

HOW TO CUT SEAFOOD

PRODUCTS



SLICE | DICE | STRIP CUT | PUREE

EVALUATE

Meeting the growing demand for high quality, nutritious seafood and seaweed products while minimizing labor costs is essential — assisting you with this task is where we come in. Turn to Urschel cutting technology to discover ways to improve your processing line by reducing waste, increasing yields, and maximizing profits.

Urschel crafts sanitary slicers, dicers, and milling equipment suited for every facet of size reduction. Each machine possesses precision cutting capabilities, continuous operation for uninterrupted production, and fluid, high capacity output. Machines are designed for operation in rugged production environments. Hinged and sliding panels promote hygienic stainless steel design. In addition to machines in this brochure, view even more Urschel cutting machinery at www.urschel.com.



A free test-cut of your product may be scheduled at our Product Test Cutting Facility to assist you with this evaluation.

FEATURED PRODUCTS

- | | | |
|--|---|--|
| <p>1. Fresh Bladderwrack Seaweed
Precut: Comitrol® Processor 3600F
Puree: Comitrol Processor Model 9300</p> | <p>6. Clam Tongue
1/4 x 1/4 x 3/8"
(6.4 x 6.4 x 9.5 mm)
DiversaCut 2110A Dicer</p> | <p>12. Fish Waste
Comitrol Processor Model 3640</p> |
| <p>2. Stingray Wings
1/4" (6.4 mm) Strip
Model M6</p> | <p>7. Fish Waste
Comitrol Processor Model 1700</p> | <p>13. Uncurled, Frozen Catfish Skin
1" (25.4 mm) Square
Model M6</p> |
| <p>3. Tuna
1/4" (6.4 mm) Dice
Affinity® Dicer</p> | <p>8. Surimi Shred
Model CC</p> | <p>14. Seaweed
1/8" (3.2 mm)
Strip Cut
Model M6</p> |
| <p>4. Salmon
3/4" (19.1 mm) Dice
DiversaCut 2110A® Dicer</p> | <p>9. Cooked Shrimp
3/4" (19.1 mm) Dice
Model M6</p> | <p>15. Surimi
Slice
E Translicer Cutter</p> |
| <p>5. Fish Waste
Comitrol Processor Model 3640</p> | <p>10. Salmon Fillet
3/4" (19.1 mm) Dice
DiversaCut 2110A Dicer</p> | <p>16. Smoked Salmon Fillet
1/2" (12.8 mm) Strip
Model M6</p> |
| | <p>11. Frozen-Tempered Fish
3/4" (19.1 mm) Dice
Model M6</p> | <p>17. Salmon Jerky
Model M6</p> |
| | | <p>18. Fish Oil
Comitrol Processor Model 9300</p> |

EXPLORE URSCHEL PRECISION

Urschel delivers solid-built, quality-manufactured equipment. Urschel cutting machinery is built from the ground-up with every crucial component created in our plant to guarantee the closest tolerances, and optimal function of each cutting machine. From sheet metal, to intricate cutting heads, to nuts and bolts - every part comes together under one roof. On-site foundries pour molten metals to produce quality, robust parts, while the latest in cell manufacturing focuses on ergonomic work-flow and employs state-of-the-art production methods.

In addition to a global sales force and dedicated service professionals, Urschel harbors a multi-million dollar inventory of commonly sold parts. This inventory, although costly to maintain, means parts may be shipped on-demand when our customers need them to decrease the potential of costly downtime.



The Affinity® line of dicers consists of 3 machines, the standard Affinity U.S.D.A., Dairy Division accepted dicer, the Affinity with built-in conveyor, and the Affinity Integra. What sets this line apart is the ability to process high-fat, cold-temperature and otherwise normally difficult products. The advantage is in the additional feed assistance via the feed roll and feed drum delivered as the product transitions throughout the cutting zone. Cutting zones are completely separate from mechanical zones. Rounded tube frames limit microbial surface area and promote self-draining. Provides 2- or 3-dimensional cutting by adjusting the slice thickness, crosscut, and circular knife spindles for a full range of dices, crumbs/granulations, or strips.

