Valka Cutter

X-Ray Guided Cutting & Portioning

FEATURES & BENEFITS

» X-Ray camera detects bones down to 0.2mm in size

» Automatically removes pin bones and cuts portions to the desired size

» Precise cutting into uniform portions

» Greatly improves product handling as all cuts are made in a single machine

» Reduces labor needed for trimming

» Increases yield by minimizing the bone off cut, typically the V-cut and belly bone

» Increases the yield into higher value products, most commonly by maximizing the size of the loins

» Ensures bone free products

The most advanced pin-bone and portion cutting machine availble for fillet processors.

Applicable to multiple species the cutter offers the highest efficiency and incredible flexibility in accurately portioning the smallest to the largest fillets.

www.valka.is

Valka

VALKA CUTTER

Valka Cutter automatically removes pin bones and cuts to the desired portions. The machine uses combination of an X-ray and 3D image processing system together with robot controlled water jets to locate and cut pin bone and portions with great accuracy.

Highest Efficiency And Incredible Flexibility

Capacity & Yield

The machine belt speed can be adjusted up to 480 mm/sec. The throughput of the machine is calculated as a function of the weight of the whole fish. For example, with 3 kg gutted cod the machine capacity is about 2.000 kg per hour.

The pin bone cut-off in cod is around 5-6% of the fillet size. The cutting proximity to the bones can be adjusted to cut closer, and at an angle if possible, resulting in dramatically increased yield.

Throughput As A Function Of Weight


Weight of gutted Cod
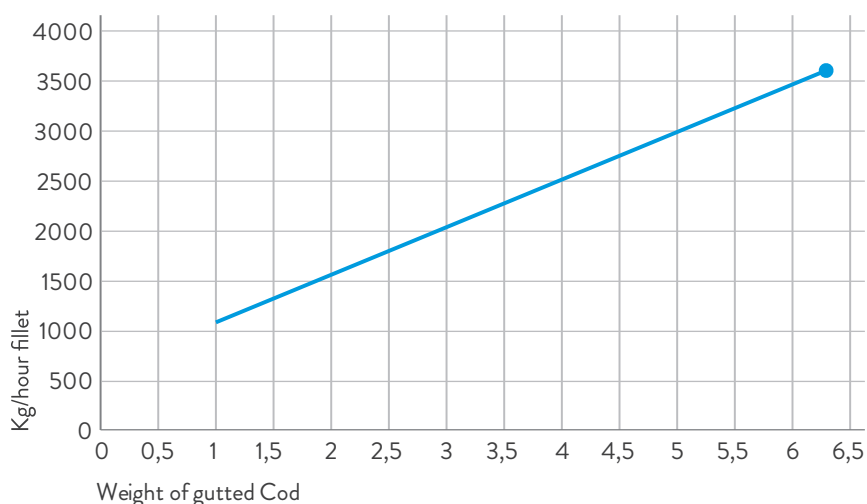
Cutting robot options

There are two robot types to choose from. The setup and number of water jet cutters and the robot types depend on the complexity of the cutting patterns and products that are to be produced.
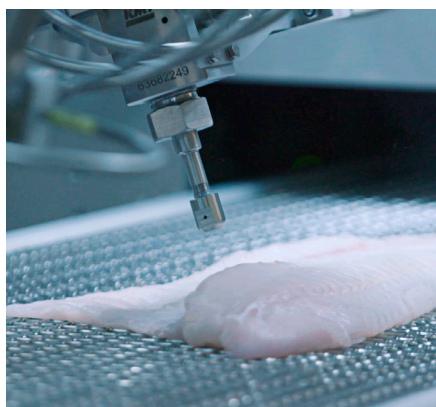
D2 robot has movement only perpendicular to the conveyor belt. It is tiltable on both sides for angled cut to improve pin-bone or other desired cuts.
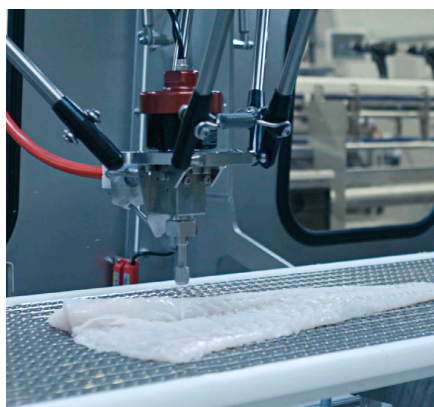
D3 robot has movement in all direction, both perpendicular and in plan with the belt. With the D3 robot it is possible to cut all portion shapes and sizes.

