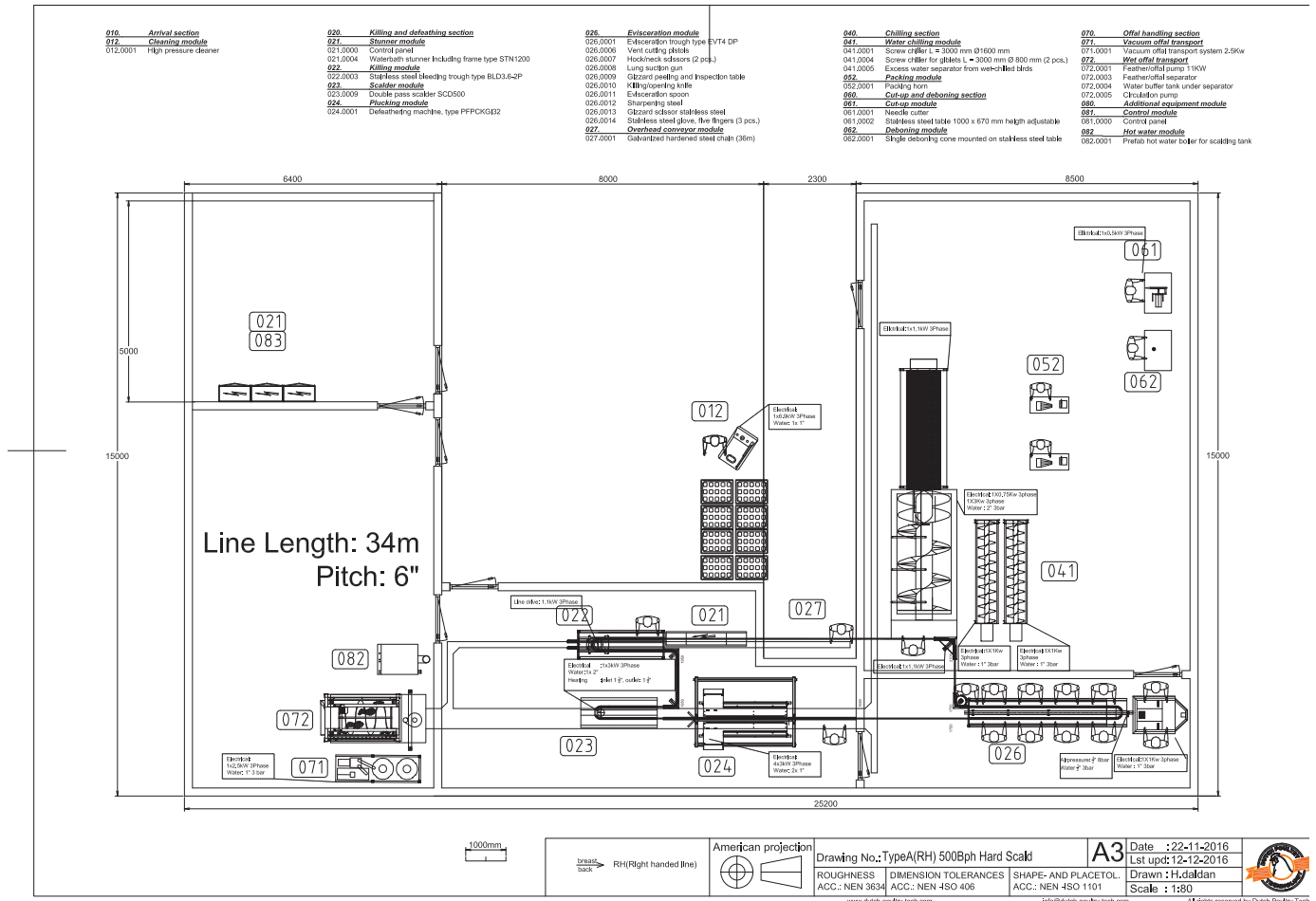




Compact Processing Plant

500 - 2000 birds per hour

500 birds per hour



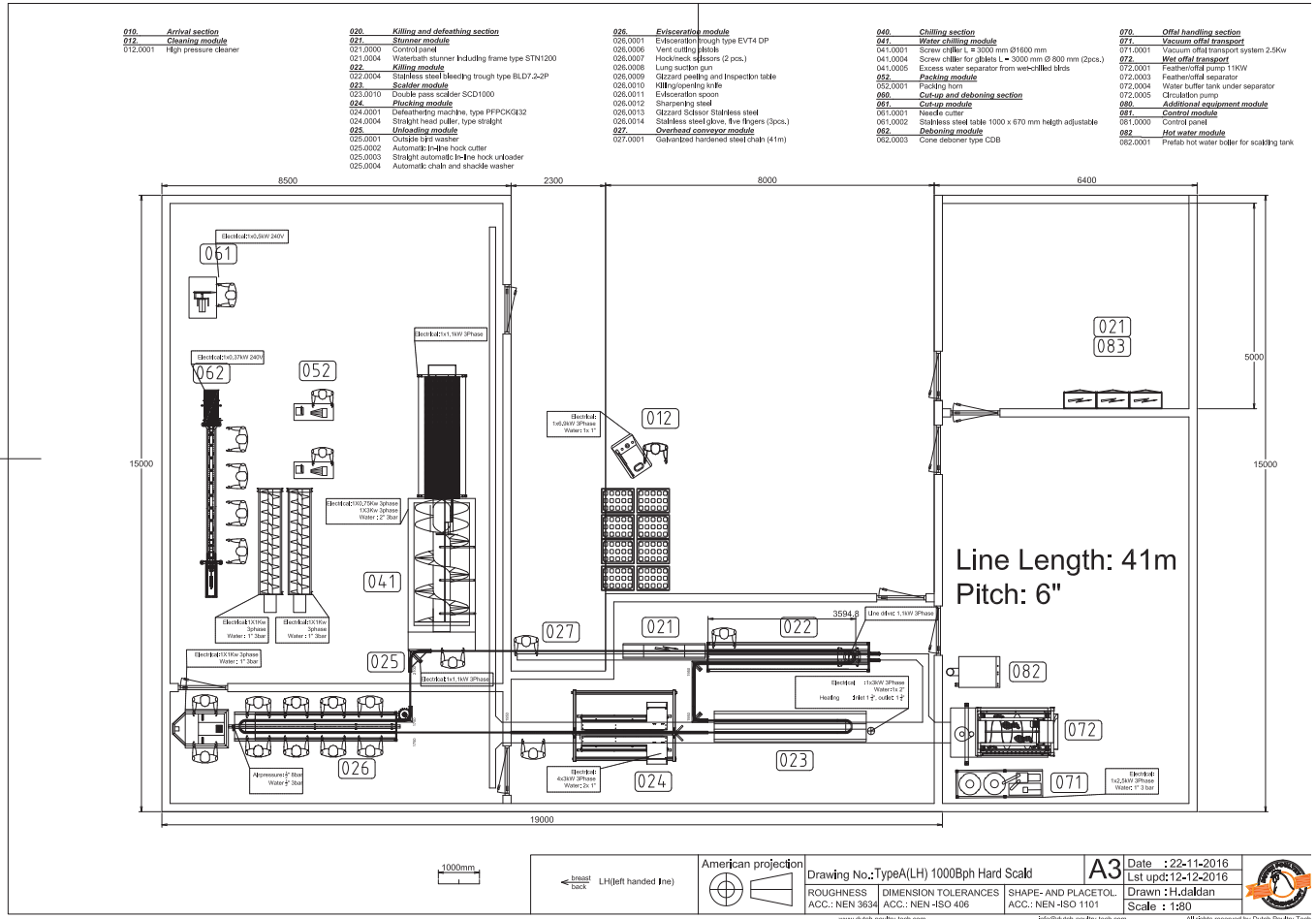
A compact setup for processing up to 500 birds per hour.

- left or right turning line (above layout is a right turning line)
- total line length of 34 meters with a shackle pitch of 6 inches
- minimum required floor space for total processing setup 25 * 15 meters

Please refer to the legend above the layout for a detailed equipment list and descriptions.