AFFINITY® DICER

ROBUST, HEAVY-DUTY DICER WITH FEED ASSIST



The Affinity Dicer is manufactured in two different models — (1) standard and (2) with a built-in conveyor (shown). The built-in conveyor assists in feeding and orientation of product. The Affinity accepts a wide range of infeed products in different shapes and sizes. Large infeed hopper accepts products up to 7" (178 mm), or up to 10" (254 mm) maximum in largest single dimension depending on the product. Large product infeed combined with a powerful 25 HP (18 kW) motor achieves maximum capacity.

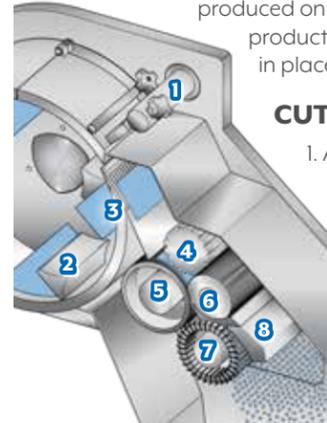
TYPES OF CUTS

- Flat Slices:** 1/8 – 3/4" (3.2 – 19.1 mm)
- Dices/Crumbles/Strips:** 2 and 3-dimensional cutting involves adjusting the slice thickness and using the required circular or crosscut spindles.
- Circular Knife Cuts:** 1/8 – 2" (3.2 – 50.8 mm)
- Crosscut Knife Cuts:** 1/8 – 2" (3.2 – 50.8 mm)

SPECIFICATIONS

- Length:**.....71.46" (1815 mm)
- Width:**.....62.52" (1588 mm)
- Height:**.....69.45" (1764 mm)
- Net Weight:**.....2900 lb (1315 kg)
- Motors:**.....1/6 HP (.12 kW); 5 HP (3.6 kW); 25 HP (18 kW)

Shreds: Fine, medium, and coarse shreds can be produced on hot or chilled cooked meat products by using shredding disc spindle in place of the crosscut knife spindle.



CUTTING OVERVIEW

1. Adjustable Slice Gate
2. Impeller Paddles
3. Slicing Knife
4. Feed Roll
5. Feed Drum
6. Circular Knives
7. Crosscut Knives
8. Stripper Plate

MODEL M6 DICER

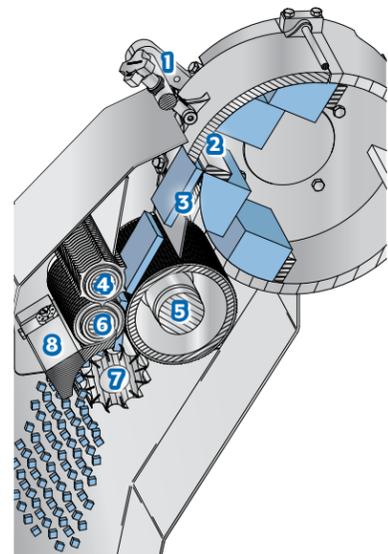
BELT-FED, 2-DIMENSIONAL CUTTER

The M6 Dicer accepts infeed product up 1" (25.4 mm) in thickness. Equipped with a either a 5 HP (3.7 kW) or a 7.5 HP (5.6 kW) motor, the two-dimensional cutter produces dices, strips, or shreds through a wide range of sizes from product of a predetermined thickness. Solid bar and angled frame design. Feed-belt offers positive feeding assistance.



TYPES OF CUTS

- Dices:** Many sizes of cuts are possible by combining the various selections of circular knife spacings with different crosscut knife spindles.
- Circular Knife Cuts:** 3/16 – 1-1/2" (4.8 – 38 mm)
- Crosscut Knife Cuts:** 1/8 – 3" (3.2 – 76.2 mm) standard sizes, up to 5.66" (144 mm) available with alternate gearing.



