



# UNLIMITED FILTRATION

STARDISC vacuum disc filters

**ANDRITZ**



No solution on the market can match our latest disc filters in terms of sheer scale, or with such high filtration rates. This gives our customers a major boost to their tailings capacity and brine yield, with nearly one-third less downtime.



With a pair of our STARDISC vacuum disc filters, a solar evaporation plant in South America achieved 135 t/h in additional brine yield and 300,000 t/y in additional production capacity.

# Are you ready to make our stars your heroes?

At ANDRITZ, it is our ambition to reach the highest levels of performance and quality. As a strong partner around the globe, we are dedicated to finding the right solution for your separation challenge thanks to our network of highly qualified specialists. We leverage worldwide synergies to provide you with sophisticated technologies, extensive know-how, and excellent services.

## **YOUR TRUSTED PARTNER FOR VARIOUS APPLICATIONS**

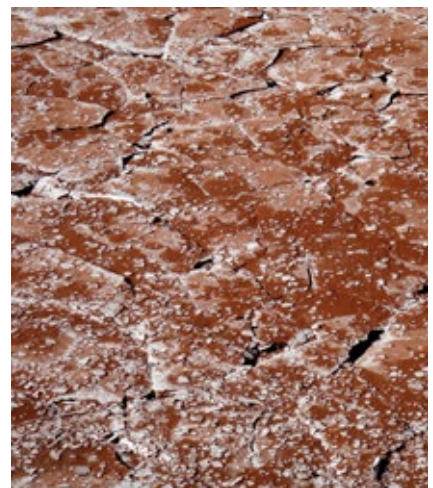
For many years, we have been cooperating with the main players in the mining and minerals industry in order to improve the efficiency of their separation processes, covering applications from alumina to coal to potash and more. In addition, the chemical and environmental industries have profited from the exceptional performance of our vacuum disc filters as well.

Meanwhile, we can look back on more than 60 years of experience with over 500 vacuum disc filter installations worldwide – a track record that not only underscores our status as the global separation specialist but also as a strong partner for a wide range of customers in different industries, even providing sustainable solutions for the environmental market.

## **WANT TO KNOW WHAT'S IN IT FOR YOU?**

ANDRITZ provides you with the optimum equipment for your separation challenge: Based on our continuous R&D efforts aimed at developing state-of-the-art separation technologies, we make it our business to help you achieve your objectives in highly competitive markets.

So if you want to know what's in it for you, just turn over to the next page and learn more about the STARDISC product family of vacuum disc filters. It offers well-established technologies that have been applied successfully for the filtration of various products and might just provide the solution you have been looking for.



For more than 60 years, ANDRITZ Separation has provided efficient vacuum disc filter solutions to a wide range of key industries – from the mining and minerals to the chemical and environmental industries.

# Two stars, one result: success

Do you want to increase yield and product quality? Would you like to combine that with low production costs and minimum environmental impact? The STARDISC product family of vacuum disc filters offers you a highly efficient filter operation to achieve these objectives and gives you a decisive competitive edge. It provides a maximum level of flexibility and is based on proven technologies that you can rely on – day after day.

## **MODULAR SYSTEM FOR HIGHEST FLEXIBILITY**

STARDISC unites two vacuum disc filter designs that have made a name for themselves in different industries and many applications. Together, these popular disc filters allow you to cover the widest possible range of applications in vacuum disc filtration.

Thanks to its modular filter design with different diameters and a variable number of discs, the STARDISC product family offers you an unrivaled level of flexibility: It can be tailored to meet your specific process needs and provides solutions for a variety of industries, ranging from the mining and minerals to the chemical and environmental industries.

## **STARDISC**

STARDISC separates the toughest materials by means of the tried-and-tested ANDRITZ VSF vacuum disc filter technology. It has a compact common trough with an agitator and, therefore, is especially suitable for products with high solids densities. Reliable throughput is guaranteed by a common piping concept.

