



BEARING SPECIALISTS ASSOCIATION

We build relationships

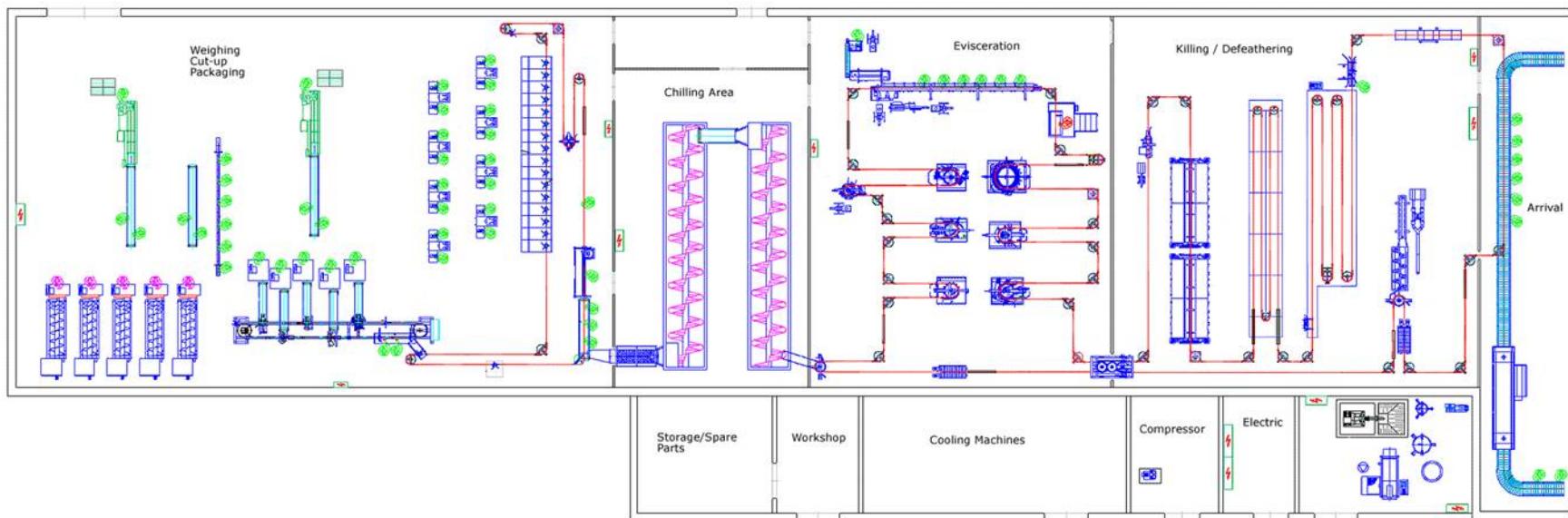
INDUSTRY BRIEFS

BSA website | Follow us on

