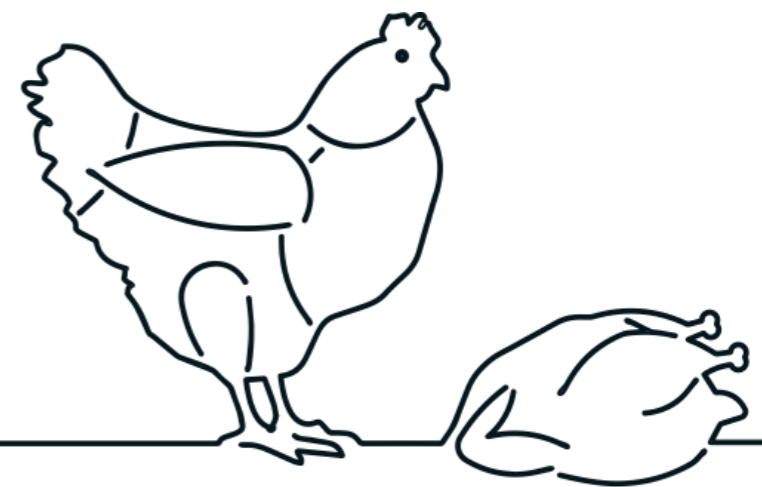
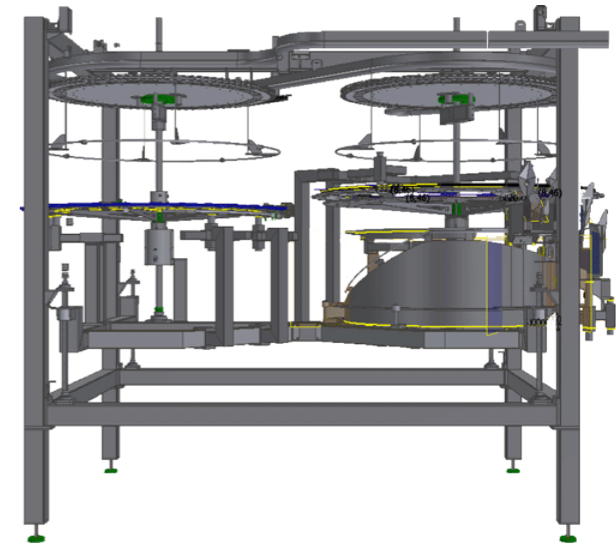


'Head-only' electrical stunning



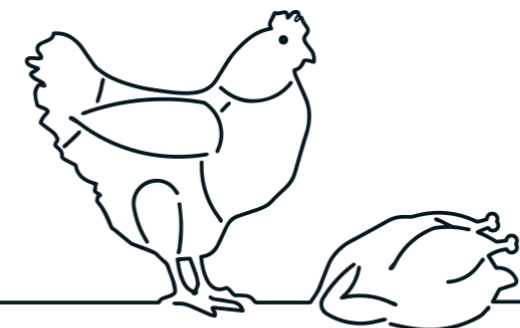


Dutch Vision Solutions – Introduction

- 20 years worldwide experience in poultry processing
- Developing quality poultry processing machines.

(Dedicated technology for killing, eviscerating, air chill, weighing, cut-up lines, ict-tools and cleaning.)

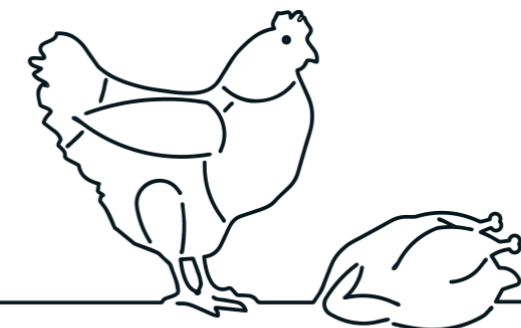
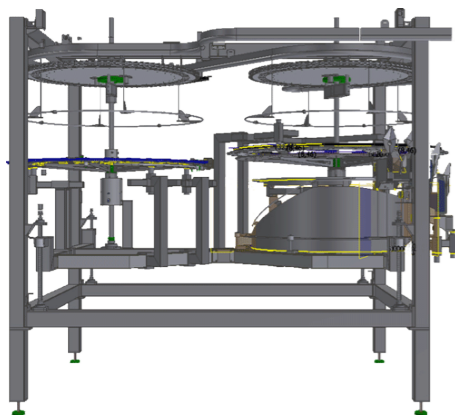
- All Dutch Vision Solutions' applications within
(WATOK, EC1099 and/or EFSA)



