

Standard sizes	A	B	C	D	E	F	G
	Belt width	Chamber length	Chamber height	Foundation	Height total	Width total	Length total
<b>Drier type</b>	mm	mm	mm	mm	mm	mm	mm
<b>KBT 10</b>	1000	1930	1950	200	2900	1420	2700 +(1930 x n)
<b>KBT 15</b>	1500	1930	1950	200	2900	1920	n= number of
<b>KBT 20</b>	2000	1930	1950	200	2900	2420	chambers

**Services:**

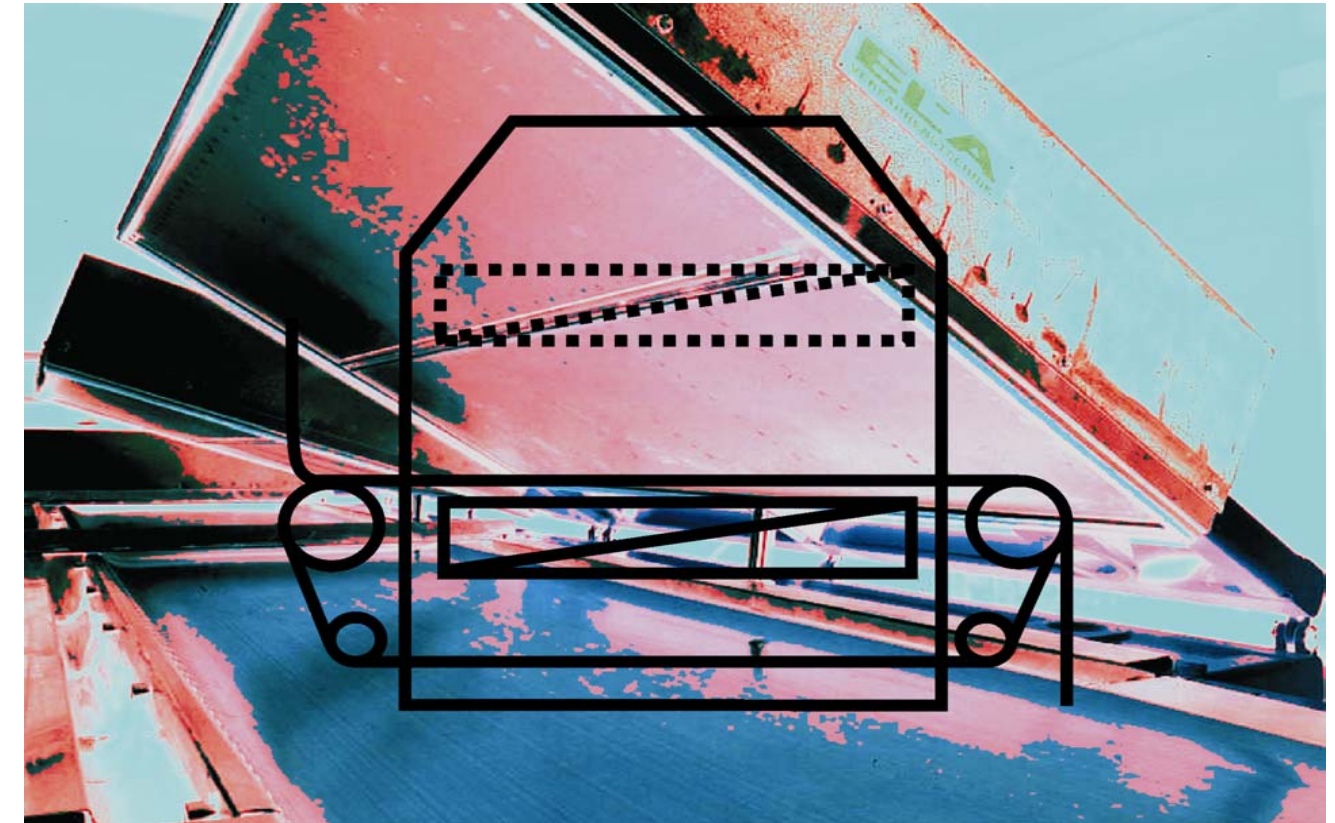
- Engineering, assembly and commissioning of drying plants including accessory equipment
- Engineering, assembly and commissioning of drying components and accessory equipment
- Optimisation, repair, and increasing of requirements of existing drying plants
- Assembly and dismantling of components and complete plants
- Spare part supply
- Periodical maintenance
- Laboratory tests and simulations

**Products:**

- Feeding and decoupling devices
- Spredder and granulators
- Convective belt driers
- Contact belt driers
- Microwave plants
- Transportation devices
- Controlling systems

