The decanter centrifuge
High Performances

SEPARATION TECHNOLOGIES

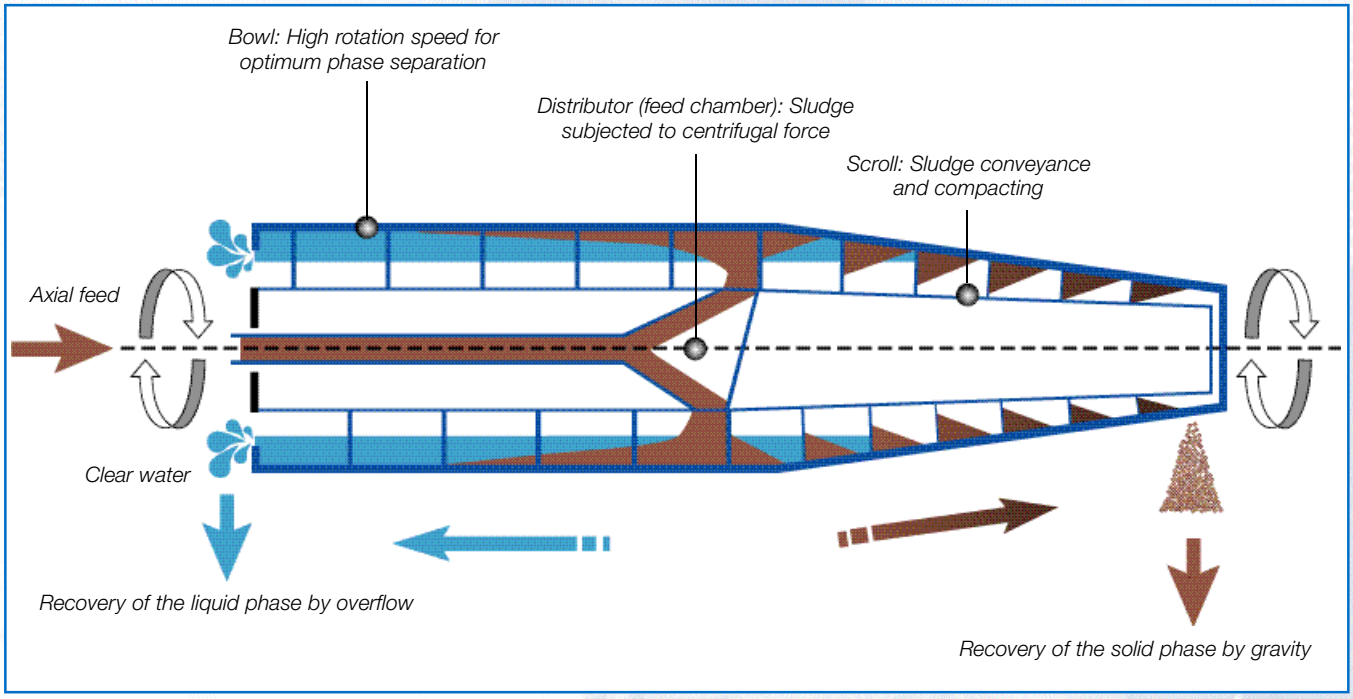
ANDRITZ

Industrial technology perfectly adapted to the treatment of waste water sludge, that ensures:

- Best performance (dryness, capture rate…)
- Continuous and fully automated sludge dewatering plant
- Polyvalent operation (dewatering, thickening with or without polymer…)
- Optimum flexibility (adjustment of operating parameters during operation)
- Well-proven sturdiness…

Operating principle

The decanter uses the principle of natural sedimentation, accelerated by centrifugal force (over 3000 g).



The Andritz decanter

A solution to the crucial problem of future sludge treatment

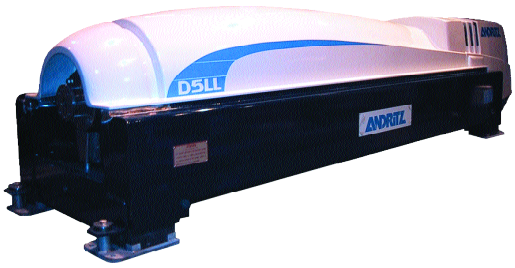
The decanter can be integrated into any additional downstream treatment, allowing your dewatering system to evolve in accordance with new regulations.

- Liming
- Agricultural use
- Composting
- Landfill
- Drying
- Incineration or co-incineration

The decanter allows treatment of difficult and varying sludge qualities with the following benefits:

- No operator supervision (automatic operation)
- No mineral reagents
- Simplified civil engineering (very compact installation)
- No prior thickening, therefore no double flocculation (direct dewatering immediately downstream of a clarifier or aeration pool)
- Clean, efficient and water-saving technology
- Reduced and easy maintenance …

