

## Classifier Line – Loin Auto Scaling

### Problem:

An industry leading Pork Processor needed a faster, safer, automated line to sort Pork Loins while improving sanitation and providing a cost reduction. *Note: This concept can be modified to fit Ham, Rib, and Belly lines too.*

- *The current classifier line was a “Bottleneck Process” where they could not weigh and sort Loin cuts fast enough by hand*
- *Safety Issue: Lifting and twisting motions required to move Loins (17-24lbs/each)*
- *Unreliable accuracy of loin weight due to hurried manual processing*
- *Standard production time was not available for modifying and troubleshooting this process. Replacement process testing and troubleshooting had to be done offline.*



### Solution:

Millard designed and developed an innovative new machine called a “Loin Kicker” and then integrated it into a dual-lane Classifier Line that automatically weighs, measures, and sorts Pork Loins at higher speeds.

- *R&D driven custom designed Loin Kicker using a new air clutch for reliability and torque*
- *Food Safety: “In-House” Passivation for Sanitary durability*
- *Safety Guarding on all pinch points and moving parts*
- *Sanitary wash-down design*
- *(2) separate lines with (3) Loin Kickers per line in series*
- *Scale Conveyor with integrated load cells for weighing the Loins on each line prior to the Loin Kickers*
- *Integrated with MMC sanitary conveyor lines*
- *Walk-over stairs and platform between the Loin Kickers with fiber plate steps*
- *Factory Acceptance Testing (F.A.T.) at MMC for both mechanical and electrical functions including programming parameters*
  - *Allen Bradley logic*
  - *(4) customer personnel on site*
  - *Actual meat products (loins) used in testing*
  - *2-day run off*
- *Heavy Duty Stainless Steel Construction*

### Results:

- *Increased line capacity from 2,400 to 3,000 pcs/hr*
- *Increased yields from proper product mix*
- *Increased Productivity on Boning Lines and Special Make Lines*
- *Reduction in Manpower of 4-5 personnel over 2-shift operation*
- *Food Safety: Increased sanitation by reducing human handling*
- *Established reliable traceability by weight of Loins*
- *Factory Acceptance Testing (F.A.T.) and programming allowed the line to be installed over two weekends with little to no downtime incurred by customer*