

RPS-H splitter with knives



Compact solution for accurate robotic splitting

The AiRA RPS-H splitter with chopping knives can be used as a single machine, or in combination with other robot modules.

The RPS-H combines a six-axis industrial robot with a hygienic configuration and a highly optimized and specialized tool using oscillating knives. The carcasses are split into two halves along the spinal canal, which is symmetrically opened. The cut is executed vertically until the end of the atlas vertebra. Alternatively the machine is splitting the head completely, depending on the customer preferences.

The concept

The AiRA robotics concept ensures uniform processing, accuracy and high-quality products.

With AiRA robots, continuous operation on the dressing line conveyor is maintained, as the robots are synchronized with the main line conveyor; so while carcasses by drop fingers are pulled forward, the position, depth, and angle are determined by the detection unit (vision scanner) and the process is performed in a downward movement.

The AiRA robotic concept is a dynamic concept, as multiple AiRA robots can be fitted along the main conveyor of the slaughter line. The AiRA robots are all “plug and play”, and can operate in any type of new or existing pig slaughter lines.

Hygiene

The integrated sterilization system with its unique cleaning set-up secures fast and accurate sterilization between each operating cycle, allowing the robot to operate at high capacity with negligible risk of cross contamination. The robot itself is enclosed in a strong flexible protective cover with constant air flow inside and lightly over-pressure, keeping the vital part of the robot clean and safe in the harsh environment.

Why the RPS-H splitter with knives!

- High capacity: 450 carcasses/hour
- Precise and accurate automated splitting
- Easy to service with quick and easy change of the chopping tool
- Yield improvements



Pre-conditions

The total system consisting of:

- Robot with a hygienic protective cover
- Chopping tool attached to the robot
- Sterilization system
- Vision system which is installed along the slaughter line
- Carcass guidance system
- Control unit with transformer box
- Robot fence with secured entrance

Safety and legal requirements

The AiRA RPS-H splitter with knives is CE approved and designed to meet the strictest demand on health and safety.

Technical data

Capacity	450 carcasses/hour
Live weight	60-140 kg/132-308 lbs
Process parameters	Individual cutting parameters for each carcass, customized settings possible
Vision scanner	3D vision system based on optical measuring device
Voltage	380-575V AC 50/60Hz 3 phase
Control voltage	24V DC
Requirements:	
Water	6 bar (min. 4 bar constantly)
Water consumption	Cold (<20°C) 1.2 liter/pig* Hot (>82°C) 0.6 liter/pig*
Compressed air	8 bar (min. 6 bar constantly) Dry air, free of oil and dust absorbed Approved for use in the food industry ISO 8573-1:2010 Class 1.4.1

*Values are based on experience in the field and cannot be guaranteed, as many factors can influence these numbers
Technical data may be subject to changes



Advantages with the AiRA concept

- A concept founded on more than 20 years in R&D and engineering of automated processing
- Homogeneous processing and high quality cuts
- High hygiene level with integrated sterilization of cutting tools, minimizing the risk of cross contamination
- Reduction of labour cost with one robot
- Human machine interface for setting and adjusting the robot
- Low maintenance
- Easy and swift to clean and keep clean
- Easy operation and troubleshooting with uniform user-friendly operator panels on the AiRA robots
- The software interfaces with all types of monitoring systems



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