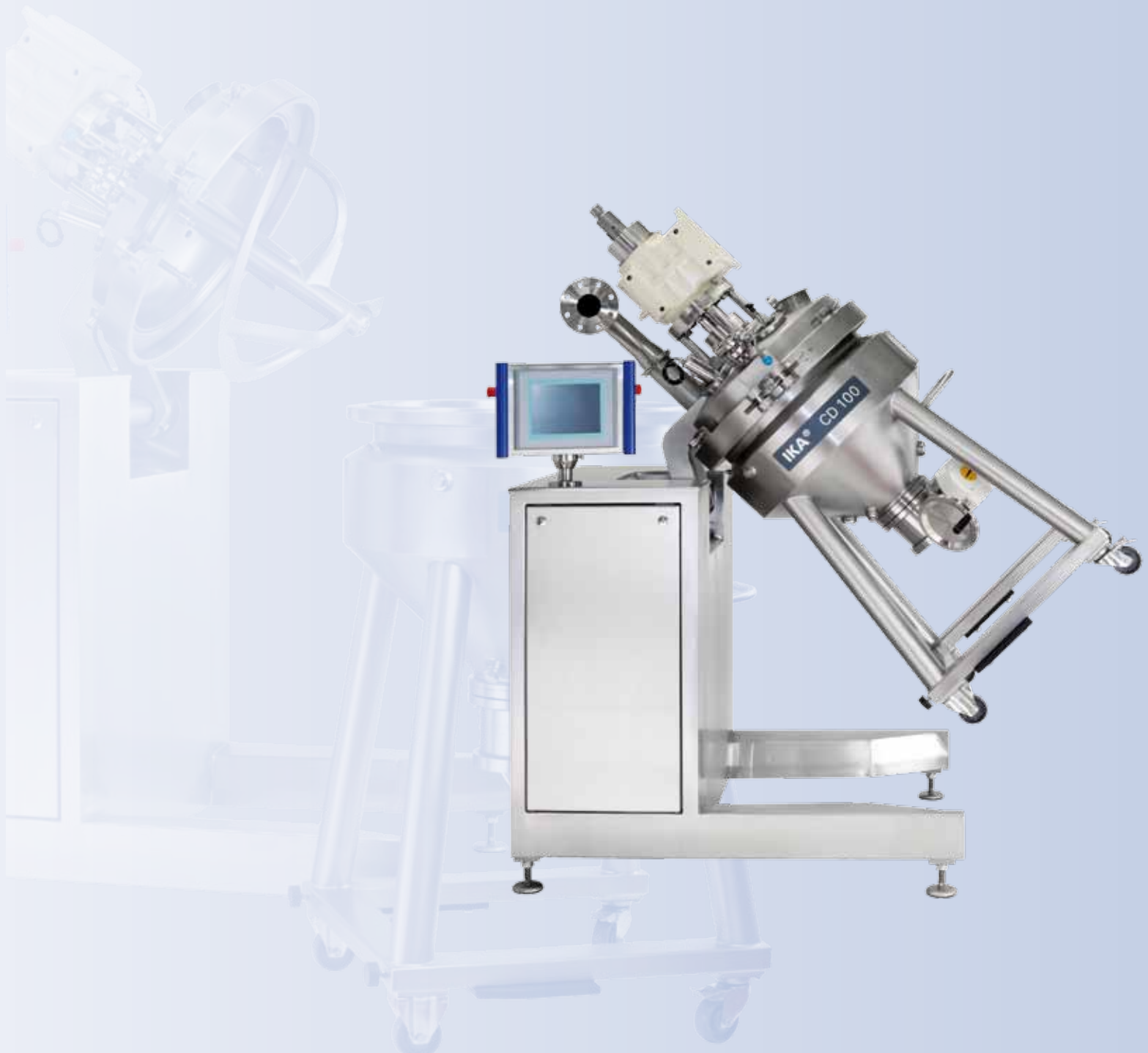


IKA® Conical Mixer  
IKA® Conical Dryer

**IKA®**



**German** technology  
made in the USA

The new plants for  
processing of your bulk solids

# Excellent technology for mixing of bulk materials

## The advantages of the IKA® Conical Mixer type CM

- Gentle mixing of sensitive products by a special spiral agitator
- Better mixing result by slewing of the complete mixing vessel
- The integrated flow breaker prevents rotation of the product medium with the agitator promoting excellent product turnover
- Variable stirrer speed can be adapted to the product application
- A simple tilting mechanism for opening of the vessel cover enables easy access to the vessel / stirrer
- Low construction height
- On demand the plant can be equipped with several moveable spare vessels and further optional components
- Complete emptying of the vessel via spherical segment valve
- Complete system easily cleaned – with supply of integrated spray nozzles for coverage of the complete process wetted surface
- GMP-execution on demand



### Flow breaker

- Avoids rotation of the entire product mass with the agitator
- Flow breaker can be mounted in a position turned by 180°



### Spherical segment valve

- Metallic sealing against abrasive materials
- Accurate sealing function by excellent technology
- Reliable sealing
- Full wetted section
- Free of dead spots
- CIP-cleaning

## Efficient but gentle mixing

The IKA® Conical Mixer type CM is suited for mixing of all free flowing solids, including products with different bulk densities and particle sizes.

Mixing is done by means of a special spiral agitator, intensively mixing the product in radial and tangential directions. The agitator has an aerodynamically efficient shape for low friction and improved vertical lifting power. The agitator is mounted in an overhung position in the cover and thus does not require any shaft seals in contact with the product.

Additional turbulence and mixing in the product space is produced by the top mounted flow breaker. The speed of the spiral agitator is infinitely adjustable and can thus be flexibly adapted to the product behavior.

The conical shape of the vessel enables a complete emptying of the product and an easy cleaning of the vessel. Optionally the vessel cover with the complete agitator can be electrically tilted, thus enabling an optimum inspection of the product area.

# Innovative drying technology



## Inclined position for optimum drying result

The IKA® Conical Dryer type CD is suited for vacuum contact drying of various humid or wet solid cakes of different free flowing behavior as well as different bulk densities at uniform humidity and temperature distribution in the whole product area.

