

Increasing efficiency and meat production with industrial robots

For over 15 years Jarvis Products has been manufacturing automated equipment, used for both beef and pork pre-cutting and slaughterline procedures.

by Vincent Volpe,
Jarvis Products Corporation.
jarvisproducts.com

Jarvis' first market entry was an advanced, high speed automatic hog splitter, incorporating the latest patented technology. It quickly gained attention for perfectly splitting up to 650 hogs per hour with uniform featherbone division – regardless of size or weight.

Other features included customised PLC programs to handle individual plant processing requirements, a variable speed cutting head, and a unique Jarvis manufactured blade providing clean cuts with minimum saw dust and bone splinters.

Benefits of automation

Meat processors quickly realised that machine automation could provide higher production rates, an increase in specialty products, cleaner cuts, easier spinal cord removal, reduced labour costs and faster line operations.

The plant managers noticed that perfectly split carcasses, done by Jarvis' automatic hog splitter, had less loin damage, and also provided more bones being sent to a plant's

meat recovery system. For over a decade this first generation automatic hog splitter has been operating successfully at several pork processing facilities in the United States and in Europe.

Jarvis is now selling a second, more advanced model automatic hog splitter offering more enhanced production performance.

Jarvis' next offerings were several models of their Model JR-50 industrial robots, used for various kill and cutting floor procedures.

These robot models were designed with a modular approach allowing adaptation of existing Jarvis hand tools, and provided superior accuracy by permitting continuous modifications to the tool path.

They are being used for both beef and pork production operations. In pork slaughterhouses, Jarvis tools and robots have been especially utilised for hog head dropping, brisket opening, fore-paw, and aitch bone cutting operations.

Robotic machines have also successfully removed pork bungs, and opened pork bellies and breasts. Beef slaughter lines have found robots greatly beneficial for forequartering and hock cutting procedures.

JR-50 robots are user-friendly, easily changeable, fast, reliable and easy to maintain, requiring minimal maintenance. The arms are covered by an easy to clean jacket that provides protection for the robot in the wash down environment. Easy quarterly maintenance scheduling ensures a maximum life cycle, in



Jarvis' automatic hog splitter.

excess of seven years, for the robot arms. The robots can be either floor or ceiling mounted. Operating interfaces are available in several different languages, including English and German.

Revolutionary machine

Jarvis' Model JR-165 Hog Splitting Robot is presently being used at a Louisville, Kentucky pork processing facility. It is the newest addition to Jarvis' line of automatic splitting systems. Due to the JR-165's technically advanced operating systems, and remote diagnostics capabilities – it is a game changer revolutionising the way the meat industry automatically splits hog carcasses.

Combining years of splitting experience with the latest robotic technology, Jarvis has developed a splitting system providing exacting performance, proven reliability, and unmatched diagnostic capabilities.

The system produces the highest quality loins and necks, along with greater amounts of specialty products. An ultra-thin saw blade creates minimal bone dust during the splitting process. Besides the benefits of high production rates and faster line operations, the JR-165 adapts to any type of slaughter line, and can be installed anywhere on the production line, even near corners. An integrated carcass stabiliser, along with carcass tracking and automatic size detection, allows a pair of robots to operate truly unattended.

A stainless steel base and a completely jacketed arm make the robot easy to clean and maintain.

Currently being tested in the United States is Jarvis' Model JR-50 Belly Ripper for performing automatic pork belly cutting operations on the kill floor. This machine is equipped with real-time vision for precise and consistent cuts, and an industrial hardened, real-time controller with 3-D vision. ■

JR-50 belly ripper.



JR-165 hog splitter.



JR-50 hog cutter.