Waterbath
Head-only

Efficiency

Head-Only Stunner - Fully controlable / indivudual stunning
High performance





Entering stunningwheel



Stunned broilers

'Head-only' electrical stunning

The only legally an Halal accepted *reversible stunning* to date

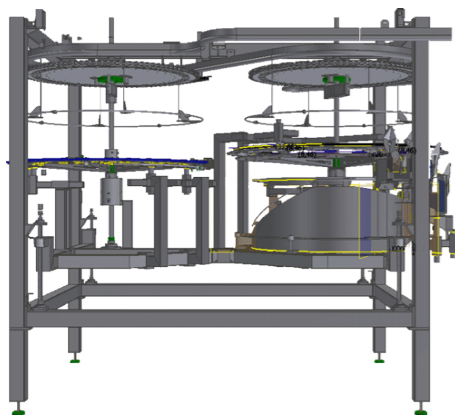
Applicable *in lines from 1000 > 14000 bph*

When fully automated *99,5% efficiency (incl KLS systeem)*

Fully controlable proces – individual measurement

Improved *product quality*

Limited floorspace, only 16m2 + 9000 bph

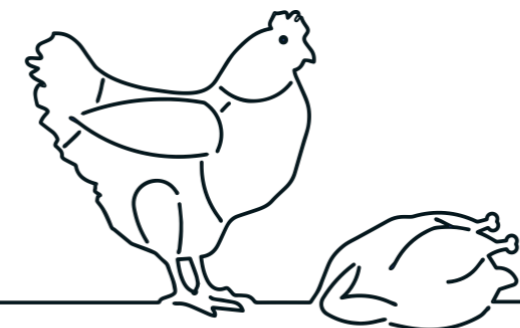


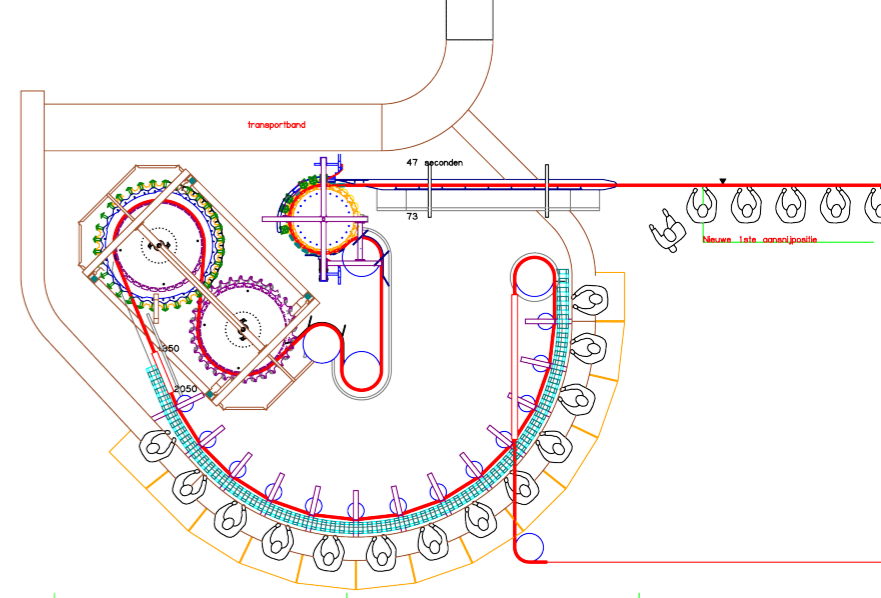


Research

'Head-only' electrical stunning

Tested by Wageningen University based on EC1099, WATOK and EFSA rules,
legislations and opinions





Animal welfare and 'Head-only' electrical stunning

- 99,5% well stunned animal

Cumulated Percentage of the Head-only electrical stunner (96,4%)

and the KLS-splitter through the additional waterbath

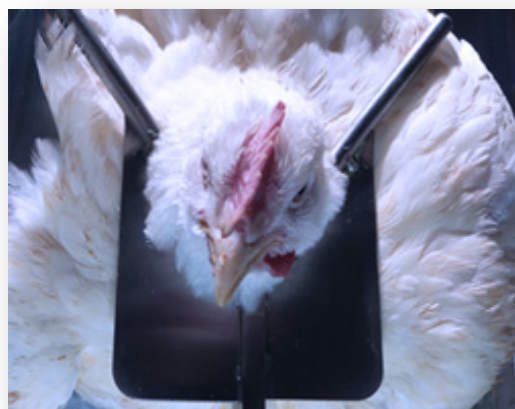
the percentage increases with 3,1% to 99,5%.