## **STARDISC XL**

Based on the proven Krauss-Maffei SSFE disc filter technology, the STARDISC XL allows you to use the largest disc diameter. Thanks to the special design of the filter segments, maximum throughput is achieved with a remarkably small footprint. The STARDISC XL has a self-agitating single trough for optimum slurry handling and individual piping for reliable dosage of blow-back pressure.

**FLEXIBLE  
DESIGN**

**PROVEN  
TECHNOLOGY**

**RELIABLE  
OPERATION**

**EXPERTISE IN  
AUTOMATION**





## MAIN APPLICATIONS

- Alumina
- Potassium
- Non-ferrous ores
- Mining (e.g. coal, iron ore)
- Chemicals (e.g. PVC)
- Environmental (e.g. water treatment)

## MATERIALS OF CONSTRUCTION

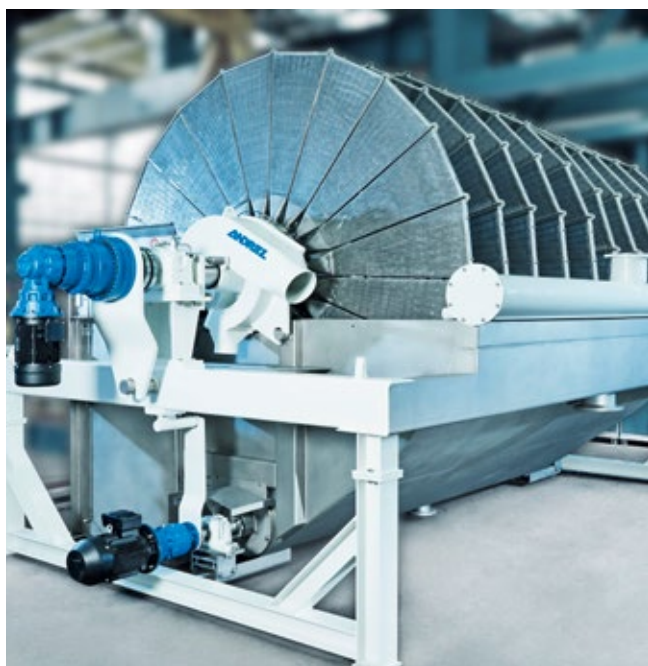
- Carbon steel
- Stainless steel
- Plastic filter cells (optional)
- Special materials

## PROCESSING PARAMETERS

Operating principle	Vacuum filtration
Operating mode	Continuous
Particle size	1-800 µm
Filter area	42-252 m <sup>2</sup>
Solids recovery	Excellent

## YOUR BENEFITS

- Tailor-made solutions to fit your process requirements
- Highest specific throughput while maintaining a small footprint
- Individual filtrate discharges for the cake building and cake drying zones
- Fast and easy filter cloth replacement
- Robust design
- Quick mounting of filter cells and two-part control discs for minimized maintenance effort



STARDISC



STARDISC XL

# Fits your toughest needs in every process

**FLEXIBLE  
DESIGN**

With their multi-tasking capabilities, the STARDISC vacuum disc filters are real all-rounders in the world of separation. The various designs perfectly fit your process conditions and your space requirements. No matter if your needs are focused on maximum yield, best product quality, highest efficiency, or optimum usage of resources, STARDISC makes the difference.

## **SMALLEST FOOTPRINT**

In general, disc filters are the most space-saving solutions in separation. In order to take you to the next level, the STARDISC vacuum disc filters have been engineered to achieve the desired throughput with the smallest possible footprint.

## **GREATEST FILTER VARIETY**

With our modular system, you are able to obtain the filter area best suited for your capacity requirements:

You can choose from different diameters and adapt the number of discs used to vary the filter area between 42 and 252 m<sup>2</sup>.

## **WIDEST CHOICE OF FEATURES**

With the STARDISC product family, you can also benefit from a large number of specially designed features that optimally fulfill specific process conditions. Discover the features on page 7 to find out which STARDISC is most suitable for your materials and individual requirements.