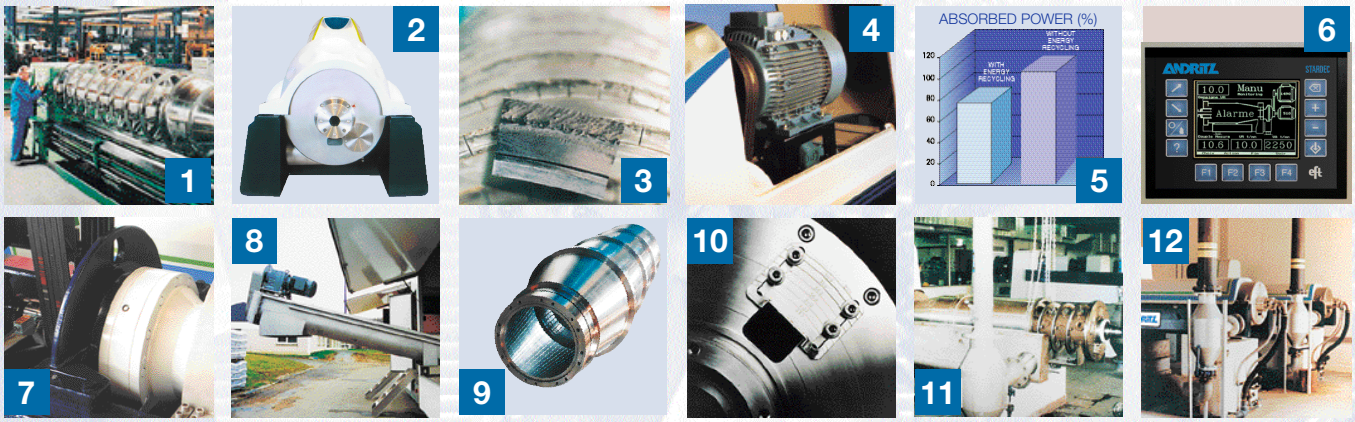
The decanter centrifuge equipped with a specific control system for thickening applications delivers sludge of constant DS content to feed for instance an anaerobic digesters with optimised performance.



Our decanter centrifuge fits in with our customers' needs

- **Our rotor is the most polyvalent available on the market.** Its specific design and open flight permit use of the entire volume and provide extremely good clarification results; extraction of sludge is simplified by the angle, and the acceleration (3000G) is a good compromise between the highest dryness and the right power consumption.
- **The main operating parameters can be adjusted independently of one another and with high accuracy:** bowl speed (efficiency of solid/liquid separation), relative scroll speed (residence time, hence dryness), pond depth (clarification). An unrivalled operational convenience.
- **The polymer dosage is optimised:** Flocculation is carried out at the feed in order to leave sufficient contact time for formation of resistant flocs; the distributor (feed chamber) shape avoids swift polymer passage with centrate whose residence time in the decanter is very short. Well-balanced operating costs.
- **Sizing is performed according to sludge type, flow, expected performance, operating time, power consumption, and polymer dosage…** We provide advice and investigate your project with you…
- **ANDRITZ service: "listen, design, check, support" are our key axioms.** Our expertise and know-how are appreciated all over the world !

Construction



1 Polyvalent High-Performance rotor
Designed by our R&D team to obtain optimum dryness and clarification in dewatering and/or thickening

2 New in-line design
aesthetic, compact and functional

3 New abrasion protection
replaceable tiles all along the scroll flight for optimised life span

4 Speed adjustment by frequency converters
ensures maximum flexibility

5 Patented energy recycling system
from secondary to main motor (reduces power consumption)

6 Control and regulating
- the user-friendly STARDEC unit permits fully automatic operation
- turn-key solutions taking into account the peripheral equipment

7 Special gearboxes
robust and compact

8 Sludge recovery
by a shaftless screw conveyor, with wash water draining off at the bottom of the screw

9 Stainless steel
for an exceptional life span (304L, 316L, Duplex…)

10 Pond depth
easily adjustable

11 Easy dismantling and maintenance
(scroll extraction, lubrication…)

12 De-aerator at effluent outlet
clean, dry and odourless centrifugation room

INNOVATION:
the co-axial driving system (D5LNTC, D5LLTC)
The direct coupling of a synchronous motor to the reducer has a lot of advantages : reduced power consumption, extreme compactness, more and more reliability, simplified maintenance...

Models

From D1 to D12

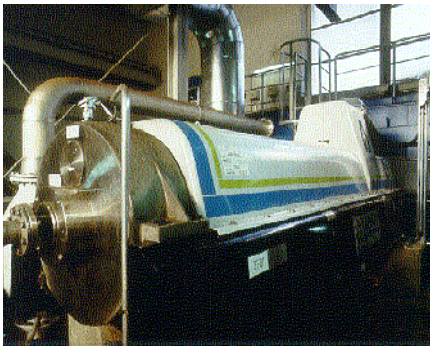
A range of decanters with scale-up factors specifically adapted to treat any required hydraulic flow and mass throughput.

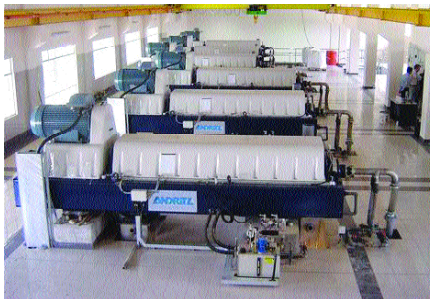
Approximate flow rate (m^3/h) suspended solids ≤ w/w (feed concentration)														
Type	D1	D2L	D3L	D3LL	D4L	D4LL	D5L	D5LL	D6L	D6LL	D7L	D7LL	D10LL	D12LL
	1	6	13	18	28	34	42	65	75	85	100	125	200	280
A range offering variable geometry in terms of diameter, length, and rotor angle.														

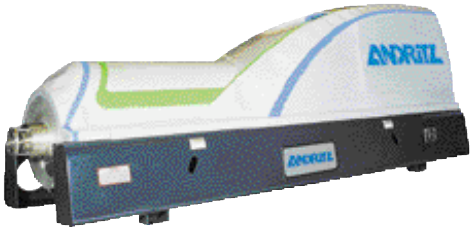
The Andritz strongpoints

- **Ultra-modern factory** symbolising the company's progressive outlook.
- **Testing / R&D Department** equipped with an efficient laboratory and many mobile test units.
- **A Customer Services Department** offering you spare parts, equipment overhauls and repairs, preventive diagnosis and maintenance contracts, training sessions, second-hand or rental machines.

Main applications







- thickening and dewatering of sludge from waste water or water treatment plants
- solid/liquid separation for industry (clarification, classification, ...)
- treatment of pig manure
- 3 phase separation…

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