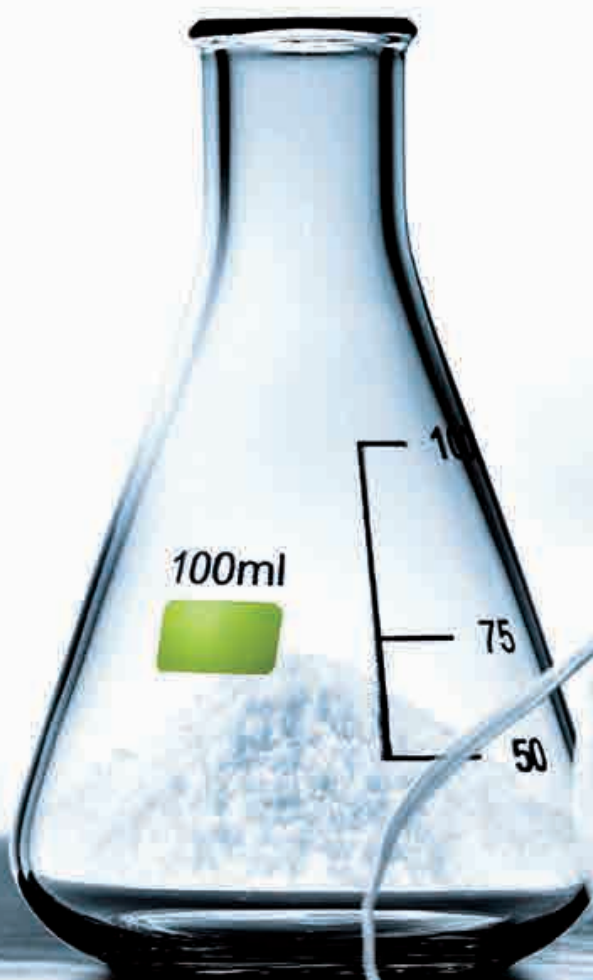


GENTLE AND RELIABLE DRYING

INNOVATIVE DRYING SYSTEMS FOR YOUR
PRODUCTS

AIRGENEX[®] med



MORE INNOVATION FOR YOUR PRODUCT

Pharmaceuticals, packed or non-packed, are highly sensitive products requiring very careful and, particularly, stress-free processing and production. Top quality drying spells higher quality and reliability.

„Heat pump based condensation drying“ is the solution to your drying challenge. Its alternative physical approach combines seemingly conflicting features such as low temperatures and short drying times.

„We have much to offer. Give us the specific drying requirements for your product. We'll make a matching package for your efficient process.“

- > Gentle product processing through low drying temperatures
- > High quality drying results in short drying times
- > High efficiency through heat pump technology for dehumidification
- > Drying in a closed system - no interchange with ambient air and, thus, no dependence from the climate.
- > Emission-free drying does not interfere with clean room environments.
- > Drying system temperatures variable between 20 °C and 90 °C
- > Drying systems are independent of plant utilities

