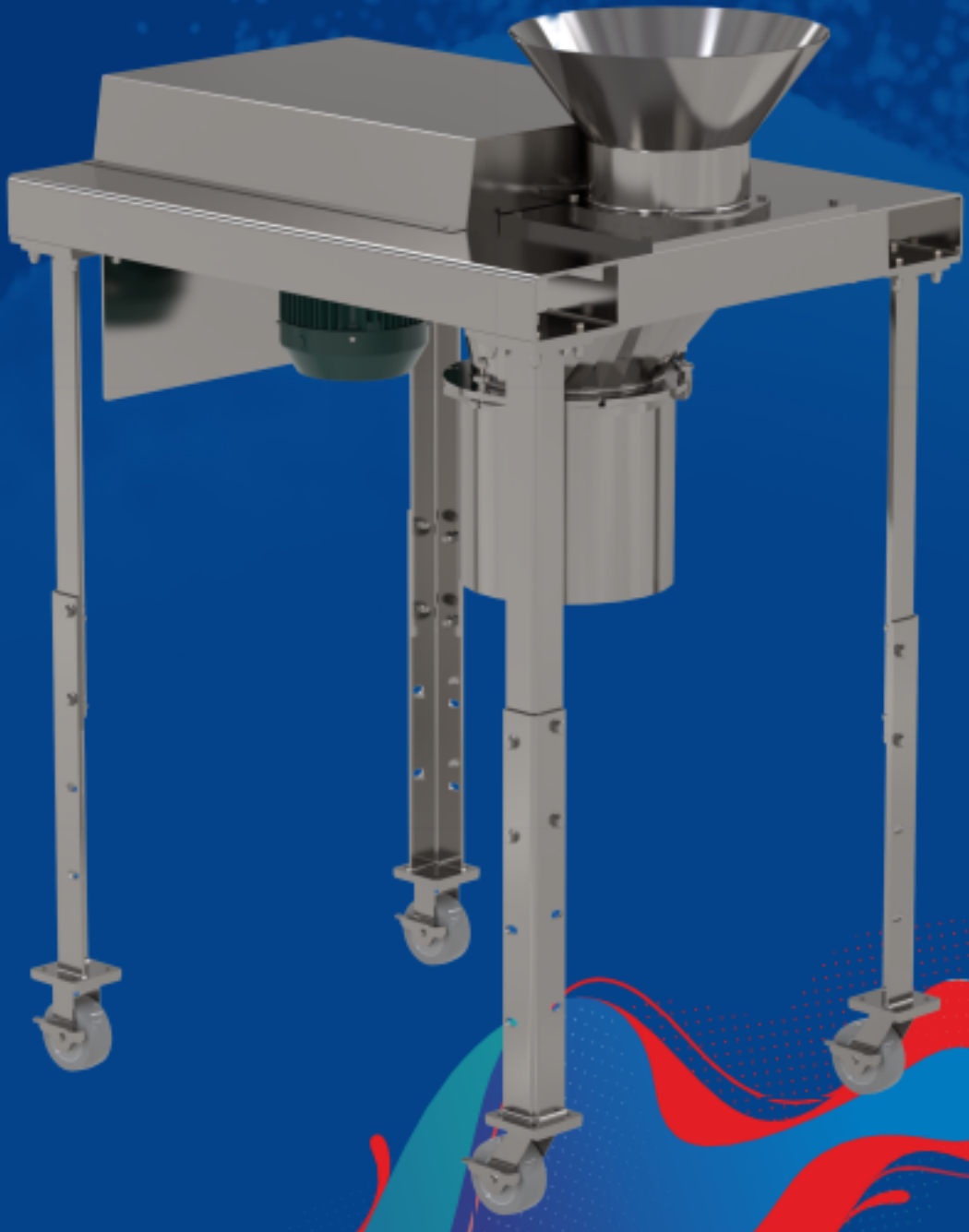
QUADRO

Quadro® COMIL®

MILLING EQUIPMENT FOR SIZE REDUCTION AND DE-AGGLOMERATION



PRECISION

TRUST

SERVICE

IDEX
Material Processing Technologies

QUADRO COMIL®

The infeed product falls into the conical screen chamber. A rotating impeller imparts a vortex flow pattern to the incoming material. The material is then forced to the screen surface by centrifugal acceleration ensuring continuous delivery into the action zone (between the screen and impeller). In the action zone the material is sized and instantaneously discharged through the screen openings. The finished product is discharged at the bottom of the milling chamber. Particle size can be optimized by screen, impeller and speed selection.



