



SEPARATION

HIGHLY RELIABLE PRESSURE FILTRATION

THE KRAUSS-MAFFEI
PRESSURE DRUM FILTER TDF

ANDRITZ

ENGINEERED SUCCESS

Highly reliable pressure filtration

When it comes to pressurized drum filtration, there is always a basic challenge to overcome – achieving low residual moisture at high capacities. With its fully automated operation, ease of maintenance, and flexibility in use, the Krauss-Maffei pressure drum filter TDF stands for reliability in quality, at low production costs and high efficiency.

Especially for fine and, in particular, ultra fine-grained products, pressurized filtration is the technology of choice to achieve an increased specific filtration rate and higher product quality. The Krauss-Maffei pressure drum filter TDF comes in a closed design, which allows processing of toxic products under inert gas. When conventional methods have to pass or are becoming insufficient, our pressure drum filters are the right choice to meet your separation requirements efficiently and reliably. Operation at pressures of up to 10 bar and temperatures of up to 200 °C are thus no obstacle anymore.

MAIN APPLICATIONS

- Plastic intermediates (e.g. BPA, PTA, PET, melamine, etc.)
- Iron ore beneficiation pigments (e.g. iron oxides)
- Titanium dioxide
- Coal preparation
- Dyestuff
- Soda
- Food
- Pharmaceuticals

MATERIALS OF CONSTRUCTION

- Carbon steel
- Stainless steel

YOUR BENEFITS

- High flow rates at low residual moisture and high washing efficiency
- Optimized hydraulic efficiency
- Easily accessible process area, locking of pressure vessel with fast clamp ring
- Maintenance-friendly, wear-resistant discharge system
- Suitable for effective steam pressurization
- Processing of suspensions at high pressures and temperatures
- Handling of toxic products
- Adaptable differential pressures for each filtration zone

PROCESSING PARAMETERS

Operating principle	Pressure filtration
Operating mode	Continuous
Cake discharge	Scraper, roller
Particle size	1-300 µm
Filter area	0.1-41 m²
Filtration capacity	1,000-10,000 l/m²h
Solids throughput	Up to 9,000 kg/m²h
Pressure operation	Up to 10 bar
Operating temperature	Up to 200 °C

OPERATION

The suspension to be filtered is fed continuously to the filter trough. Depending on the application, different systems are available to guarantee homogeneous mixing of the slurry. Thanks to the special designed pendulum agitator from ANDRITZ Separation, sedimentation of the solids is prevented.

The shell of the filter drum is divided into cells and is covered by a filter cloth. Approximately 30% of the filtration area is submerged in the suspension and the drum rotates at up to 6 rpm.

The Krauss-Maffei pressure drum filter TDF operates with overpressure inside the pressure vessel, forcing the liquid to filter through the filter cloth. Inside the control head, the drum surface is divided into different process steps: cake formation, cake wash, removal of moisture, discharge, and cloth wash. In the course of one revolution, each point of the drum area passes through these zones in succession.

The filtrate drains off through hydraulically optimized suction cells, filtrate pipes, control head, and separator. The filtered solids layer emerges from the slurry as the drum rotates, and is then washed, dried, and removed from the filter cloth. The wash liquid is applied to the cake either directly by washing devices (weirs, spray nozzles) or through a wash belt placed on top of the solids layer.

The filtrates from the washing zones can be drained off separately, enabling multi-step counter-current washing. The filter cake is discharged by means of a discharge device covering the entire drum width and which is specially suited to the cake thickness, consistency, structure, etc. (scraper, roller). As the drum rotates, it is re-immersed in the suspension.

The filter cloth can be cleaned before the next filtration cycle, either with water jets or with bubbling. If the pressure level in the connecting process steps is different to the operating pressure of the Krauss-Maffei pressure drum filter TDF, a rotary valve is used for equalization.



