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SEPARATION

GYPSUM DEWATERING AT THE HIGHEST LEVEL

KRAUSS-MAFFEI
GYPSUM CENTRIFUGE VZU-G

ANDRITZ

ENGINEERED SUCCESS

Top performance in gypsum dewatering

In response to the industry's request for an efficient dewatering solution, ANDRITZ has been serving its customers for many years with extensive centrifugal technologies and process know-how.

The development of many different processes for desulfurization of flue gases from coal-fired heat and power plants started more than four decades ago. Washing the flue gas with a limestone slurry became established as the most successful method. Efficient dewatering of the gypsum slurry provides an end product with good reusability. High purity levels and lowest residual moisture are best obtained using Krauss-Maffei vertical centrifuges. With more than 400 machines operating successfully worldwide, ANDRITZ has extensive process experience in gypsum dewatering as well as in the necessary protection against corrosion and wear by using rubber-lined process parts. Continuous improvements to our machines guarantee reliability and maximum efficiency.

MAIN APPLICATIONS

- Dewatering gypsum slurries from FGD plants in coal-fired power plants or waste incinerators
- Neutralization gypsum from copper smelters
- Additional applications on request



Installation examples

MATERIALS OF CONSTRUCTION

- Various grades of stainless steel
- Nickel-based alloys
- Rubber-lined steel

PROCESSING PARAMETERS

Operation	Batch-type filtration
Basket diameter	1,000, 1,250, 1,600 mm
Basket volume	220-1300 l
Filter area	2.0-6.3 m ²
Solids content	10-70 % by weight
Average particle size	20-100 µm
Solids throughput	Up to 10 t/h



Krauss-Maffei gypsum centrifuge VZU-G





Process advantages

KRAUSS-MAFFEI CENTRIFUGES OUTPERFORM CONVENTIONAL EQUIPMENT

When it comes to gypsum dewatering, Krauss-Maffei vertical basket centrifuges offer major advantages over conventional solutions. The benefits include significant cost savings, lower cake moisture, lower power consumption, reduced floor space requirements, cleaner and quieter processing, and less spare installed capacity. Even under irregular plant conditions, Krauss-Maffei centrifuges will continue to perform.

DEWATER GYPSUM WITH CENTRIFUGES AND SAVE MILLIONS IN ENERGY COSTS

There is simply no contest between the money-saving opportunities of Krauss-Maffei vertical basket centrifuges against other equipment when dewatering gypsum. A 20-year lifecycle study of a typical 600-900 MW power plant (60 TPH gypsum) shows that using Krauss-Maffei vertical basket centrifuges instead of conventional equipment generated over € 12 million in total cost savings.

CLEAN, QUIET PROCESSING MEANS A BETTER WORK ENVIRONMENT

A centrifuge is a clean, totally enclosed system that minimizes housekeeping requirements and eliminates exposure to vapors and dust. The centrifuges also operate quietly (<80 dBA), providing an operator-friendly environment.

CENTRIFUGES PROVIDE GREATER RELIABILITY AND THUS REQUIRE LESS SPARE CAPACITY

Krauss-Maffei vertical basket centrifuges' simple, rugged design increases reliability in day-to-day operations compared to conventional equipment. This means that spare capacity requirements are minimized. To assure 99.5%+ availability, only one spare machine is needed for every 6 operating machines. Conventional equipment typically requires 50-100% installed capacity to maintain the same reliability.

CENTRIFUGES NEED LESS SPACE

For any given throughput, a centrifuge installation requires only 1/3 the floor space of a conventional installation. Where space is limited, this can be an enormous advantage. With scrubber retrofit installations, for example, this space difference may eliminate the need for demolition and relocation of existing plant components.

