



# EASY AND EFFICIENT SLUDGE THICKENING

PowerDrum (PDR) drum thickeners

**ANDRITZ**

With more than 30 years of experience in the development and manufacturing of drum thickeners, ANDRITZ has acquired unmatched expertise in this technology. The PowerDrum (PDR) is considered to be an easy and efficient thickening solution prior to the dewatering process and can deal with biological sludge throughputs ranging from 15 to 180 m<sup>3</sup>/hr. With its simple design and small footprint, the PowerDrum is easy to install and requires little supervision and maintenance.



# Drum thickeners for easy and efficient sludge thickening

## PRINCIPLE

The PowerDrum thickeners ensure dynamic thickening by rotating sludge continuously. They are specially designed for pre-digestion treatment (for primary, secondary, or tertiary sludge) or when land liquid spreading is planned. The PowerDrum may also be used to lower the hydraulic capacity of the dewatering equipment installed in the downstream process. The sludge is conveyed inside the drum due to the drum inclination, as well as the combined action of the drum's rotating movement and its internal design. This drum has the special feature of having various filtration stages zone-by-zone along its length, with several polyester or stainless steel belts with various mesh to achieve better separation efficiency.



Quick access to spray ramp

## VENTURI MIXER

Upstream in the process, the Venturi mixer ensures efficient inline flocculation, without additional power consumption.

- Small footprint
- Low energy consumption
- Easy to install
- Lower polymer consumption

## OPERATOR-FRIENDLY DESIGN

- Specific inlet and outlets hatches for process control (flocculation and infeed/outlet dryness)
- Sampling point with manual valve for filtrate quality control
- Sampling point (with manual half-pipe sampling collector) for thickened sludge checks
- Specific rotative washing ramp with specific hatches (for quick access and operator control without stopping the machine). A safety switch stops the water supply when opening
- Specific automatic flushing point for tank cleaning (avoiding manual maintenance, process issues, and clogging)
- Hatches on the main cover allow quick and easy access to perform drum washing or periodical checks



Venturi mixer, inline flocculation system

# Benefits and applications at a glance

## YOUR BENEFITS

- Durable technology (all stainless steel design) for very low wear, and plastic bearing housing to avoid corrosion
- Reduction in sludge volume (up to 90%) before storage or shipment
- Intermittent or continuous self-cleaning thanks to a stainless steel spraybar with PVDF nozzles
- Low power consumption and, consequently, low operating costs
- Entirely closed system to avoid odour pollution, with deaeration flange
- Low space requirement
- Easy maintenance and fast belt removal
- Easy to install (pre-wired); a skid design is available, making the equipment easier to install and move if necessary
- Efficient and reliable design
- Dedicated cover for washing ramp access, with automatic rotation of the ramp to give direct access to nozzles for inspection or cleaning
- Additional hatches for drum inspection and cleaning

## TYPICAL APPLICATIONS

- Thickening of municipal or industrial wastewater sludge
- Thickening of sludge for landfill or other forms of disposal, suitable for small wastewater treatment plants
- Thickening before anaerobic digestion
- Thickening before a belt press or centrifuge – a combined system improves the mass load capacity of the dewatering machine
- Thickening before a filter press
- High thickening (up to 10 %) before specific process



PowerDrum, a durable technology with high thickening capabilities

# Range of ANDRITZ drum thickeners

The PowerDrum is designed to handle flow rates ranging from 15 to 180 m<sup>3</sup>/hr. Depending on the sludge type, input concentration and requested dryness, our separation specialists will recommend you the solution that best suits your process.

MODEL	Ø (mm)	L x W x H (mm)	Motor (kW)	Washwater flow (m <sup>3</sup> /hr)	Washwater pressure (barg)
PDR600L	600	3,300 x 800 x 1,350	0.37	6	8 minimum
PDR900M	900	2,980 x 1,179 x 1,733	1.10	4	8 minimum
PDR900L	900	3,950 x 1,179 x 1,733	1.50	6	8 minimum
PDR900XL	900	4,950 x 1,179 x 1,733	1.50	8	8 minimum
TwinPDR900XL	900	7,300 x 2,170 x 2,228	2 x 1.5	16	8 minimum
PDR1200	1,200	5,665 x 1,650 x 2,260	1.5	13.5	8 minimum



PowerDrum drum thickener PDR 900



PowerDrum drum thickener PDR 1200



# The right solution for any separation challenge

PEACE OF MIND, COST EFFICIENCY, AND SUSTAINABILITY – ALL FROM ONE TRUSTED PARTNER.

Regardless of your industry – whether environmental, chemicals, mining and minerals, or food and beverage – efficient separation processes are essential for high product quality, reduced waste, and the responsible use of valuable resources. With our advanced technologies, comprehensive services, and smart automation and digitalization solutions, we deliver peace of mind today and lasting success for tomorrow – efficiently, responsibly, and with measurable impact. What's more, with us you also gain access to one of the world's largest OEM manufacturers for solid/liquid separation for well-known brands such 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 and Blecher, Royal GMF Gouda, Sprout Bauer, and Vandenbroek.

## SEPARATION EQUIPMENT AND SYSTEMS

- Decanter and filter centrifuges
- Filter presses
- Dryers
- Presses and screens
- Extractors
- Thickeners
- Evaporators and crystallizers
- Disc and drum filters
- Screening and filtration components
- Specialized thermal systems



## FULL-SERVICE OFFERING

- OEM spare and wear parts
  - Maintenance and repairs
- Service agreements
  - Automation and digitalization
  - Machine and process optimization
  - Second-hand and rentals

## AUTOMATION AND DIGITALIZATION SOLUTIONS

Site assessment and integration • Advanced process control and artificial intelligence • Simulation and training • Digital twin technology • Data analytics and prediction • Electrification, instrumentation and controls

# Enabling the green transition

As a technology leader in a changing world, we strive to make a positive impact on our environment. We believe that what we do today can make a difference tomorrow and in the future. We drive change and enable our customers to achieve their sustainability goals and make the world greener with our sustainable solutions in decarbonization, circular economy, renewable energy, and environmental technologies. It all starts with your specific process requirements and ends with a system that gives you the best results – day in and day out, for decades to come.

**ANDRITZ. FOR GROWTH THAT MATTERS.**



## 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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