CUTTING OVERVIEW

1. Slice Adjustment Knob
2. Impeller Paddles
3. Slicing Knife
4. Feed Spindle
5. Feed Drum
6. Circular Knives
7. Crosscut Knives
8. Stripper Plate

AFFINITY INTEGRA® DICER

PROCESSING DIFFICULT-TO-CUT PRODUCTS



The Affinity Integra Dicer accepts infeed product up to 4.5" (114 mm). With similar characteristics as the large Affinity, it also takes on the challenge of difficult applications. Outfitted with a 10 HP (7.5 kW) motor.

TYPES OF CUTS

- Flat Slices:** 1/8 to 1/2" (3.2 to 12.7 mm)
- Dices/Crumbles/Strips:** 2- and 3-dimensional cutting involves adjusting the slice thickness, and the using the required circular or crosscut spindles.
- Circular Knife Cuts:** 1/8 – 1" (3.2 – 25.4 mm)
- Crosscut Knife Cuts:** 1/8 – 1-1/2" (3.2 – 38.1 mm)

SPECIFICATIONS

- Length:**.....54.45" (1383 mm)
- Width:**.....54.05" (1373 mm)
- Height:**.....70.97" (1803 mm)
- Net Weight:**.....1500 lb (680 kg)
- Motor:**.....10 HP (7.5 kW)

The DiversaCut® line of dicers includes the DiversaCut 2110A® Dicer, the DiversaCut Sprint® Dicer, and two versions of the Sprint 2 — Sprint 2 non-conveyor and Sprint 2 with conveyor discharge. The crosscut knife spindle in conjunction with the other cutting components create a compact cutting zone establishing precision cuts as product moves throughout the process. Cutting zones are completely separate from mechanical zones. Rounded tube frames contribute to sanitary design and eases cleaning. Provides slicing-only capability by removing the circular and crosscut knife spindles. Provides 2- or 3-dimensional cutting by adjusting the slice thickness, crosscut, and circular knife spindles for a full range of dices, crumbs/granulations, or strips. A variety of shreds are also available.

DIVERSACUT 2110A® DICER

VERSATILE DICER/STRIP CUTTER/SHREDDER



The DiversaCut 2110A® Dicer accepts a maximum infeed product of 10" (254 mm) in any dimension, and offers cost-savings by eliminating the need to pre-cut products. This dicer may be equipped with either a 5 or 10 HP (3.7 or 7.5 kW) motor.

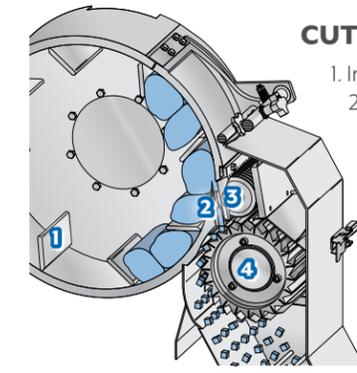
TYPES OF CUTS

- Flat or Crinkle Slices:** 1/16 – 1" (1.6 – 25.4 mm)
- Dices/Crumbles/Strips:** 2- and 3-dimensional cutting involves adjusting the slice thickness and using the required circular or crosscut spindles.
- Circular Knife Cuts:** 1/8 – 3" (3.2 – 76.2 mm)
- Crosscut Knife Cuts:** 3/32 – 3-1/2" (2.4 – 88.9 mm)
- Crosscut Knife Crinkle Cuts:** (.076" depth): 9/32 – .583" (7.1 – 14.8 mm)
- Crosscut Knife Deep Crinkle Cuts:** (.125" – .145" depth): 3/8 – 1/2" (9.5 – 12.7 mm)
- Crosscut Knife V-Cuts:** 5/16 – 1/2" (7.9 – 12.7 mm)

SPECIFICATIONS

- Length:**..... 64.07" (1627 mm)
- Width:**..... 63.62" (1616 mm)
- Height:**..... 68.44" (1738 mm)
- Net Weight:**..... 1500 lb (681 kg)
- Motor:**..... 5 or 10 HP (3.7 or 7.5 kW)

Shreds: Fine, medium, and coarse shreds can be produced on hot or chilled cooked meat products by using shredding disc spindle in place of the crosscut knife spindle.



