

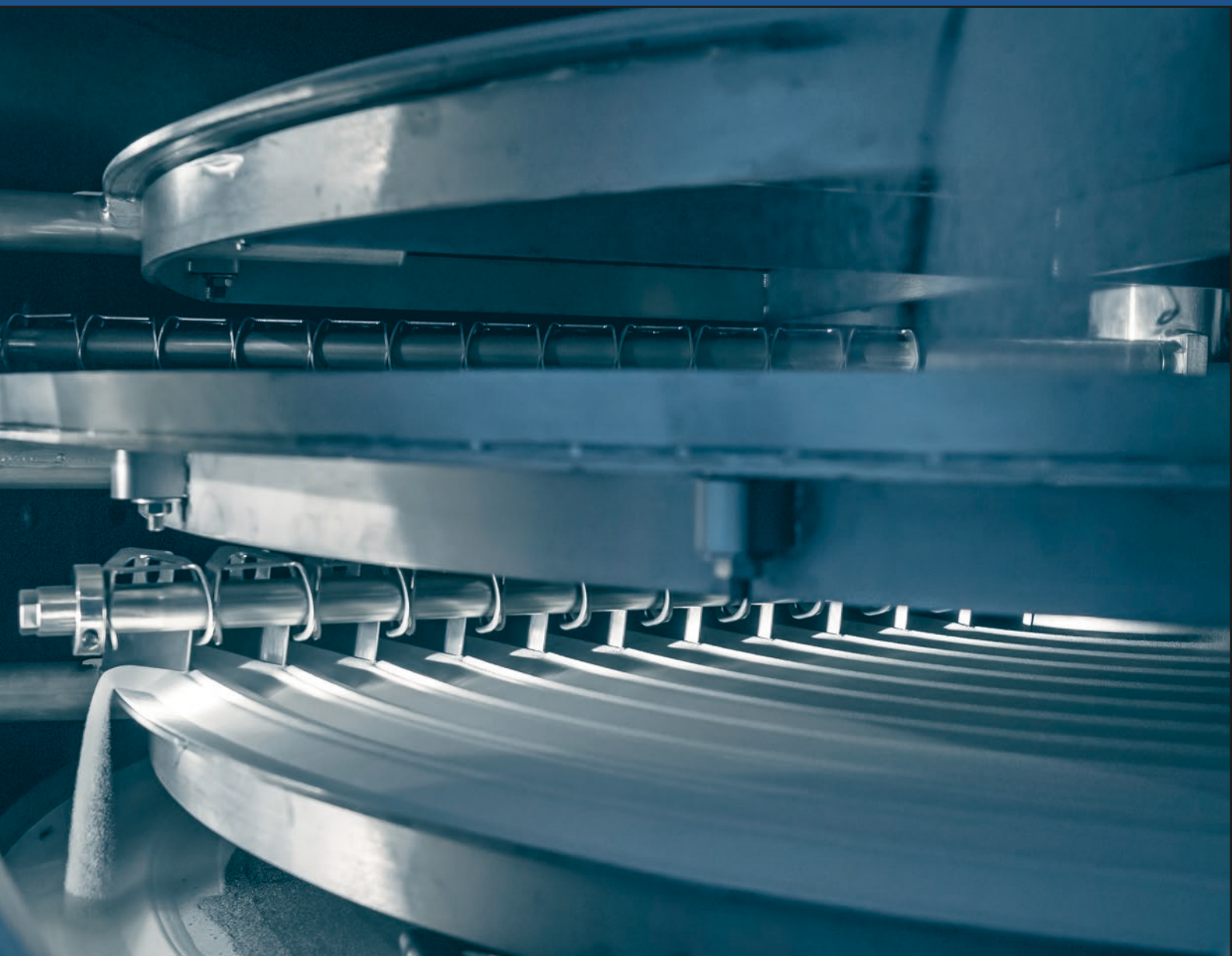


GENTLE HANDLING OF FRIABLE POWDER

Plate dryer

ANDRITZ

The ANDRITZ plate dryer is a vertically designed, continuous contact dryer/cooler available in atmospheric, gas-tight, or vacuum configuration. Hazardous products can be processed in this closed system under vacuum or with inert gas blanketing. The plate dryer treats products very gently and without any impact on the environment. Fragile products can be processed without changing the particle size.