The bulk material is effectively dried at temperatures up to 200°C and under vacuum. The resulting solvent vapors are extracted by a reversible flow dust filter. An optional lump breaker with cutting blades avoids the forming of agglomerates.

An innovation of the CD-plant is the combined tilting and slewing mechanism. The tilting device offers the easy opening of the vessel cover up to an angle of 90°, while the slewing mechanism for the complete vessel including agitator has a positive effect on the drying process.

The tilting device offers important advantages in mixing and drying of the complete product, as inclining the vessel enables gravity to assist in the mixing/drying process. The slewing drive enables that the complete vessel with agitator can be held at any position between 0° and 45°.

## The advantages of the IKA® Conical Dryer CD

Additional to the aforementioned advantages of the IKA® Conical Mixer:

- Shorter drying times due to directly heatable agitator as well as double jacketed heatable vessel
- Vessel execution for operation under vacuum and pressure up to 6 bar
- Admissible operating temperatures from -10 to +200°C
- Flow breaker with integrated temperature sensor PT 100
- Overhung mounted lump breaker for disintegration of possible agglomerates

## Typical applications

- Vacuum drying of metal powders, pigments, salts as well as other powders and crystals or fine chemicals under permanent mixing
- Suspension separation and thermal drying
- Production of tea mixtures, coffee powder products, powdered soups and sauces as well as baby food
- Separation of active ingredients and solvents for the production of pharmaceuticals



**Lump breaker**

- Changeable tools
- Possibility of later top entry mounting into the cover
- Reliable disintegration of agglomerates



**Sample valve**

- No extra deaeration of the dryer needed
- Very representative sample
- Free of dead spots

# From basic to high-end design

## Flexible execution

Mixing and heating at the same time – the process performed in the Conical Dryer for humid solids. If the vessel is designed acc. to GMP, the cover of the standard version is equipped with a tilting device or the complete plant is given a frame with slewing mechanism for the complete vessel and integrated electric control, the plant can be used for many other fields of application. The improved and cost favourable design of the IKA® Conical Dryer enables the execution of the plant that is required for your application.



