Universal Mixers V 10 to V 1600

Mixing, Agglomerating and Wet Granulating.

DIOSNA
LINXIS GROUP

DIOSNA V 250 in pharma design.

We design the machine especially for you!

The proven mixing action of the V 10 to V 1600 series machines ensures effective mixing in many applications. Optimal performance is assured by dedicated designs for feeding, discharging and installation.

DIOSNA Universal Mixers are used for a variety of mixing applications in different industries. Each mixer can be adapted to the individual application:

- Construction materials (various kinds of stainless steel)
- Surface finishes
- Drive capacity & mixing tool speed (via a frequency converter)
- Design of the shaft seals, outlet, lid, etc.
- Control (conventional / PLC / PC)
- Explosion protection according to European- or US standards
- Additional equipment

DIOSNA Universal Mixers are designed for effective mixing, moistening agglomeration and wet granulation of materials with differing consistencies.

The principle.

Because of its ideal design and location the chopper tool works effectively even when the mixer is only 30% filled.

- The impeller creates a vortex-like circulation of the product.
- The upper part of the bowl is conical, so that the material is diverted to the centre of the bowl thus creating a material circulation.
- The centres of the mixing tools are designed to be large to ensure that no mixing material can be in an area of low centrifugal forces.
- The mixing blades are large and located close to the container base to achieve optimum mixing and quick discharge.
- The chopper is positioned in the part of the mixing zone where the velocity is at the highest to give excellent liquid distribution, reduction of oversized particles and densification of wet granules.
- High centrifugal forces are transferred to the material.
- Thus during mixing, a circulation of material is set up which takes the material through the intensive mixing zone of the chopper to the top of the vortex and then back into the middle to repeat the cycle.
- The special profile of the bowls and mixing tools allows a filling volume of 30 to 90%.

High-capacity peristaltic pump.

Liquid addition

Liquids often need to be mixed into the dry components. For even distribution the liquids are sprayed onto the circulating material using hollow cone nozzles. A liquid pressure of 2-3 bar is required which can be provided by a peristaltic pump or a pressure vessel. When handling very small amounts of liquid or materials with high viscosity and/or highly absorbent dry materials, we recommend trials to be carried out in our laboratory. These trials will confirm whether a more sophisticated liquid handling system is required e.g. two phase spray system, high pressure spraying, solution heating, etc.

DIOSNA offers manually or automatically controlled addition and preparation systems for the liquids including mixing containers, pumps, flow meters and nozzles.

Explosion-protected mobile liquid preparation vessel with stirrer, and with integrated control.

Universal Mixers V 10 to V 1600.

We recommend DIOSNA Universal Mixers for the production of powders, agglomerates, wet granules and highly viscous mixtures (e.g. Madeira cake mix etc.).
The vertical bowl has a cylindrical design with a conical upper part to form a vortex-like circulation of the mixing material. All corners and transitions within the bowl are radiused to ensure optimal mixing performance.

DIOSNA Universal Mixers are equipped with air-purged shaft seals. Unlike standard mechanical seals these are virtually wear-free.

DIOSNA Universal Mixer V 400.

- Different designs, specifically designed to suit the application.
- Different seal options.
- Simple cleaning.
- Mixing times of 2 to 4 minutes for powdery materials.
- Incorporation of liquids in 2 to 6 minutes.
- Ideal for the intensive mixing of highly-viscous materials or sensitive/delicate products.

Series V 10 to V 200.

DIOSNA Universal Mixer V 10 in moveable design.

- Driven by electric motor through a right angled gearbox.
- Manual lid safety system.
- Open frame made of tubular legs. A moveable design is optionally available.
- Tool design: flat section.

Series V 250 to V 1600.

DIOSNA Universal Mixer V 400 in special design.

- Pneumatic lid safety system.
- Counter weight for easy opening and closing of the mixer lid. (Due to its large weight the V 1600 is equipped with a lifting-/swivelling lid.)
- Pneumatic outlet actuation.
- Outlet hinged for cleaning / inspection.
- Fully enclosed machine frame.

The counterbalanced full size mixer is easily raised to help cleaning and inspection.

Easy control using an touch screen HMI.

Cleaning, inspection and control.

Cleaning

The mixers are well known for their cleanability and the ease of inspection. All product-contacting parts can be cleaned with water and if necessary with detergents, by repeated filling and discharging of the bowl. Additional cleaning nozzles can be added to optimise the cleaning if required. The air purged shaft seals can also be equipped with rinsing as an option.

Control

The controls for the machine can be as simple or complex as required. Simple relay controls with timers and push buttons as well as PLC controls with HMIs or industrial PC's with network connections are available.

DIOSNA Toolift System

For inspecting the underside of the mixing tool and the shaft seal area the mixing tool can be lifted pneumatically (option).