The layout is a commercial representation of a complete poultry processing plant. The design is completely optimized to be as compact and efficient as possible. The design is ideally suited for a greenfield project. Existing buildings might require additional engineering.

1000 birds per hour



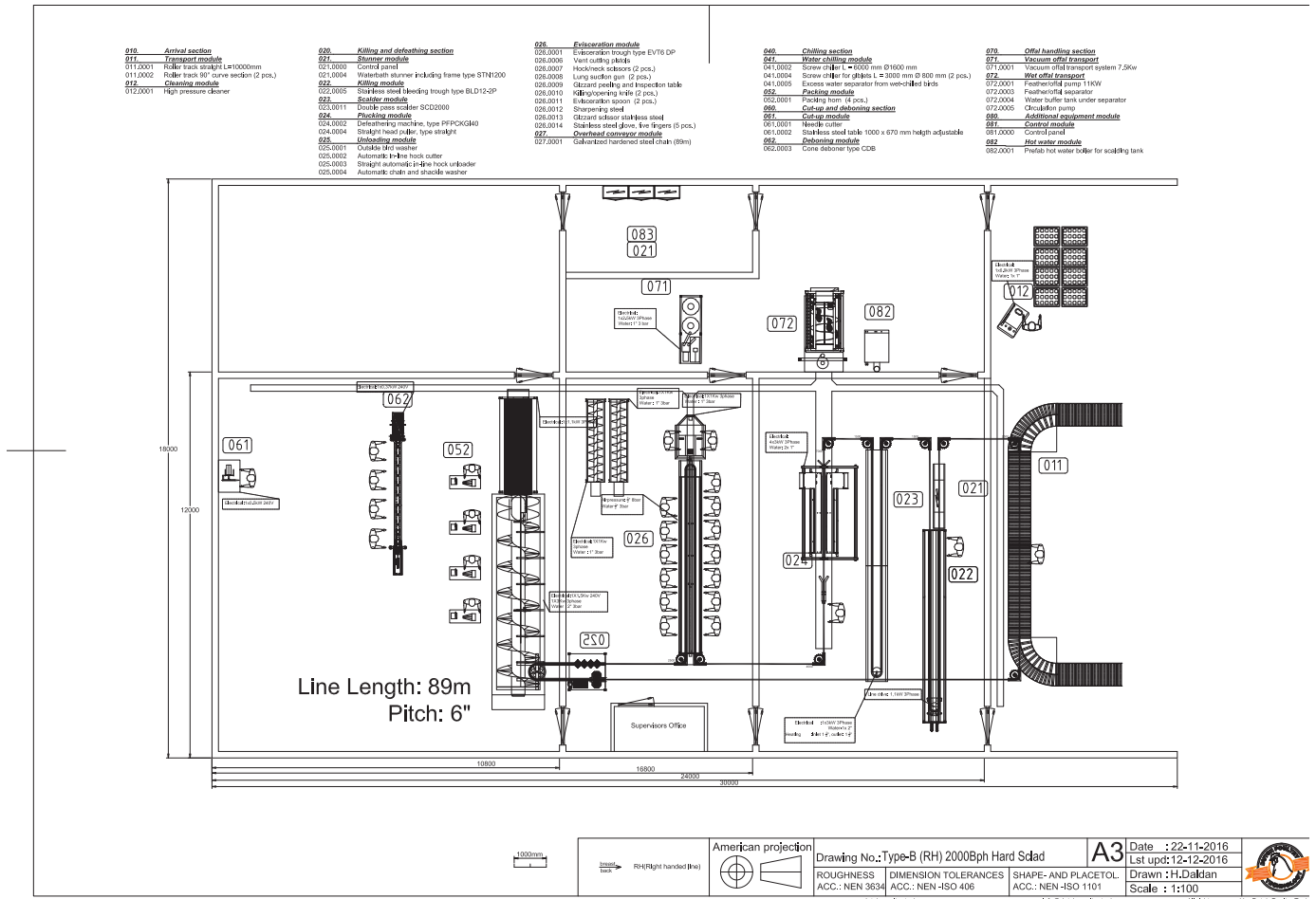
A compact setup for processing up to 1000 birds per hour.