Exact temperature control for optimal thermal treatment

When continuous drying of free-flowing bulk materials is required, the ANDRITZ plate dryer is the right choice.

Stationary, horizontal plates in the dryer are heated while rotating arms with plows gently transport the product across the heated surface of the plates. The thin product layer on the surface of the plates in combination with frequent turning over of the product results in a short retention time and uniform drying, protecting the product against thermal degradation and preventing particle breakage.

The fixed plates have a jacket on the underside and can be heated or cooled with water, thermal oil, or steam. Plates can be grouped together to form multiple heating/temperature zones ensuring efficient use of the heat and allowing exact temperature control.

The heat transfer and temperature zones required by the process determine the layout of the machine. The plate dryer can also be adapted to specific operating conditions by adding optional features or peripheral equipment.

OPTIMIZED PURGE GAS FLOW

For installations containing nitrogen purge gas loops with solvent recovery systems, the ANDRITZ gas-tight plate dryer allows a controlled flow of purge gas through different drying zones, thus minimizing operational costs. The purge gas enters the process area from the side through diffuser plates and flows across the plates to the exhaust posts on the opposite side. Low purge gas velocities in the dryer keep the amount of dust carry-over to a minimum while helping the dryer remove vapors from the product. Dust filters can optionally be installed to avoid any product losses.

MAIN BENEFITS

- Optimization of the drying process is achieved by adapting the product layer height, speed of the product conveying system, number of conveying arms, and the type and size of the plows
- Suitable for a wide range of particle sizes
- No product back-mixing, ensuring consistent and highly reproducible product quality
- Precise adjustment of retention time
- Exact temperature control with separately heated/cooled plates
- Low mechanical stress on the product
- Unrestricted vertical product flow



Plate cross section

EASE OF USE AND INSTALLATION

- Minimal process instrumentation and controls required
- Self-emptying thanks to product conveying system design
- Workshop assembly results in easy on-site installation
- Only utilities and insulation must be provided on site
- Minimal floor space required thanks to the vertical dryer design

Drying heat-sensitive products at lower temperatures

The correct equipment and mode of operation are key considerations at the start of any drying process.

MODE OF OPERATION

The wet material to be processed is fed continuously from a feeder (table feeder, rotary valve, vacuum lock ...) on the top plate of the dryer. Rotating arms with plows spread the product in a circular pattern across the heated surface of the horizontal plate. The product is conveyed towards the outer rim of the small-diameter top plate, where it falls over the edge onto the second, larger plate directly below. On this plate, the product is moved inwards towards the central opening through which it cascades onto the next, smaller plate.

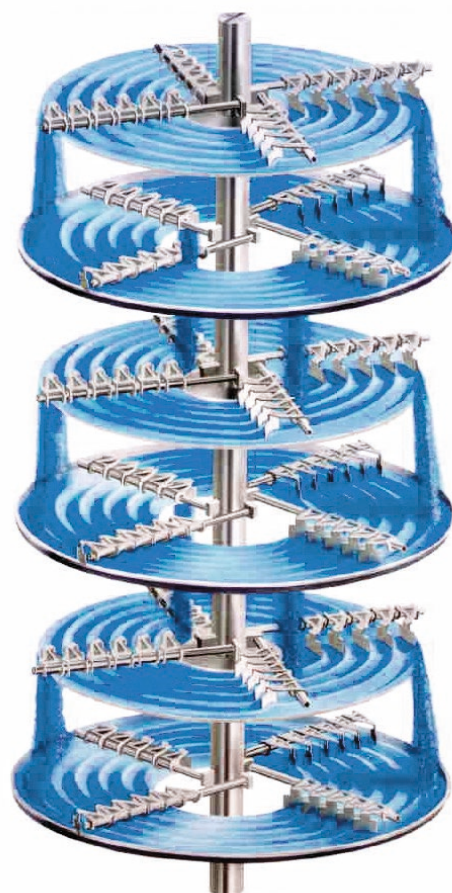
The product flows continuously through the vertical dryer. It is turned over repeatedly, and each particle comes into contact frequently with the drying surface of the heated plates. Moisture evaporates from the product during transport through the dryer. Finally, the dried product falls from the last plate onto the bottom surface of the housing, where it is conveyed by means of plows to the discharge port.