EL-A Verfahrenstechnik GmbH  
 Diebsweg 7  
 D-69123 Heidelberg (Germany)

Phone: +49/6221 / 75708-0  
 Fax: +49/6221 / 75708-11  
 E-Mail: info@ela-vt.de  
 www.ela-vt.de



Competent Technology for:

Chemical, Pharmaceutical,  
 Food and  
 Animal Food Industry

Ceramical, environmental  
 and recycling technology

**CONTACT BELT DRIER**

## Process

In contact belt dryers the product layer, formed as non aeratable bulk, is transported on a glasfibre reinforced PTFE-belt through the drying area . The supply of energy is done through the contact with smooth heat exchanger plates arranged directly beneath the belt. The discharge of the evaporated moisture is garanted by a gas stream overflowing the product. A temperature profile is adjustable by means of the division of the area into chambers .

## Range of application

Contact belt dryers are suitable for liquid, smooth pasteous, crumbly, crystalline or lumpy products. Contact belt dryers are applied in all cases where the product cannot be transferred into an aeratable bulk .

Products to be handled :

- Ceramics
- Colour pigments
- Special waste sludge
- Metal paste
- Binding material
- Destillation residue

## Installation/Design

The belt dryers of the standard design range have a modular composition and consist in general of :

- Product feed module
- Drying or cooling modules
- Product discharge module.

### Product feed module

The module consists mainly of a solid frame structure. Also the construction incorporates the bearing casings of the guide roller of the transportation belt and a control device for correct belt running.

### Drying module

In drying chamber module the heating plates are hanged up in the middle. Expansion joints allow a undisturbed heat expansion of the heating plates. A there installed belt suction ensures a flat belt contact. All necessary connections for supply and discharge of heating agent are installed below the heating plates, so all connections are outside the heated area. Above the product layer all vapours were be removed directly. Also additional heating elements for special drying purposes are installed here.

### Product discharge module

The module consists of solid bottom and side plates and one ready insulated top element. The construction incorporates the bearing housing of the driving shaft, belt drive and necessary belt tension device. The front side is provided with doors for maintenance and cleaning purposes.

## Conveyor belt

In difference to perforated conveyor belts of convective driers the contact belt dryer has an unaeratable, very smooth endless PTFE belt. This belt has two remarkable features, extreme temperature stability and high tearing strength. Adhesions onto the belt are very rare, also with difficult products as for example colour sludge.

A change of the belt is easy and without problems because of the maintenance friendly design of the drier. The welding of the belt is made directly on construction site.

## Special dryers

Many products require an adjustment of the dryer to exceptional qualities or special production processes.

EL-A has experience many years with the development of special dryers including additional equipments, as for example air conditioning units and exhaust air cleaning plants.

Strong corrosive or abrasive products make great demands on the drier.

Products with evaporating components which cause an explosive atmosphere will be protected by an inert atmosphere.

## Fittings

Beneath the driers also feeding equipment, additional heating elements, automatically working cleaning units and inerting devices are available.

For feeding the product different distribution units according the product consistence, like distribution or vibration grills are available.

Additional heating devices, such as for e.g. infrared emitters, can accelerate drying processes. Also the residual moisture content could be reduced without over proportional using of drying area.

For the ventilation of the drier fresh air supply and exhaust air discharge devices could be in accordance which the requirements of the product these devices could be equipped with de- and humidifiers, washers columns or heaters or coolers.

## Tests

With simulators and pilot plants for many products basic and design tests can be made.

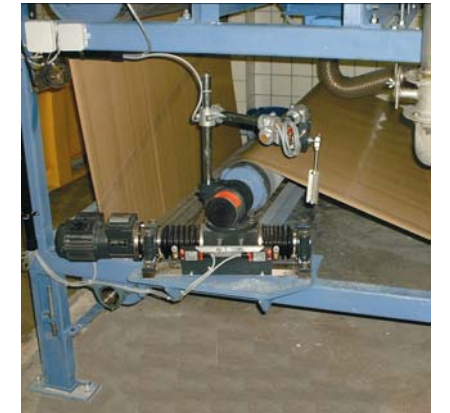
In case of changing requirements for the drying equipment tests with the product will be done in our lab, that new running parameters can be predicted.



Contact belt drier above: thermal oil heated; below: electrical heated



View inside drying chamber with additional infrared radiation heater



Control device for automatic control of belt running.



Special contact belt drier for extreme good cleaning.



Discharge module with drive roller (above) and turning roller (below)