

HOW TO CUT DAIRY PRODUCTS



SLICE | DICE | STRIP CUT | SHRED | GRATE



URSHEL®
The Global Leader in Food Cutting Technology



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 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.



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.

FEATURED PRODUCTS

- | | | |
|---|--|--|
| 1. Cheddar Cheese
1/8" (3.2 mm) Dice
Affinity® Dicer | 6. Cheddar Cheese
.480" (12.2 mm) Crinkle Slice
Model CC-D | 12. Parmesan Cheese
Comitrol Processor
Model I700 |
| 2. Cheddar Cheese
1/8 x 1/8 x 1-1/2"
(3.2 x 3.2 x 38.1 mm) Strips
Affinity® Dicer | 7. Cheese
Grated, Model CC-D | 13. Mozzarella Cheese
1/4 x 3/8 x 3/8"
(6.4 x 9.5 x 9.5 mm)
Model RA-D |
| 3. Parmesan Cheese
3/4" x .030" (19.1 x .762 mm)
DiversaCut 2110A® Dicer | 8. Mozzarella Cheese
1/8" (3.2 mm)
Affinity Dicer | 14. Cheddar Cheese
1/8 x 1/8 x 1-1/2"
(3.2 x 3.2 x 38 mm)
Model RA-D |
| 4. Blue Cheese
3/8" (9.5 mm) Crumble
Affinity Integra® Dicer | 9. Cheddar Cheese
1/4" (6.4 mm) Dice
Affinity Integra Dicer | 15. Parmesan Cheese
Wide Oval Shred
Model CC-D |
| 5. White Cheddar Cheese
3/8 x 1-1/4 x 3/8" (9.5 x 31.8 x 9.5 mm) Crinkle Strips
Affinity Dicer | 10. Ricotta Cheese
Comitrol Processor
Model I700 | 16. Cheddar Cheese
.097" (2.5 mm)
Full Shred, Model CCX-D |
| | 11. Mozzarella Cheese
1/8 x 1/8 x 1-3/8"
(3.2 x 3.2 x 34.9 mm) Strips
Affinity Dicer | 17. Cheddar Cheese
3/8" (9.5 mm) Dice
Affinity Dicer |



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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, 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.

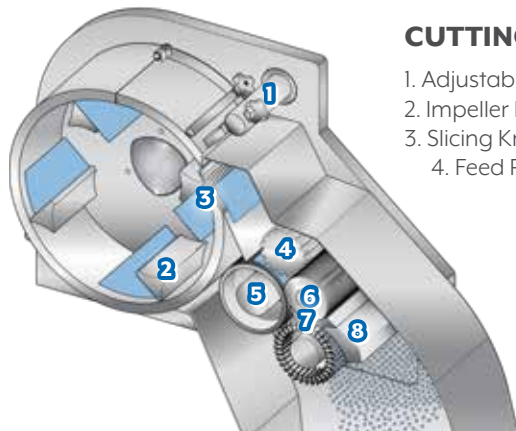
TYPES OF CUTS

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:..... 64.92" (1649 mm)
Width:..... 62.52" (1588 mm)
Height:..... 69.46" (1764 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:..... 71.46" (1815 mm)
Width:..... 62.52" (1588 mm)
Height:..... 69.45" (1764 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



COMITROL PROCESSOR MODEL 1700

CONTROLLED PARTICLE SIZE REDUCTION

The Comitol 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.

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)

The new Affinity Integra Dicer is the newest in the Affinity line of dicers and delivers small to mid-range sized cuts. 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 dices to another level.

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

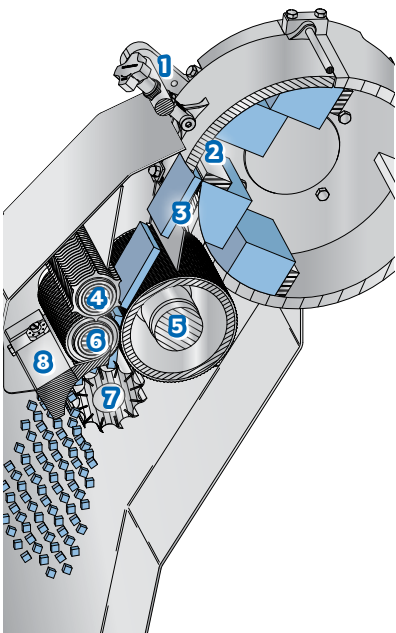
Flat Slices: 1/8 to 1/2" (3.2 to 12.7 mm)

