

HOW TO CUT DAIRY PRODUCTS



NEW

■ Affinity® Integra-D
Dicer
page 5



■ MicroAdjustable®
SH-14 Head
page 7



SLICE | DICE | STRIP CUT | SHRED | GRATE

EVALUATE

Cheese characteristics vary widely in terms of fat, moisture content, hardness, and more. These factors need to be taken into account when assessing the desired end-product – assisting you with this task is where we come in. Turn to Urschel cutting technology to discover just the right machine for your line.

Urschel crafts 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. In addition to machines in this brochure, view 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

1. Swiss Cheese

1/8 x 1/8 x 1-3/8"
(3.2 x 3.2 x 34.9 mm) Strip
Affinity® Dicer

2. Cheddar Cheese

.097" (2.5 mm) Full Shred
Model CCX-D

3. Ricotta Cheese

Comitrol Processor
Model 1700

4. Cheddar Cheese

3/8" (9.5 mm) Dice
Affinity Dicer

5. Cheddar Cheese

1/8 x 1/8 x 1-1/2"
(3.2 x 3.2 x 38.1 mm)
Affinity®
Integra-D Dicer

6. White Cheddar Cheese

3/8 x 1-1/4 x 3/8"
(9.5 x 31.8 x 9.5 mm)
Crinkle Strip,
Affinity Dicer

7. Processed White Cheese

.070" (1.8 mm) Full Shred
Model CC-D

8. Parmesan Cheese

Comitrol Processor
Model 1700

9. Cheddar Cheese

3/8 x .05" (9.5 x 1.27 mm)
Model CC-D

10. Mild Cheddar

1/2" (12.7 mm)
Affinity Dicer

11. Blue Cheese

3/8" (9.5 mm) Crumble
Affinity Integra® Dicer

12. Cheddar Cheese

.480" (12.2 mm) Crinkle Slice
Model CC-D

13. Parmesan Cheese

-.030" (-.762 mm) Shred
Model CCX-D

14. Parmesan Cheese

14-3 Grating Head Shred
Model CC-D

15. Cheddar Cheese

1/8" (3.2 mm) Dice
1/2" (12.7 mm) Dice
Affinity® Dicer

Flat-V Full Shred

Model CCX-D

16. Mozzarella

1/4 x 3/8 x 3/8"
(6.4 x 9.5 x 9.5 mm)
Affinity® Integra-D Dicer

17. Mozzarella

1/16 x 1/4" (1.6 x 6.4 mm)
Affinity® Integra-D Dicer

18. Parmesan Cheese

Wide Oval Shred
Model CC-D

19. Cheddar Cheese

1/4" (6.4 mm) Dice
Affinity® Integra-D Dicer

20. Parmesan Cheese

3/4 x .030" (19.1 x .762 mm)
Model CC-D

21. Cheddar Cheese

1/8 x 1/8 x 1-1/2"
(3.2 x 3.2 x 38.1 mm) Strip
Affinity® Dicer

22. Cheddar Cheese

1/8" (3.2 mm)
Affinity Dicer

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 – every critical 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. 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, crumbles/granulations, or strips.

AFFINITY® DICERS

ROBUST, HEAVY-DUTY DICER

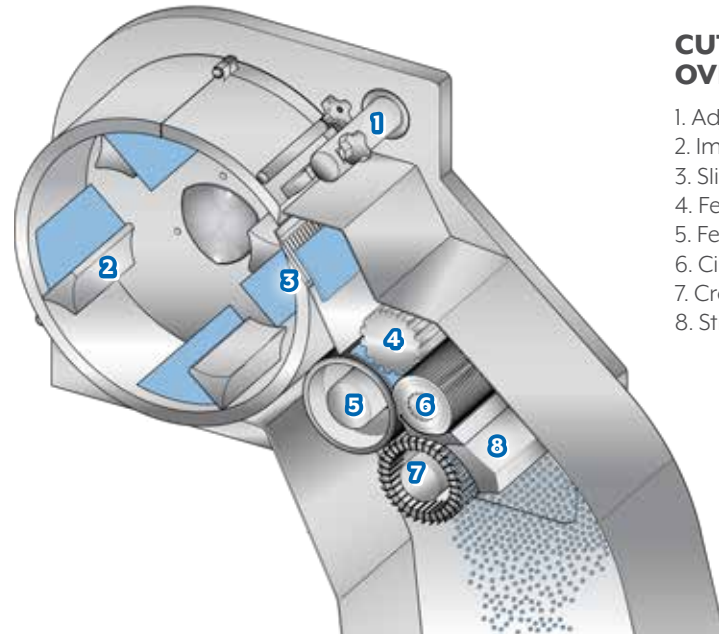
This heavy duty dicer delivers a sanitary design, optimal high capacity output, and precision cuts. The Affinity is available in two models – the U.S.D.A., Dairy Division accepted version (featured immediate right) and the conveyor feed chute version (far right) which is not U.S.D.A. accepted.

