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Engineering Precision for French Fry Processing

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Targeted Technology Upgrades for
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How Smart Sorting Technology is Helping
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Urschel: Engineering Precision for French Fry Processing

By: Urschel Laboratories, Industrial Food Cutting Machines

French fry processing is under more pressure than ever, with independent operations and large-scale manufacturers alike contending with a tighter labor market, ongoing supply chain uncertainty, and rising customer expectations. Staying ahead means being on top of constant innovation, which is why processors rely on the Urschel® global network for precision cutting machinery for French fry production.

As the global leader in food cutting technology, Urschel partners with processors to help them reach their production goals - equipping them with the tools to run efficiently, hold their competitive edge, and stay ready for whatever comes next.

Meeting the Needs of French Fry Processing

"Urschel has been at the forefront of

innovative cutting technology for over a century, engineering a wide range of diverse cutting-edge equipment designed to help customers reach production goals," said Tristan Scoble, Urschel Sales Director.

Urschel specialists help customers maximize equipment efficiency and performance, offering tailored guidance as processing requirements evolve. In turn, customers partner with Urschel to ensure their facilities consistently operate at their highest potential.

"Collaboration is central to these partnerships," said Scoble. "Urschel understands that no two operations are exactly alike. It's never a one size fits all approach. Working directly with customers allows us to observe production processes firsthand to recommend the optimal solution for their line and product input."

One solution popular among potato processors is the DiversaCut® Series, which uses a compact cutting zone to produce crinkle, deep crinkle, flat potato dices and strips, and other unique configurations such as bowtie and wavy noodle.

Medium-to-small-volume French fry processors, or those working with limited production space, should consider the Sprint 2® Dicer or the Little Gem Aspire™ Dicer, a new Urschel® cutting concept in produce processing.

"The Sprint 2 implements similar technology to the DiversaCut line in a compact, efficient design engineered for optimized production demands," said Scoble. "The Little Gem features StatiCut™ technology for quick transitions between cut sizes for high-bulk density applications, such as potatoes."

The CC Series continues to dominate the market as the leading high yield potato slicer, including the CCLL Slicer, which makes corrugated cuts for thicker potato waffle fries. The CC Series pairs with the MicroAdjustable® SL-14 Slicing Head to maximize precision potato slicing.





Urschel furthered its commitment to processors by investing in German-based KRONEN® GmbH, expanding its inventory to include complete processing systems – such as washing, drying, and peeling machinery – to support customers' evolving production needs.

French fry processors will benefit from the PL 40K potato peeling machine for efficient batch peeling solutions, including a scalable PL 40K duo system for inline small-to-medium processing. The PGW pneumatic and HGW manual grid cutters both core or cut product into strips, slices, or segments, with punching forms and inserts available for additional cut options.

Long valued for its service, support, and quality, Urschel customers can now depend on a single, trusted source when building complete processing lines with KRONEN solutions. The Urschel global network currently offers KRONEN

systems in key markets worldwide.

Higher Yield with Less Waste

"Skilled Urschel technicians work with customers on sizing configurations, ensuring they are cutting specifically to the size of the potato and they have the optimal machine set up to achieve production goals," Scoble said. "High-precision type tolerance parts ensure consistent clean cuts, and vertically integrated manufacturing controls all aspects of the manufacturing process to ensure continuity throughout production."

Urschel precision manufactured knives are engineered to consistently create the ideal slice surface, the result of over a century dedicated to the potato sector and a deep understanding of how a clean, smooth slice from a low angled knife holder, knife, and clamp assembly reduces waste while minimizing micro-

cracking, frayed edges, and starch loss.

"Urschel knives achieve high-yielding clean cuts with minimal waste," said Scott Klockow, Urschel Director of Applications and Product Development. "With quick changeover times, Urschel knives lower the overall cost of ownership throughout the long life of the Urschel machine."

Critical Urschel parts and knives are manufactured in-house to uphold quality standards. Customers benefit from on-site test cutting services, expert engineering and tool and die departments, and two in-house foundries located at the company headquarters in Indiana, USA. New parts and newly developed knives are designed to meet their applications,

The result is equipment that deters downtime, reduces changeover frequency, and extends component life to help processors maintain continuous operation.

The Urschel global network speaks directly to customers to understand their processing line, product, and yield goals so their Urschel equipment is aligned with their operation and integrates seamlessly into their production.

“This level of customer support ensures that processors can reduce waste, improve cut quality, and maintain consistent throughput,” said Klockow. “Urschel machines are built for rugged production environments, helping processors achieve reliable performance while minimizing inefficiencies.”

In house engineering and manufacturing supports long-term performance, ensuring consistent, reliable results. Precise, ruggedly engineered parts reduce changeover frequency, and extend knife life to help processors maintain efficient, uninterrupted production.

Precision Knives Engineered for High-Capacity Operation

Urschel has engineered thousands of cutting machines, with the number of knives manufactured per year well into the millions. Its history designing and manufacturing precision knives keeps Urschel at the forefront of knife technology.

“Urschel has also invested in a knife lab, where engineers and technicians are constantly researching knife materials and angles, so quality blades can continue to develop as production demands evolve,” Klockow said.

As the life of Urschel cutting machines evolve, so do the cutting applications and cutting knives. Knives must be constructed to withstand a product's rigidity, temperature, moisture, fat content, and softness, as well as incidental rocks, soil, or sand that may interact with the cutting process.

Hydrocutting is popular for fries and wedges. Urschel water knife heads are both ruggedly durable while maintaining sharp blade edges.

“Although Urschel does not manufacture full hydrocutting systems, Urschel knife heads are largely regarded as the industry standard through constant innovation and development,” Scoble said.

With advanced manufacturing methods, Urschel knife accuracy is held to standards traditionally used in aerospace engineering. Urschel metallurgy plays an important role to meet specific predetermined metallurgical

standards, with coils tested and certified through proprietary methods, then conditioned before knife making begins.

Urschel uses its on-site heat treatment facility to create precise, durable blades, setting exact conditions to optimize and stabilize production. Processes work hand-in-hand with engineering, metallurgy, and quality control to exceed industry standards, and a staff metallurgist inspects materials to ensure Urschel knives are always manufactured with the utmost quality.

Even as industry challenges persist, Urschel stays focused on delivering reliable, productive, and functional equipment accompanied by comprehensive support, proudly supporting processors as the global leader in food cutting technology.

Customers are also encouraged to take advantage of free-of-charge test cutting services to find the optimal Urschel and KRONEN machinery for their production line, located at company headquarters and in key locations around the world. To schedule a test-cutting appointment, customers can visit [Urschel.com](https://www.urschel.com) or contact their local Urschel salesperson.

