



Steel Belt Systems

## Chemical & Rubber Cooling conveyors

### Double belt cooling conveyors

The double belt cooling conveyors have been developed in order to solve the problems of thermal exchange, arising from products with low thermal conductivity or high thickness, but they are also utilized when there is need of big productions, for which too long single belt cooling conveyors should be used.

The double belt cooling conveyor is essentially made up of two cooling conveyors assembled one on top of the other, with the difference that the active strand of the top conveyor is the inferior one.



This machine is mostly used in three cases:

- Whenever the product tends to rise during the cooling process, thus losing the contact with the cold source;
- Whenever the product is a bad heat conductor and it must be fed with high thickness for technological reasons;
- Whenever the available length is not enough to install a simple cooling conveyor;

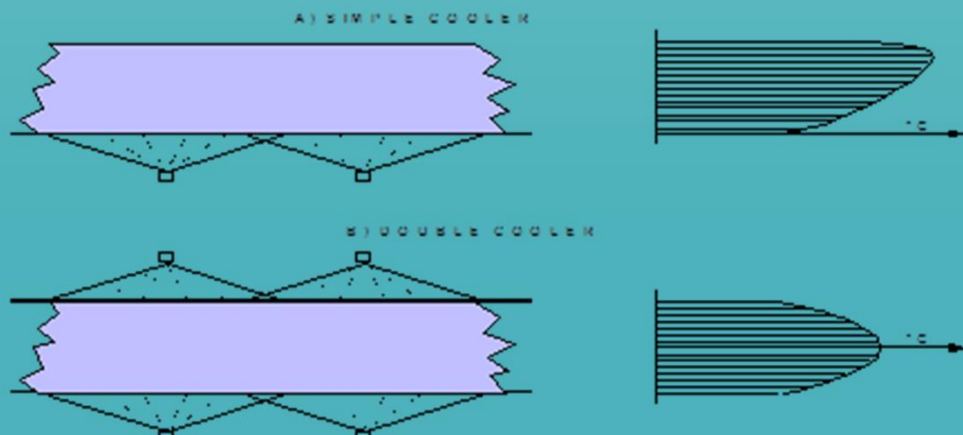
The coolant is sprayed against the inner surface of the belt's fronts, which are in contact one another.

The product is fed onto the bottom belt and, after some minutes, it meets the second cooling conveyor; hereafter it is imprisoned in between the two belts.

In such way, thermal exchange doubles its effectiveness and process time decreases considerably.

Temperature' distribution inside the product's layer is different from that of a simple cooling conveyor, as resulting from the following diagrams.

#### TEMPERATURES DISTRIBUTION PROFILE





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In the double belt cooling conveyor there is a practically symmetrical distribution of temperatures in respect to the two belts.

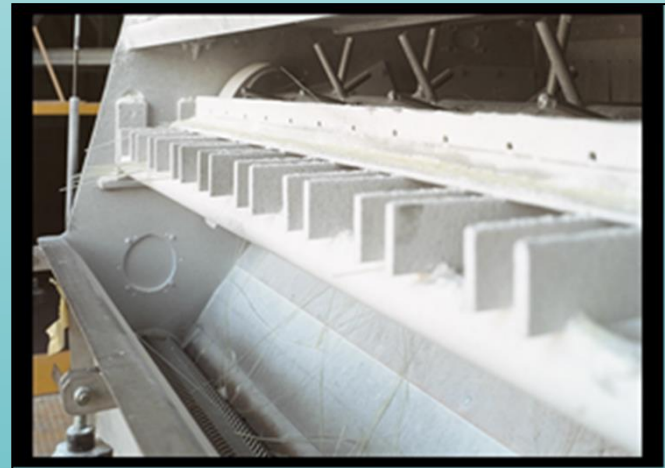
**Some applications foreseeing the use of double belt cooling conveyors are:**

Rubber, various Polymers, ABS, Polyester Resins, Polycaprolactam.

**Feeder**



**Breaker**



### Examples of installation

