Selo has more than 70 years of experience in the meat processing and pet food preparation. The last 25 years Selo has become one of the world leaders in turn-key solutions of wet pet food systems based on steam tunnel technology.

Our delivery program varies from meat preparation till packaging and sterilization. We supply both one shot fill systems with mixed gravy and chunks and a two shot fill system with separate dosing of the chunks by multihead weigher and gravy with volumetric dosing.

With our know how and experience we support our customers not only with technical solutions but also with technology regarding recipe development and process improvements.
Breakers
The Karl Schnell breakers are machines that are able to reduce frozen meat in size without degrading it, thus guaranteeing the quality. The frozen meat blocks are literally broken into smaller pieces of meat.

Benefit of Karl Schnell breakers:
• The breakers are easy to clean and require very little maintenance
• Maintaining the quality of the meat
• The breaker can be combined with other machines, creating a complete product line

Selo also offers a solution for products that have been stacked on a pallet. For this scenario, a so-called pallet breaker is used. This is a larger type of breaker that can process up to a maximum of 30 tons of product per hour depending on the way the pallet is loaded and the amount of breaker axles (one or two).

Emulsifiers
Selo supplies horizontal and vertical Karl Schnell emulsifiers that are suitable for the finely cutting and emulsifying of meat/pet food. An emulsifier is a meat cutting machine that is capable of cutting a large amount of meat at high speed. The emulsifiers are available in different models.

Vertical emulsifiers distinguish themselves on the market by means of the plates: the meat cutters are based on hole plates (fixed and rotating) instead of blades and plates. Apart from emulsifying very fine product types, it is also possible to produce fine products with coarse pieces in one process run. The cutting set can be easily installed and removed and almost suffers no wear and tear, which results in a long lifespan and guarantees a consistent product quality.

Benefits of Karl Schnell emulsifiers:
• Simple installation and removal of the cutting set
• Low wear and tear rate
• Consistent product quality
• Combination of emulsifying fine products with coarse pieces is possible

Mixers
More and more, customers want equipment that meets their individual demands and are looking for machines that produce high quality end products at the lowest possible cost. Selo delivers this combination of demands, combined with the technical know how by delivering mixers of Karl Schnell. Karl Schnell builds machines that are easy to use and extremely sustainable.

The Karl Schnell mixer assortment entails a broad range of different types of mixers. These can be equipped with various options, making them an excellent choice for various applications. The Karl Schnell mixers are frequently used in the pet food industry. Karl Schnell mixers are available in sizes 30 l up to 6.000 l (other sizes on request).
EMULSION HOPPERS

To guarantee a continuous supply of meat-emulsion to the extruder of the steam tunnel, a product-buffer will be used. The buffer consists of a single tank with a mono pump connected to supply the extruder with emulsion. The hopper and pump housing are made completely out of stainless steel. During normal production the speed of the pump is low. A low speed of the rotor reduces wear inside your pump housing and reduces maintenance costs.

On the hopper a level transmitter is installed to monitor the emulsion level in the hopper. Activation signals (full/empty) will be available to control the emulsifier. A safety valve is installed to protect the mono pump. The valve returns emulsion back into the hopper, avoiding spillage.

EXTRUDERS

The extrusion unit is executed for installation in a wet pet food line, located over the belt of the steam tunnel. The unit will form stripes/ropes or a slab, ready for cooking in a continuous process.

The temperature of the emulsion has to be minimal +5°C for extrusion. The emulsion is pumped to the extruder by the mono pump of the hopper. The pump maintains a slight over pressure in the extruder head. By this over pressure the emulsion is supplied to the die.

The die plate produces the required dimensions of ropes. The die plate of the extrusion unit is easily exchangeable by a fast exchange system.

The final consistency and form of the product is mainly the result of the specifications of the emulsion.

COLOUR INJECTION

To inject a colour in-line, a pet food line can be executed with a colour injection system. This implies running a base emulsion through the system. Part of the emulsion, fed to one part of the extruder, will be injected with a colouring agent. The other flow of emulsion will not be coloured. This results in different coloured chunks from both parts from the extruder.

The system has proven to create very efficient in-line colouring, without disturbing the extrusion process.

Advantages:
• In line unit
• Flow meter controlled
• Dynamic mixing of colour
• Flexibility in your production process
STEAM TUNNELS

In the 1980s, Selo supplied the first steam tunnel for the production of wet animal food, or wet pet food. This innovation caused major changes in the animal food industry. Naturally, the steam tunnel has undergone further developments and is currently the state-of-the-art system for the production of wet pet food. The steam tunnel is used by multinationals of well-known brands, but can also be used by medium to small-sized companies. The equipment is hygienic, efficient, saves on costs and, as such, affordable.

The steam tunnel installation is processing pet food emulsions to chunks. In the steam tunnel the emulsion is cooked with condensing steam. The speed of the processing belt and the steam supply are adjusted to cook until the desired cooking result has been obtained. Exact cooking times are product specific.

A steam tunnel is executed for heating an emulsion from +5°C up to ±92°C core temperature. The tunnel mainly exists of two steam chambers (hoods) through which a processing belt is continuously running. By using water locks alongside the tunnel, the containment of the steam is achieved.