	Disc diameter [m]	Discs per unit	Filter area per disc [m <sup>2</sup> ]	Filter area per filter [m <sup>2</sup> ]
STARDISC	3	5	12	60
	3	6	12	72
	3	8	12	96
	3	10	12	120
	3.7	8	17.6	141
	3.7	10	17.6	176
	3.7	12	17.6	212
	3.7	14	17.6	247
STARDISC XL	5.6	1	42	42
	5.6	2	42	84
	5.6	3	42	126
	5.6	4	42	168
	5.6	6	42	252

Special sizes available on request.



### FILTER DISCS IN DIFFERENT SIZES

Ultra-thin steel filter segments (also in stainless steel) minimize the required system volume. 20 or 30 filter cells reduce the specific volume and enlarge the cake building zone (less dead zones).



STARDISC: Smaller disc diameters allow for a compact trough to avoid the settling of heavy products.



STARDISC XL: Large disc diameters enable maximum throughput at minimum footprint.

### TROUGH OPTIONS FOR OPTIMUM SLURRY HANDLING

A common trough with an agitator for highest solids densities as well as a fluid-optimized, self-agitating single trough are at your disposal.



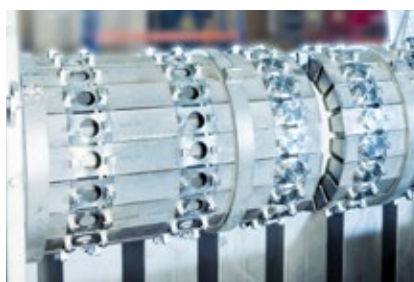
STARDISC: The common trough is applied with an agitator, making the filter suitable for products with highest solids densities.



STARDISC XL: The special geometry of the single trough design generates perfect fluid dynamics and turbulences.

### PIPING FOR RELIABLE THROUGHPUT

Filtrate pipes handle discharge of the filtrate. Depending on the product, two different piping options are available: common piping and individual piping.



STARDISC: The common piping concept is the perfect combination of compact design and hydraulic efficiency.



STARDISC XL: Individual piping ensures reliable pressure dosage, and the maximum hydraulic area, even with largest disc diameters.

# Excellent performance for high capacities

PROVEN  
TECHNOLOGY

Several process areas define the filtration process. When the filter disc rotates, the filter segments pass through each process area. The different process areas are controlled and sealed off by the specially designed control head and the corresponding sealing disc.

## CONTROLLED SUSPENSION FEEDING

The suspension is fed continuously into the trough and flows in the same direction as the rotating filter discs. Each filter disc is divided into filter segments. They rotate at 30–360 rph, and approximately 40–52% of the surface area submerges into the suspension. The feed level in the trough is kept constant by weir plate or level regulation.

