

H2H Euthanizer

A regulator's view

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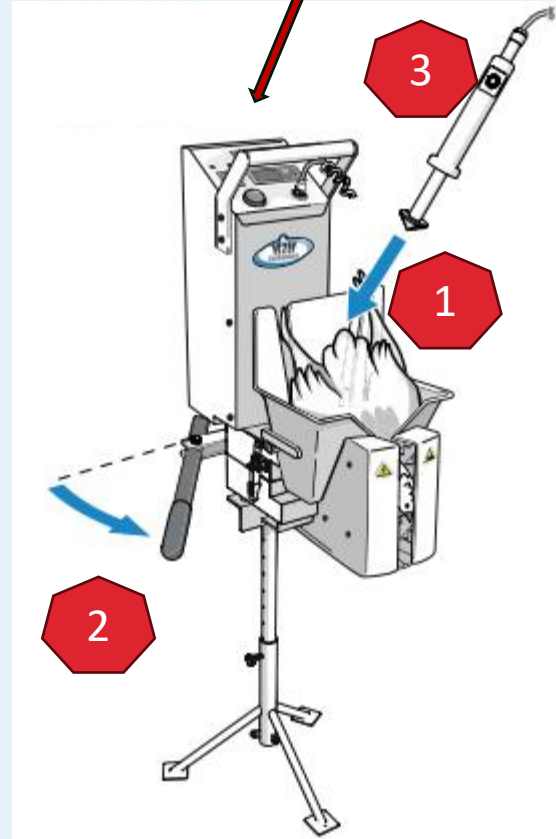
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Operating the H2H Euthanizer

1. Hand-held probe positioned on cloaca
2. Lever pulled towards the operator so that the head clamp closes around the bird's head.
3. The button on the hand-held probe is activated, giving a 3-second current flow.

The display shows the electrical current and mains voltage. (230V +/-)



WARNING this video shows the H2H Euthanizer humanely killing a chicken.

Please do not view this video if you feel you may be negatively affected by the content.



Video not available.

Legislation

PATOK

- (Assimilated) European Council Regulation No 1099/2009

WATOK

- The Welfare of Animals at the Time of Killing (England) Regulations 2015
- The Welfare of Animals at the Time of Killing (Wales) Regulations 2014
- The Welfare of Animals at the Time of Killing Regulations (Northern Ireland) 2014
- The Welfare of Animals at the Time of Killing (Scotland) Regulations 2012

WASK

- The Welfare of Animals (Slaughter or Killing) Regulations 1995 (retained sections – Scotland)

Legislation

- Exposure of the body to a current generating at the same time a **generalised epileptic form on the EEG [electroencephalogram]** and the **fibrillation or the stopping of the heart.**
- Key Parameters:
 - Minimum current /voltage maximum frequency
 - Minimum time of exposure.
 - Frequency of calibration of the equipment.
 - Optimisation of the current flow.
 - Prevention of electrical shocks before stunning.
 - Position and contact surface area of electrodes.

Legislation

- Requirements from the seller:
 - Appropriate instructions which ensure optimal conditions for the welfare of animals
 - Instruction available online
 - Information on parameters