A small amount of carrier purge gas or air (in atmospheric and gas-tight plate dryers) is used to transport the vapors out of the dryer. Processing under vacuum means that the product dries, even at low temperatures, without using any gas. This even allows optimal and efficient drying of heat-sensitive products.

ARM AND PLOW ARRANGEMENTS

The product transport system consists of a central upright shaft with horizontal arms and plows. On every plate level, two to eight arms are fixed to the shaft. These arms have free-moving plows that gently rest on top of the plate surface. The weight of the plows is optimized to prevent abrasion from the plow and the plate, but simultaneously allow

proper product transport. Variable plow widths are available depending on the product requirements. The transport system is driven by a frequency-controlled drive. Transportation of the product is optimized by using different plow lengths and different plow arrangements.



Product flow-through dryer

Whatever your product, we treat it gently



MAIN APPLICATIONS FOR THE CHEMICAL INDUSTRY

- Additives for plastics and rubber
- Detergent additives
- Fungicides
- Herbicides
- Insecticides
- Lithium carbonate
- Removing residual monomers from plastics
- Salts
- Aluminum hydroxide
- UV blockers



MAIN APPLICATIONS FOR THE PHARMACEUTICAL INDUSTRY

- Antibiotics
- Acetylsalicylic acid
- Caffeine
- Pharmaceutical intermediate products
- Vitamins



MAIN APPLICATIONS FOR THE FOOD INDUSTRY

- Tea
- Coffee
- Flavors
- Extracts
- Chocolate crumbs

Plate dryers with different housing configurations

The plate dryer has a modular design. The number and size of the plates depend on the individual application. Three basic dryer models are available, each in different housing configurations and suitable for its own specific operating conditions.

ATMOSPHERIC PLATE DRYER, TYPE TTB

The atmospheric plate dryer TTB is designed for handling wet, non-hazardous, non-poisonous bulk materials with atmospheric air as the carrier gas. It is a dust-tight system with an exhaust air fan that draws the air through the housing. The air temperature is almost equal to the plate temperature. The vapor-laden exhaust air is emitted where necessary by passing through a dust filter system.



TTB 20/9 with heating manifold

VACUUM PLATE DRYER, TYPE VTT

The vacuum plate dryer VTT is typically provided as part of a closed system, designed for processing temperature-sensitive products as well as solvent wet, toxic, flammable, or explosive bulk materials. The exhaust vapor is evacuated by a vacuum pump and passed through a condensation system for solvent recovery.



VTT 27/11 with heating manifold

GAS-TIGHT PLATE DRYER, TYPE GTT

The gas-tight plate dryer GTT is best suited for processing toxic, flammable, or explosive bulk materials with inert gas as the carrier gas. Together with the components of the gas recirculation loop, the GTT forms a closed system. The flow rate of the recirculating purge gas must be sufficient to absorb the vapors generated from the drying process. The gas temperature must be adjusted according to specific product characteristics and the type of solvent. After removal of the vapors by condensation, the purge gas is recirculated back into the dryer via a fan and heat exchanger.



GTT 20/9 with heating manifold

EXTEND YOUR PLATE DRYER PROCESS WITH A PRE-DEWATERING STEP

ANDRITZ has the capability to supply ancillary equipment and components for plate dryers. A mechanical pre-dewatering step, e.g. with an ANDRITZ peeler centrifuge or drum filter, can also be added.