The U.S.D.A. accepted Affinity accepts a wide range of infeed products in different shapes and sizes. Infeed hopper accepts a maximum up to 7" (178 mm) product. In addition to a sanitary design, optimal high capacity output, and precision cuts, the conveyor feed chute machine delivers all of the features outlined plus enhanced flow of product. The Affinity with conveyor feed chute accepts maximum infeed of blocks up to 7" (178 mm) or up to 10" (254 mm) maximum in largest single dimension depending on the product.

TYPES OF CUTS

- Slices:** Slice thickness: 1/8 – 3/4" (3.2 – 19.1 mm)
- Dices:** A slicing knife, circular knife spindle, and crosscut knife spindle are used for dicing. Changing the dice size is done by adjusting the slice thickness, variable frequency drive, and cutting spindles as needed.
 - Circular Knife Cuts:** 1/8 – 2" (3.2 – 50.8 mm)
 - Crosscut Knife Cuts:** 1/8 – 2" (3.2 – 50.8 mm)

Strip Cuts: Flat strips can be made by removing either the crosscut knife spindle or the circular knife spindle. Combinations of circular knives or crosscut knives can be used to shorten the length of the strips. 1/8 – 2" (3.2 – 50.8 mm) in length



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

SPECIFICATIONS

AFFINITY U.S.D.A., Dairy Division Accepted
Length:..... 60.33" (1533 mm)
Width:..... 62.52" (1588 mm)
Height:..... 69.64" (1769 mm)
Net Weight: 2800 lb (1270 kg)
Motors: 25 HP (18 kW)
 5 HP (3.6 kW)
 - Crosscut Knife Spindle Assembly

AFFINITY with conveyor feed chute
Length:..... 66.47" (1688 mm)
Width:..... 62.52" (1588 mm)
Height:..... 69.65" (1769 mm)
Net Weight: 2800 lb (1270 kg)
Motors: 25 HP (18 kW)
 5 HP (3.6 kW) - Crosscut Knife Spindle Assembly
 1/6 HP (.12 kW) - Feed Conveyor



A slightly scaled-down version of the big Affinity, the Integra is designed to handle difficult products such as high-fat, cold-temperature cheeses. This dicer incorporates design elements from the longstanding RA series and the Affinity. The Integra is designed to replace in-line RA series machines - offering processors a beneficial upgrade with a larger infeed, larger impeller case, newer design, increased sanitation, and potentially 20 to even 50 percent higher capacities. The new Integra takes heavy-duty small to mid-range dicers to another level.

AFFINITY INTEGRA® DICER

PROCESSING DIFFICULT-TO-CUT PRODUCTS

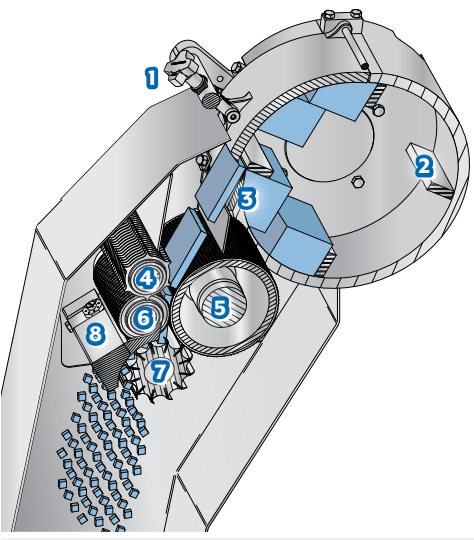
The Affinity Integra Dicer accepts infeed product up to 4.75" (120 mm). With similar characteristics as the large Affinity, the Integra takes on the challenge of difficult applications. Outfitted with a 10 HP (7.5 kW) motor.

SPECIFICATIONS

Length:..... 55.98" (1422 mm)
Width:..... 54.05" (1373 mm)
Height:..... 70.97" (1803 mm)
Net Weight:..... 1500 lb (680 kg)
Motor:..... 10 HP (7.5 kW)

TYPES OF CUTS

- Flat Slices:** 1/8 – 1/2" (3.2 – 12.7 mm)
- Dices/Crumbles/Strips:** 2- and 3-dimensional cutting involves adjusting the slice thickness and using the required circular or crosscut knife 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)



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

RA SERIES DICERS

PRECURSOR TO THE INTEGRA

Visit www.urschel.com to learn more.



