

FOOD PROCESSING - CUTTING

CHICKEN CUTTING AUTOMATION



HIGH SPEED

FOOD DEBRIS &
WASHDOWNCONTINUOUS
AUTOMATION

MULTI-AXIS

Guide wheels and track for food grade and washdown environments.

Waterjet cutters slice raw meats, such as chicken breasts, into different shapes and separate fat, cartilage, and other parts from the meat. The meats are conveyed into the machine, where they are scanned by optic sensors and individually cut in a specified pattern by an automatic waterjet which is guided in two axes. The machine is designed to improve the speed and accuracy of portioning, whether cutting strips, nuggets, fillets, or just trimming off fat.

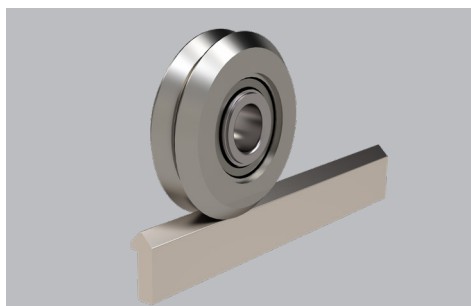
CHALLENGE

KEEPING MACHINES RUNNING IN HIGH-THROUGHPUT FOOD CUTTING OPERATIONS

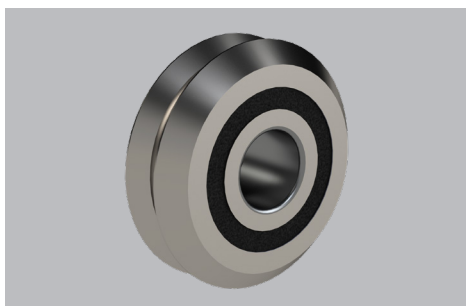
The equipment manufacturer needed a versatile guidance technology to keep up with the high throughput while keeping maintenance costs to a minimum.

The position-controlled waterjet head must function at high speeds and accelerations while meeting all safety standards, such as washdown and food-grade lubrication requirements.

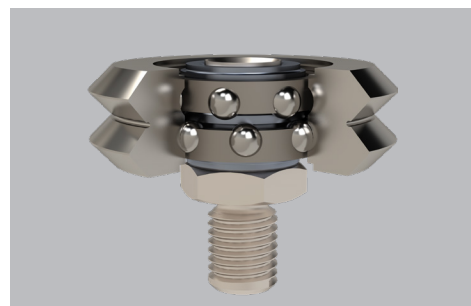
Besides experiencing frequent high-pressure cleaning, the system must operate continuously in a wet environment.



Stainless Steel DualVee Guide Wheels and Track



Washdown Series Guide Wheel



Cutaway of DualVee Bearing with Mounting Stud

SOLUTION

A MOTION SYSTEM FIT FOR SPEED AND DEBRIS

The waterjet head is controlled in two axes via belt-driven carriages on linear guide rails. Each carriage is equipped with four Bishop-Wisecarver patented food grade wheels for washdown environments. Because these wheels use stainless steel components and H1 food-grade grease, they are optimized for food processing and pharmaceutical applications and increased the life of the waterjet system.

DualVee® wheels ensure that the equipment can provide a high-throughput for the meat cutting operation.

CHALLENGE SOLVED

GUIDE WHEELS FOR HIGH RELIABILITY AND ACCURACY

Bishop-Wisecarver DualVee® wheels and track provided a long-lasting, self-cleaning solution. The unique washdown seal system retains the bearing grease during high-pressure cleaning, ensuring the bearings stay lubricated.

Using DualVee Motion Technology® allowed the manufacturer to achieve the highest reliability and accuracy of any waterjet cutter technology in the food industry. Additionally, it contributed to the low total cost of ownership for the end user, which is a point of pride for the manufacturer.

THE BISHOP-WISECARVER ADVANTAGE

START WITH SMOOTH, SELF-CLEANING GUIDE WHEELS

When it comes to harsh environments, Bishop-Wisecarver has systems and products that will hold up to the most extreme and debris-filled situations. This includes wheels optimized for food processing, where washdown spray and food debris are part of the job.

- ✓ Self-cleaning DualVee® guide wheels provide smooth, low-friction motion while wiping away food debris and liquids
- ✓ Washdown wheel option includes patented double-seal to retain grease and resist high-pressure spray
- ✓ Stainless steel wheels and track for enhanced corrosion resistance
- ✓ Precision ground track and sealed bearings for long system life and low maintenance
- ✓ Studded wheel options for easy wheel plate mounting
- ✓ Speeds up to 5.5 m/s (~18 ft/s) and accelerations up to 5 g