



SEPARATION

# EXCELLENCE IN SEPARATION PROCESSES

DECANTER CENTRIFUGE F

**ANDRITZ**

ENGINEERED SUCCESS

# Excellence in separation processes for the food industry with the ANDRITZ decanter centrifuge F

With more than 15,000 decanter centrifuges installed around the world, ANDRITZ Separation is one of the global leaders for the supply of centrifuges. ANDRITZ decanter centrifuge F designed especially for the food industry meet the most demanding requirements. Apart from having a high flow capacity, this technology contributes to your success by using various beneficial technical features. Is your application specific? So is our ANDRITZ decanter centrifuge F!

## RELIABLE AND EFFICIENT SEPARATION TECHNOLOGY

Created by combining the best of Guinard Centrifugation and KHD Humboldt Wedag decanter technologies, the decanter centrifuge F is a new generation of decanter that has proven its efficiency and reliability over decades in various industries. ANDRITZ Separation has thousands of satisfied users with this equipment, not only because of its standard characteristics, but above all for the specific features added in the course of time. At ANDRITZ Separation, we know your process and we pay attention to your needs. So each application has its own specially designed decanter with specific features to achieve the best performance and meet your requirements.

## THE TAILOR-MADE DECANTER

For perfect clarification and optimum solids dryness, we adjust the design of the rotor: standard or low angle, L/D ratio, open or plain flight scroll. The scroll speed can be adjusted very accurately thanks to the various possible designs of our gearboxes, which are available in different materials. Our decanter is provided with gravity (tangential or vertical) or pressure discharge (centripetal pump or adjustable skimmer) to ensure the most suitable liquid discharge for your application.

## ADJUSTABLE SKIMMER IN OPERATION

The liquid phase of our decanter centrifuge F is discharged under pressure (1.5 to 2 bar) in both two- and three-phase configurations by means of a skimmer (also named "pipette") that can be adjusted per millimeter during operation. This device ensures better clarification, optimizes the yield when the feed is variable, and avoids downtime because there is no need to stop the machine to change the setup.

## LOW ENERGY CONSUMPTION

Each model is designed for low energy consumption and motors adapted to the needs of your application.

The drive system comprises either:

- Main motor and stepped pulleys for fixed speeds (a frequency inverter can be installed to vary the bowl speed) in order to obtain constant solids content in the feed.
- Main motor and generator (patented), each equipped with a frequency inverter, for adjustable bowl and screw speeds, suitable for most applications.
- Direct drive for more difficult applications. Applying power directly to the decanter's scroll drive reduces the installed power and minimizes power losses.

## EASY DISMANTLING

While you are saving time in production, there is no need to lose time during maintenance! The in-line design of our ANDRITZ decanter centrifuge F allows easy dismantling (requiring only basic lifting equipment and an operator). This configuration provides cost savings in maintenance and handling.



ANDRITZ decanter centrifuge F

# 3 levels of finish

DEPENDING ON YOUR APPLICATION AND THE DESTINATION OF THE FINAL PRODUCT, ANDRITZ SEPARATION EXPERTS WILL RECOMMEND YOU A DIFFERENT LEVEL OF FINISH:

## BASE

**PROVIDING GOOD VALUE FOR MONEY**

Carbon steel frame, plastic cover, wear protection tailored to needs

## PERFORMANCE

**THE ANDRITZ SEPARATION FOOD-GRADE STANDARD MACHINE**

Plain carbon steel frame with stainless steel inside, cover in stainless steel, wash ramps for top performance CIP, and polished if needed for the application

## SANITARY

**DESIGNED TO ENSURE MAXIMUM CLEANLINESS**

Same design as Performance except for frame, which is made of plain stainless steel with integrated casing, and with polishing up to  $RA < 0.8 \mu m$  if needed

### WHATEVER THE LEVEL OF FINISH, YOU CAN BENEFIT FROM THE FOLLOWING STANDARD SCOPE OF SUPPLY

- g-force of 3,000 to 3,500 g
- Three types of motors, depending on your application
- Polishing to the finest level needed for the respective application
- Protection against abrasion (replaceable tungsten carbide wear parts or special material on scroll flight). All wetted parts in SS or Duplex
- Standard washing points (solid casing, liquid casing, feed tube double skin)
- Bowl washing and special added washing points for Performance and Sanitary models
- Metris addIQ control system for decanter centrifuges is linked with your SCADA system - centuries of experience in automation for ease of operation and production optimization