Dices/Crumbles/Strips: 2- and 3-dimensional cutting involves adjusting the slice thickness and 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)

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)



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

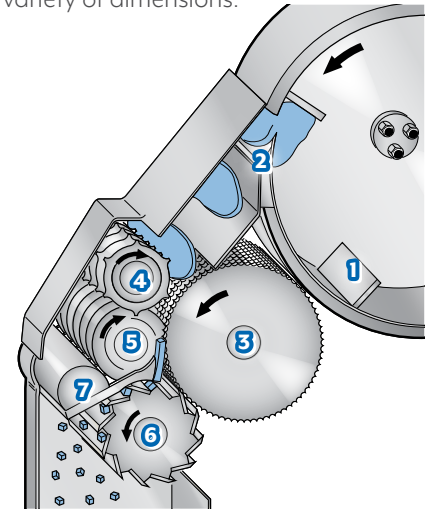
The Models RA-D and RA-A produce cheese crumbles, dices, or strips. Maximum input product is 3-1/2" (88.9 mm) in any dimension. They offer a similar cutting principle, but vary in motor size, heavy-duty options, interior cutting component alloys, and feed hopper styles.

TYPES OF CUTS

Dices: A slicing knife, circular knife spindle and crosscut knife spindle are used for dicing. Changing the size of the cubes is done by using the required cutting spindles and adjusting the slice thickness.

• Slice thickness: 1/16 to 3/8" (1.6 to 9.5 mm)
• Circular Knife Cuts: 1/8 to 1" (3.2 to 25 mm)
• Crosscut Knife Cuts: 1/8 to 1-1/2" (3.2 to 38.1 mm)

Strip Cuts: Removal of crosscut knife spindle and shaft will enable the user to cut strips through a wide variety of dimensions.



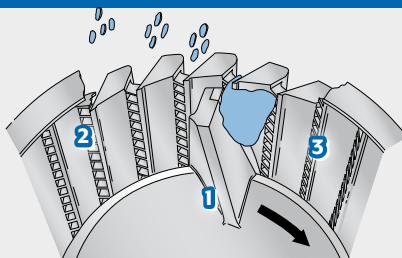
CUTTING OVERVIEW

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



CUTTING OVERVIEW

- 1. Impeller
- 2. Horizontal Separators
- 3. Vertical Knives



TYPES OF CUTS

There are more than 250 different combinations of cutting parts and impellers for the Comitol 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.

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. Interchangeable quick locking double ring, single adjustment cutting heads enable processors to change the type of shred in just minutes. Specially designed disposable knives do not require sharpening, and are inexpensive to replace. The thickness of the shred can be adjusted to meet your product application requirements. Machines feature continuous operation for uninterrupted production, and is engineered for easy cleanup and maintenance. Maximum input product is approximately 3-1/2" (89 mm) in any dimension.

MODEL CCX-D

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

The Model CCX-D boosts your productivity with a 10 horsepower motor and your choice of either a 24 or 32-inch (610 or 813 mm) cutting chamber.

For optimal product flow, the larger option is recommended. This large chamber alleviates product build-up and enhances product flow as it exits the cutting head.

Swing-away, attached infeed hopper aids in sanitation and maintenance. Fully-enclosed motor and drive parts are separate from cutting zone, and easily accessible via rigidly-attached, hinged panels. Starter enclosure is integrated into the box for a sleek design.

All surfaces are sloped and product contact surfaces are highly-polished to an Ra-32 finish to deter microbial growth. Optional round-tube frame available built to various customer specifications.



