



VAC 150 to 2000

Mixing, Granulating and Vacuum drying.

Quality, Experience and Innovation

The flexibility of the Gas-stripping Vacuum Dryer.

The DIOSNA VAC Series is designed for efficient mixing, granulating and vacuum drying of pharmaceutical products in a closed system.

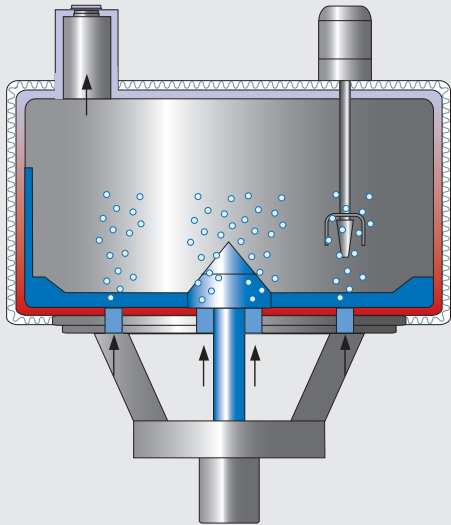
The flexible building block principle of VAC 150 to VAC 2000 offers for very gentle processing, short drying times and simple operation.

Our VAC equipment is designed down to the very last detail to fulfil any practical requirement. Special designs and components for individual applications can be provided on request.



GMP-compliant, through-wall construction: Space saving installation of a VAC 600.

Maximum efficiency



The principle.

- Insulated cylindrical bowl with two heating zones
- Mixing tool with wall scraper
- Auto-lift lid (heated to avoid condensation)
- Gas-stripping bottom nozzles
- Vertical chopper
- Industrial PC control
- Process observation through inspection glass or integrated video camera
- CIP/WIP
- Highly accessible, user-friendly machine frame

High-performance vacuum unit.



High-performance components.

The optimal design of the bowl and the mixing and chopper tools, the vacuum system and the heating/cooling units play a decisive roll for product quality and process times.

The vacuum unit is a heavy duty two stage unit and pre-assembled for easy installation at site.

The heating/cooling system works with two separate closed circuits, each one with its own control and regulation.

The water is heated electrically or - on request - by steam.



The two-circuit heating/cooling system ensures quick and precise regulation of the water temperature.



The material can be calibrated during discharge by a sieving mill below the outlet.



Sieved material.

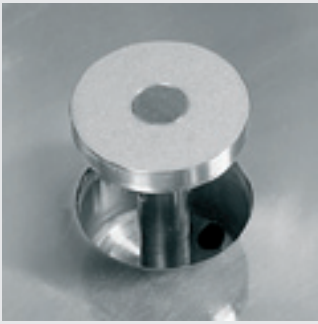
The Ranges of Application.

The DIOSNA Vacuum Dryers stand for simple cleaning and high flexibility. Even with frequent recipe change, short changeover times give high daily outputs. The system is especially suited for valuable materials, as process losses are minimal due to effective wall scraping and minimal product contacting surfaces.

The closed system of the equipment where all process steps are made in a single bowl guarantees dust-free operation – ideal for containment applications. The process is independent of the air humidity and is therefore preferably used for effervescent granules. Due to the low space requirements all on one floor, the dryers can be installed in nearly every production location.

The DIOSNA VAC-Series is ideal-suited for the contained production of granules. The plant is compact, and only small air quantities pass the product. The machine must be designed for CIP/WIP and equipped with containment valves for feeding and discharging as well as with a police filter for exhaust air in “safe-change” design.

Made by Diosna



The gas-stripping bottom nozzles: large-surface, automatically cleaned and easy to inspect.



The screen of the mill can be removed easily.