- Stress reduction

Incorporated breast support

Depending of layout: First shackling to stunner < 30 seconds

Depending of layout a convayorbelt in feed





VIDEO



Dutch Vision
s o l u t i o n s

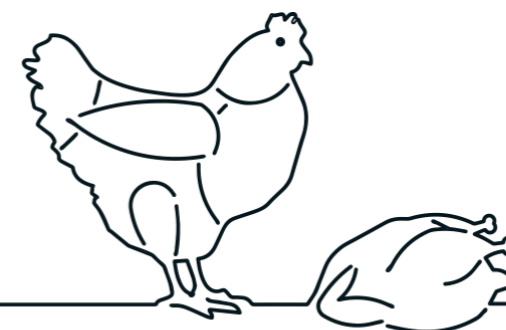
'Head-only' stunning

VIDEO



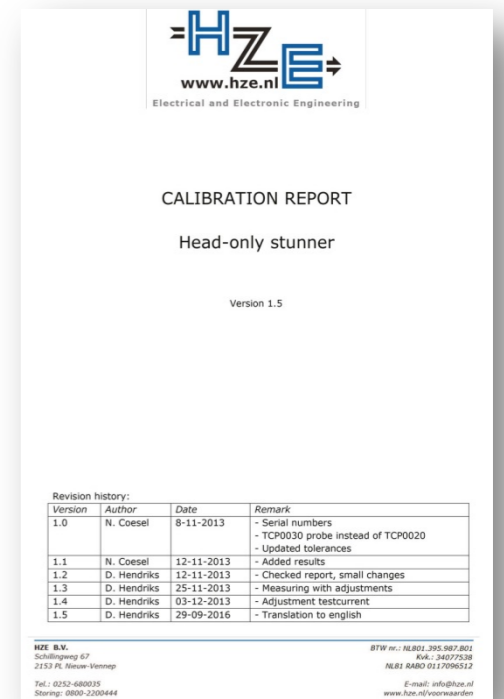
Dutch Vision
s o l u t i o n s

KLS - Splitting



Controlling the Head-only proces

- All machines come with independent calibrating report



Calibration Report
Head-only stunner
Version 1.5

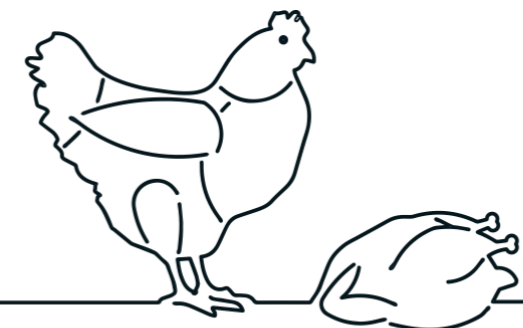
Revision history:

Version	Author	Date	Remark
1.0	N. Coesel	8-11-2013	- Serial numbers - TCP0030 probe instead of TCP0020 - Updated tolerances
1.1	N. Coesel	12-11-2013	- Added results
1.2	D. Hendriks	12-11-2013	- Checked report, small changes
1.3	D. Hendriks	25-11-2013	- Measuring with adjustments
1.4	D. Hendriks	03-12-2013	- Adjustment testcurrent
1.5	D. Hendriks	29-09-2016	- Translation to english

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NL81 RABO 0117096512
E-mail: info@hze.nl
www.hze.nl/voorwaarden