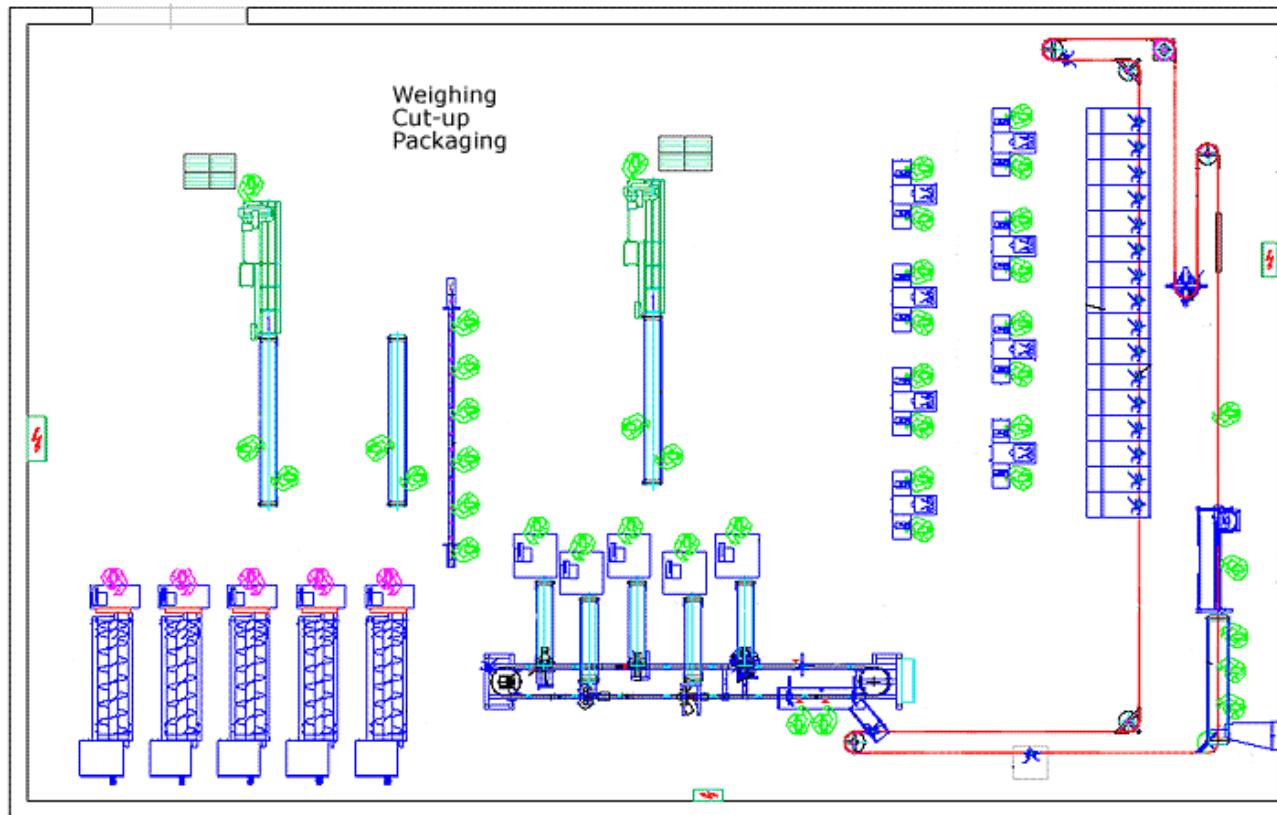


Poultry Process

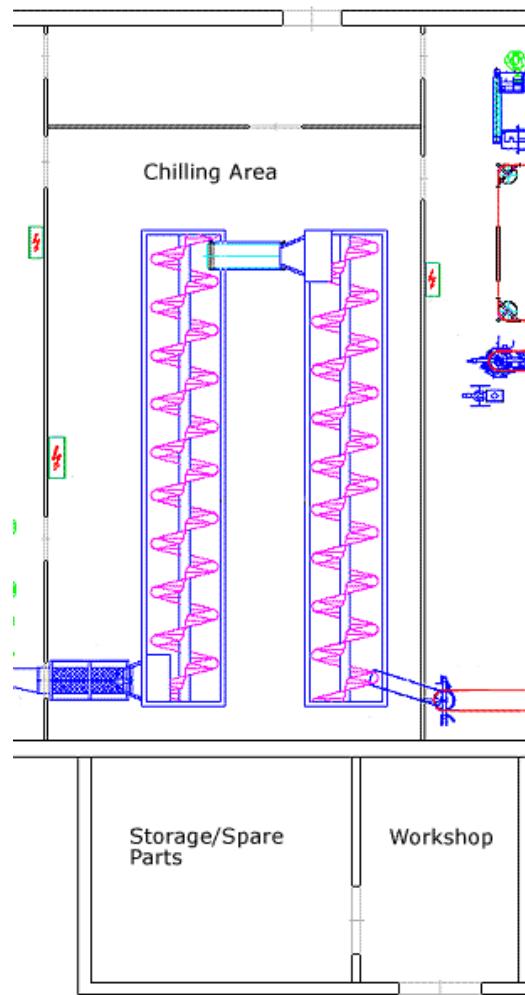
6000bph (Birds Per Hour) Poultry Processing Plant - typical layout