The robot cutting head tracks the fillet height and cuts from same distance above the fillet whatever the size (fillet height). This gives more accurate & visually better cut.

Endless Possibilities

Uniform Portions

The system analyzes each fillet and cuts highly uniform portions in relation to size, weight and thick ness according to your specification. Prices are set for every portion and the system optimizes the value of every fillet.

Multiple cutting patterns or programs can be defined and different size fillets can be cut into various patterns. The user can easily switch between programs.

Applicable to multiple species

From the smallest to the largest fillets skin-on or skinned Valka Cutter can cut numerous types of fillets to the desired portions.
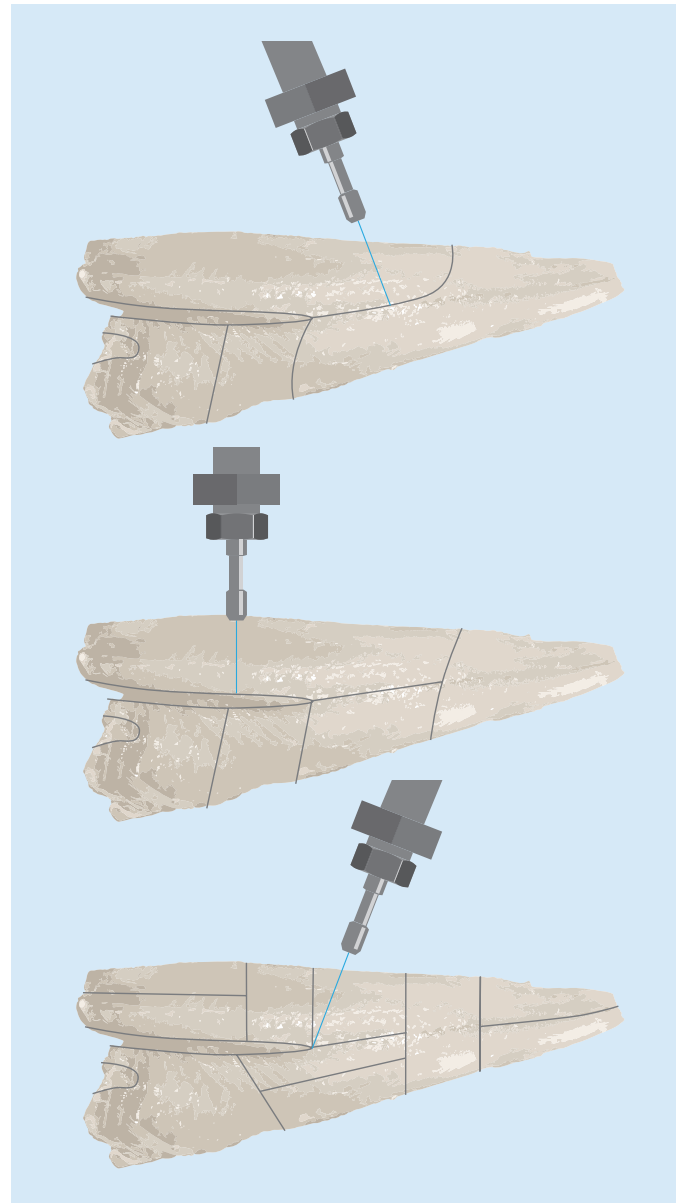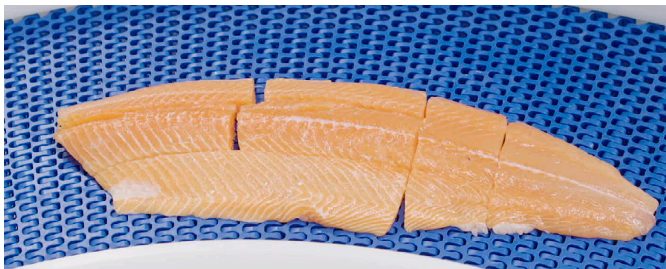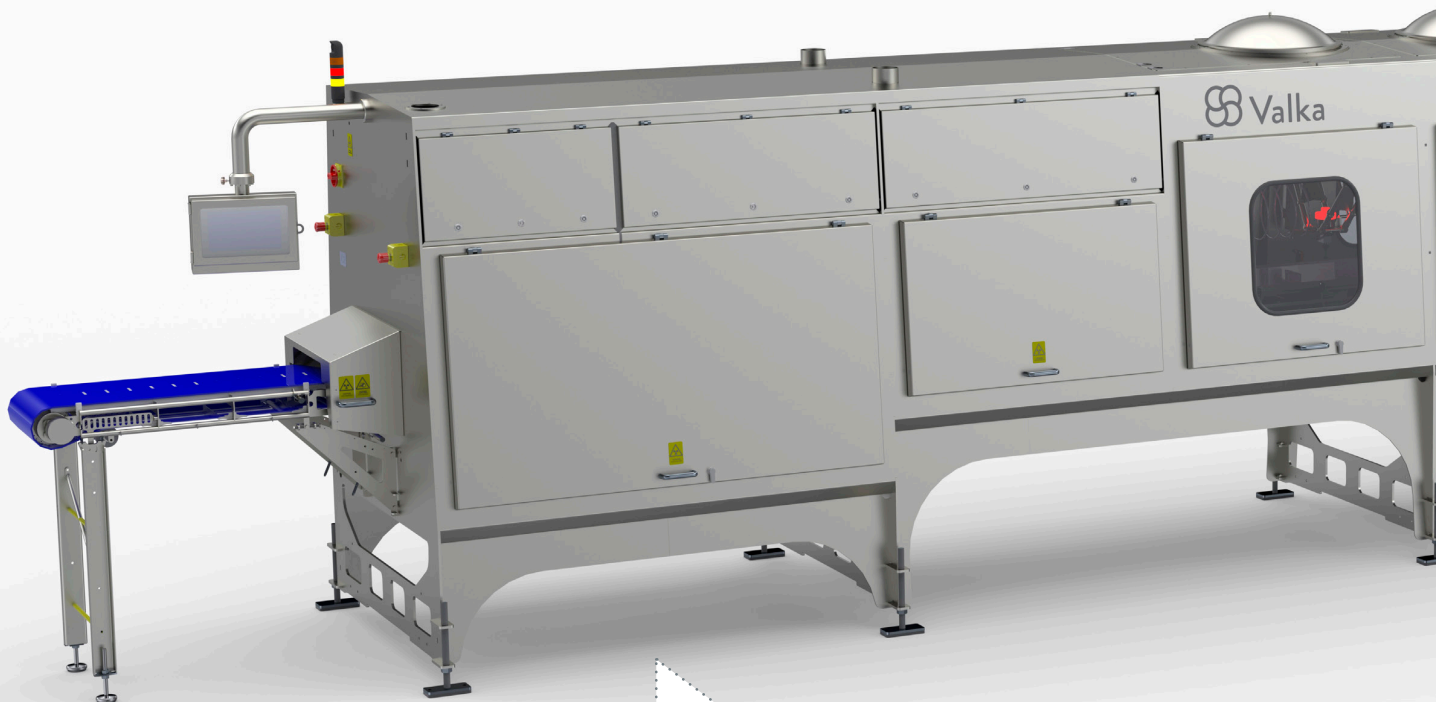
The number and type of robots for cutting are based on the desired cutting pattern
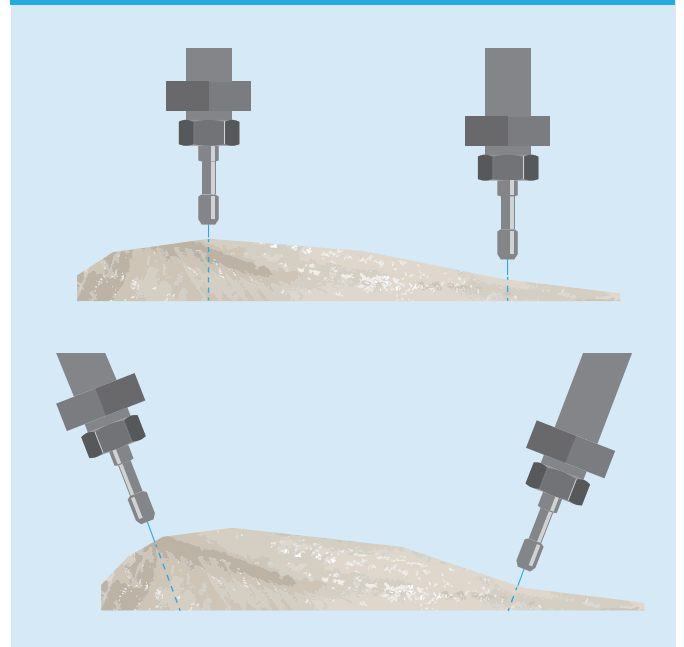
Valka Cutter gives processors an opportunity to substantially improve throughput and yield with less labor when trimming and portioning fish fillets.

