



IKA® Conical Mixer **IKA® Conical Dryer**



Designed
to work perfectly

The new plants for
processing of your bulk materials

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
- An integrated flow breaker avoids rotation of the medium with the agitator
- The stirrer speed can be adapted to the product characteristics
- 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 to be cleaned – integrated spray nozzles cover the complete inner surface
- GMP-execution on demand



Flow breaker

- Avoiding a rotation of the medium with the agitator
- Flow breaker can also be mounted in a position turned by 180°



Spherical segment valve

- Metallically sealing – against abrasive materials
- Accurate sealing function by excenter technology
- Reliable sealing
- Full wetted section
- Free of dead spots
- CIP-cleaning

Efficient but gentle mixing

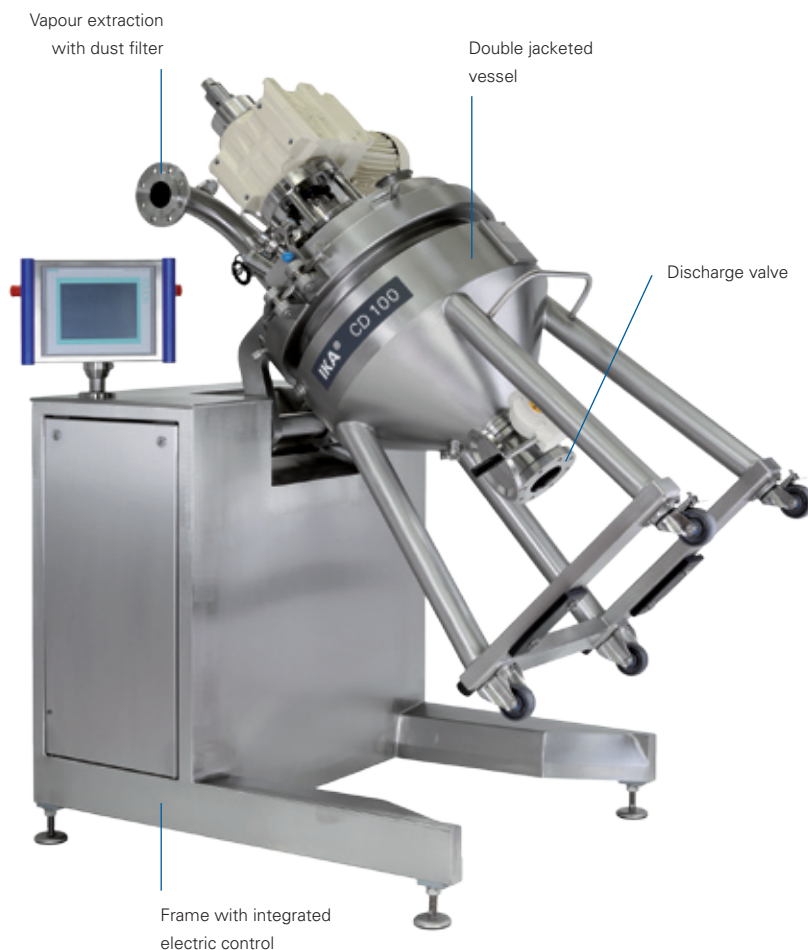
The IKA® Conical Mixer type CM is suited for mixing of all free flowing solids, including products with different bulk densities and particle sizes.

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 turbulences in the product area are caused by the top mounted flow breaker. The speed of the spiral agitator is infinitely adjustable and can thus be flexibly adapted to the product behaviour.

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



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 and 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

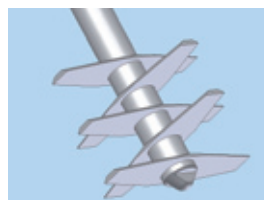
Inclined position for optimum drying result

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

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

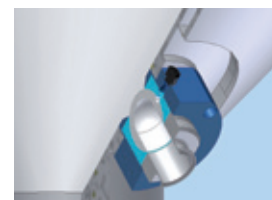
An essential innovation of the CD-plant is the combined tilting and slewing mechanism. The tilting device offers the easy opening of the vessel cover up to an angle of 90°, while the slewing mechanism for the complete vessel including agitator has a positive effect on the drying process.