YOUR BENEFITS

- Low residual moisture due to high g-force
- The batch process guarantees highest flexibility and efficiency, even at changing parameters
- Minimum footprint and installation costs thanks to skid-mounted units

Technical data

DIMENSIONS AND WEIGHTS

Centrifuge model	L [mm]	W [mm]	H [mm]	Weight [kg]
VZU 100/2.0 G	1,800	1,550	2,200	4,300
VZU 125/3.2 G	2,020	1,800	2,480	5,200
VZU 160/5.0 G	2,700	2,400	3,150	11,500
VZU 160/6.3 G	2,900	2,440	3,150	13,000

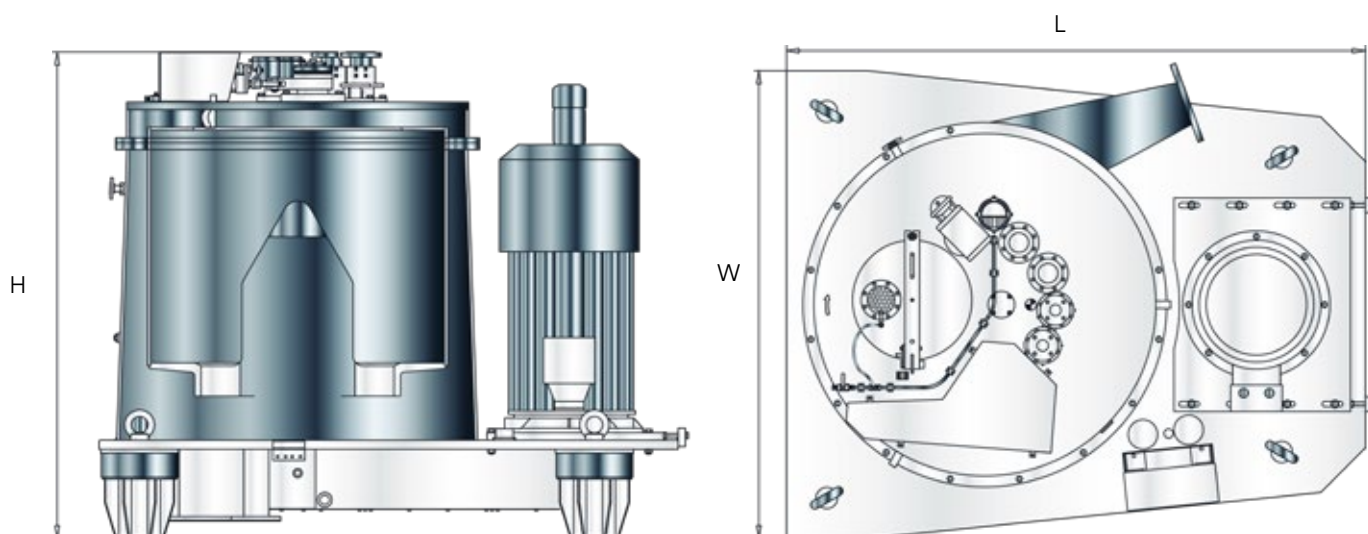
TECHNICAL DATA

Centrifuge model	Basket inside diameter [mm]	Basket length [mm]	Basket volume [l]	Filter area [m ²]	Max. g-force [-]	Max. speed* [rpm]
VZU 100/2.0 G	1,000	630	220	2.0	800	1,200
VZU 125/3.2 G	1,250	800	500	3.2	570	900
VZU 160/5.0 G	1,600	1,000	1,000	5.0	570	800
VZU 160/6.3 G	1,600	1,250	1,300	6.3	570	800

*)Density of saturated cake 1,250 kg/m³ at T = 50°C

When using specific materials, it is possible to increase the permissible speed of rotation and g-values, respectively.

All data are approximate and subject to change without notice.



Intelligence for machine and process control

Metris addIQ control systems

With Metris addIQ, you get a well-proven, intelligent control solution for industrial processes and machines. Our solid/liquid separation specialists use their in-depth expertise to provide scalable solutions that are individually tailored to regional and application requirements. Whether you're automating new equipment or upgrading to extend the lifecycle of existing systems, we find the ideal solution for you.