## RELIABLE CAKE FORMATION

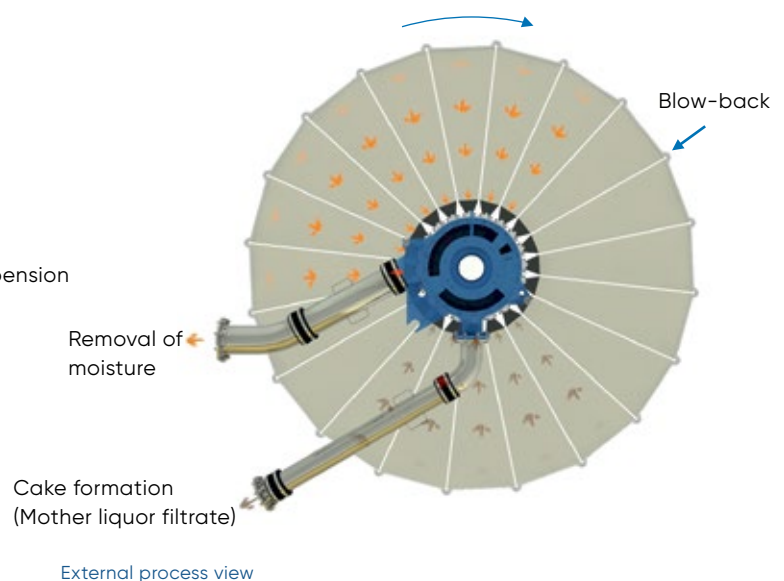
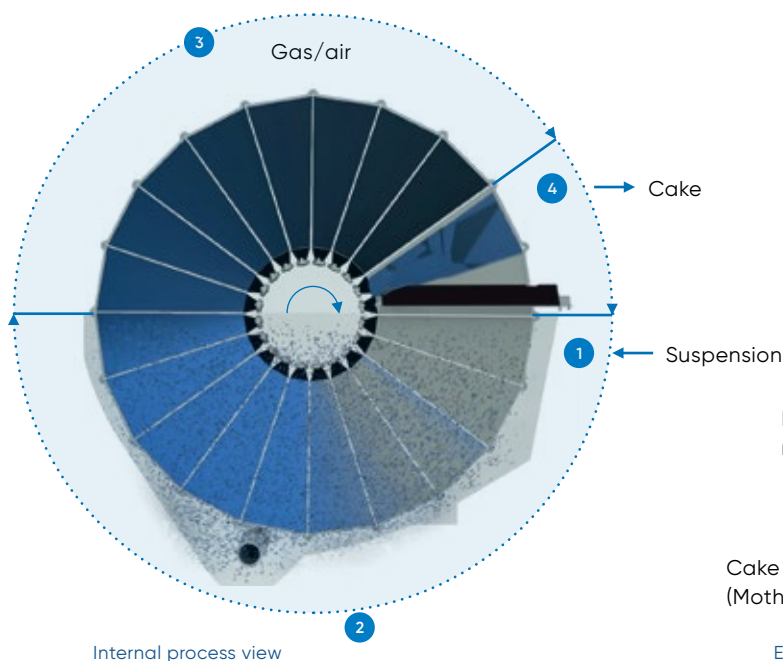
A vacuum is produced in the segment-shaped filter cells, which are covered with a filter bag. The liquid

filters through the filter cloth, while the solid matter forms a filter cake of uniform thickness on the filter cloth and emerges with the disc from the trough.

## EFFICIENT REMOVAL OF MOISTURE AND CAKE DISCHARGE

As the disc filter rotates, the moisture is removed from the cake, which is discharged from the cloth at the end of this zone by means of compressed air (blow-back). The cake is discharged into the chute and further processed.

- 1 Feed
- 2 Cake formation
- 3 Removal of moisture
- 4 Cake discharge





# Optimum cleaning and easy maintenance

RELIABLE  
OPERATION

The STARDISC product family offers sophisticated features to ensure fast and reliable operation, giving you greater convenience.

## **EFFICIENT FILTER CLOTH CLEANING**

The specially designed filter cloth washing device maintains the quality of the weave at a constant, high level. The cleaning process can also be carried out in continuous mode during operation and extends the lifetime of the cloth to the maximum possible.

## **MAXIMUM HANDLING COMFORT**

The STARDISC product family provides all essential factors for easy maintenance: Smart design, easy access to all relevant components and the process area of the filter, quick removal of essential parts that need maintenance at regular intervals, and minimized use of tools.

## **EASY FILTER SEGMENT SERVICE**

Thanks to the intelligent quick-mounting system of the filter segments with bayonet fastening, the segments can be maintained and serviced easily with minimum effort. The system is designed in accordance with the highest standards, enabling operators to perform all necessary actions without additional support.



# Optimized solutions for your convenience

EXPERTISE IN  
AUTOMATION

Metris addIQ is a cutting-edge automation solution that enhances process control and machine performance from new installations to upgrades that extend the lifecycle. Designed for STARDISC vacuum disc filters, the Metris addIQ control system ensures seamless integration, quick start-ups and consistently high efficiency. Tailored to individual needs, its empowering customers to increase capacity, save money and master the challenges of the digital age.

