technology jointly developed by Realcold Milmech Pty Ltd in conjunction with Applied Sorting Technologies and Meat and Livestock Australia has taken the guesswork out of applying electrical stimulation to cattle and sheep carcasses. The system is operating in a number of sheep and beef plants throughout Australia.

Electrical stimulation (ES) accelerates pH decline, the onset of rigor mortis and the natural ageing process. This allows meat to reach an acceptable eating quality in a significantly shorter period of time and can alleviate problems caused by the faster chilling of carcasses. The challenge for processors is to match the level of ES to the rate of chilling and the time meat is scheduled to reach the consumer.

For any given chilling rate, too much ES results in too rapid a pH decline. If pH 6 is achieved at a temperature above 35°C "heat shortening" occurs and the natural ageing enzymes are destroyed. With inadequate ES where the carcass does not reach pH 6 before the temperature falls below 12°C, "cold shortening" occurs and ageing of the meat is delayed.

The effective level of ES is a function of the carcass type and the total electrical load applied to the carcass during the slaughter process. Electrical inputs can come from immobilisation, electronic bleeding, stimulation and back stiffening with the effect of each depending on the voltage, its duration and the waveform.

The new system accounts for the total electric load (including immobilisation and back stiffeners, etc.) and can be adjusted on the basis of the ideal electrical inputs for particular carcass types. Its main feature is its use of test pulses to determine the resistance of a carcass and the use of this information to apply the same, precise, electrical dose control to all carcasses. The optimal pH decline for any given chilling rate can then be obtained to maximise the benefits of rapid ageing.

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MEAT & LIVESTOCK AUSTRALIA

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