- left or right turning line (above layout is a right turning line)
- total line length of 41 meters with a shackle pitch of 6 inches
- minimum required floor space for total processing setup 25 * 15 meters

Please refer to the legend above the layout for a detailed equipment list and descriptions.

The layout is a commercial representation of a complete poultry processing plant. The design is completely optimized to be as compact and efficient as possible. The design is ideally suited for a greenfield project. Existing buildings might require additional engineering.

2000 birds per hour



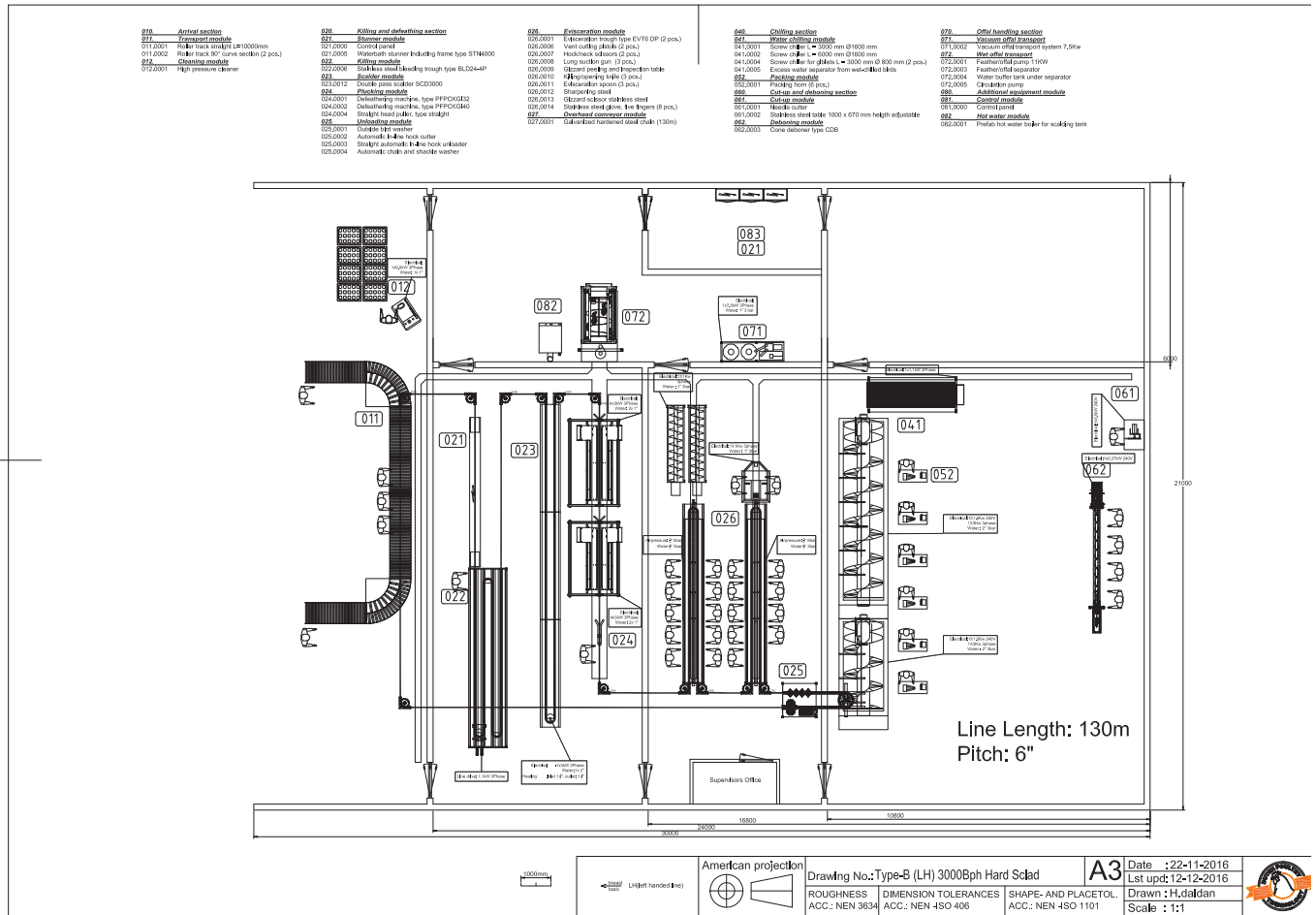
A compact setup for processing up to 2000 birds per hour.