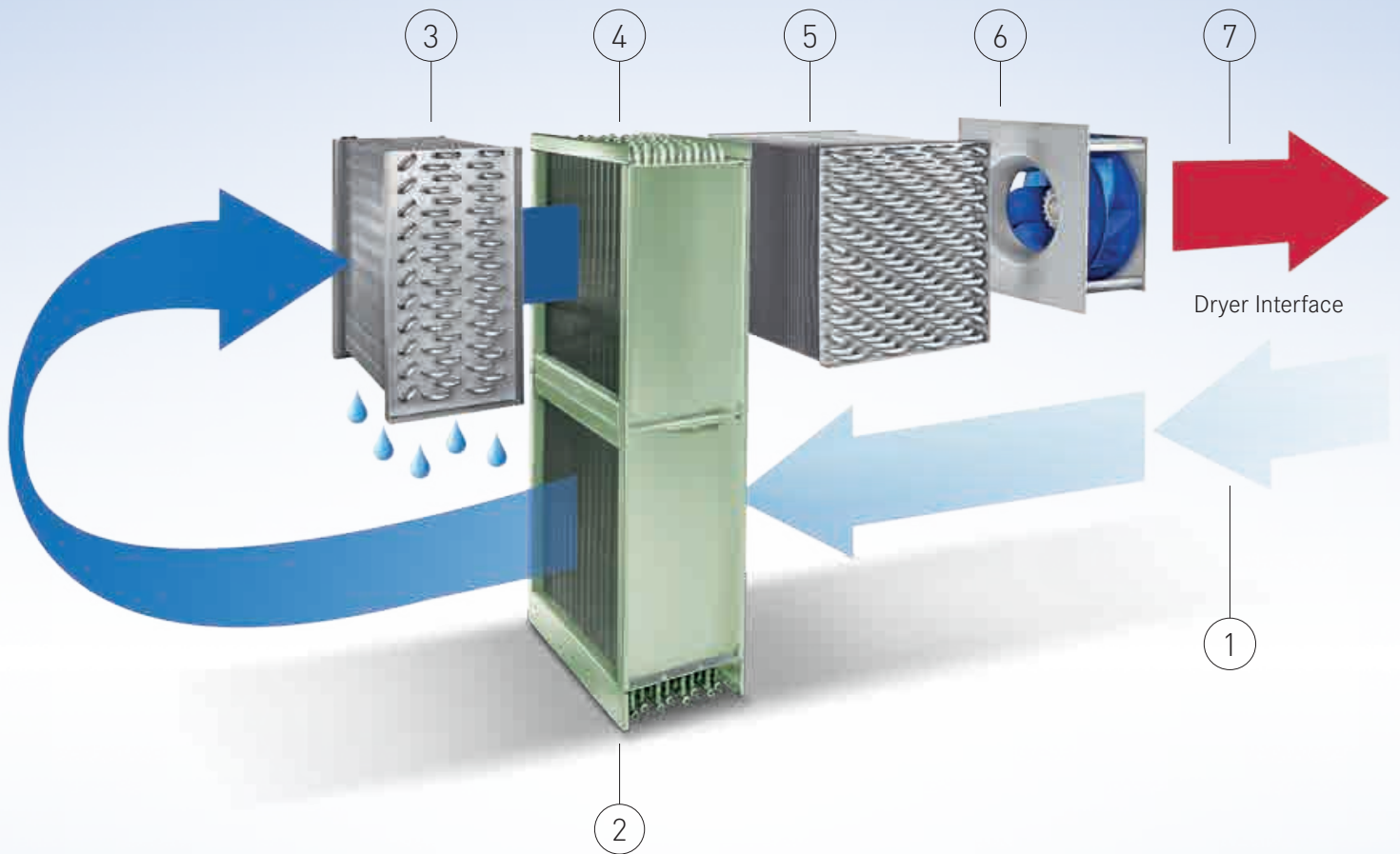
TRIAL DRYING FOR BEST RESULTS

Our services include series of tests in our pilot plant station. This appears to be the best method for determining the parameters for successful drying. We run these tests - which you are welcome to witness - to identify the best temperature, humidity, drying time, air speed and airflow for your product. The documented results, our long experience plus your know-how form the basis for further system design which will also draw on approaches for solutions in hundreds of various projects.

„We take off our business suit and put on an overall to elaborate, with much creative effort, a solution within the limits set by your budget.“



HARTER AIRGENEX[®]med - THE PROCESS



HARTER's energy-saving drying systems can dry pharmaceutical products gently, reliably and uniformly to the desired dry matter content.

- 1 AIRGENEX[®]med dehumidification module / dryer interface
- Humid air is extracted from the drying chamber and passed to the dehumidification module.
- 2 The precooler, which is also used as a preheater (4), with no energy input, is an option. Its profitability depends on the desired drying temperature.
- 3 The moisture precipitates on the air cooler fins, and the condensate water leaves the system through the condensate collector and the condensate drain.

- 4 The cooled, dehumidified air is preheated, with no energy input, by the optional preheater (2).
 - 5 The air heater raises the air temperature to the level required for the process.
 - 6 The process air fan provides the required air circulation between the AIRGENEX[®]med dehumidification module and the drying chamber.
 - 7 The dried, unsaturated air is now returned to the drying chamber.
- The loop is thus closed.

STANDARD AND SPECIAL SOLUTIONS



Devising drying solutions customised for your product and perfectly integrated in your process – this is our primary expertise. And we are prepared to apply our multidisciplinary skills to design special solutions for your regulated production. New machinery or improvements in the regulated industry are always implemented in close co-operation with the customer and in compliance with the particular GMP requirements. This is how our flexible hi-tech engineering can take precise and full effect in your production.

Cooling systems or combined drying-cooling systems:
With minor modification, our AIRGENEX®med system may also be used for cooling if desired or required by your process.



„We make your good even better.“



ADDED VALUE AND REPRODUCIBILITY

We are an independent enterprise and have a continuous and homogeneous value chain with high know-how at all levels of hierarchy. We offer a comprehensive service package including expert advice, research, development and engineering, documentation, commissioning and after-sales service. Our extensive vertical range of manufacture and qualified supplier management follow the lines of our „Made in Germany“ philosophy.

