

# Cryogenic mixer

## ST 500 and 700 Litres



### Use of the cryogenic range

Our range of cryogenic mixers is dedicated to frozen products manufacturers (vegetables and fruit). The principle of the STOLZ double rotor with paddles provides the mixing of several products in a very short time, from 45 to 60 seconds without adding sauce (when the product is not coated). A possible alteration of the product is very small because 70% of the mass in the mixer is in suspension.

Coating : the particles to be coated flow several times and from every angle under the sauce spray providing a regular coating all over the product. For a coating with spices the same principle applies, a curtain of spices is used inside the mixer with a feeding ensured by an electromagnetic vibrating device. Nitrogen injection solidifies the liquid coating and maintains the product at the required temperature.



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## Features and options

### Advantages

- Fast mixing
- Very good homogenization
- High quality coating
- Reduced energy consumption
- Low maintenance costs
- Hygienic design

### Coating

The product coating percentage can range from 1% up to 25% of the mass inside the mixer.

For 1% to 5% coating a single injection followed by a nitrogen injection is sufficient to solidify the sauce around the particles on a permanent basis. Beyond 5% the coating must be done by alternating sauce and nitrogen injections.

Control of sauce injection :

- 1st case : injection is controlled by a high precision balance.
- 2nd case : sauce is weighed, injected, and the weightloss is monitored until the setpoint is reached.

In both cases, injection pressure is between 4 from 5 bars.  
STOLZ can supply the pumping unit.

### Spices

Spices percentage may vary from 0.5% to 2% of the mass inside the mixer.

The electromagnetic vibrating device conveying spices is weighed. Spices are injected and weight loss is monitored until the setpoint is reached.

### Nitrogen

A PT 100 probe is provided to regulate the temperature inside the mixer. Such probe controls the opening or closing of a floating valve.

A gas extractor is included in our supply. It has to be set up outside the building in vertical alignment of the mixer.

In order to ensure a safe control and use of nitrogen, our design is validated by an internationally-known nitrogen producer.

Type	Nominal capacity	Maximum capacity
ST 500	500 Litres	700 Litres
ST 700	700 Litres	980 Litres

Recipes (with nitrogen injection before discharge)	ST 500	ST 700
Simple mix without sauce and spices coating	from 45 to 60 seconds	
Mix with 0.5% to 2% spices coating, without sauce	from 105 to 120 s	from 120 to 135 s

Recipes (with sauce coating, without spices, with nitrogen injection)	ST 500	ST 700
Sauce coating from 1 to 5%	from 105 to 165 seconds	
Sauce coating from 5 to 10%	from 225 to 285 seconds	
Sauce coating from 10 to 15%	from 345 to 405 seconds	
Sauce coating from 15 to 20%	from 465 to 525 seconds	
Sauce coating from 20 to 25%	from 615 to 675 seconds	

Recipes (with sauce and spices coating, with nitrogen injection)	ST 500	ST 700
Sauce coating from 1 to 5%	from 165 to 225 seconds	
Sauce coating from 5 to 10%	from 285 to 345 seconds	
Sauce coating from 10 to 15%	from 405 to 465 seconds	
Sauce coating from 15 to 20%	from 525 to 585 seconds	
Sauce coating from 20 to 25%	from 675 to 735 seconds	