Toolift System:
Mixing tool in elevated position.

The universal application range.

Food industry

- Flavours
- Spice & herb mixtures
- Doughs for pastries
- Sugar based confectionery tablets
- Instant meals
- Batters
- Instant teas

Pharmaceutical industry

- Wet granulations
- Powder mixtures
- Granulate mixtures

Chemical industry

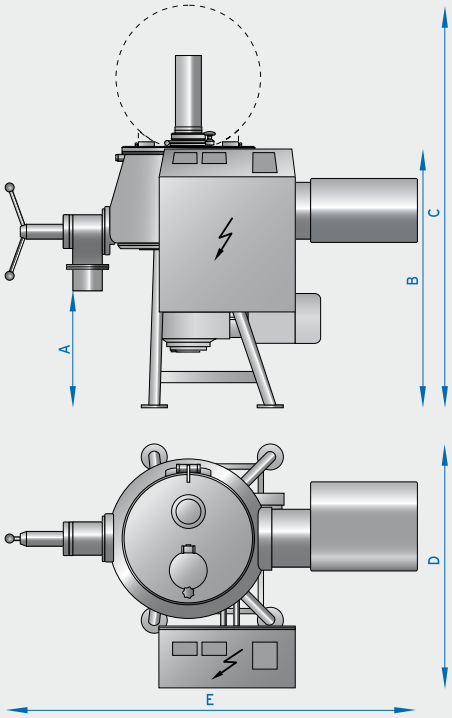
- Powder mixing (also with liquid addition)
- Powder paints
- Master batches
- Colouring of plastics

Cosmetics industry

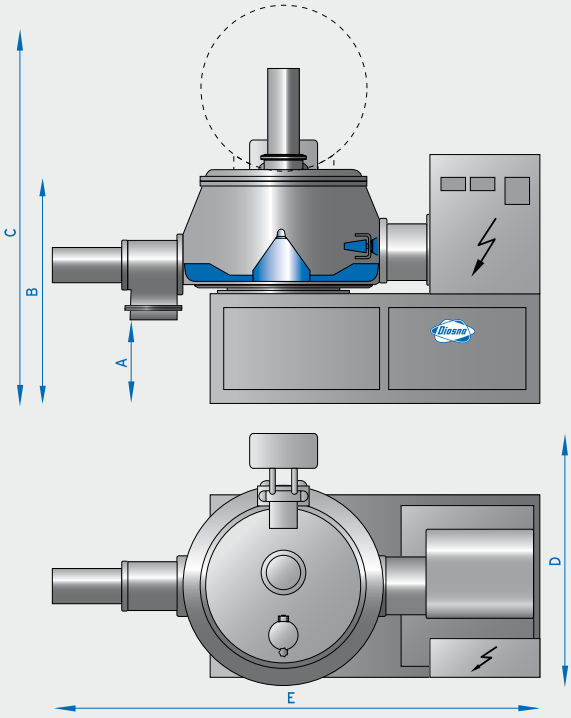
- Ceramic dental mixtures
- Eye shadows
- Face powders

Technical data and dimensions

V 10 - V 200



V 250 - V 1600



Type/Dimen.*	V 10	V 25	V 50	V 100	V 200	V 250	V 400	V 600	V 1000	V 1600
A	550	595	515	565	355	355	455	525	630	830
B	850	925	1125	1200	1020	1020	1210	1260	1590	1880
C	1230	1365	1770	2050	2050	1800	2100	2400	2800	-
D	900	930	1075	1200	1200	1200	1400	1600	1800	1750
E	1270	1510	1800	2150	2150	2200	2700	2800	3300	3650

Technical Data	V 10	V 25	V 50	V 100	V 200	V 250	V 400	V 600	V 1000	V 1600
Total volume (l)	13,0	27	52	122	205	235	430	615	1050	1700
Effective volume (l)	11,5	24	46	110	180	210	385	550	940	1400
Mixer motor (kW)	0,55/0,75	1,1/1,5	1,5/2,2	3,7/4,4	5,5/7,5	6,5/9	13/16	1815/25	32/38	50/72
Tool speed at 50 Hz. (rpm)	205/410	162/325	133/265	98/196	95/190	85/170	70/140	60/120	50/100	45/90
Chopper motor (kW)	0,75	1,5	2,2	2/2,8	3/4	3/4	4,9/6	6,5/9	13/16	18,5/25
Chopper speed at 50 Hz. (rpm)	3000	3000	3000	1500/ 3000	1500/ 3000	1500/ 3000	1500/ 3000	1500/ 3000	1500/ 3000	1500/ 3000

* Units in mm
Data valid for basic design.
We reserve the right to change technical data, design and specifications.

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