For discontinuous dewatering machines, an ANDRITZ table feeder can be installed above the dryer. The feeder operates not only as a buffer vessel, but also as a feeding/metering device. It can also change the process from batch to continuous operation or act as a vacuum sluice as needed in case of vacuum drying.

In addition, the system is rounded out by suitable product feed and discharge valves such as vacuum locks and rotary valves as well as transport screws.



Complete system solution combining centrifuge and dryer

Dimensions and models

Three basic dryer models are available, each in different housing configurations and suitable for its own specific operating conditions.

MODEL SIZE 12

NOMINAL DIAMETER OF THE LARGER PLATE: 1,200 MM

			Type TTB Atmospheric plate dryer in dust-tight design		Type GTT Gas-tight design with or without closed loop gas recirculation system		Type VTT Designed to operate under vacuum	
	Plate surface m ²	Drive motor kW inst.	Height mm	Width/ depth mm	Height mm	Width/ depth mm	Height mm	Width/ depth mm
12/5	3.5	0.75	2,500	2,100	2,500	2,100	2,500	2,100

MODEL SIZE 20

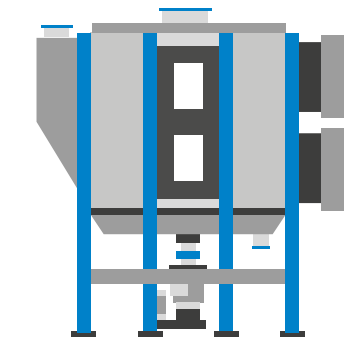
NOMINAL DIAMETER OF THE LARGER PLATE: 2,000 MM

			Type TTB Atmospheric plate dryer in dust-tight design		Type GTT Gas-tight design with or without closed loop gas recirculation system		Type VTT Designed to operate under vacuum	
	Plate surface m ²	Drive motor kW inst.	Height mm	Width/ depth mm	Height mm	Width/ depth mm	Height mm	Width/ depth mm
20/5	12.5	1.5	2,860	2,500/2,900	2,860	2,500/2,900	2,860	2,500
20/7	17.6	1.5	3,260	2,500/2,900	3,260	2,500/2,900	3,260	2,500
20/9	22.7	2.2	3,660	2,500/2,900	3,660	2,500/2,900	3,660	2,500
20/11	27.8	2.2	4,060	2,500/2,900	4,060	2,500/2,900	4,060	2,500
20/13	32.9	2.2	4,460	2,500/2,900	4,460	2,500/2,900	4,460	2,500
20/15	38.0	3	4,860	2,500/2,900	4,860	2,500/2,900	4,860	2,500
20/17	43.1	3	5,260	2,500/2,900	5,260	2,500/2,900	5,260	2,500
20/19	48.1	3	5,660	2,500/2,900	5,660	2,500/2,900	5,660	2,500
20/21	53.2	4	6,060	2,500/2,900	6,060	2,500/2,900	6,060	2,500
20/23	58.3	4	6,460	2,500/2,900	6,460	2,500/2,900	6,460	2,500

