

Krauss-Maffei VZU-G gypsum centrifuge



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Top performance

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 provides gypsum slurry as an end product with good reusability. High purity levels and low residual moisture are best obtained using Krauss-Maffei vertical centrifuges. ANDRITZ KMPT has extensive experience in gypsum dewatering, as well as in corrosion and wear protection as it has over 400 machines operating successfully worldwide. Continuous improvements to our machines guarantee reliability and maximum efficiency.

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 m²

Soilds content

10-70 M%

Average particle size

20-100 µm

Soilds throughput

up to 10 t/h

Main applications

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

Materials of construction

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



Krauss-Maffei vertical centrifuge for gypsum dewatering

Krauss-Maffei VZU-G gypsum centrifuge

Process advantages

■ Krauss-Maffei centrifuges outperform belt filters

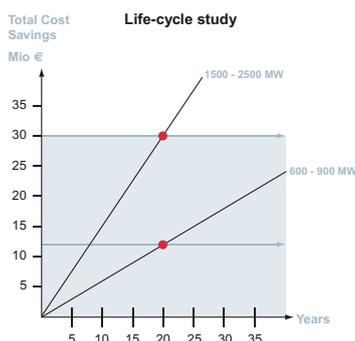
When it comes to gypsum dewatering, Krauss-Maffei vertical basket centrifuges offer major advantages over belt filters. The benefits include significant cost savings, lower cake moisture, lower power consumption, reduced floor space requirements, cleaner and quieter processing, and less spare installed 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 belt filter installations when dewatering gypsum. A 20-year life-cycle study of a typical 600-900 MW power plant (60 TPH gypsum) shows that using Krauss-Maffei vertical basket centrifuges instead of belt filters 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.



Interior view



Installation with 42 gypsum centrifuges



■ **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 belt filters. This means that spare capacity requirements are minimized. To assure 99.5%+ availability, only one spare machine is needed for every 6 operating machines. Belt filters typically require 50-100% installed capacity to maintain the same reliability.

■ **Centrifuges require less space**

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

Summary

Whenever low residual moisture, high purity, and maximum flexibility are required in response to changing process parameters, the Krauss-Maffei vertical centrifuge is the most suitable and efficient equipment for gypsum dewatering.



Installation examples

View of the drive side

Krauss-Maffei VZU-G gypsum centrifuge

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

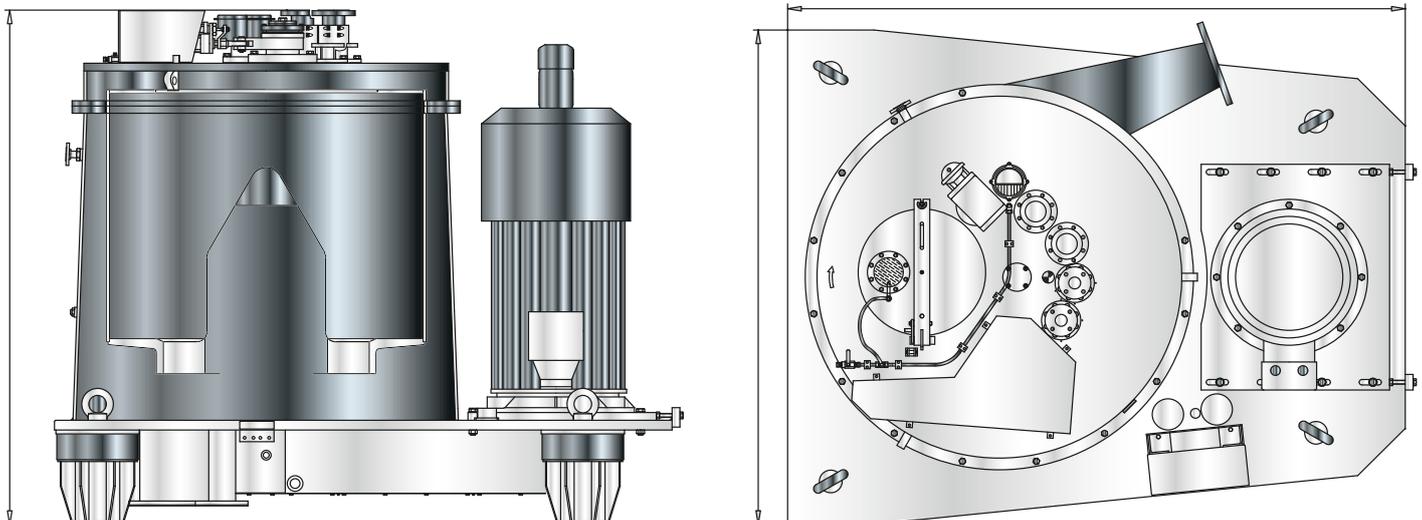
Technical data

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 1,750 kg/m³at 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.



ANDRITZ KMPT Services



Refurbished equipment

Our goal is to provide our customers with fast and reliable service, from the first process consultation throughout the entire service life of your ANDRITZ KMPT process equipment.

To assist our global customer base, we operate service facilities around the world staffed with experienced, dedicated service teams.

Spare parts

We keep over 6,000 different spare parts and components in stock for you. Our service centers in the USA, the UK, Italy, France, and China, for example, maintain their own spare parts stock to enable faster delivery to your plant site.

Reconditioned units

We maintain a select stock of reconditioned units available for fast delivery from our facility. All machines are fully disassembled, inspected and reconditioned by replacing worn or damaged parts. A final test run validates the mechanical guarantee we provide with our refurbished equipment. With our factory reconditioned units you gain production capacity quickly with minimal capital investment.



Commissioning

Repairs and maintenance

Our service centers are ready to provide you with regularly scheduled maintenance or emergency service at your site. Our experts provide assistance including assembly work, installation support, commissioning, upgrades, repair work, and optimization of your process conditions.

Advisory service

Our customer service team is ready to answer any question concerning machine safety, equipment upgrades, and process optimization.

Installation and commissioning

Our experienced service personnel assists you with the installation and start-up of your equipment.

Remote diagnostics

Using modern communications and diagnostic systems, our customer service is able to offer even faster and more efficient support. Via remote access our specialists receive information on the operating condition of your machine and carry out fault diagnoses. Maximum data security is of course guaranteed at all times. We only access the data from your machine when you give your specific approval for us to do so.



Spare parts

24-hour on-call service

You can reach our skilled and experienced service team around the clock.

Maintenance contracts

We offer you tailor-made, long-term contracts for preventive maintenance of your equipment.

Customer training

We train your operating personnel during commissioning of the plant. In addition, we also offer you seminars for maintenance and operation of our entire line of process equipment. This training can be conducted at our site or yours.

ANDRITZ stands for ultimate know-how in solid/liquid separation. Our decade-long background in this field and comprehensive technology offering enable us to supply our customers with the best solution for each application, whether in municipal or industrial sewage sludge treatment, the chemical or food industry, or for preparation of minerals and ores.



Food



Chemicals



Minerals



Mining



Environment

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