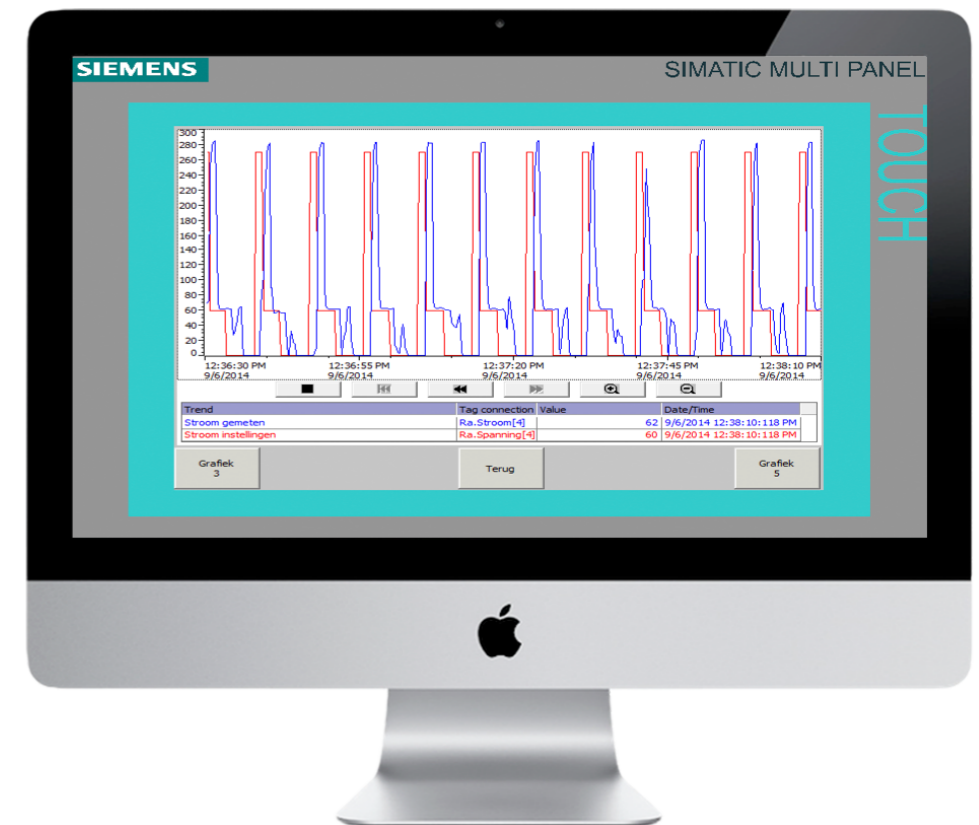
- Head only monitoring software



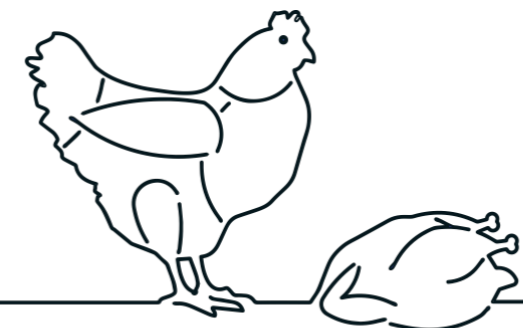
Realtime monitoring the process = Control