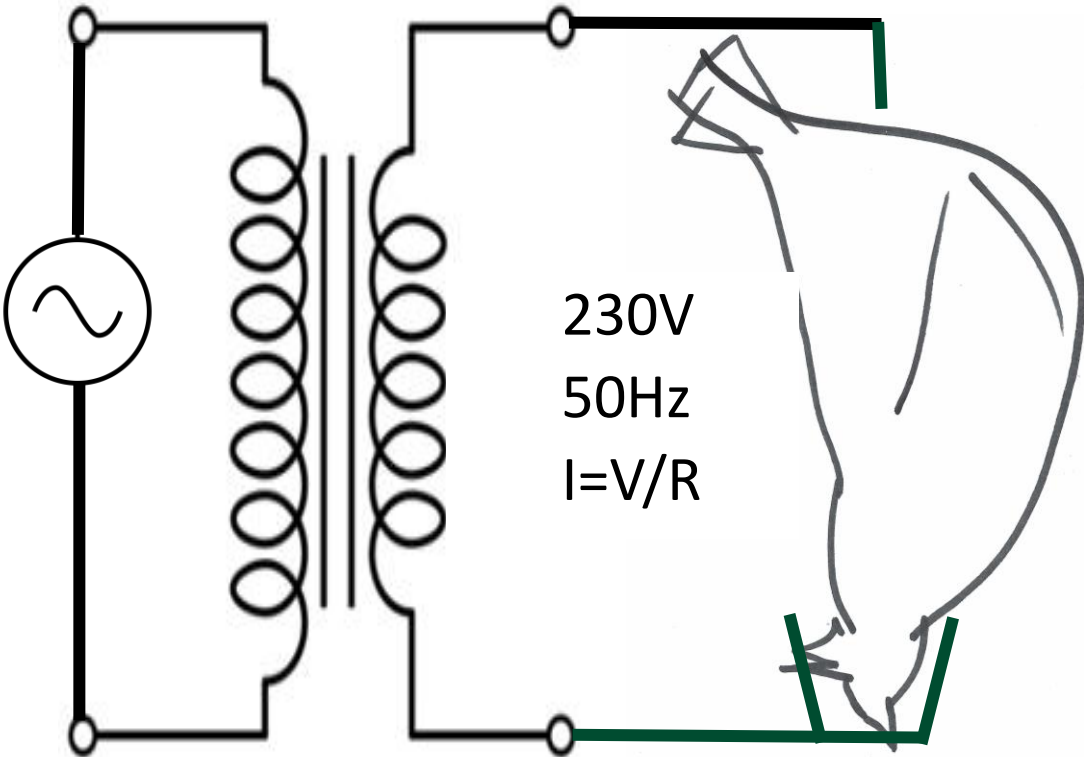
Legislation

WATOK (E&W) Sch. 2 Para. 37

- Good electrical contact
- Audible or visible device indicating the length of time of its application to an animal
- Voltage and the current under load, positioned to be clearly visible to the operator
- Strength and duration of the current used is such that the animal is immediately rendered unconscious and remains so until it is dead

Inputs

Outcomes



Effective stun



- rigid extended legs
- neck arched
- rapid body tremors
- wings held tight and close to the body
- absence of rhythmic breathing
- absence of eye reflex

Dead



- limp body
- dropped wings/head
- dilated pupils
- closed eyelids

← Permanent

← Permanent

Welfare Hazard Considerations & Mitigation

PATOK: Article 3(1) Animals shall be spared any avoidable pain, distress or suffering during their killing and related operations.

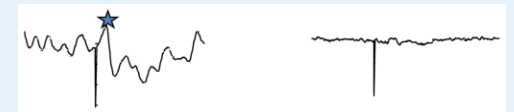
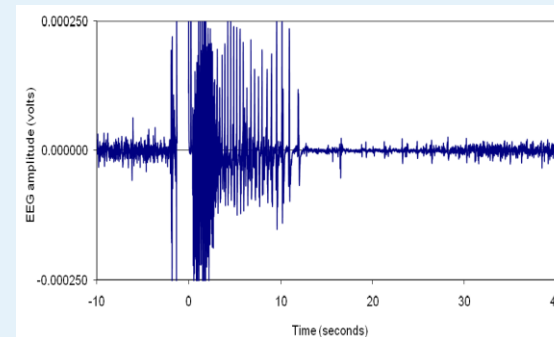
- Inversion
- Clamp pressure
- Pre-stun shock
- Insufficient current (exposure time/strength)



Evidence gap & further research.

Exposure of the body to a current generating at the same time a **generalised epileptic form on the EEG** and the **fibrillation or the stopping of the heart**.

- Timing and duration of epileptiform activity and death (EEG including evoked responses)
- Timing of ventricular fibrillation (electrocardiograph)
- Variation between poultry species
- Long-term field use



Example of EEG during waterbath stunning(left) and lack of somatosensory evoked response during stunning . From Berg C, Raj M. A Review of Different Stunning Methods for Poultry- Animal Welfare Aspects (Stunning Methods for Poultry). Animals (Basel). 2015 Nov 30;5(4):1207-19.

On-farm killing options for poultry

- Non-penetrative captive bolt devices
- Electric stunning
- Cervical neck dislocation
- Mass culling for disease control:
 - Whole house gassing (WHG)
 - Containerised gassing unit (CGU)

WATOK licence (England and Wales)

- Required to demonstrate:
 - competence to carry out stunning and related operations....
 - sufficient knowledge of legislation and guidance available....
- WATOK licence is not required:
 - If working in the presence and under the direct supervision vet or licence holder
 - For emergency killing



Summary

- From field observations, the H2H Euthanizer appears to provide a humane, innovative and practical option to stun and kill chickens on farms for management and welfare reasons.
- The device offers some significant benefits over alternative percussive and electrical on-farm methods in some situations.
- A WATOK licence is generally required to use an H2H Euthaniser in England and Wales.
- Research using EEG would help establish the timing of brain patterns indicative of unconsciousness, insensibility and death and associated minimum currents required.



Acknowledgement

- Poultry industry
- Top Equipment
- DEFRA, APHA and Scottish Government
- Researchers and experts



References and further information

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