SPECIFICATIONS

**MODEL CCX-D
with 32" Cutting Chamber**
Length:..... 65.33" (1659 mm)
Width:..... 32.95" (837 mm)
Height:..... 33.91" (861 mm)
Net Weight:..... 1,000 lb (454 kg)
Motor:..... 10 HP (7.5 kW)

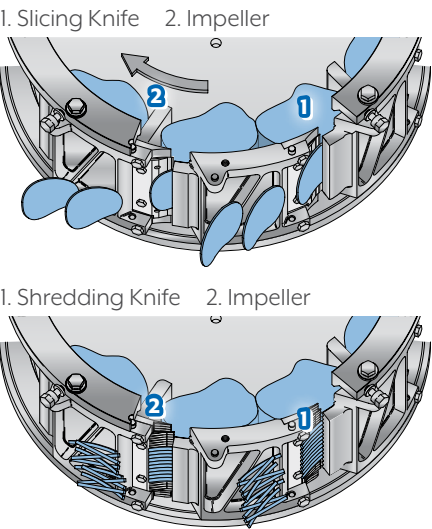
U.S.D.A., Dairy Division Accepted
(visit www.urschel.com for dimensions
of the CCX-D with 24" Cutting Chamber)

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. These models vary in a number of ways, most notably in terms of infeed hopper options, ways to access cutting components, dimension of cutting chamber, motor options, and alloys used. A larger cutting chamber allows for greater alleviation of space surrounding the cutting head, and promotes positive discharge of product, while deterring product build-up.

MODELS CC, CC-D, CC-DL

VERSATILE SLICERS, SHREDDERS,
STRIP CUTTERS & GRANULATOR

CUTTING OVERVIEW



TYPES OF CUTS: MODEL CC SERIES

FULL SHREDS & REDUCED V SHREDS
Full Shred: Diamond-shaped cross section available in four thicknesses: .070, .097, .125, *285" (1.8, 2.5, 3.2, or *7.2 mm).
Reduced V Shred: "V"-shaped cross section

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

CRESCENT SHREDS
Crescent-shaped cross section.

FLAT SLICES
Slice thickness up to .500" (12.7 mm)

Not all components listed in the following cut types may be available in highly polished U.S.D.A., Dairy Division accepted stainless steel finish:

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

WIDE CRESCENT SHREDS
Wide crescent-shaped cross section

FULL & REDUCED FLAT-V SHREDS
Full Flat-V Shred: Hexagonal-shaped cross section approximately .150" (3.8 mm) on all sides.
Reduced Flat-V Shred: Flattened top and bottom that form a corrugated shred.

***FLAT-V SLICES**
Slice thickness up to .180" (4.6 mm) with 2.1 corrugations per inch. Corrugation depth of .125" (3.2 mm); Centers: .473" (12 mm).

V SLICES
Slice thickness up to .500" (2.5 mm)
.125" Slice: 8 complete "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).

***Z-CUT SLICES**
Slice thickness up to .325" (8.3 mm) with 2.1 corrugations per inch. Corrugation depth of .135" (3.4 mm); Centers: .394" (10 mm).

CRINKLE SLICES
Slice thickness 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).

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)

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



SPECIFICATIONS

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)

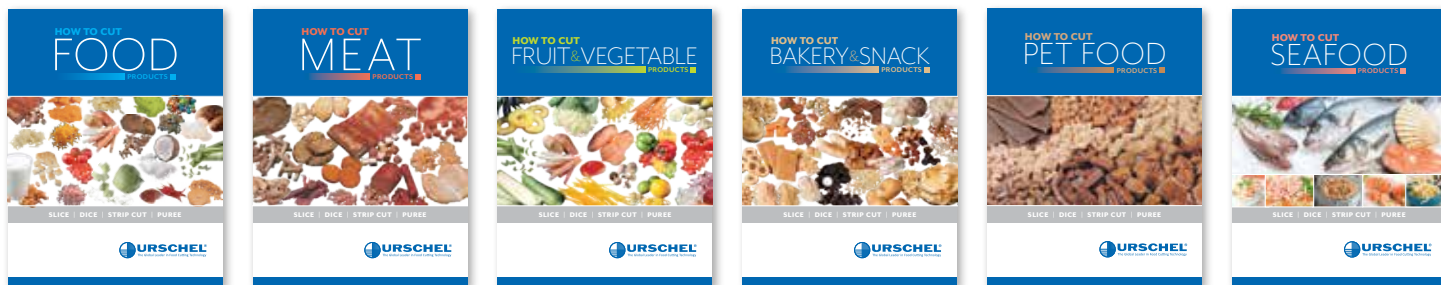


MODEL CC-DL

32" (813 mm) Cutting Chamber
Length:..... 62.40" (1585 mm)
Width:..... 35.59" (904 mm)
Height:..... 33.93" (862 mm)
Net Weight: 700 lb (318 kg)
Motor:..... 10 HP (7.5 kW)

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

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.