CUTTING OVERVIEW

1. Impeller Paddles
2. Slicing Knife
3. Circular Knives
4. Crosscut Knives

SPRINT 2® DICER

2 MODELS: WITH DISCHARGE CONVEYOR BELT OR WITHOUT



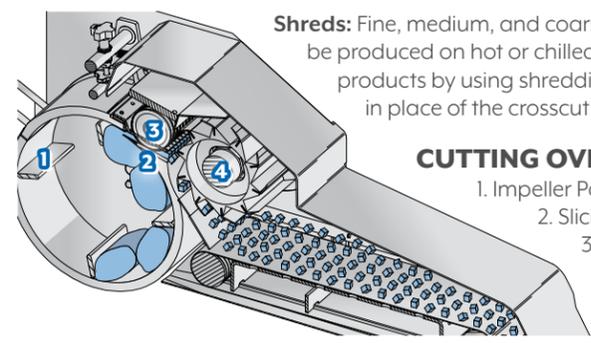
Both versions of the Sprint 2® Dicer accept a maximum infeed product of 6.5" (165 mm) in any dimension. Both versions may come equipped with VFD or with soft start in a 3 HP (1.5 kW) motor. Another option on the non-conveyor version is a 1.5 HP (1.1 kW) soft start motor. Conveyor discharge version offers optimized, controlled complete discharge of cut product to reduce waste.

TYPES OF CUTS

- Flat or Crinkle Slices:** 1/16 – 1" (1.6 – 25.4 mm)
- Dices/Crumbles/Strips:** 2- and 3-dimensional cutting involves adjusting the slice thickness, and adjustment or removal of the circular or crosscut spindles.
- Circular Knife Cuts:** 1/8 – 3" (3.2 – 76.2 mm)
- Crosscut Knife Cuts:** 3/32 – 1" (2.4 – 25.4 mm)
- Crosscut Knife Crinkle Cuts:** (.076" depth): 9/32 – 9/16" (7.1 – 14.3 mm)
- Crosscut Knife Deep Crinkle Cuts:** (.125" – .145" depth): 3/8 – 1/2" (9.5 – 12.7 mm)

SPECIFICATIONS

- NON-CONVEYOR VERSION**
- Length:**..... 70.31" (1786 mm)
- Width:**..... 58.30" (1481 mm)
- Height:**..... 60.95" (1548 mm)
- Net Weight:** 1000 lb (454 kg)
- Motor:** 3 HP (2.2 kW) with VFD, 3 HP (2.2 kW) with soft start, or 1.5 HP (1.1 kW) with soft start
- CONVEYOR VERSION**
- Length:**..... 70.31" (1786 mm)
- Width:**..... 61.56" (1564 mm)
- Height:**..... 60.95" (1548 mm)
- Net Weight:** 1050 lb (476 kg)
- Motor:**..... 3 HP (2.2 kW) with VFD, or 3 HP (2.2 kW) with soft start



CUTTING OVERVIEW

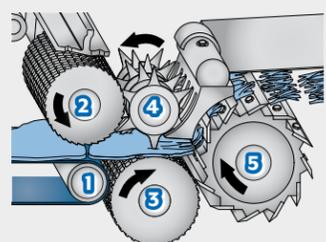
1. Impeller Paddles
2. Slicing Knife
3. Circular Knives
4. Crosscut Knives

SPECIFICATIONS

- Length:**..... 119.03" (3023 mm)
- Width:**..... 33.48" (850 mm)
- Height:**..... 50.37" (1280 mm)
- Net Weight:** 1642 lb (745 kg)
- Motor:**..... 5 or 7.5 HP (3.7 or 5.6 kW)

CUTTING OVERVIEW

1. Drive Roll
2. Feed Roll
3. Feed Drum
4. Shredding Discs
5. Crosscut Knives



- Strip Cuts:** Strip cuts can be made by removing the crosscut knife spindle from the machine. The length and thickness of the strips will depend upon the size of the original product.
- Shreds:** Many types available. Due to variables in applications, it is highly recommended that processors work with Urschel Laboratories to achieve optimum results.