## SMART CONTROL, READY TO SCALE

The Metris addIQ control system offers modern, robust automation for the STARDISC vacuum disc filter – based on proven PLC and HMI technologies from leading manufacturers. It supports seamless integration into higher-level control systems and enables secure remote access upon request. Designed for intuitive operation and efficiency, the system supports consistent usability across machine and plant levels.

To expand performance even further, the Metris addIQ control system is available with three modular extensions:

## METRIS addIQ CONNECT

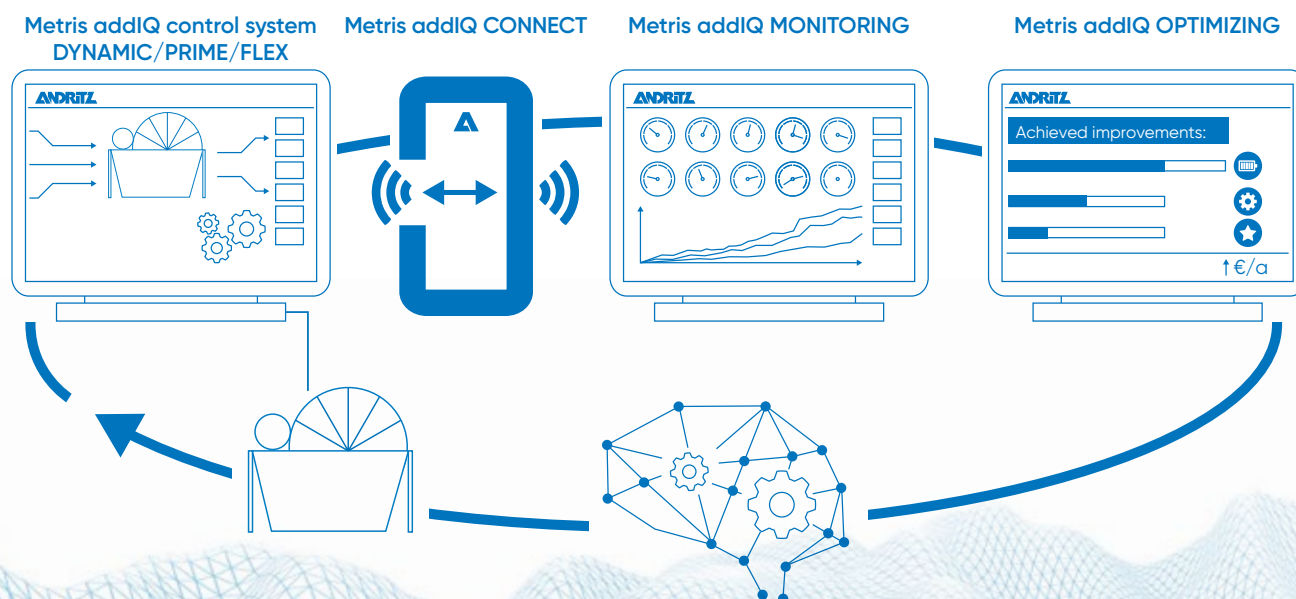
Enables secure remote support and direct interaction between your machine and ANDRITZ specialists.