AFFINITY INTEGRA-D DICER

U.S.D.A., DAIRY DIVISION ACCEPTED

The Affinity® Integra-D Dicer is the newest U.S.D.A., Dairy Division accepted model. The dicer accepts infeed product up to 4.75" (120 mm). The Integra-D's turnkey approach fits easily into production lines, and offers processors a beneficial upgrade with the ultimate in sanitation, a larger infeed, larger impeller case and newer design.

SPECIFICATIONS

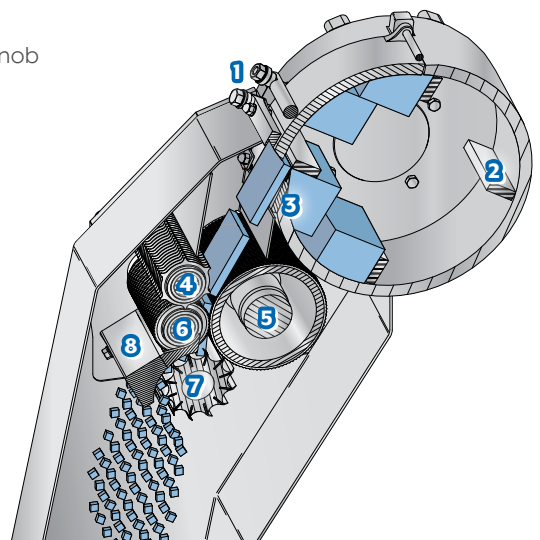
Length:..... 55.53" (1411 mm)
Width:..... 58.50" (1486 mm)
Height:..... 71.03" (1804 mm)
Net Weight: 1500 lb (680 kg)
Motor:..... 10 HP (7.5 kW)
U.S.D.A., Dairy Division Accepted

TYPES OF CUTS

- SLICES**
- Flat slices:** up to 1/2" (12.7 mm)
- DICES/GRANULATIONS/CRUMBLES**
- A slicing knife, circular knife spindle, and crosscut knife spindle are used for dicing. Changing the dice size is done by adjusting the slice thickness and cutting spindles as needed.
 - Circular Knife Cuts:** 1/8 – 2-1/2" (3.2 – 63.5 mm)
 - Crosscut Knife Cuts:** 1/8 – 1-1/2" (3.2 – 38.1 mm)
- STRIP CUTS/SHREDS**
- Flat strips can be made by removing either the crosscut knife spindle or the circular knife spindle. Combinations of circular knives or crosscut knives can be used to shorten the length of the strips.

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



U.S.D.A., Dairy Division Accepted Model CCX-D produces high capacity shreds. Combining a powerful 10 HP motor with a large 32-inch cutting chamber, this cheese shredder delivers optimal, precision cuts in a sanitary, hygienic stainless steel design. **The CC Series is comprised of the CCX-D and the CC, CC-D, and CC-DL.** Each model operates using centrifugal force using a rotating impeller within a fixed cutting head to uniformly reduce ingredients as the product becomes engaged with a slicing or shredding station, or grating surface. All models also offer inexpensive knives and quick-changeover of cutting heads. Available larger cutting chamber allows for greater alleviation of space surrounding the cutting head, and promotes positive discharge of product, while deterring product build-up.

MODEL CCX-D

U.S.D.A. DAIRY DIVISION ACCEPTED VERSATILE SLICER/SHREDDER

2-piece enclosure allows easy access for complete cleaning and maintenance. The versatile CCX-D features interchangeable quick locking double ring, single adjustment cutting heads enabling the changeover to different cuts in just minutes. Specially designed knives do not require sharpening, and are inexpensive to replace. To promote sanitation, the machine features an attached swingaway feed hopper, hinged access panels, sloped surfaces, and stainless steel highly polished to U.S.D.A., Dairy Division accepted standards. The machine features continuous operation for uninterrupted production, and is designed for easy clean-up and maintenance. The Model CCX-D will accept products measuring up to 3-1/2" (88.9 mm) in any dimension.



SPECIFICATIONS

MODEL CCX-D with 32" Cutting Chamber

Length:..... 66.28" (1684 mm)
Width:..... 32.95" (837 mm)
Height: 34.11" (866 mm)
Net Weight:..... 1,000 lb (454 kg)
Motor:..... 10 HP (7.5 kW)

U.S.D.A., Dairy Division Accepted
 (visit www.urschel.com for dimensions of the CCX-D with 24" Cutting Chamber)



Streamlined, Optimized Design

U.S.D.A., Dairy Division accepted MicroAdjustable® SH-14 Shredding Head offers nearly double the capacity of an 8-shoe head. The SH-14 features adjustable top/bottom cams to quickly and easily adjust shred thickness. Expedited assembly/disassembly allow for complete sanitation of every part.