Minimum handling and short time from filleting to packing returns excellent material quality.

Pre-Trimming Line

The fillets need only a minumum trimming, e.g. removing blood spots, filleting damages and parasites. If a fillet does not need any trimming ,it gcan go directly to the cutting machine.
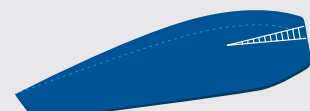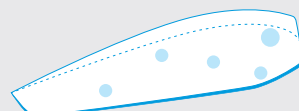
X-Ray

The X-ray system uses low energy X-ray technology which gives the highest contrast possible and more reliable detection of small bones than with conventional technology.

Pre-trim
Remove blood stains & spots, parasites & filleting defects

X-Ray Scan
X-ray camera scans the fillet and locates the bones

Automatic Product Routing After Cutting

As all portions from **Valka Cutter** are know by weight, size & shape they can be routed to the appropriate product stream with gentle handling of each piece while maintaining correct alignment.

KEY FEATURES

» X-ray camera detecs bones down to 0.2mm in size

» Automatically cuts out pin bone and to the desired portions

» Precise cutting and uniform portions

» Greatly improves product handling as all cuts are made in a single machine

Scan to see the machine in action

Measuring
Vision system measures the fillet density for cutting based on weight
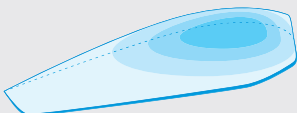
Portion Calculation
Analysis software calculates the optimal portioning

Water Cut
Water jets cut out the pin bone and portions

CUTTER OPTIONS & VARIETIES
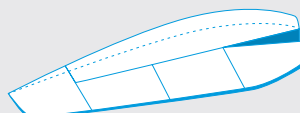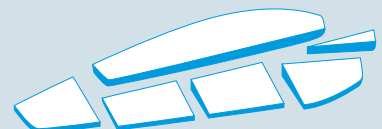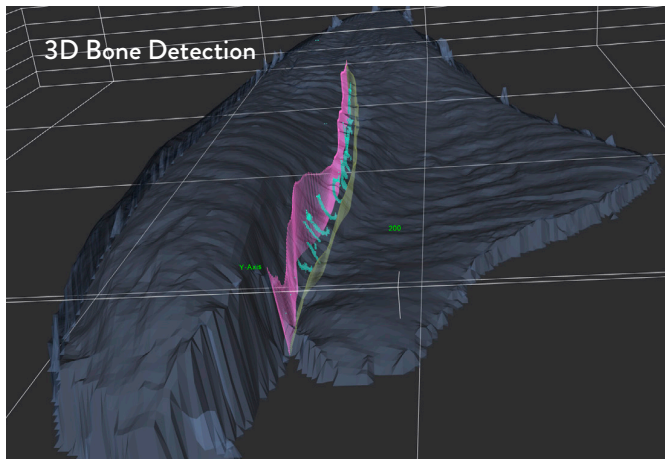

3D Bone Detection

Dual Stream Cutter

3D Bone Detection

Accurate assessment of the bone structure gives more precise cut and less cut-off.

