

Quadro® Comil®

MILLING AND DEAGGLOMERATING SUGAR

BACKGROUND/REQUIREMENT

Quadro has completed many tests on sugar over the last few decades. Customers who are successfully processing sugar with the Quadro® Comil® include Food and Pharmaceutical companies worldwide. The requirement for each customer varied, depending on the industry and end-product. The Comil® can be used for both deagglomerating (delumping) and milling sugar.

COMIL® PERFORMANCE

The Quadro® Comil®'s gentle milling action can process the sugar without melting it. It has been Quadro's experience that sugar generally needs to be control fed into the Comil®, to allow sufficient cooling with the increased airflow. When control feeding into the Comil®, a deflector ring or baffles are recommended to reduce the circulation within the machine housing. This reduces the residence time, temperature rise and fines but increases the capacity. Sugar can also be abrasive. Quadro has tested with various steels and coatings to increase the abrasion resistance of our tooling when used with sugar. It was found that hard chrome coating of the impeller and screen provided the best wear results. Wear times are dependent on sugar grade, particle size, impeller speed, and size reduction ratio.

EQUIPMENT RECOMMENDATIONS

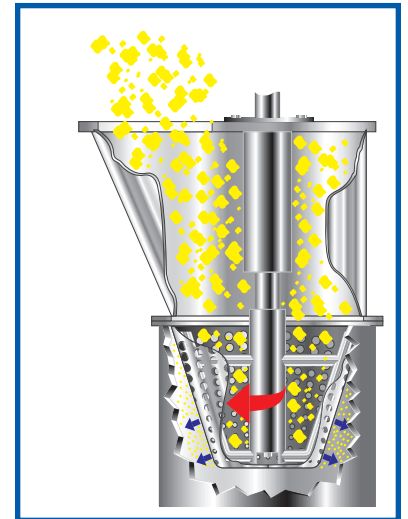
For Milling

MODEL	SCREEN	IMPELLER	RPM	HP	BAFFLES	DELTA T °C	FEED CONDITIONS	CAPACITY lb/hr	CAPACITY kg/hr
197/U10	024R	1607	4800	2	Yes	2.5	Control	44	20
196/U30	024R	1607	1800	10	Yes	2.19	Control	440	200

Note: Infeed particle size ranged between 30 - 100 mesh (60 - 150 micron)

For Deagglomerating

MODEL	SCREEN	IMPELLER	RPM	HP	BAFFLES	DELTA T °C	FEED CONDITIONS	CAPACITY lb/hr	CAPACITY kg/hr
197	055R	1601	4800	2	Yes	0.5	Choke (Flood)	1760	800
194	055R	1601	2800	5	Yes	0.3	Choke (Flood)	8800	4000
196	055R	1601	1800	10	Yes	0.3	Choke (Flood)	17,600	8000
U10	055R	1601	4800	2	Yes	0.5	Choke (Flood)	1760	800
U20	055R	1601	2800	5	NA	0.3	Choke (Flood)	10,560	4800
U30	055R	1601	1800	10	NA	0.3	Choke (Flood)	21,000	9500



SUMMARY

Sugar can be size reduced without significant heat build-up or screen blockage. The product needs to be control fed into the mill and the tooling need to be hard chromed. Many installations around the world are using the Quadro® Comil® to size reduce sugar with the added benefits of low dust, low noise, low energy and low heat generation that the Quadro® Comil® provides.