Head-only software
Controlling the process



Real time procescontrol
Monitoring each stunning-unit



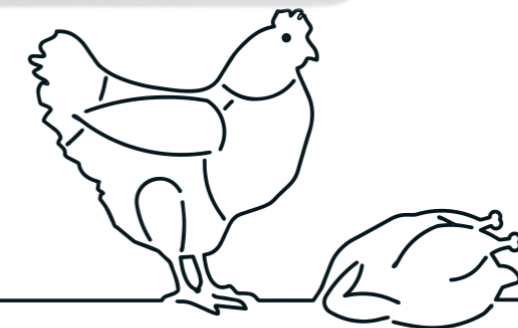
Control - Logdata

Saved data

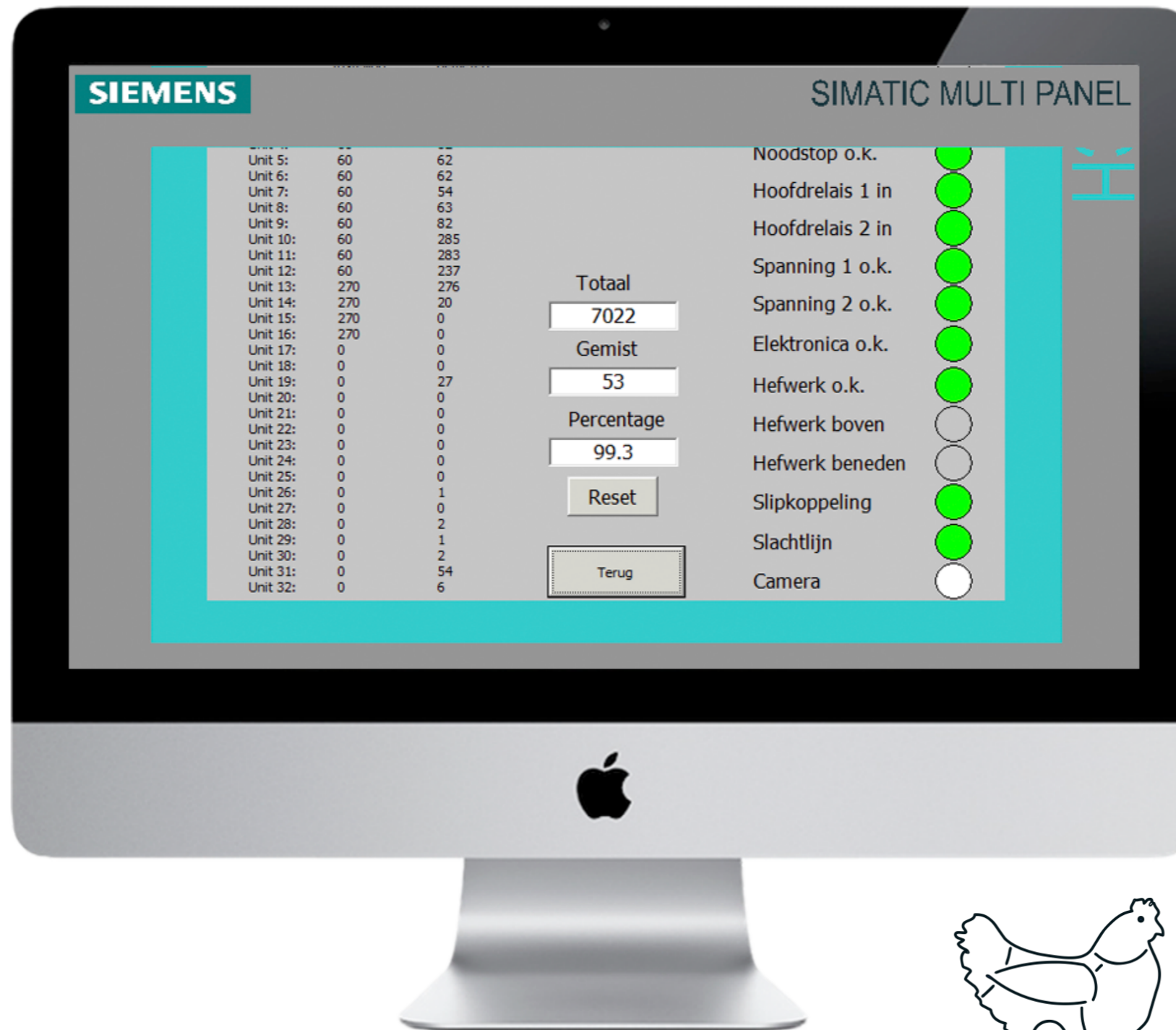
Logdata per batch

Set mA	Actual mA	Voltage
270	281	93
270	282	112
270	282	112
270	282	112
270	282	112
270	285	104
270	286	104
270	286	104
270	286	104
270	282	104
270	282	104
270	282	104
270	282	104
270	284	102
270	284	102
270	284	102
270	284	102
69	284	102
69	124	80
69	67	39
69	67	30
69	67	30
69	67	30
69	65	30
69	65	30
69	65	30
69	65	30
69	0	0
69	0	0
69	0	0
69	0	0
0	0	0

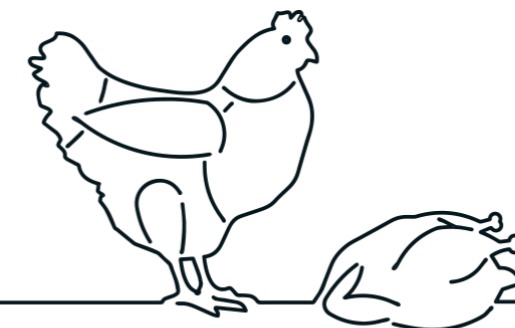
*Footprint
individual broiler*




Control: Quick Reference



Real time

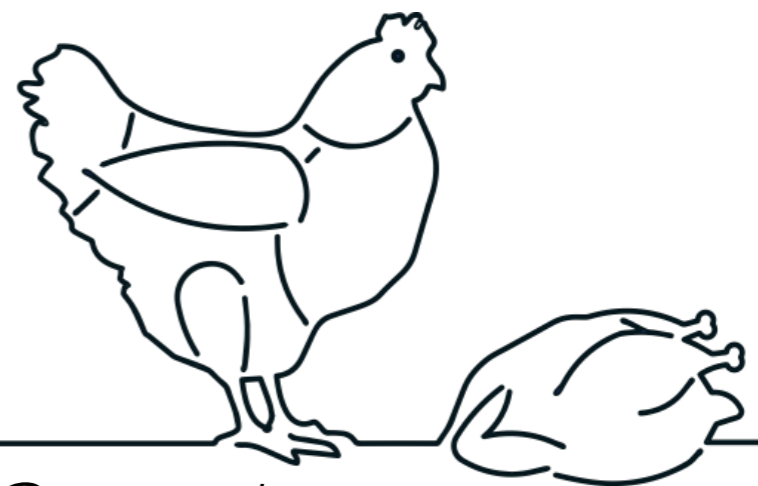




99,5% well stunned animals
Controlled individual stunning
Reversible Stunning
Limited Floorspace

Halal accepted
reversible stunning

Thank you



Poultry Vision *Farm Animal Welfare Committee*