MODELS CC, CC-D, CC-DL

VERSATILE SLICERS & SHREDDERS



MODEL CC

24" (610 mm) Cutting Chamber
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)

MODEL CC-D

24" (610 mm) Cutting Chamber
Length:..... 48.03" (1220 mm) - 5 HP
 51.74" (1314 mm) - 10 HP
Width:..... 35.59" (904 mm)
Height:..... 29.92" (760 mm) - 5 HP
 31.36" (797 mm) - 10 HP
Net Weight: 550 lb (250 kg) - 5 HP
 680 lb (310 kg) - 10 HP
Motor:..... 5 or 10 HP (3.7 or 7.5 kW)

MODEL CC-DL

32" (813 mm) Cutting Chamber
Length:..... 61.66" (1566 mm)
Width:..... 35.60" (904 mm)
Height:..... 33.89" (861 mm)
Net Weight: 700 lb (318 kg)
Motor:..... 10 HP (7.5 kW)

TYPES OF CUTS: MODEL CC SERIES

FULL & REDUCED FLAT-V® SHREDS

Full Flat-V Shred: Hexagonal-shaped cross section thickness (A) approximately .150" (3.8 mm) on each side using the .473 V knife.

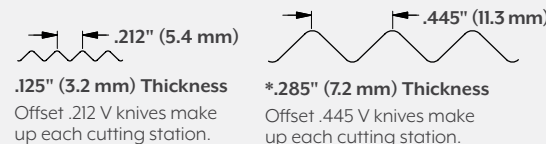
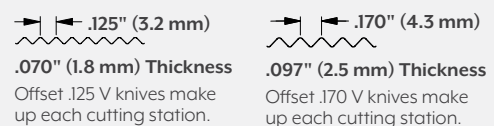
Reduced Flat-V Shred: Flattened top and bottom that form a corrugated shred.



FULL SHREDS & REDUCED V SHREDS

Full Shred: Diamond-shaped cross section available in four thicknesses (A): .070" (1.8 mm) using the .125 V knife, .097" (2.5 mm) using the .170 V knife, .125" (3.2 mm) using the .212 V knife, or *.285" (7.2 mm) using the .445 V knife.

Reduced V Shred: "V"-shaped cross section



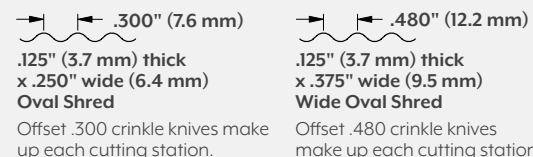
OVAL & REDUCED OVAL (CRESCENT) SHREDS

Oval Shred: Oval-shaped cross section (A) approximately .125" (3.2 mm) thick by .250" (6.4 mm) wide using the .300 crinkle knife.

Wide Oval Shred: Wide oval-shaped cross section (B) .125" (3.7 mm) thick by .375" (9.5 mm) wide using the .480 crinkle knife.

Crescent Shred: Crescent-shaped cross section.

Wide Crescent Shred: Wide crescent-shaped cross section.



STRIP CUTS

Rectangular cross section available in a variety of widths (A): 3/32, 1/8, 3/16, 1/4, 1/2, or 3/4" (2.4, 3.2, 4.8, 6.4, 12.7, or 19.1 mm)

GRATING OPTIONS

Grating heads offer cuts including powdered parmesan, coarse granules, and a variety of shreds.



*FLAT-V® SLICES

Slice thickness (A) range of .040 – .180" (1.0 – 4.6 mm) with 2.1 corrugations per inch (25.4 mm). Corrugation depth of .125" (3.2 mm); Center depth: .473" (12 mm).

**Z-CUT SLICES

Slice thickness (A) range is .030 – .115" (0.8 – 2.9 mm) with 2.54 corrugations per inch (25.4 mm). Corrugation depth of .135" (3.4 mm); Center depth: .394" (10 mm).

V SLICES

Slice thickness (A) range is .040 – .500" (1.0 – 12.7 mm) available in two different "V" depths:

.125" Slice: 8 "V"s per inch, "V" depth of .050" (1.3 mm), Center depth: .125" (3.2 mm).

.212" Slice: 4.7 "V"s per inch, "V" depth of .084" (2.1 mm), Center depth: .212" (5.4 mm).