The two steam chambers are surrounding the belt. The top hood of the steam tunnel is set down close to the emulsion to ensure that the steam moves correctly between and along the tunnel hood and the emulsion. The top hood can be lifted manually and the height above the emulsion can be adjusted. Heat is transferred to the product in two ways. Steam injected in the top hood condenses on the product surface and heats the emulsion. The steam injected below the processing belt condenses on the belt and heats the emulsion from the bottom.

Benefits of Selo steam tunnels:
• High production capacity, but also suitable for smaller productions
• Configuring different programmes is possible: accurate heating tuned to unique product specifications
• Additional: make use of colour injection systems
• High quality wet pet food that retains flavour and colour

Apart from the steam tunnel used for the production of animal food, Selo can also hygienically and attractively package your animal food products.
CUTTING UNITS

The cutting unit is developed to cut ropes, coming with a continuous flow and cooked by the steam tunnel in pre-determined lengths. When the cooked ropes leave the steel belt, the infeed belt transports the ropes into the cutting unit.

The cutting unit mainly exists of one driven shaft equipped with blades and installed in a framework, all in stainless steel. With a frequency controller the speed of the shaft can be adjusted. By changing the RPM of the shaft, the length of the product can be changed. The total cutting unit can be adjusted under a variable angle (0°/45°). This means that the chunks can be cut between 90° and 45° angle. The scraper and the counter-knife are always staying in the same position and the cutter-knife is turning without touching the counter-knife. The cutter knife is executed with changeable hardened blades.

Between the steel belt of the steam tunnel and the cutting unit, a small belt is positioned. This belt leads the ropes straight into the cutting unit and assures a straight cut chunk and assures that an absolute minimum of product is left on the scraper.

Advantages:
• High speed
• Smooth transfer
• Flexible cutting length
• Cutting angle adjustable

COOLING BELTS

When using a cooling unit, ventilators blow ambient air at the ropes, coming from the steam tunnel; ambient air is blown directly on the product. After the cutting of the ropes also the chunks are cooled by a cooling belt.

Advantages:
• Hygienic design
• Mesh belt for optimal transfer of air
• High cooling capacity
• Easy cleaning (water)
• Easy accessible
GRAVY UNITS

Gravy can be produced in batches. Water is added to a tank and heated with steam and circulated with a pump. The pre-weighed dry materials are manually added and mixed in the water. When the gravy mix is ready for use it is pumped into a buffer tank. In the buffer tank a pump is circulating the gravy mix continuously. The gravy is pumped into the chunks & gravy mixing unit as a percentage of the chunk flow.

The chunks, produced by the steam tunnel system, and the gravy produced by the gravy installation, have to be mixed into a specific mixture. This can be done either by a one shot fill or a two shot fill system.

One shot fill systems
In a one shot fill system the gravy and chunks are mixed in a vessel before filling. The filling can be done in trays, cans or pouches.

Two shot fill systems
In a two shot fill system the dosing of the chunks and gravy is separated. The chunks are dosed mainly by a multihead weigher and the gravy by a volumetric dosing system. The filling can be done in trays, cans or pouches.
STANDUP POUCH FILLING AND SEALING MACHINES

Selo supplies integrated solutions for pouch filling in combination with one or two shot filling. The foundation of the machine is an intermitting, rotating carousel. Grips are attached to this carousel from which the pre-formed pouches are hanging. The rotation of the carousel makes sure the pouch passes different stations where a specific action takes place, such as opening, filling and sealing of the pouch.

The chunk supply by bufferbelts and multihead weigher is integrated above a pouch filler with a capacity between 80 – 160 pouches/min. The pouch filling is done with pre-made pouches, as pre-made pouches give more flexibility and guarantee a better seal quality.

Benefits of the standup pouch filling and sealing machines:
- Very flexible in use: a change from one product to the other is possible within 5 minutes
- Far-reaching automation: minimal manual changes to the machine in case of reconfiguration
- Extensive width range: possible to process different size of pouches
- High production capacity
- Price-quality ratio; Quality product, against a reasonable investment value, means a guaranteed high Return On Investment (ROI)
- Easy to control (Touch screen)
- Possible to store programs, so quick change over times (3 to 4 minutes)
- Requires little space in the production area
- Easy to clean (IP65)

AUTOMATION AND CONTROL

Automation and Control is an important part of the turn key delivery of a wet pet food process line. Selo implements both Allen Bradley and Siemens controls with recipe control, batch reporting and remote service support.
ONE SHOT FILL

Cooked Ropes 80-90°C → Cutting

Linear weighing belt

Gravy FT → Mixing 50-60°C

Pouch/Cans → Filling 50°C

Sealing Pouch Seaming Cans

TO STERILISATION
TWO SHOT FILL

Cooked Ropes 80-90°C → Rope Cooling → 60-70°C

Cutting

Chunk Cooling → 40-50°C

Multihead Weighing

1st Dosing Station

Pouch/Cans → Chunk Filling → 40°C

2nd Dosing Station

Gravy → Gravy Filling → 40°C

Sealing Pouch Seaming Cans

TO STERILISATION