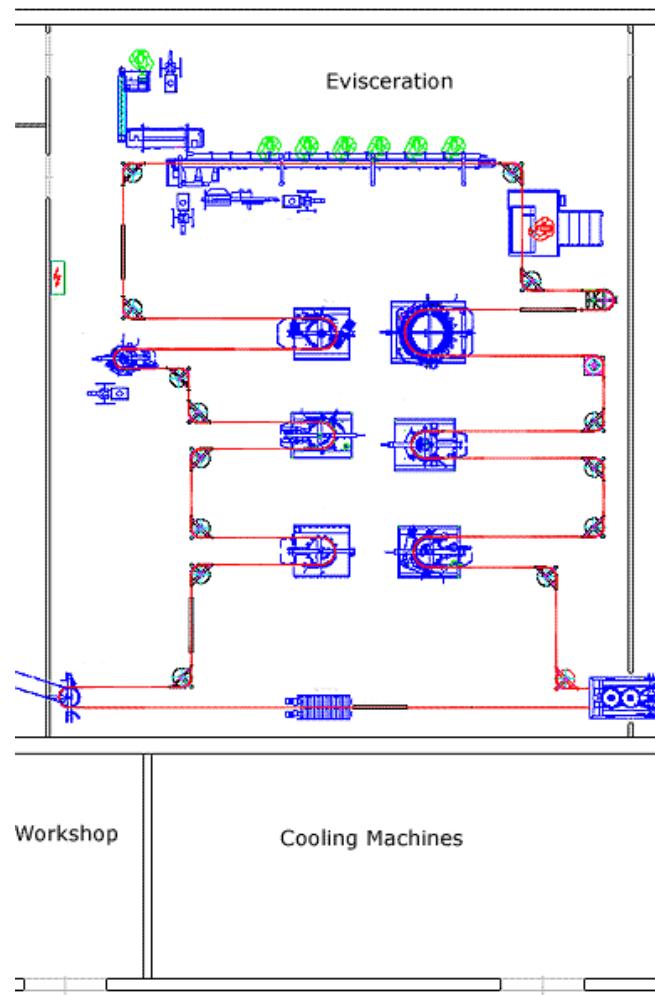
6000bph (Birds Per Hour) Poultry Processing Plant – Weighing Cut-up Packaging area



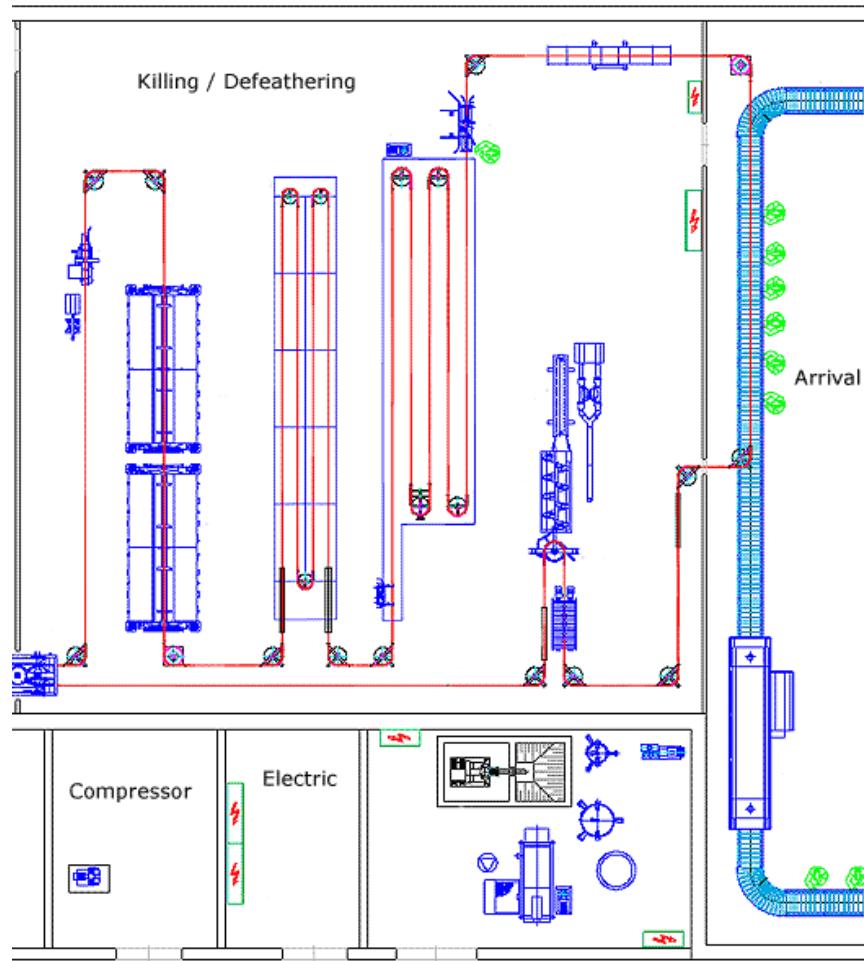
6000bph (Birds Per Hour) Poultry Processing Plant – Chilling area