CRINKLE SLICES

Slice thickness (A) range is .040 – .500" (1.0 – 12.7 mm). Available in three different crinkle depths:

.175" Slice: Crinkle depth .084" (2.1 mm), Center depth .175" (4.4 mm),

.300" Slice: Crinkle depth .080" (2.0 mm), Center depth .300" (7.6 mm),

.480" Slice: Crinkle depth .076" (1.9 mm), Center depth .480" (12.2 mm).

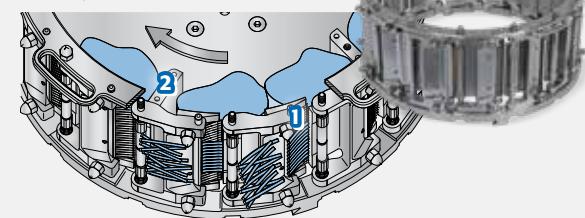
FLAT SLICES

Slice thickness (A) range is .030 – .500" (0.8 – 12.7 mm).

CUTTING OVERVIEW

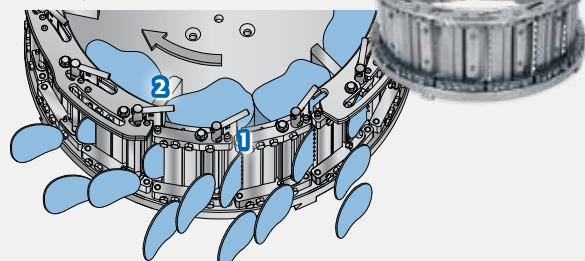
MicroAdjustable® SH-14 Head

- U.S.D.A., Dairy Division Accepted
1. Shredding Knife
 2. Impeller



MicroAdjustable® SL-14 Head

1. Slicing Knife
2. Impeller



MicroAdjustable® SH-14 & SL-14 heads offer increased capacity with 14 cutting stations versus the standard 8 head. To determine the availability of specific thicknesses and styles, visit www.urschel.com.

*Limited availability based on customer application. Contact your local Urschel office to verify salability.

**Z-Cut is only available in non-European countries.

COMITROL® PROCESSOR MODEL 1700

CONTROLLED PARTICLE SIZE REDUCTION

The Comitrol Processor is a versatile milling machine with a unique particle size reduction principle that can process dry, semi-dry, pastes or liquid products. Product is reduced in precise increments emerging a consistent size and shape. Standard operations include comminuting, granulating, milling, liquifying, dispersing and pureeing.

TYPES OF CUTS

There are more than 250 different combinations of cutting parts and impellers for the Comitrol Processor. Particle sizes range from coarse to fine emulsions, to determine the ideal cutting set-up for your application, Urschel recommends scheduling a test cut in one of our Worldwide Product Test Cutting Facilities. Visit the Urschel website to explore cutting head options.

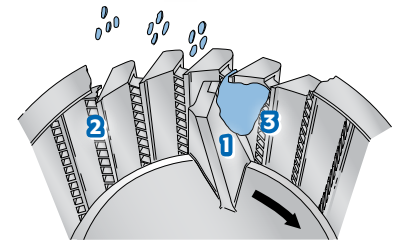
SPECIFICATIONS

Length:..... 49.62" (1260 mm)
Width:..... 34.62" (879 mm)
Height:..... *70.12" (1781 mm)
Net Weight: 1100 lb (499 kg)
Motor:..... 15, 30, or 40 HP
(11.2, 22.4, or 30 kW)



CUTTING OVERVIEW

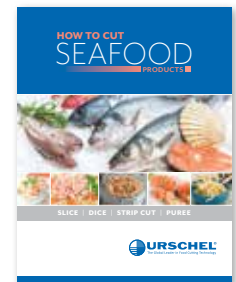
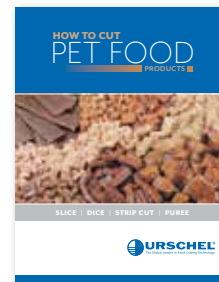
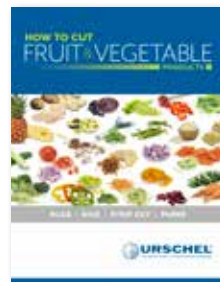
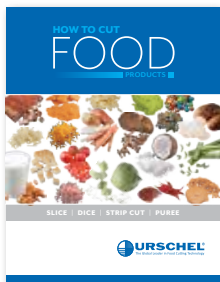
1. Impeller
2. Horizontal Separators
3. Vertical Knives



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.



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.

URSCHEL®
Set-up a free test-cut of your product:
info@urschel.com | www.urschel.com

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