SPECIFICATIONS

Underdriven / Overdriven Series						
Models	**U5**	**U10/197**	**U20/194**	**U30/196**	**198**	**L4V**
Rated Capacities (kg/h)*	195	390	1950	3600	7200	1000
Minimum Inlet to outlet height (mm)	179	267	368	495	ON REQUEST	415
Power (HP)	0.5	2	5	10	20	5
Inlet Diameter (mm)	83	122/76	203/152	305/203	560/280	203
Outlet Diameter (mm)	152	203/152	305/254	500/356	660	305

*Capacities are product and process dependent. Testing required to determine capacities & scale-up.

FEATURES OF QUADRO COMIL®

Maximum process efficiency & performance
- Superior product quality and throughput, driven by high engineering standards that ensure optimal uptime and yield.

Scalable Equipment
- Available in various models, offering variable capacities.
- Specialized performance options are also available.

Low Heat, Low Noise, Low Dust
- Gentle, low-speed design to achieve optimal particle size with minimal heat, noise, and fines.

Easy-to-clean/maintain
- Minimal no. of parts - single bolt locking mechanism secures screen assembly onto gearbox for fast changeover & maintenance.
- Quick screen changes can be done without the need for any special tools required.

Compact, in-line design
- Low profile design fits below most bulk bag unloader and mixer discharges.
- Suitable for vacuum feed or gravity feed.

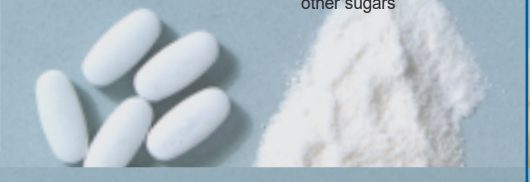
APPLICATION SHOWCASE

The Quadro Comil® is a versatile conical milling system used for particle size reduction, deagglomeration, mixing, and dispersion in industries like pharmaceuticals, food, and chemicals. It is commonly applied in granule sizing, powder delumping, and material reclaiming, helping prepare materials for downstream processes. Its main output is uniform, controlled particle size distribution (typically ~125–1000 µm), which improves product consistency, flowability, and overall process efficiency. Overall, the machine delivers repeatable, scalable outputs from lab to production scale, producing fine, homogeneous powders or granules suitable for applications such as tablets, food powders, nutraceuticals, and chemical formulations.

PHARMACEUTICAL

Size reduction of compacted slugs *(shown)*
Size reduction of "ribbons" from the roller compactor
Sizing dry granulation to ideal particle size for tabletting

Sizing of injectable drug powder in sterile production
Gentle size reduction of enzymes
Sizing lactose & other sugars



Uniformly size wet granulation for efficient drying *(shown)*
Size reduce frozen blood plasma



Homogeneously disperse pigments in tablets *(shown)*



Delump raw materials exiting bulk bins *(shown)*



Tablet reclaim *(shown)*
Contents from capsules
Injectable drug from glass syringes and bottles



FOOD

Producing crumbs from dry cereal or bread for food coatings *(shown)*
Sizing chili peppers into flakes
Fine tune bulk density of creamer non-dairy

Powderize shortening flakes
Gentle size reduction of freeze dried bacteria culture-size reduce herbs for extraction



Size reduce berries for yogurt filling *(shown)*
Produce lump-free tofu cream
Mill soaked soya beans to produce soy milk product



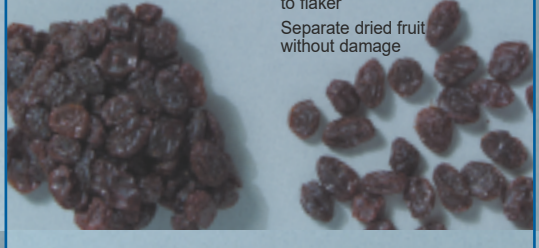
Homogeneously disperse fat glob-ules in bakery mixes *(shown)*
Gentle blending of spice mixes