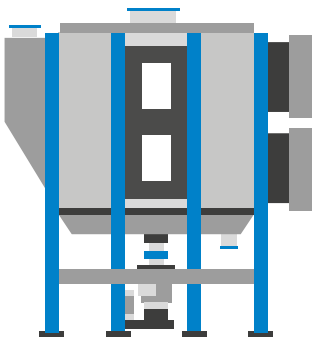


MODEL SIZE 27
NOMINAL DIAMETER OF THE LARGER PLATE: 2,700 MM

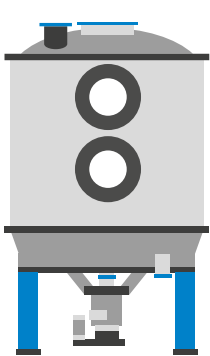
			Type TTB Atmospheric plate dryer in dust-tight design		Type GTT Gas-tight design with or without closed loop gas recirculation system		Type VTT Designed to operate under vacuum	
	Plate surface m²	Drive motor kW inst.	Height mm	Width/ depth mm	Height mm	Width/ depth mm	Height mm	Width/ depth mm
27/11	55	5.5	4,300	3,400/3,900	4,300	3,400/3,900	4,700	3,400
27/13	65	5.5	4,700	3,400/3,900	4,700	3,400/3,900	5,100	3,400
27/15	75	5.5	5,100	3,400/3,900	5,100	3,400/3,900	5,500	3,400
27/17	85	5.5	5,500	3,400/3,900	5,500	3,400/3,900	5,900	3,400
27/19	95	7.5	5,900	3,400/3,900	5,900	3,400/3,900	6,300	3,400
27/21	105	7.5	6,300	3,400/3,900	6,300	3,400/3,900	6,700	3,400
27/23	115	7.5	6,700	3,400/3,900	6,700	3,400/3,900	7,100	3,400
27/25	125	7.5	7,100	3,400/3,900	7,100	3,400/3,900	7,500	3,400
27/27	135	7.5	7,500	3,400/3,900	7,500	3,400/3,900	7,900	3,400
27/29	145	11	7,900	3,400/3,900	7,900	3,400/3,900	8,300	3,400
27/31	155	11	8,300	3,400/3,900	8,300	3,400/3,900	8,700	3,400
27/33	165	11	8,700	3,400/3,900	8,700	3,400/3,900	9,100	3,400
27/35	175	11	9,100	3,400/3,900	9,100	3,400/3,900	9,500	3,400
27/37	185	11	9,500	3,400/3,900	9,500	3,400/3,900	9,900	3,400
27/39	195	11	9,900	3,400/3,900	9,900	3,400/3,900	10,300	3,400



Type TTB



Type GTT



Type VTT

Reliable upscaling

ANDRITZ pilot plant to determine new process technology, viability, and success.

In our test centers, we do research on the right type and size of drying equipment for specific drying requirements. To establish the behavior of the material to be dried, scale-up tests are carried out on a simulator, in a laboratory, or at customers' plant sites. The simulator operates in conjunction with a data recording and analysis system in order to evaluate the precise drying times and rates.

Our test center is also equipped with a production-sized atmospheric/gas-tight and vacuum plate dryer for determining product behavior at production scale capacities over an extended period of time. This system can be converted into a small process line by the addition of a mechanical dewatering unit as well as feed and discharge equipment. With the data gathered during the test work, we are able to size and optimize the dryer and auxiliary equipment.



Plate dryer lab simulator

Environmentally safe

ANDRITZ is constantly aiming for a low environmental footprint. In any of the ANDRITZ plate dryer configurations, environmentally safe operation is key. In atmospheric operation, the dust load in the exhaust gas is limited due to low gas velocities in the dryer. In addition, operation slightly below atmospheric pressure prevents emissions. The gas-tight configuration is a closed system with recirculated purge gas. Solvent recovery systems are available. The closed system operating under vacuum prevents any release of product or vapors to the surrounding environment. It is known for its simplified, low-energy solvent recovery and can be used for heat-sensitive materials. Heat-sensitive products can be dried at lower temperatures.

Reduced energy consumption

- Contact drying yields high thermal efficiency and requires less energy
- Low purge gas velocities minimize the energy required to heat the gas in both atmospheric operation and gas recirculation mode
- With vacuum operation, energy is only required to heat the product to the boiling point corresponding to the vacuum level and for the heat to vaporize the volatiles

The right solution for any separation challenge

PEACE OF MIND, COST EFFICIENCY, AND SUSTAINABILITY – ALL FROM ONE TRUSTED PARTNER.