6000bph (Birds Per Hour) Poultry Processing Plant – Evisceration area



6000bph (Birds Per Hour) Poultry Processing Plant – Killing/Defeathering area



Live Bird Reception

- The receiving operation is a largely automated process in most poultry plants. After being removed from cages, a conveyor is used to transport the birds to the live hang area. The broilers are hung on an overhead chain conveyor which is powered by a low speed offset parallel gear motor. This chain conveyor conveys the broiler through the initial stages of the poultry process.
- Bearing Applications– Non wash-down mounted ball and roller bearings
- Items to consider – This application is subjected to shock loads which require rugged cast iron construction pillow block and 4 bolt flanged bearings. Corrosion resistant bearings are usually not required at this stage of the process.



Live Bird Crate Washer

- **Bearing application; corrosion resistant bearings should be considered here. Including the use of stainless steel where applicable.**

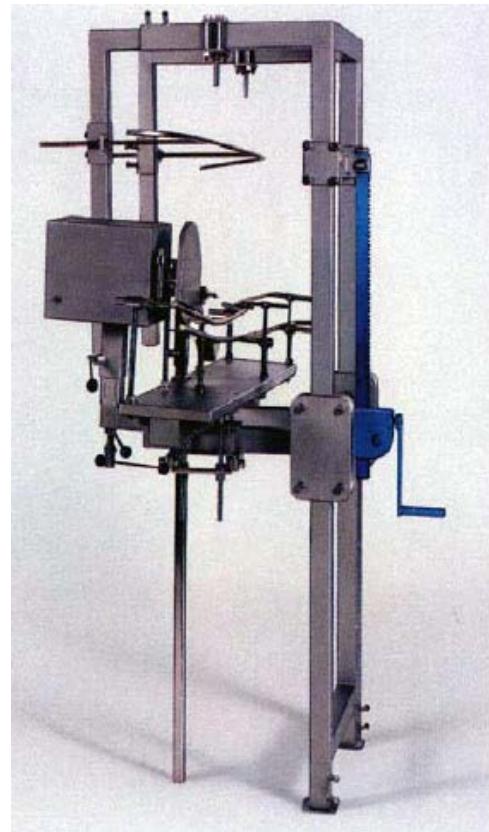


water bath stunner

- In preparation for slaughter, each bird is exposed to an electrical charge and are conveyed to the slaughter area. The circular blade used for slaughter is powered by an electric or hydraulic wash-down duty motor. Typically not a high maintenance area.
- Bearing Applications – Wash-down or corrosion resistant bearings. May want to consider SS bearings.
- Items to consider – These bearings are subjected to high ambient temperatures and humidity and heavy chemical wash-down cycles. Housing end covers and high performance synthetic grease are recommended.



Kill Machine



Scalding Tank

- After bleeding, birds are scalded by immersion in a scald tank for 1.5 to 3.5 minutes. Scalding facilitates feather removal. After scalding, the birds are conveyed quickly to the de-feathering process.
- Bearing Applications – Mounted roller bearings, tapered or spherical. May want to consider a bearing using a specialty lubricant.



Picker - (de -feather)

- This is a key maintenance area
- Bearing application
 - SS radial ball bearings work well in this application with specialty lubricants replacing standard lubrication practices.
- Items to consider: some bearing mfr's are stocking replacement units for this application. Some poultry producers run this application to failure

Picker Hub



Head and Trachea Remover

- Bearing application; Correction resistant housings with SS inserts
- Item to consider; End caps are always important to safety



Hoch Cutter

- Very mechanized automated European equipment. Utilized to open up the bird
- Bearing application; SS radial ball bearings ranging in sizes from 6202 to 6207
- Specialty lubricants to replace standard greases in bearings. Consider the fact that there is a certain amount of “detergent creep” caused by the hot to cold to hot temperature changes