„You need reproducible results. We deliver them.“

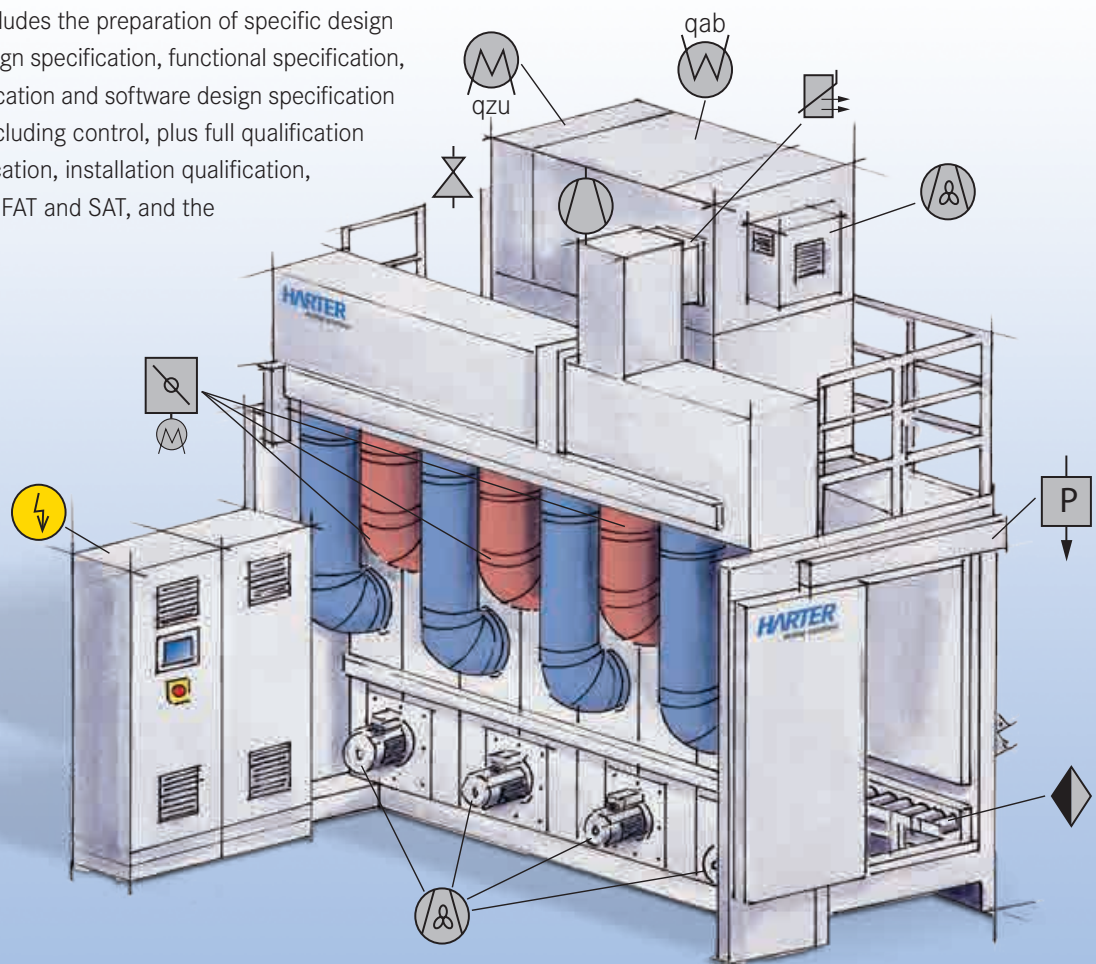
Decades of experience and our understanding of processes are the basis of our self-contained technology which continuously monitors and automatically controls temperature and other drying parameters of your processes. Product drying results are reproducible and support your zero defects production.

QUALIFICATION AND VALIDATION

Delivery and operation of HARTER drying systems are governed by international standards. Our systems meet GMP and GAMP requirements.

Our GMP service – available as part of our supply package or as a separate service – includes the preparation of specific design documents such as design specification, functional specification, hardware design specification and software design specification for the entire system including control, plus full qualification including design qualification, installation qualification, functional qualification, FAT and SAT, and the documentation thereof.

„This offer assures you of an even higher level of reliability and reproducible quality, saves you qualification time and effort and actively supports your life cycle management.“



THE ART OF DRYING

We are prepared to demonstrate our ability.

Just contact us.

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