## METRIS addIQ MONITORING

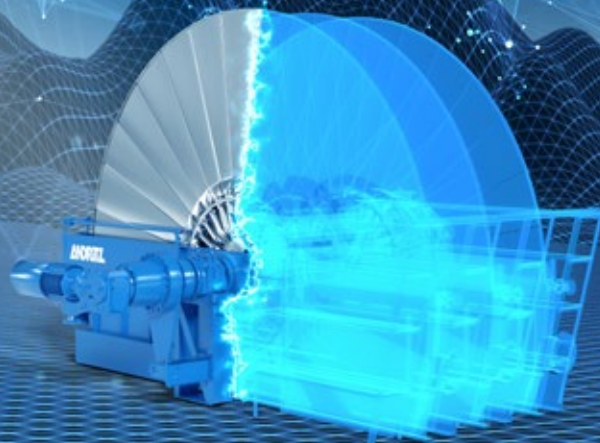
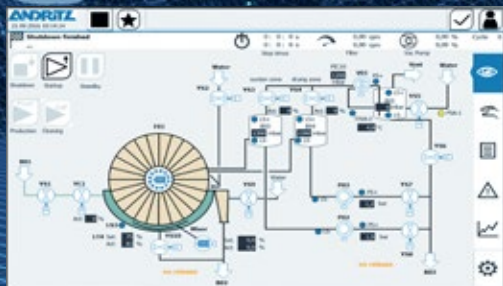
Provides 24/7 real-time access to monitor the operating status of your machine – anytime, anywhere.

## METRIS addIQ OPTIMIZING

Combined with the expertise of ANDRITZ specialists, it reveals potential opportunities to ensure your machine performs at its best.







### SAFETY FIRST

Many safety requirements have to be considered, e.g. HAZOP, risk analysis, the European Machinery Directive, or ATEX. For CE conformity, the machine and the control system must be seen as one unit. As a one-stop shop, ANDRITZ can provide you with state-of-the-art safety solutions from a single source.

### PREPARED FOR DIGITALIZATION

With Metris addIQ, your equipment is ready for the demands of digitalized industrial operations. Built on advanced PLC technology, Ethernet-based communication, and integrated smart sensors, the system provides a strong foundation for Industrial IoT applications. Optional modules such as dashboards for predictive maintenance, energy monitoring, and performance analytics are available – and continuously evolving to meet future needs.

### SUPPORT FOR QUALIFICATION AND VALIDATION

We have many years of experience in assisting our customers with qualification and validation tasks in compliance with the criteria of good manufacturing practice (GMP) and good automated manufacturing practice (GAMP).

### OPERATOR TRAINING AND CERTIFICATION

ANDRITZ offers special training courses for its automation systems. In order to achieve the best possible results, we use individually tailored training systems that apply order-specific software for machine and process simulations. An ANDRITZ certificate proves that its recipient has successfully completed the training and is qualified to work with the respective system.

### YOUR BENEFITS

- Highly efficient automatic production processes
- Compliance with safety requirements
- Compliance with GMP and GAMP
- Use of state-of-the-art automation software
- Easy web access and remote monitoring
- Tailored operator training and certification

**INSTALL METRIS  
addIQ CONTROL  
SYSTEM ON YOUR  
NEW STARDISC OR  
UPGRADE YOUR  
EXISTING ONE**



# Test our lab: we're all about finding the optimum solutions for your processes

ANDRITZ operates fully equipped test centers in close vicinity to its customers, offering both lab-scale and pilot-scale equipment.

Our experienced separation specialists will advise you in order to determine suitable technologies from our wide portfolio that are most appropriate for your product. We also include the upstream and downstream process tasks in our considerations and evaluate single-step or multiple-step process solutions, typically trying to reduce the number of subsequent unit operations. In a first set of lab-scale trials, these technologies will be compared in an unbiased and independent review. Then, a second set of larger-scale tests will determine in detail the process parameters needed to optimize the operating conditions in your process.

We will provide a complete report recommending the best solution for your solid/liquid separation process, including scale-up information for the production equipment. Process warranties can be provided, even for new products. In addition, we can assist you in running long-term trials at your site with equipment from our rental machine pool.





# Your full-service provider

With ANDRITZ, you gain access to one of the world's largest OEM manufacturers for solid/liquid separation systems, including such well-known brands 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 & Blecher, Royal GMF Gouda, Sprout Bauer and Vandenbroek.