Vent Remover

- This unit is used to remove the ventrical out of the bird
- Bearing application; use of SS radial ball bearings ranging in sizes from 6201 to 6205 sealed



Eviscerator

- This unit removes the viscera from the bird and the viscera is typically hanging outside the bird for inspection
- Bering applications are typically inch and metric radial ball bearings, strong consideration may want to be given to SS
- Items to consider; this may be recognized as a high maintenance area suggesting the use of top quality bearing products



Screw Chiller

- This unit cools the bird following the Eviscerator process.
- Bearing application; roller bearings for screw shaft support



Giblet Chiller

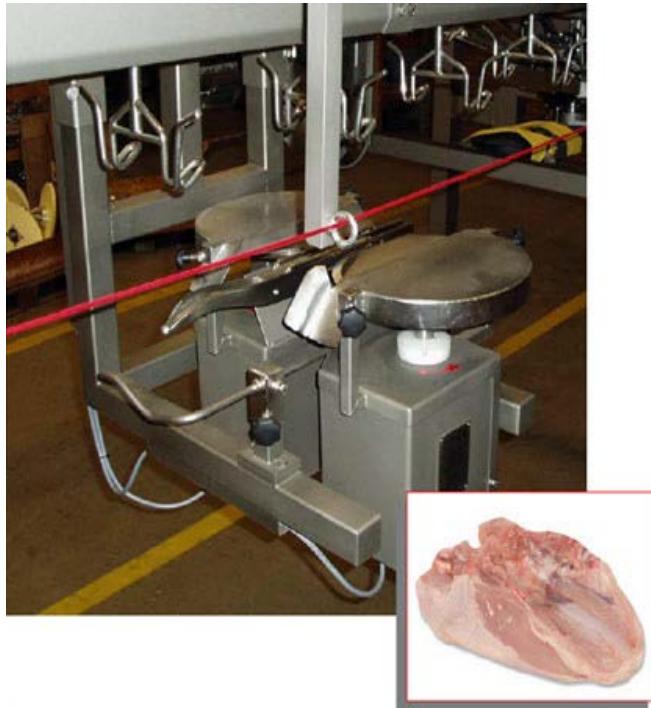
- Application is used to retrieve all saleable internal parts
- Standard ball bearing housed units, may want to consider corrosion resistant housings



Breast Cap Cutter

Whole Wing Cutter

- These machines are not considered to be high maintenance equipment
- Bearing Application; SS radial ball bearings recommended for this area
- Item to consider; these applications offer an opportunity to supply linear bearings.
- May want to consider SS motors as well



Inside /Outside Bird Washer

- **Bearing application;** standard radial ball bearings in all areas. Possibly consider SS radial ball bearings in certain areas of the application
- **Item to consider;** there is a high volume of water in this application. May want to look at a special grease that could be used in a very wet environment



Extended Maintenance Intervals For Bearings In Chilled Poultry Conveyor

Issue

- Hubs with deep groove ball bearings operated in a chilled (-15 C) environment. Due to frequent wash-downs and breathing in bearings during shut down, water ingress occurred shortening the service life

Capability

- Sealed stainless-steel deep groove ball with food graded solid-oil (2RS1/W64F)

Value

- Bearing life extended from one year to over 2 years maintenance-free operation



Poultry Process Area & SKF Solutions Matrix

Plant Areas	Unmounted Ball & Roller Bearings	Mounted Ball & Roller Bearings	Corrosion Resistant Bearings	Corrosion resistant ball & roller bearings	Solid Lubrication	Seals	Automatic lubricators	Alignment Tools	Condition Monitoring
	Unmounted Ball & Roller Bearings	Mounted Ball & Roller Bearings	Corrosion Resistant Bearings	Corrosion resistant ball & roller bearings	Solid Lubrication	Seals	Automatic lubricators	Alignment Tools	Condition Monitoring
Receiving	X	X		X	X	X		X	
Slaughter			X	X	X	X			X
Scalding				X	X	X			X
De-Feathering				X	X	X			X
Evisceration			X	X	X	X			X
Chilling			X	X	X	X			X
Cutting			X	X		X			X
Further Processing			X	X	X	X			X
Packaging / Freezing			X	X	X	X	X		X
Auxiliary Equipment	X			X	X	X	X	X	X
Pallet Jacks				X					