Urschel offers a variety of slicers including the Model CC Slicer and the E Translicer Cutter. The Model CC may be equipped with different styles of interchangeable cutting heads to create a variety of slices, shreds, or granulations. The Model CC is one of several in the CC series including the U.S.D.A., Dairy Division accepted Model CCX-D. The E Translicer is one of three models in the Translicer® line. The belt-fed machine specializes in cutting elongated products and offers several interchangeable cutting wheels to produce slices, julienne cuts, or shreds. To learn more about other available slicers, visit www.urschel.com.

MODEL CC SLICER

VERSATILE SLICER, SHREDDER, & GRANULATOR

The CC Slicer accepts infeed product up to 4" (101.6 mm) in any dimension. Equipped with a 2 HP (1.5 kW), 5 HP (3.7 kW), or a 10 HP (7.5 kW) motor. Offers precision slices and shreds via centrifugal force to incrementally, expediently cut products.

TYPES OF CUTS

FLAT SLICES

up to .500" (12.7 mm)

V SLICES

up to .500" (12.7 mm)

.125" Slice: 8 "V"s per inch. "V" depth of .050" (1.3 mm);

Centers: .125" (3.2 mm).

.212" Slice: 4.7 "V"s

per inch. "V" depth of .084" (2.1 mm); Centers: .212" (5.4 mm).

CRINKLE SLICES

up to .500" (12.7 mm) with 3-1/2 waves per inch.

.175 Slice: Crinkle Depth .084" (2.1 mm), Centers .175" (4.4 mm),

.300 Slice: Crinkle Depth .080" (2.0 mm), Centers .300" (7.6 mm).

.480 Slice: Crinkle Depth .076" (1.9 mm), Centers .480" (12.2 mm).

FULL SHREDS & REDUCED V SHREDS

Full Shred: Diamond-shaped cross section available in four thicknesses: .070, .097, or .125" (1.8, 2.5, or 3.2 mm).

Reduced V Shred: "V"-shaped cross section

OVAL & REDUCED OVAL (CRESCENT) SHREDS

.250 Oval Shred: Oval-shaped cross section approximately .125" (3.2 mm) thick by .250" (6.4 mm) wide.

.480 Wide Oval Shred: .152" (3.7 mm) thick by .480" (12.2 mm) wide.

Crescent Shred: Crescent-shaped cross section.

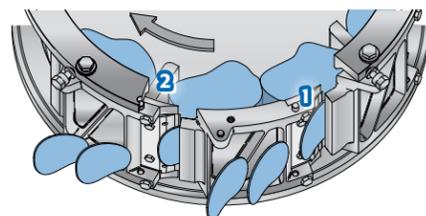
Wide Crescent Shred: Wide crescent-shaped cross section.

STRIP CUTS

Rectangular cross section. **Widths:** 3/32, 1/8, 3/16, 1/4, 3/8, 1/2, 9/16, and 3/4" (2.4, 3.2, 4.8, 6.4, 9.5, 12.7, 14.3, and 19 mm)

UNIQUE SLICES, GRATING OPTIONS

Contact your local Urschel office to explore more types of cuts. Urschel continuously works to develop and discover additional cutting options.



CUTTING OVERVIEW

1. Slicing Knife
2. Impeller

SPECIFICATIONS

Length:..... 48.03" (1220 mm) - 2 or 5 HP

..... 51.74" (1314 mm) - 10 HP

Width:..... 35.26" (896 mm)

Height:..... 39.11" (993 mm) - 2 or 5 HP

..... 40.67" (1033 mm) - 10 HP

Net Weight: 550 lb (250 kg) - 2 or 5 HP

..... 680 lb (310 kg) - 10 HP

Motor:.....2, 5, or 10 HP (1.5, 3.7, or 7.5 kW)



E TRANSLICER® CUTTER

SPECIALIZING IN ELONGATED PRODUCTS

This machine accepts infeed product up to 4" (101.6 mm) in diameter and leafy-type, compressible products up to 6" (152.4 mm). Equipped with a 3 HP (2.2 kW) cutting wheel motor. Belt feeding assists in proper orientation of product.