Whether you need spare parts, rentals, local service, repairs, upgrades, or modernization of your equipment, ANDRITZ is your true full-service provider. 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. Wherever you operate, our network of 550 service specialists and global service centers ensures we'll always be there to support you for many life cycles to come. Let's sit down and see how we could take your operations to the next level.



#### 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

# Technical data – STARDISC

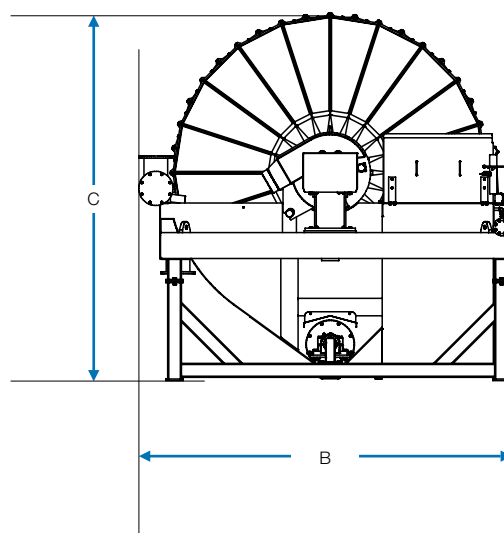
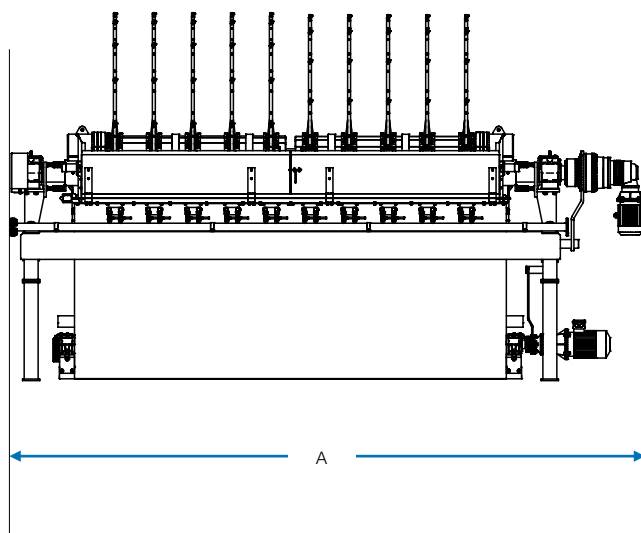
## DESIGN: FILTER CELLS WITH ROD FASTENING

Filter type	Filter area [m <sup>2</sup> ]	Discs per unit	Cells per disc	Disc diameter [m]	A [m]	B [m]	C [m]	Weight empty [t]	Through volume [m <sup>3</sup> ]	Drive	
										Filter [kW]	Agitator [kW]
STARDISC 60/5	60	5	20	3	4.1	4	3.55	10.6	4.8	4	4
STARDISC 72/6	72	6	20	3	5	4	3.55	12.4	5.7	4	4
STARDISC 96/8	96	8	20	3	5.9	4	3.55	15	7.6	4	4
STARDISC 120/10	120	10	20	3	6.8	4	3.55	17.6	9.5	4	4

## DESIGN: FILTER CELLS WITH BAYONET FASTENING

Filter type	Filter area [m <sup>2</sup> ]	Discs per unit	Cells per disc	Disc diameter [m]	A [m]	B [m]	C [m]	Weight empty [t]	Through volume [m <sup>3</sup> ]	Drive	
										Filter [kW]	Agitator [kW]
STARDISC 120/10	120	10	20	3	7.3	3.6	3.55	15.9	8.7	7.5	11
STARDISC 141/8	141	8	20	3.7	6.4	4.3	4.25	17.6	7.6	7.5	11
STARDISC 176/10	176	10	20	3.7	7.3	4.3	4.25	20.7	9.5	7.5	11
STARDISC 212/12	212	12	20	3.7	8.3	4.3	4.25	24.3	11.4	11	15
STARDISC 247/14	247	14	20	3.7	9.2	4.3	4.25	29	13.3	18	15

All technical data are approximate and subject to change without notice.