- left or right turning line (above layout is a right turning line)
- total line length of 89 meters with a shackle pitch of 6 inches
- minimum required floor space for total processing setup 30 * 18 meters

Please refer to the legend above the layout for a detailed equipment list and descriptions.

The layout is a commercial representation of a complete poultry processing plant. The design is completely optimized to be as compact and efficient as possible. The design is ideally suited for a greenfield project. Existing buildings might require additional engineering.

3000 birds per hour



A compact setup for processing up to 3000 birds per hour.

- left or right turning line (above layout is a right turning line)
- total line length of 130 meters with a shackle pitch of 6 inches
- minimum required floor space for total processing setup 30 * 21 meters

Please refer to the legend above the layout for a detailed equipment list and descriptions.

The layout is a commercial representation of a complete poultry processing plant. The design is completely optimized to be as compact and efficient as possible. The design is ideally suited for a greenfield project. Existing buildings might require additional engineering.



pluck & play solutions.

ARRIVAL | KILLING AND PLUCKING | EVisCERATION | CHILLING | WEIGHING | CUT-UP | FILLETING & DEBONING | PACKING

Compact Poultry Processing Solutions

Around the globe poultry processing is booming. With rising population numbers and wealth, comes a bigger demand for animal protein. This is coupled with a growing need and desire to shift from traditional local methods to modern processing techniques to ensure a safe and hygienic way to process poultry. Dutch Poultry Technology from The Netherlands has developed low-cost processing solutions for:

- new, green-field processing plants;
- automating specific production sections in existing plants;
- increasing worker productivity and/or reduce labor.

Dutch Poultry Technology is specialized in the design, manufacturing and installation of cost-effective, reliable, easy to install and operate poultry processing solutions for processing 500 – 6000 birds per hour. Our low-cost semi- and full automatic processing solutions are based on proven technology and 30+ years of automatic processing experience. Lean engineering and manufacturing greatly reduce production, installation and operation costs. Based on extensive experience, we have developed our own efficient and economical poultry processing machines, specifically developed for the starter-to-middle capacity market .





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Overview



If you're thinking of starting up a new plant, or running a completely manual operation, the first things you need are:

- overhead conveyor to transport your product
- a waterbath stunner
- a scalding machine
- and a plucking machine

Generally you would still need personnel for hanging, killing and evisceration. Compared to completely manual processing this already allows for greater production per hour with less personnel as well as obtaining a better product quality.



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Arrival / Live Bird Handling

Overhead conveyor



The backbone of each and every poultry processing plant is the overhead conveyor, which transports birds through each production section in the plant. It will deliver products at a constant speed, meaning a manageable and predictable product flow.

An overhead conveyor is made from galvanized or stainless steel, chain, plastic (synthetic) trolleys and shackles which carry the product. Generally a track in the form of a T is used, hence the name T-track.

Hanging



In most countries, live birds are delivered in crates. The crates are placed on a roller track conveyor and staff members will hang the birds in the shackles.



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Killing and Plucking

Waterbath stunner

The birds hang in the shackles by their feet. They are led through a water bath stunner with their heads under water. There are two electrodes: one in the bath and one formed by the shackle guide. Together this forms an electrical circuit, the electric current goes through the submerged head and then the rest of the body. Our stunner has been designed to effectively stun each bird to enable a proper and efficient kill cut.



Bleeding area

After stunning, there can either be manual or automatic killing, depending on for example the desired capacity per hour or religious and cultural requirements. Whatever the kill method, the birds are transported over a V-shaped trough where the birds can bleed out. A special pump is supplied to pump the blood from the trough to a tank.



Generally birds will lose around half of the total amount of blood in 1,5 to 2 minutes of bleeding time. Inadequate bleeding results in a product with a shorter shelf life. However letting birds bleed out too long will cause problems with plucking. A proper bleeding time when processing 2000 birds per hour corresponds to a bleeding line of 10 meters.