Disperse nutrients in cereal
Uniformly disperse spice, flavors or pigments in pudding mixes



Separate raisin clumps into undamaged individual pieces *(shown)*

Deagglomerate cheese powder from spray dryer
Size chocolate milk crumb prior to flaker
Separate dried fruit without damage



Powderize cookies (including cream filled) *(shown)*
Granola bars into undamaged pieces
Potato chips, nachos, taco shells into pieces, crumbs, powder

Powderize wafers for recycling into batter or cream
Granola/chocolate/ candy bars Marshmallows into a solution



GENERAL • COSMETIC • CHEMICAL

Size reduce mineral salts *(shown)*
Uranium dioxide milling

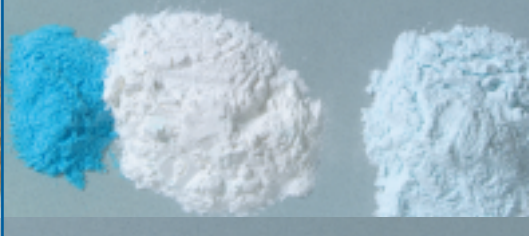
Dried citric acid milling
Size reduce yew needles



Deagglomerate centrifuge cake *(shown)*
Wet core dishwasher detergent



Homogeneously disperse binder pearl and pigments in blush and eye shadow powders *(shown)*



Deagglomerate pigments *(shown)*
Delump detergent agglomerates

Delump metal powders (e.g., silver)
Delump Teflon® powder



Powderize laundry detergent *(shown)*
Produce slurry from scrap detergent lumps
Dry dog food reclaim



QUADRO COMIL® TYPICAL CAPACITIES (FOR SCREENING & DELUMPING)

Product	Screen Hole Diameter inches (mm)	Capacity (kg/hr)	Capacity (lbs/hr)
Salt	0.062" (1.6)	8500	18,700
	0.094" (2.4)	45,000	99,000
	0.125" (3.2)	50,000	110,000
Sugar	0.045" (1.1)	500	1100
	0.062" (1.6)	1000	2200
	0.094" (2.4)	10,000	22,000
	0.125" (3.2)	15,000	33,000
Flour	0.045" (1.1)	4200	9200
	0.062" (1.6)	5200	11,400
	0.094" (2.4)	15,800	34,700
	0.125" (3.2)	17,500	38,500

Product	Screen Hole Diameter inches (mm)	Capacity (kg/hr)	Capacity (lbs/hr)
Lactose	0.018" (0.5)	1000	2200
	0.045" (1.1)	17,500	38,500
	0.062" (1.6)	18,000	39,600
	0.094" (2.4)	20,000	44,000
	0.125" (3.2)	23,400	51,400
Starch	0.062" (1.6)	22,500	49,500
Coffee Flavor	0.062" (1.6)	7500	16,500
Cocoa Powder	0.062" (1.6)	6300	13,800
Food Flavoring	0.039" (1.0)	5000	11,000
Sodium Borate	0.018" (0.5)	3900	8500
	0.079" (2.0)	16,800	36,900

Feed Material



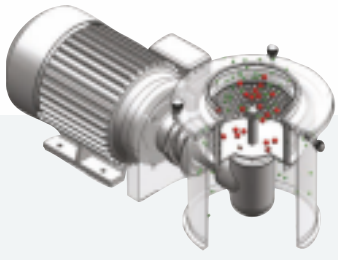


Post Discharge





COMIL® PRINCIPLE OF OPERATION



A Compared to vibratory sifters, Quadro® Comil® does not employ vibration to sift the material entering action zone.

B The infeed product falls into the sifting chamber.

C Finished product is discharged 360° around the screen to enhance product flow.

D Centrifugal acceleration ensures a continuous flow of material through screen openings while simultaneously retaining impurities.

E Impurities and other foreign materials collected in the chamber can be easily removed or suctioned off

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