### YOUR BENEFITS

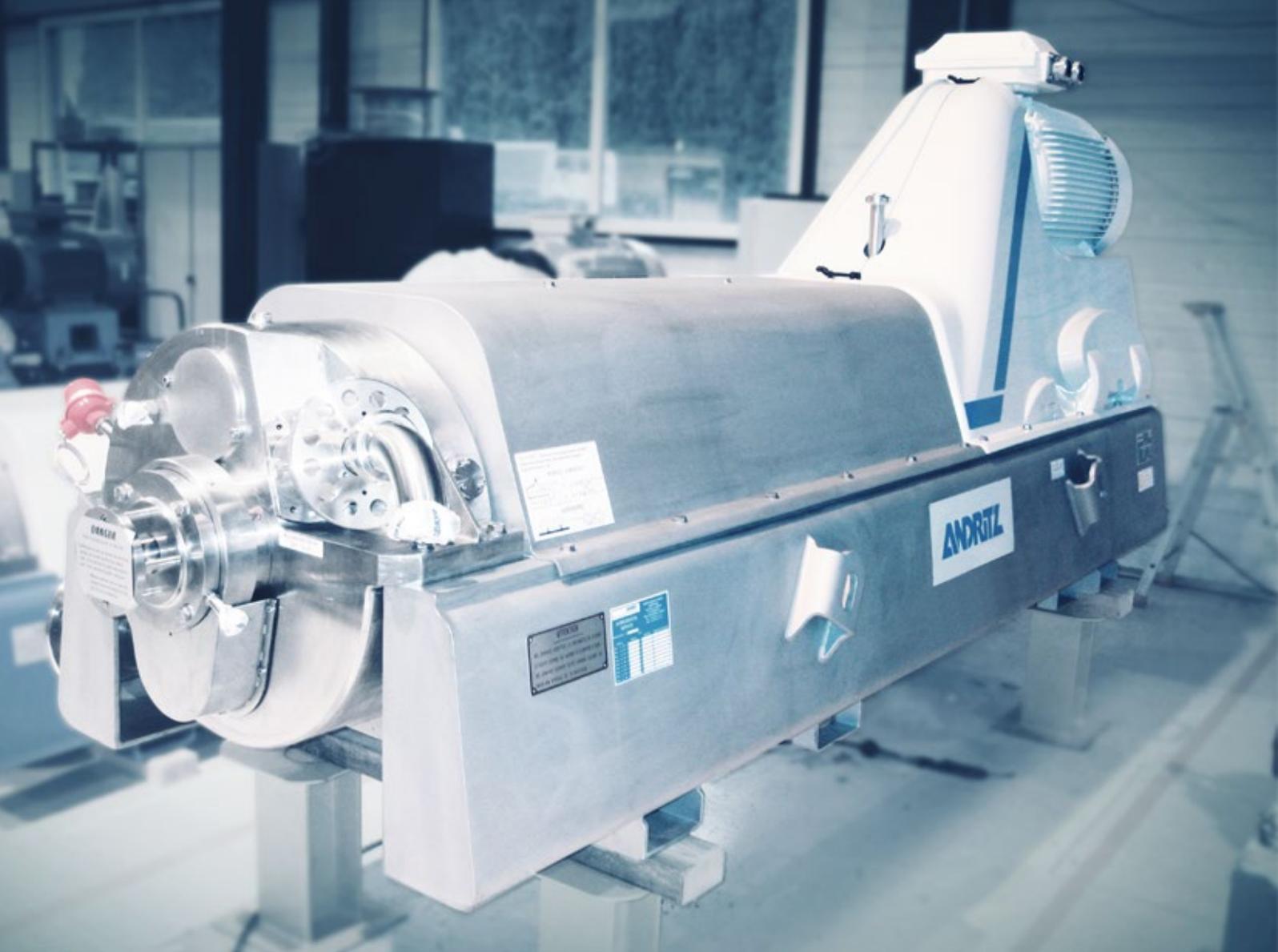
- Three machines in one: heavy or light phase discharged under pressure and two-phase machine with plugs instead of nozzles in bowl for more production flexibility
- Ability to accommodate customer needs and provide best performance due to modular design
- Maximum security with vibration, bearing temperature, and motor probes, washing nozzles integrated into frame and not in cover
- Low maintenance cost and easy dismantling with unique inline design
- Low oxygen pick-up due to discharge under pressure from a hermetically sealed chamber
- Optimum product quality thanks to special feed chamber, ensuring gentle treatment
- Long service life due to robust design and high-grade materials



Unique scroll design



CIP system



## APPLICATIONS

- Animal and non-animal proteins
- Beverage extraction (wine, juices)
- Beverage solid reduction (wine, juices, soya milk)
- Dairy (caseine, lactose, calcium phosphate)
- Oil and fats (olive oil – two and three phases, animal blood, animal fat)
- Green chemicals (starch, proteins, bioethanol, vinasses  $K_2SO_4$ )

... and many other products requiring a separation process!

Model	F2000	F3000	F4000	F5000	F6000	F7000
g-force (g)	>3,500	>3,500	>3,500	>3,500	>3,500	>3,000
Main motor (kW)	11-15	22-37	30-45	45-90	75-110	90-160
Secondary motor (kW)	4-7.5	5.5-11	7.5-22	15-30	15-30	22-37

# 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.



ANDRITZ

# 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, Guinard Centrifugation, KHD Humboldt Wedag, Krauss-Maffei centrifuges, dryers, and filters, Lenser, Netzsch Filtration, Rittershaus & Blecher, Royal GMF Gouda, Sprout Bauer, and Vandebroek – 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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