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Killing and Plucking

Scalder

After having bled out, but before plucking, the birds need to be scalded in a hot water bath. Scalding greatly improves the plucking process, because the scalding temperature and length will make feathers come off quicker and easier. For a fresh, non-frozen product a soft scald is needed, whereas for a frozen product a hard scald is required to remove the top skin layer (epidermis) and ensure a good looking product.



Hard scald: 2 minutes at 58 - 60°C will allow for a capacity up to 1000 birds per hour

Medium scald: 2½ minutes at 54 - 56°C will allow for a capacity up to 800 birds per hour

Soft scald: 3 minutes at 50 - 52°C will allow for a capacity up to 650 birds per hour

Plucker GI-40

The best feather picking results are had when the right scalding set-up is combined with an efficient and economical defeathering machine.

With two height- and width-adjustable plucking banks holding 40 plucker pots in total it's the ideal machine for picking up to 2000 birds per hour. Easy maintenance and widely available parts make this machine a sound investment.



Head puller

A head puller is installed after the picker to remove the head from each bird.



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ARRIVAL | KILLING AND PLUCKING | **Evisceration** | CHILLING | WEIGHING | CUT-UP | FILLETING & DEBONING | PACKING

Evisceration

Manual / semi-automated evisceration

Up to processing 2000 birds per hour, it remains economical to manually eviscerate the birds. This section of the plant can be semi-automated with (air and/or vacuum operated) hand tools to allow for greater processing capacities per hour than when using normal hand tools. Our semi-automatic tools include a weigh balancer to drastically reduce tool weight, providing ergonomic benefit as well as an increase in productivity. The set of working tools also includes knives, forks, sharpening steel and stainless steel gloves.



Vent Cutting with a pistol



Manual Evisceration



Neck cutting with an air-powered scissor



Lung removal guns

Hock cutter / bird unloader

After the evisceration area, a hock cutter and bird unloader are installed to allow the birds to be unloaded in the receiving bin of a screw chiller.



Pre-chilling and chilling

A water screw chiller is used to cool birds by moving them through chilled water. It is also possible to combine chillers of various lengths in order to pre-chill the product.

Capacity	Chiller length
up to 1000 bph	3 meters
up to 2000 bph	6 meters
up to 3000 bph	9 meters
up to 4000 bph	12 meters



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ARRIVAL | KILLING AND PLUCKING | EVISCERATION | CHILLING | **WEIGHING** | CUT-UP | FILLETING & DEBONING | PACKING

Weighing

Weighing

After chilling, the birds can be transferred to a weighing section. This can be as simple as a table with a weighing scale or more complex with weighing machines either in-line or using special conveyor belts. Birds of different weight classes can then be sorted, bagged and sold according to your (or your customers!) specific requirements and needs.





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ARRIVAL | KILLING AND PLUCKING | EVISCERATION | CHILLING | WEIGHING | **CUT-UP** | **FILLETING & DEBONING** | PACKING

Cut-up and Deboning

Cut-up

A simple needle cutter machine can already greatly improve productivity and will allow for clean, efficient cuts. The machine is engine-driven, which significantly reduces worker fatigue. This device is perfect for lower capacity plants: one or two machines are enough for smaller poultry processing plants.



Semi-auto cone line

A cone deboning line is an efficient way to semi-automate the cut-up or deboning process of poultry. Whole birds are placed on cones which are transported along a conveyor. The cones will leave both hands free to work and will allow operators to easily and quickly bone out specific parts of the bird. Various bird species can be processed, depending on cone size.





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ARRIVAL | KILLING AND PLUCKING | EVISCERATION | CHILLING | WEIGHING | CUT-UP | FILLETING & DEBONING | **PACKING**

Packing

Packing

A simple solution for bagging whole birds is to install a packing funnel and tape sealer on a table. The funnel helps to keep open the bags and makes it easier to insert the whole bird, while the tape sealer allows for quick and easy closing of the bag. Ofcourse this process can be semi-automated by using a more advanced air-powered bagger machine. A skilled operator can bag up to 600 birds per hour with an air-powered semi-automatic bird bagger.





DUTCH POULTRY TECHNOLOGY
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