Our tailored turnkey systems from a single supplier can improve entire plants or individual machines. By providing state-of-the-art automation technologies and digitalization, we ensure best-in-class performance. Automating machine and plant equipment measurably reduces gaps in many different production process steps. By using automation from ANDRITZ, you can reduce downtime thanks to features such as predictive analysis that allow you to optimize productivity.

Metris addIQ covers all levels of automation, starting at basic automation (machine, process, and plant control), to upgrades, and add-ons for process optimization. Together, you get a full range of optimized solutions that help reduce maintenance efforts and ensure preventive service for your machines and plants. These are all delivered from a single source and always individually tailored to your business demands. Metris addIQ control systems are part of the ANDRITZ brand for Digital IIoT (Industrial Internet of Things) Solutions.





Put our 150 years of OEM experience to work for you

Need to optimize your process? Boost availability? Ensure non-stop productivity? When you work with ANDRITZ Separation, you gain access to one of the world's largest OEM manufacturers for solid/liquid separation. Put our in-depth knowledge of separation equipment and processing to work for you.

VAST EXPERIENCE THROUGH LARGE INSTALLED BASE

With an installed global base of more than 55,000 solid/liquid separation equipment and systems, you can imagine that we take service seriously. Wherever these customers are located, we work very closely with them to maximize uptime and boost efficiency.

WELL-KNOWN OEM BRANDS

Some customers know us as the people with ANDRITZ on our overalls. Others have come to understand that we are the OEM behind former brand names like 3Sys Technologies, Bird, Delkor Capital Equipment (Pty) Ltd., Escher Wyss dryers, Frautech, Guinard Centrifugation, KHD Humboldt Wedag, Krauss-Maffei centrifuges, dryers, and filters, Lenser, Netzsch Filtration, Rittershaus & Blecher, Royal GMF Gouda, Sprout Bauer, and Vandenbroek, companies who all have been acquired by ANDRITZ. But frankly, we are capable of servicing and supplying spare parts for nearly all brands of solid/liquid separation equipment on the market.

LOCAL SUPPORT BACKED BY GLOBAL EXPERTISE

Our service philosophy is simple: One phone call, one contact person, one dedicated team that speaks your language and knows your equipment and process. This is not an empty promise. It is backed by a network of 550 service specialists for separation equipment and systems as well as service centers all around the world.

A TRUE FULL-SERVICE PROVIDER

Whether you need spare parts, rentals, local service, repairs, upgrades, or modernization of your equipment, ANDRITZ Separation is your service specialist in all aspects of separation. From initial consulting through to service agreements, process optimization, and training programs, we are always looking for ways to minimize downtime and increase predictability in operations while raising your overall production efficiency. In short, we've got you covered.



LOCAL SUPPORT

Responsive local service centers and field service technicians



REPAIRS & UPGRADES

Optimization of machine and process performance, repair work, retrofitting, and modernization



SECOND-HAND & RENTALS

Certified second-hand and rental machines



TRAINING

Operator training and tailored seminars for operating and maintenance personnel



OEM SPARE PARTS

Filter cloths, spare and wear parts from OEMs or with OEM level quality, all readily available



SERVICE AGREEMENTS

Preventive maintenance, contracts for spare parts, maintenance, inspections, repairs, upgrades, operation, and equipment monitoring



PROCESS OPTIMIZATION

Automation tools and process expertise to boost your profit



LAB AND ON-SITE TESTS

Lab and testing capabilities for process optimization and machine upgrades





WHAT'S YOUR SEPARATION CHALLENGE?

ANDRITZ Separation is the world's leading separation specialist with the broadest technology portfolio and more than 2,000 specialists in 40 countries. For more than 150 years, we have been a driving force in the evolution of separation solutions and services for industries ranging from environment to food, chemicals, and mining & minerals. As the OEM for many of the world's leading brands, we have the solutions and services to transform your business to meet tomorrow's changing demands – wherever you are and whatever your separation challenge. **Ask your separation specialist!**

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