Basic design of CD

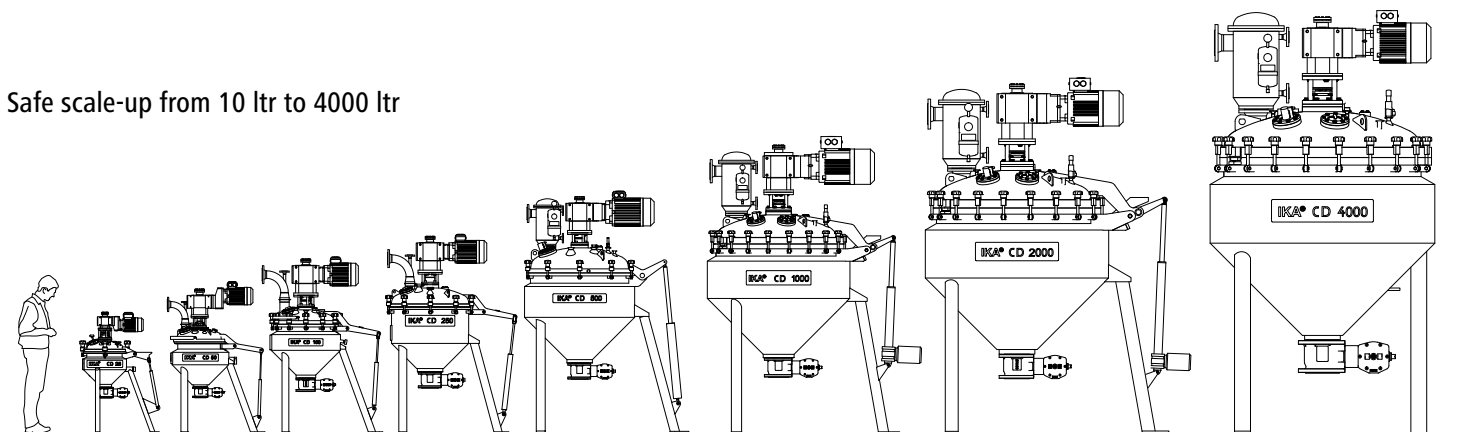


High-end design of CD

## Technical data

Type of plant	CM 10 CD 10	CM 25 CD 25	CM 50 CD 50	CM 100 CD 100	CM 250 CD 250	CM 500 CD 500	CM 1000 CD 1000	CM 2000 CD 2000	CM 4000 CD 4000
<b>General data</b>									
Min. useful volumen, ltr	3	7,5	15	30	75	150	300	600	1200
Max. useful volumen, ltr	10	25	50	100	250	500	1000	2000	4000
Inlet nozzle (diameter)	2"	3"	3"	4"	4"	6"	6"	8"	8"
Discharge valve	DN 65	DN 65	DN 100	DN 100	DN 150	DN 150	DN 150	DN 200	DN 200
<b>Agitator (CD)</b>									
Motor power, kW	0.37	0.75	1.5	3	5.5	11	18.5	30	37
Drive speed, rpm	30 – 112	22 – 83	18 – 68	14 – 54	11 – 41	8.4 – 32	6.8 – 26	5.6 – 21	4.8 – 18
<b>Dimensions (CD), mm</b>									
Height (closed)	1450	1650	2140	2215	3050	3500	4260	4534	5423
Height (open)	1450	1750	2280	2365	3300	3700	4580	4909	5900
<b>Optional accessories</b>									
Load cells, up to ... kg	–	–	100	200	500	1000	2000	4000	8000
Sample valve	–	+	+	+	+	+	+	+	+
Cover tilting device	–	+	+	+	+	+	+	+	–
Vessel slewing mechanism	–	+	+	+	+	+	+	–	–
<b>Lump breaker</b>									
Motor power, kW	–	–	0.75	2.2	3	7.5	11	22	30
Drive speed, rpm	–	–	1500	1500	1000	1000	750	600	500

## Safe scale-up from 10 ltr to 4000 ltr



designed  
to work perfectly

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