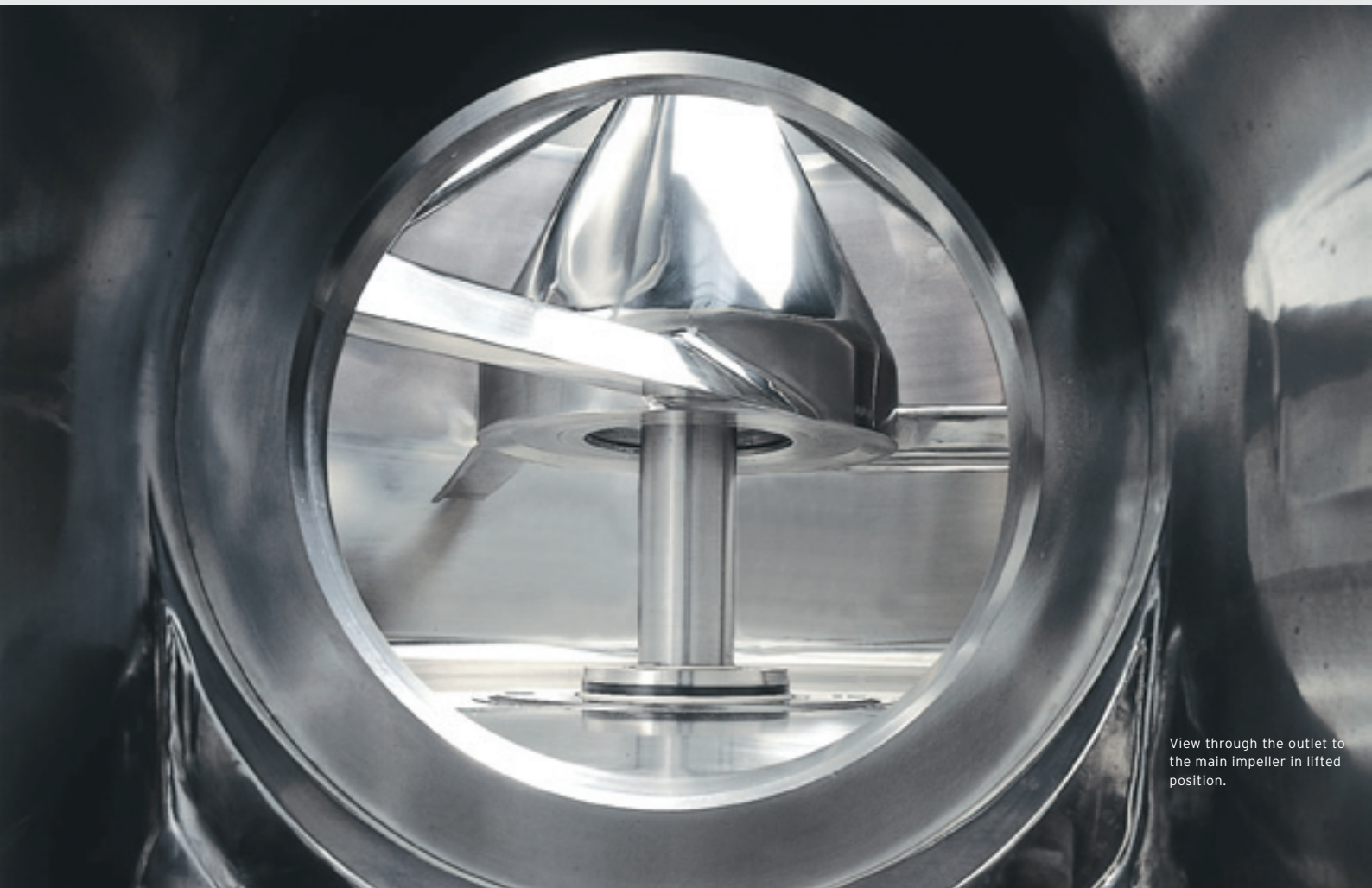
Inspection.

For simple inspection the front part of the outlet and the sieving mill (optional) can be swung aside.

Gas stripping nozzles are integrated into the base of the bowl and can be lifted pneumatically. They provide for gentle and extensive gas-stripping. Cleaning (during CIP or WIP) with water.

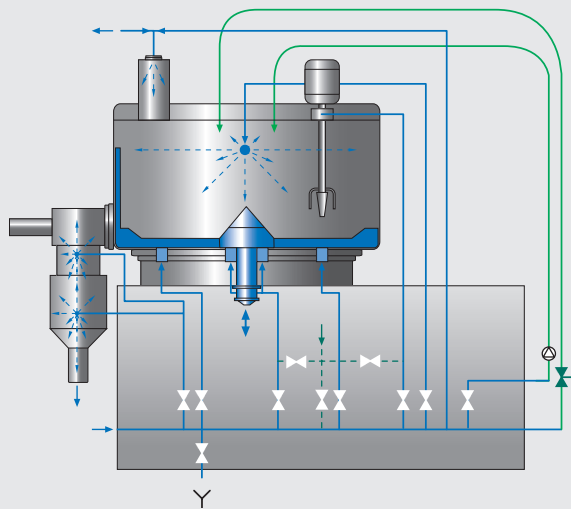
The DIOSNA Toollift System offers an optimal solution for inspection.

The impeller is lifted pneumatically which allows the sealing area to be easily inspected.



View through the outlet to the main impeller in lifted position.

Clean solutions, reliable data management



The optional sieving mill and the feed pipes for powder and liquid can be cleaned automatically.

Cleaning.

The machines are equipped with pneumatically operated valves to rinse the shaft seals and the gas-stripping nozzles.