Krauss-Maffei pressure drum filter TDF with open housing

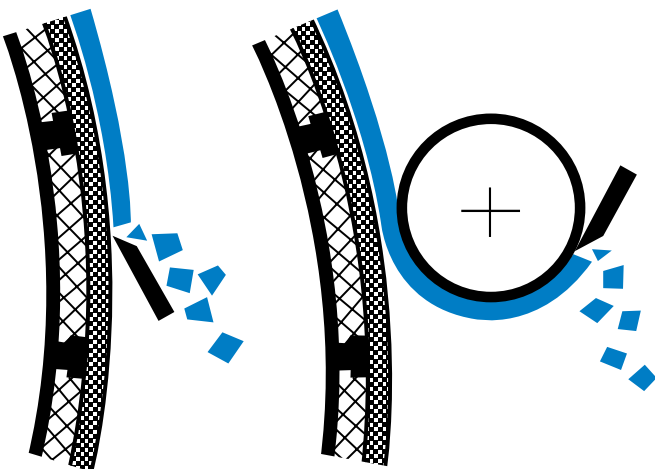
YOUR SAVINGS

Lower investment costs due to

- Reduction of the total number of machines employed in the process
- Smaller foot print
- Less peripheral equipment needed

Lower operation costs due to

- Lower specific energy consumption
- Fewer spare parts needed
- Optimized design for ease of inspection and time savings
- Lower maintenance costs
- Minimized downtimes



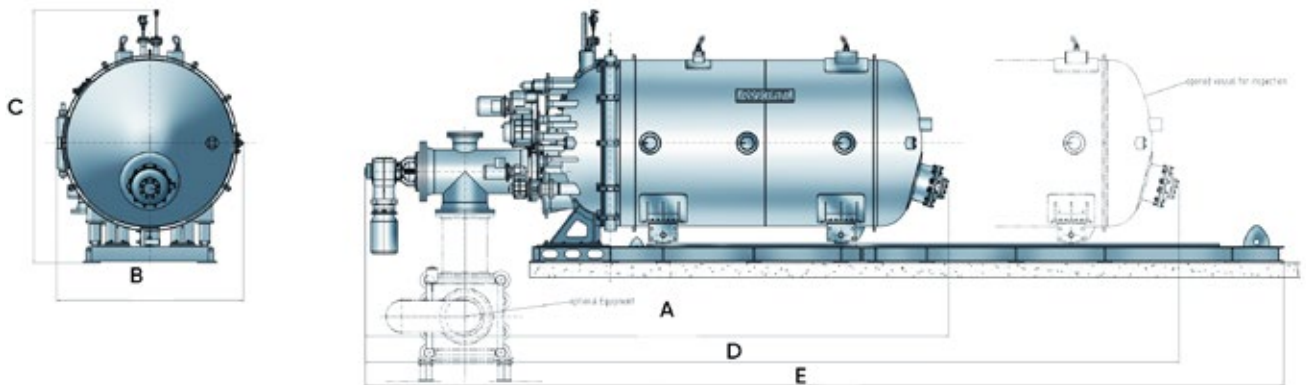
Scraper discharge

Roller discharge

Technical data

	Unit	TDF 9.2	TDF 13.1	TDF 20.9	TDF 26.2
Filter area	m ²	0.72–4.3	6–12	16–26	29–41
Drum diameter	mm	920	1,310	2,090	2,620
Drum width	mm	250–1,500	1,500–3,000	1,500–4,000	3,500–5,000
Number of cells		20	20	24	24
A	mm	3,200–4,550	6,550–8,050	8,350–9,850	10,400–11,900
B	mm	2,300	2,575	3,600	4,650
C	mm	2,650	3,475	4,350	5,375
D	mm	4,750–6,000	9,700–11,200	12,750–14,250	14,900–16,400
E	mm	5,100–6,350	11,150–12,650	14,275–15,775	16,300–17,800
Weight (without product)	t	6.35–7.5	13.5–22.0	32.8–36.5	45.0–51.0
Weight (with product)	t	6.53–7.95	14.2–23.6	35.3–39.9	48.5–56.5

All information is subject to change.



Outline of the Krauss-Maffei pressure drum filter TDF

Intelligence for machine and process control

With Metris addIQ, you have 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.

METRIS addIQ CONTROL SYSTEMS

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 have 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. addIQ control systems are part of Metris, the ANDRITZ brand for digital solutions.



Metris
ANDRITZ Digital Solutions



ANDRITZ offers a broad and constantly growing range of innovative products and services in the industrial digitalization sector under the brand name Metris, helping customers to enhance plant efficiency and profitability, optimize the use of resources, achieve constant and highest product quality, reduce production downtime, and maximize user-friendliness.



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, 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 machines 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 – all companies that 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 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



LAB AND ON-SITE TESTS

Lab and testing capabilities for process optimization and machine upgrades



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



SECOND-HAND & RENTALS

Certified second-hand and rental machines





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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