Regardless of your industry – whether environmental, chemicals, mining and minerals, or food and beverage – efficient separation processes are essential for high product quality, reduced waste, and the responsible use of valuable resources. With our advanced technologies, comprehensive services, and smart automation and digitalization solutions, we deliver peace of mind today and lasting success for tomorrow – efficiently, responsibly, and with measurable impact. What's more, with us you also gain access to one of the world's largest OEM manufacturers for solid/liquid separation for well-known brands such as 3Sys Technologies, Bird, Dedert, Delkor Capital Equipment (Pty) Ltd., Escher Wyss dryers, Guinard Centrifugation, KHD Humboldt Wedag, Krauss-Maffei centrifuges, dryers, and filters, LENSER Filtration, Netzsch Filtration, REINEVELD centrifuges, Rittershaus and Blecher, Royal GMF Gouda, Sprout Bauer, and Vandenbroek.

SEPARATION EQUIPMENT AND SYSTEMS

- Decanter and filter centrifuges
- Filter presses
- Dryers
- Presses and screens
- Extractors
- Thickeners
- Evaporators and crystallizers
- Disc and drum filters
- Screening and filtration components
- Specialized thermal systems



FULL-SERVICE OFFERING

- OEM spare and wear parts
 - Maintenance and repairs
- Service agreements
 - Automation and digitalization
 - Machine and process optimization
- Second-hand and rentals

AUTOMATION AND DIGITALIZATION SOLUTIONS

Site assessment and integration • Advanced process control and artificial intelligence • Simulation and training • Digital twin technology • Data analytics and prediction • Electrification, instrumentation and controls

Enabling the green transition

As a technology leader in a changing world, we strive to make a positive impact on our environment. We believe that what we do today can make a difference tomorrow and in the future. We drive change and enable our customers to achieve their sustainability goals and make the world greener with our sustainable solutions in decarbonization, circular economy, renewable energy, and environmental technologies. It all starts with your specific process requirements and ends with a system that gives you the best results – day in and day out, for decades to come.

ANDRITZ. FOR GROWTH THAT MATTERS.



A WORLD OF SEPARATION SOLUTIONS

ANDRITZ provides mechanical and thermal solid/liquid separation technologies, complemented by comprehensive services, automation, and digitalization solutions for the chemicals, environment, food and beverage, as well as mining and minerals industries. Our customized, innovative solutions focus on minimizing resource consumption and maximizing process efficiency, thus making a substantial contribution towards sustainable environmental protection. With over 150 years of experience and more than 2,700 separation specialists around the globe, we are a driving force in the evolution of separation solutions – enabling industries to meet tomorrow's demands responsibly. **ANDRITZ. FOR GROWTH THAT MATTERS.**

AFRICA

ANDRITZ Delkor (Pty) Ltd.
p: +27 11 012 7300
separation.za@andritz.com

EUROPE

ANDRITZ Gouda
p: +31 182 623 723
gouda@andritz.com

ASIA

ANDRITZ Singapore Pte. Ltd.
p: +65 6512 1800
separation.sg@andritz.com

NORTH AMERICA

ANDRITZ Separation Inc.
p: +1 817 465 5611
separation.us@andritz.com

AUSTRALIA

ANDRITZ Pty. Ltd.
p: +61 3 8773 4888
separation.au@andritz.com

SOUTH AMERICA

ANDRITZ Separation Ltda.
p: +55 47 3387 9100
separation.bra@andritz.com

CHINA

ANDRITZ (China) Ltd.
p: +86 757 8258 6802
separation.cn@andritz.com

ANDRITZ.COM/SEPARATION

JOIN US ON SOCIAL MEDIA



All data, information, statements, photographs, and graphic illustrations in this leaflet are without any obligation and raise no liabilities to or form part of any sales contracts of ANDRITZ AG or any affiliates for equipment and/or systems referred to herein. © ANDRITZ AG 2026. All rights reserved. No part of this copyrighted work may be reproduced, modified, or distributed in any form or by any means, or stored in any database or retrieval system, without the prior written permission of ANDRITZ AG or its affiliates. Any such unauthorized use for any purpose is a violation of the relevant copyright laws. ANDRITZ AG, Stattegger Strasse 18, 8045 Graz, Austria. Plate dryer 70/09.2026 EN