CIP-suited components are also available for all other plant parts, especially filters, feeding devices and dry mills.

Spray nozzles clean the lid, bowl, outlet and sieving mill (dry mill). The cleaning liquid is prepared according to the requirements of the product/process.

After finishing the cleaning process the pipelines are blown with compressed air and dried under vacuum.



Fitted with an easy to operate industrial PC.

Control.

The operation of the VAC-plants is effected via industrial PC, built in the wall to the technical area. For visualization the software Intouch of Wonderware is used. The control is CFR 21 Part 11 compliant and designed for remote service.

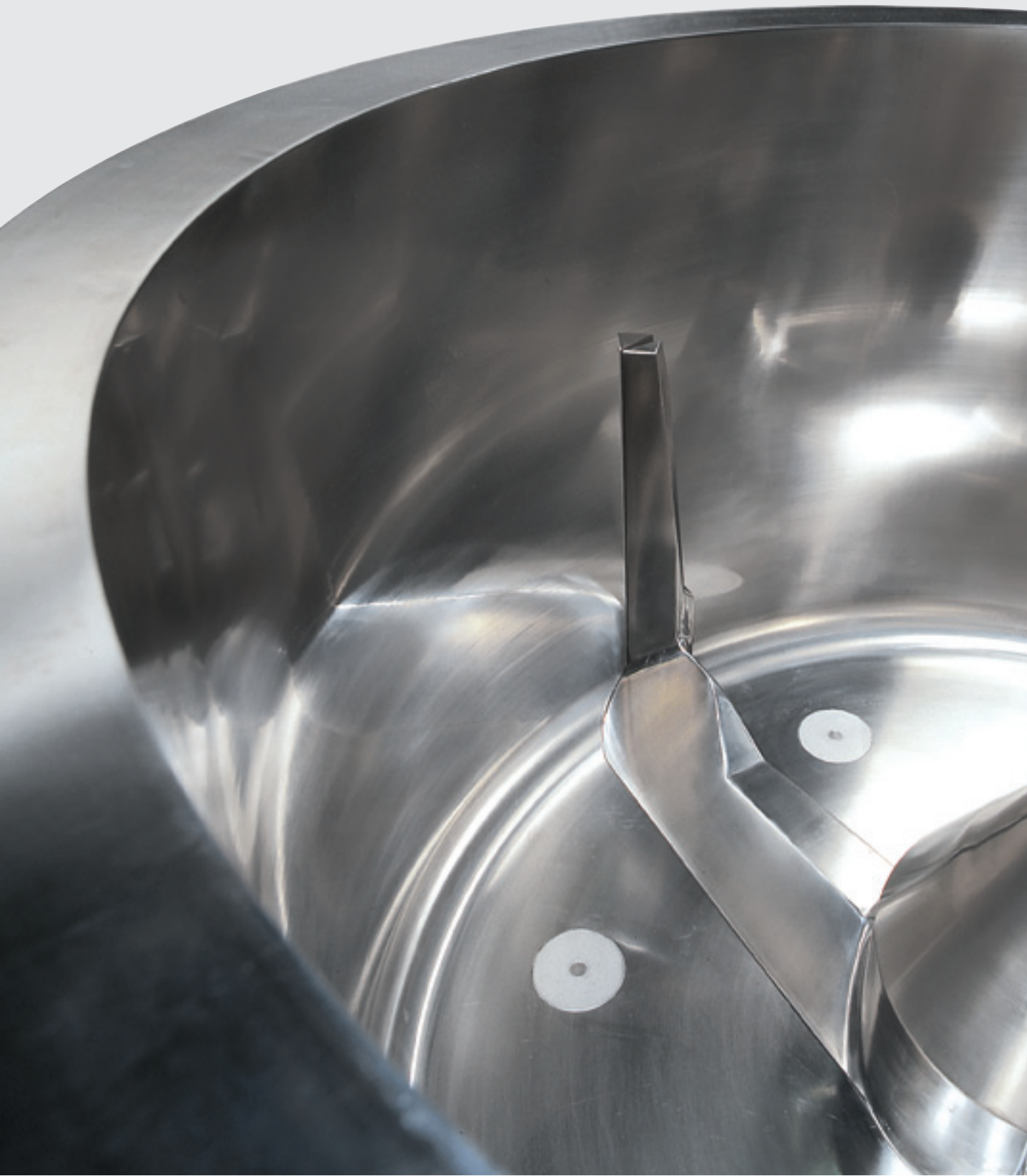
Qualification is performed according to customer/DIOSNA standards or to current GAMP regulations.