TYPES OF CUTS

SLICING WHEEL

Flat & Crinkle Slices:

1/32 to 3" (.8 to 76.2

mm) Crinkle slices

have 4-2/3 waves per

inch and with a crinkle

depth of 1/16" (1.6 mm).

JULIENNE WHEEL

Julienne cuts ranging from 1/2 x 1/2"

(12.7 x 12.7 mm) to 2 x 2" (50.8 x 50.8 mm)

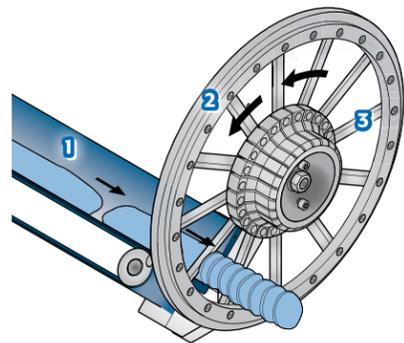
MICROSLICE® WHEEL

Flat Slices: .020 to .240" (.5 to 6 mm)

Crinkle Slice: .069" (1.8 mm) thickness with 3-1/3 waves per inch and a crinkle depth of .080" (2.0 mm)

Oval Shred: This shred has an oval-shaped cross section measuring approximately .125" (3.2 mm) thick by .250" (6.4 mm) wide.

Julienne Strips: A wide range of julienne strips can be made from firm products. Contact your local representative for more information.



CUTTING OVERVIEW

1. Feed Belt
2. Slicing Wheel
3. Slicing Knives

SPECIFICATIONS

Length:..... 100.78" (2560 mm)

..... 117.26" (2978 mm)

with prep table

Width:..... 35.31" (897 mm)

Height:..... 61.79" (1569 mm)

..... 66.36" (1686 mm)

with remote stop

Net Weight:..... 1300 lb (560 kg)

Cutting Wheel

Motor:..... 3 HP (2.2 kW)

Feed Belt Motor: ... 1 HP (.75 kW)



The Comitrol® Processor line of Urschel milling equipment

comprises a number of different models. Routine uses for these machines include granulating, flaking, slicing, milling, shredding, liquefying, emulsifying, dispersing, blending, and pureeing. The operating principle relies on a gradual particle reduction as a high-speed impeller rotates product inside a stationary reduction head achieving consistent, uniform particle size reduction at high capacities. Different models accommodate different styles of reduction heads, feeding methods, and horsepower. View our complete 'Comitrol Reductions' brochure to explore other models not listed in this brochure. To discover your ideal set-up, a free-of-charge test-cut at one of our Product Test Cutting Facilities is advised.

COMITROL® PROCESSOR MODEL 1700

CONTROLLED PARTICLE SIZE REDUCTION

The Comitrol Processor Model 1700 accommodates all three types of reduction heads. It is recommended for free-flowing dry and semi-dry product applications. Sealed enclosure deters escape of dust, vapor, and liquid when installed with a collection system.

Use a Microcut head to produce the smallest

particle sizes. Outfitted

with either a 15 HP

(11.2 kW), 30 HP (22.4 kW),

or 40 HP (30 kW) motor.

SPECIFICATIONS

Length:..... 50.69" (1288 mm)

Width:..... 33.31" (846 mm)

Height:..... *72.13" (1832 mm)

Net Weight:... 1100 lb (499 kg)

Motor:..... 15, 30, or 40 HP

(11.2, 22.4, or 30 kW)



COMITROL® PROCESSOR MODEL 3640 SLANT

CONTROLLED PARTICLE SIZE REDUCTION

The compact size of the Comitrol Processor Model 3640 Slant makes the machine ideal for small volume to high capacity production environments. Outfitted with a 40 HP (30 kW) motor. Coarse to fine emulsions may be obtained

depending on cutting head and number of passes. May also be used in conjunction with the Model 1700 as a precutter.