The inclination offers important advantages in mixing of the complete product, as gravitation additionally effects on the products to be dried. The slewing drive enables that the complete vessel with agitator can be held at any position between 0° and 45°.



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



Basic design of CD

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.



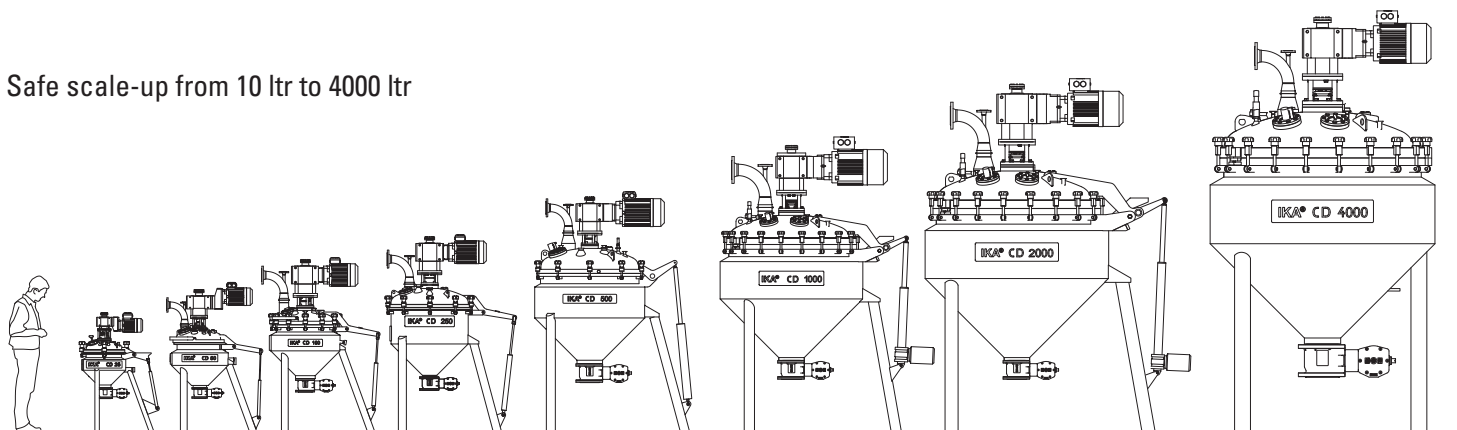
High-end design of CD



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
General data									
Min. useful volumen, ltr	3	25	150	30	75	150	300	600	1200
Max. useful volumen, ltr	10	25	50	100	250	500	1000	2000	4000
Feeding socket (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
Agitator (CD)									
Motor power, kW	0,37	0,75	1,5	3	5,5	11	18,5	30	37
Drive speed, min ⁻¹	30-112	22-83	18-68	14-54	11-41	8,4-32	6,8-26	5,6-21	4,8-18
Dimensions (CD), mm									
Height (closed)	1450	1650	2140	2215	3050	3500	4260	5200	6200
Height (open)	1450	1750	2280	2365	3300	3700	4580	5600	6600
Optional accessories									
Load cells, up to ... kg	-	-	100	200	500	1000	2000	4000	8000
Sample valve	-	+	+	+	+	+	+	+	+
Cover tilting device	-	+	+	+	+	+	+	+	-
Vessel slewing mechanism	-	+	+	+	+	+	+	-	-
Lump breaker									
Motor power, kW	-	-	0,75	2,2	3	7,5	11	22	30
Drive speed, min ⁻¹	-	-	1500	1500	1000	1000	750	600	500

Safe scale-up from 10 ltr to 4000 ltr



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