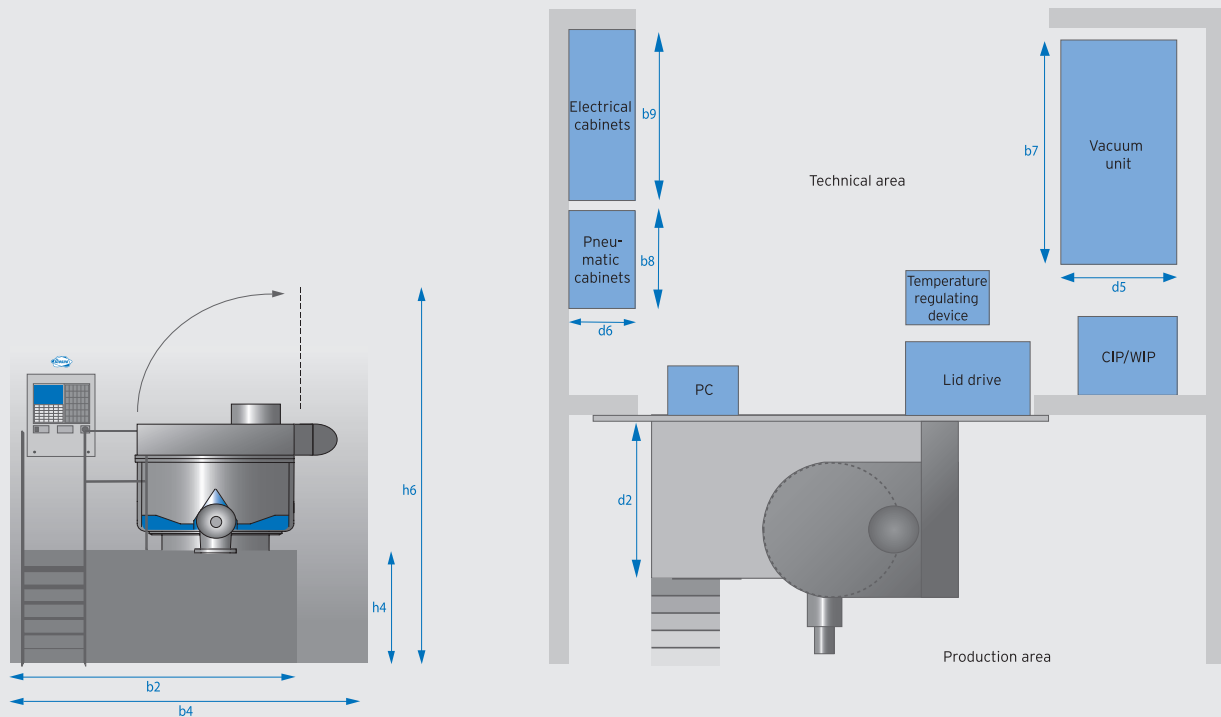
All important information available at a glance: Set and actual values, trending, flow chart.

Maximum efficiency: Impeller with stripper

- Blades with elevated tips, tangentially attached to the centre cone
- Efficient removal of wall deposits by the scraper (without touching the wall)
- Easy drying of sticky recipes, even with high jacket temperatures
- Very short drying times due to high heat transfer rates



Technical data and dimensions



Type/Unit. *	b2	b4	b7	b8	b9	h4	h6	d2	d5	d6
VAC 150	1800	2820	2600	1000	2000	1100	3000	1280	1350	500
VAC 400	2200	3550	2600	1000	2400	1100	3700	1525	1400	500
VAC 600	2200	3600	2600	1000	2400	1150	4050	1565	1400	500
VAC 800	2500	3850	2800	1000	2400	1300	4350	1850	1500	600
VAC 1200	2500	4150	2800	1200	2600	1300	4700	1850	1500	600
VAC 2000	2800	4650	3000	1600	2800	1500	5200	2000	1800	600

Technical data	150	400	600	800	1200	2000
Total volume (l)	150	400	600	800	1200	2000
Max. useful volume (with bulk density 0.5-0.6 kg/l) (l)	100	280	420	550	850	1400
Impeller speed (-r.p.m)	6 - 165	4 - 120	3 - 105	3 - 95	2 - 85	2 - 80
Number of gas-stripping nozzles	3	6	6	6	6	8
Mixer motor power (kW)	11	30	37	45	75	110
Chopper motor power (kW)	3	5 / 6	7,5 / 9	10 / 12	17 / 20	25 / 30

* Units in mm

Data applies to the basic design.

We reserve the right to change the design and technical data.



www.diosna.com

DIOSNA Dierks & Söhne GmbH · Am Tie 23 · 49086 Osnabrück · Germany

Telefon: +49 (0) 541 33 104-0 · Telefax: +49 (0) 541 33 104-805

info@diosna.com · www.diosna.com