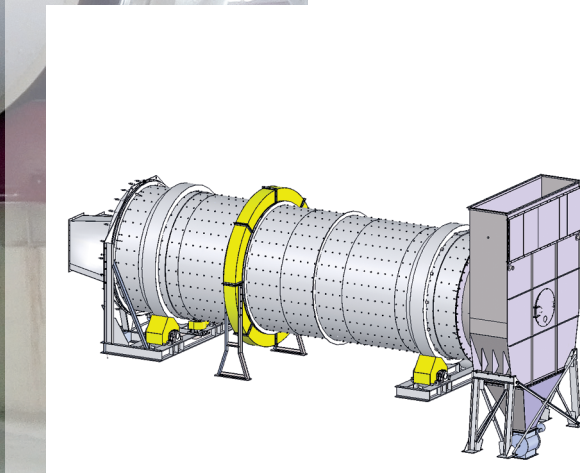




SUGAR DRYER-COOLER





Application

The horizontal lamella type drum sugar coolers is the most common solution in the sugar industry. It is one of the first design of continuous operation equipment applied for sugar final processing. Thanks to their versatility, simplicity of construction, high throughput and relatively high thermal efficiency, drum dryers are suitable for fast drying and cooling of sugar at low unit costs.

Design and principles of operation

This type of dryer has the cylindrical shape with a horizontal rotation axis. Sugar after centrifuges and before entering the drying station contains about 1% of moisture. It is fed to inlet cone of the dryer using a screw conveyor. The drum rotates on two running wheels and four supporting rollers driven by gearbox. Inside the drum there are radial partitions with lamellas installed. When the drum rotates, partitions works as channels that supply air into sugar layer, while the lamellas take the sugar from the bottom and lift it up enabling an easy access of drying medium to the sugar bed. The material particles flow in a cascade across the drying and cooling air. In order to force movement of material along the drum, the construction of lamellas forms the internal cone, to allow sugar gradually move towards the discharge chamber, from where with the use of screw conveyor it is transported outside the dryer. After leaving the dryer, sugar has a temperature of < 30°C and contains about 0.03% of water.

All surfaces which have direct contact with sugar are made of stainless steel. Motors controlled with inverters ensures proper start-up and smooth regulation of the basic parameters of the drum operation, as well as optimal use of the installed power.

Technical specification

TYPE		Horizontal drum with lamellas	
CAPACITY	t/d	500	700
DIAMETER OF THE DRUM	mm	2 690	3 128
LENGTH OF THE DRUM	mm	10 060	9 760
ROTATION SPEED	rev/min	4,0	3,6
POWER INSTALLED	kW	30	35
DIMENSIONS	mm	13200 x 3600 x 5630	13870 x 3960 x 6220
MOISTURE CONTENT (INLET)	%	1,0	
SUGAR TEMPERATURE (INLET)	°C	55	
MOISTURE CONTENT (OUTLET)	%	0,03	
SUGAR TEMPERATURE (OUTLET)	°C	< 30	
DRYING AIR TEMPERATURE	°C	90	
COOLING AIR TEMPERATURE	°C	15	