The 3D bone detection system introduces a new enhanced X-ray camera system which detects bone structure in fish fillets in 3D. X-ray cameras detect the bones from two angles and merge the results which transforms them into a 3D image.

The 3D bone detection provides an accurate assessment of the fillet bone structure and alignment which gives the opportunity to precisely cut out the bone area accordingly. As the slope and alignment of the bones vary significantly between fillets, due to different anatomy, raw material quality or they're affected by the filleting machines, the 3D view and cutting results in less bone cut-off. Consequently, that translates into an increased value per fillet as more meat is left for higher value products.

FEATURES & BENEFITS

» Dual X-ray cameras

» Less cut-off

» More into higher value products

Double throughput for small fillets

The dual stream version of **Valka Cutter** has double the capacity of cutting small fish fillets compared to the traditional cutter.

The dual stream version has a new improved image processing system that allows for a dual stream of fillets on a single conveyor belt consequently cutting double the volume from previous versions. The dual stream cutter is especially suited for small fish fillets.

FEATURES & BENEFITS

» Dual stream of fillets

» Double the capacity

» Up to 200 mm long fillets

» Up to 180 fillets per minute

"In a recent interview HB Grandi's Production manager Torfi Þorsteinsson, said. "We use the machine to cut out pin bones from Redfish fillets. The fillets are small and up until this day the majority has been sold with bones as it has been too expensive to manually cut out the pin bone. It requires too much manual labor per kilo and the chances are the yield is not good enough due to the small size".

Torfi Þorsteinsson – Production manager at HB Grandi

Marine Version Cutter

Bone free fillets & portions onboard a vessel

The marine version of **Valka Cutter** is specifically designed for operating onboard a vessel. The machine in is shorter in length which makes it easier to fit into limited spaces marine vessels have to offer. The machine is more rugged with specially strengthened and extra legs to supporting it and rubber cushions to reduce high frequency vibrations commonly found in vessels. The X-ray detector has been put in a housing that was specially designed for Valka and has IP54 protection rating. Specific conveyor belts with excellent friction to fish are used.

All control unit compartments and electrical cabinets are specifically heated or cooled and dry air is directed into the area to prevent condensation.

FEATURES & BENEFITS

» Designed for operating onboard a vessel

» Specific X-ray housing

» Specialized in/out feed belts

» Vibration cushions

» Prevent condensation for Control & electrical cabinets

Standalone X-Ray Scanning

Accurate assessment of the bone structure gives more precise cut and less cut-off

The Valka standalone X-ray is designed for detection bones in fish fillets or portions with automatic sorting of defected pieces. The system can locate bones down to 0,2 mm in size The system can reject the pieces found with bones and report the position on a image. The X-ray system uses low energy X-ray technology which gives the highest contrast possible and more reliable detection of small bones than with conventional technology.

FEATURES & BENEFITS

» For fillets or portions

» Accurate location of bones

» Detects 0.2 mm bones

» Operates at max 480 mm/sec

» Low energy X-ray technology

» Ensures bone free products

» Scans fillets up to 900 mm long

» IP 67

The Most Advanced Cutting Machine

Valka Cutter is the most advanced pin-bone and portion cutting machine availble for fillet processors.

Applicable to multiple species **Valka Cutter** offers the highest efficiency and incredible flexibility in accurately portioning the smallest to the largest fillets.

"Valka Cutter has already proven to be as beneficial as we hoped and worked perfectly from day one. We have been cutting the pin bone off and loin portions as well. The products are exceptional, the highest quality, and the market has responded very well."

Olafur Marteinsson CEO of Rammi hf

Get In Touch

Contact us for more information and find out how the machine fits your processing needs.

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About Valka

Valka specializes in developing and marketing of equipment and automation solutions for the fish processing industry.

The company offers a range of equipment and software designed to greatly increase productivity, improve yield and maximize accuracy for fish processors small and large. From a single machine, or software module, to your complete system solution.

Using only high quality material and components our products are created with quality craftsmanship aimed at improve processing and product quality.