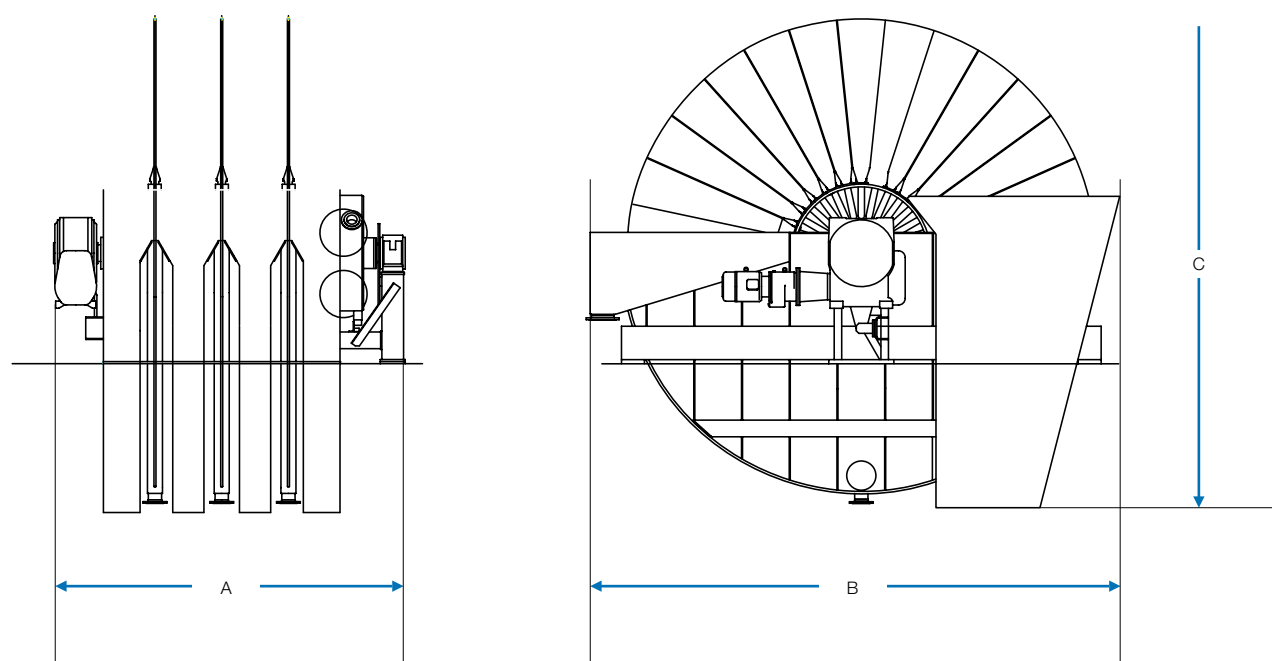


# Technical data - STARDISC XL

## DESIGN: FILTER CELLS WITH BAYONET FASTENING

Filter type	Filter area [m <sup>2</sup> ]	Discs per unit	Cells per disc	Disc diameter [m]	A [m]	B [m]	C [m]	Weight empty [t]	Through volume [m <sup>3</sup> ]	Drive	
										Filter [kW]	Agitator [kW]
STARDISC XL 42/1	42	1	30	5.6	2.6	6.2	5.8	9	2.25	7.5	–
STARDISC XL 84/2	84	2	30	5.6	3.4	6.2	5.8	15	4.5	11	–
STARDISC XL 126/3	126	3	30	5.6	4.2	6.2	5.8	20	6.75	15	–
STARDISC XL 168/4	168	4	30	5.6	6.5	6.2	5.8	25	9	18.5	–
STARDISC XL 252/6	252	6	30	5.6	7.5	6.2	5.8	36	13.5	22	–

All technical data are approximate and subject to change without notice.





## 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.**

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