

Berry Paw Recovery System

US PATENT # 7226349 B2



Maximize your yield and increase paw export potential
by processing USDA graded paws!

The Berry Paw Recovery System:

- ◆ Tracks and maintains feet and carcass identity
- ◆ Complies with USDA FSIS Directive 6210.2 - Revision 1, dated 05/03/05
- ◆ In-Line process, Not a batching system
- ◆ Increases yield, small rejection window
- ◆ Dial-up communications directly between Berry shop and plant plc

Berry Paw Recovery System

GENERAL DESCRIPTION:

The Paw Recovery System is a system designed to track the chickens as the USDA grades them. The chicken paws are also tracked and electronically tagged to their respective chicken. Should the chicken fail USDA regulations and be removed from the evisceration line, the paws from the same bird will be diverted by the paw harvester into a reject bin. The paws will only be rejected if the button, which is mounted at the USDA inspector station, is pressed. This allows paws to only be rejected for certain disease and thus maximize production.

TECHNICAL DESCRIPTION:

The Paw Recovery System is composed of Station Brackets containing non-contact photo-electric and inductive sensors. The sensors verify chicken and / or shackle presence. Berry's Paw Recovery Stations, mounted at various points along the picking and evisceration lines communicate to a central programmable logic controller (PLC) via DeviceNet. The DeviceNet is a "BUS" type networking comprised of one multi-conductor cable that supplies power and communications to the sensors. DeviceNet saves time in installation and reduces potential problems caused by wiring errors. Due to sensors communicating on a network, real-time diagnostics are available from each sensor. Diagnostics include photoelectric misalignment or dirty lenses, inductive sensors positioning, and faults status. The sensors also provide a heartbeat to continuously verify communication back to the PLC. The central PLC will be housed in an industrial enclosure (shown on front of brochure). A touch screen is mounted on the front of the enclosure allowing setup and diagnostics of the system including alarm messages. The system tracks chickens and paws by counting parts into each transition and parts out of each transition. Each chicken and paw will be assigned a memory location in the PLC, which will follow the chicken and paw throughout the grading process. The system uses its sensors to verify that the tracking calibration is correct.

Berry Paw Recovery System:

Motor: N/A
Voltage: 120 VAC Supply, 24 VDC Field Devices
Amp Draw: 5 Amps @ 120 VAC
Panel Size: 30" H x 24" W x 10" D
PLC: Allen Bradley Compactlogix with on board Ethernet
Operator Interface: Allen Bradley Panelview Plus 1000
5 Port Ethernet switch and 56k modem standard per system

Berry Reporting Program:

Microsoft Excel Based.
Requires PC (Personal Computer / supplied by Customer)
Requires Microsoft Excel Program (Software supplied by Customer)
Provides Real Time Data & Storage Capability in HTML format.
(PC and Excel is Customer Supplied)

Berry Plumbing & Equipment

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Miscellaneous Electrical Information.

1. 4 Conductor, 20 AWG, Shielded cable is supplied by customer.
2. 110V Power Supply supplied by customer.
3. When installing Items #9 (Crouse-Hinds 3/4 Conduit Fitting Part #C29) and #10 (Conduit Adapter Part # BCA-57-E223) Ensure that the terminals point upward to prevent pooling of water around flange of item #10.
4. 3/4 inch conduit is supplied by customer.
5. Belden 3082A cable is supplied by customer.
6. All wires must be tinned by plant/contractors.
7. All pin sockets must have a very small quantity of Dielectric Grease (Item #32 on conduit drawing) applied to keep water out of pin holes.
8. Cap the Conduit Adapter (Part # BCA-57-E223) at the end of line.
9. At last station in line, set the termination resistor switch to the ON position. Switch is located inside the adapter box (BCA-57-E223). All other stations, the termination resistor switches should be in the OFF position.

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