SPECIFICATIONS

Length:..... 51.30" (1303 mm)

Width:..... 40.98" (1041 mm)

Height:..... 62.43" (1586 mm)

Net Weight:... 1196 lb (542 kg)

Motor:..... Impeller-40 HP

(29.8 kW)



TYPES OF CUTS



MODEL 1700 SLICING HEAD:
Slices: .020 to .060"
(.5 to 1.5 mm)



MODEL 1700 MICROCUT HEAD:
Offers the smallest in particle sizes from .0012 to .0237" (.03 to .6 mm)

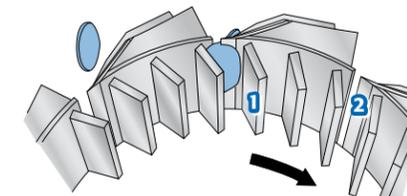


MODELS 1700 & 3640 CUTTING HEAD:
Offers sizes from .010 to 1.5" (.254 to 38.1 mm)

CUTTING OVERVIEW

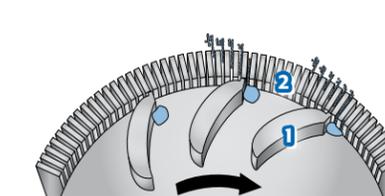
MODEL 1700 SLICING HEAD:

1. Impeller
2. Slicing Knife



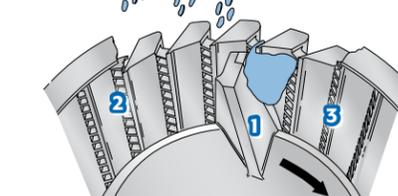
MODEL 1700 MICROCUT HEAD:

1. Impeller
2. Slicing Blades



MODELS 1700 & 3640 CUTTING HEAD:

1. Impeller
2. Horizontal Separators
3. Vertical Knives



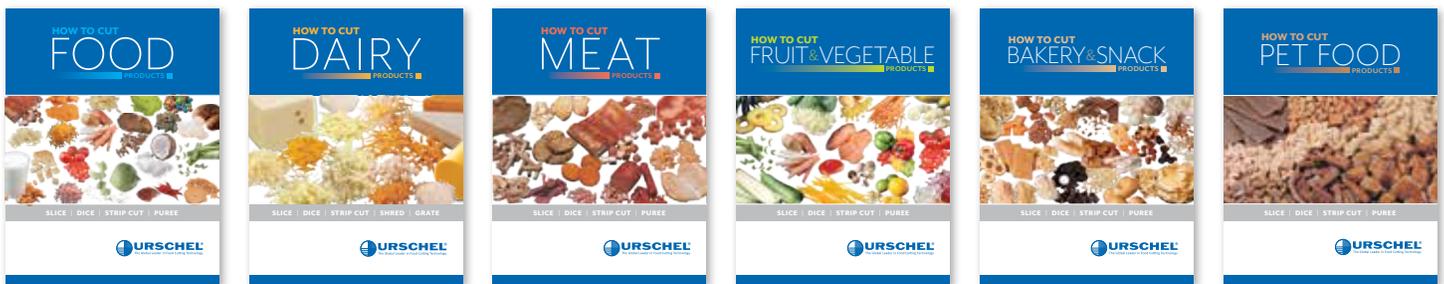
YOU ARE INVITED TO TEST CUT YOUR PRODUCT

Urschel has a complete network of test cutting facilities and experienced service and sales representatives around the world ready to work with you on any size reduction application.

Contact your local Urschel representative to schedule a comprehensive, no-obligation test cut today at www.urschel.com.



DELIVERING TARGETED CUTTING SOLUTIONS AROUND THE WORLD



Urschel continues to develop new cutting methods by working closely with our customers. This brochure contains a range of Urschel cutting capabilities, and we are always open to new challenges. In addition to the machines in this brochure, view even more Urschel cutting machinery at www.urschel.com.



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