



# ALDEC G3 decanter centrifuge

Maximum performance, minimum environmental impact



### Taking the technology to an entirely new level

ALDEC G3 decanter centrifuges are a new generation of equipment designed to set a significantly improved standard for both process performance and environment impact, compared with previous generations of such units.

The ALDEC G3 decanter centrifuge is the superior choice for use in dewatering operations intended to make a significant contribution to a sustainable environment. Its innovative design delivers peak performance at all times while reducing total power consumption by as much as 40%, depending on the actual flow rate. This significant reduction in power consumption results in big reductions in CO<sub>2</sub> emissions.

The cutting-edge technology built into the ALDEC G3 design results in glitch-free, reliable operation, as well as energy savings, improved performance and greater efficiency.

### Power consumption becomes power reduction

The ALDEC G3 decanter centrifuge is the result of intense focus on performance, reliability and sustainability – all at the same time.

The Slimline design significantly improves solids handling and helps maximize performance, as well as reducing

the power consumption involved in achieving any required processing result.

The bowl is equipped with specially developed power plates that harness and exploit hydraulic energy to reduce power consumption still further, while the unique 2Touch control system ensures easy, reliable process optimization.

Integrating the Octopus system, which measures and monitors key aspects of the dewatering process and continually adjusts the parameters involved in order to achieve maximum performance, minimizes overall dewatering costs in virtually all cases.

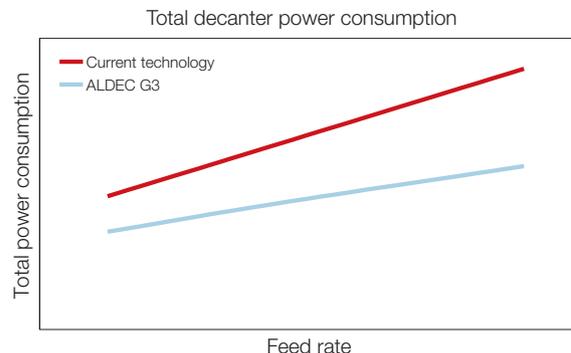


Fig. 1 Power consumption vs. flow rate

**Process optimization**

The ALDEC G3 design includes features like steep cone angle and a progressive pitch conveyor design which combined with the unique baffle disk design ensures a superior performance. A strain gauge torque measurement provides a very accurate torque reading which helps improving the process performance of the decanter.

Further ALDEC G3 decanter centrifuges can be tailored to meet specific requirements by varying:

- Bowl speed to ensure the exact G force required for the most efficient separation.
- Conveying speed to ensure the best possible balance between liquid clarity and solids dryness.
- Pond depth in the bowl to ensure the best possible balance between liquid clarity and solids dryness.
- Feed rate – the ALDEC G3 is designed to handle a wide range of flow rates.

The ALDEC G3 design enables the hydraulic pressure inside the bowl to enhance scrolling through a constriction between the baffle disk and the bowl wall. This means only the very driest fraction of the sludge cake passes from the bowl into the casing through the 360° solids discharge openings.

Separation takes place along the entire length of the cylindrical part of the bowl. The special Slimline design, increases the available volume still further. The clarified liquid leaves the bowl by flowing over adjustable plate dams into the casing.

**Slimline design**

The Slimline design of ALDEC G3 significantly improves processing capacity at the same time as making sure of the most efficient performance currently available.

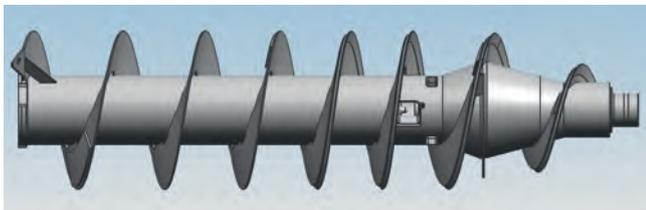


Fig. 2 Slimline conveyor

**Power plates**

Power plates are a feature specially developed by Alfa Laval to effectively reduce process power consumption, by reducing the velocity of the discharged liquid.

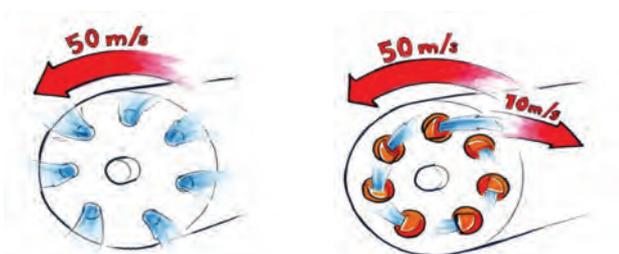


Fig.3 Function of power plates

Some of the discharge velocity from the liquid leaving the unit is captured and re-directed in order to contribute to the bowl rotation. This results in a reduction in the velocity of the discharged liquid, which in turn reduces overall power requirements.

Reducing power consumption also means being able to live up to new environmental regulations and helping to support a sustainable environment.

**Octopus – keeps operating costs to the minimum**

Octopus is an intelligent “autopilot” system specially designed for use in sludge dewatering processes. It is ideal for use with ALDEC G3 decanter centrifuges.

Octopus continually monitors the unit’s operation right around the clock, analyzing even the slightest variations, The system then uses sophisticated software algorithms to make any adjustments necessary to keep the process running at peak performance. Octopus technology also makes it possible to keep overall dewatering costs to their lowest possible level.

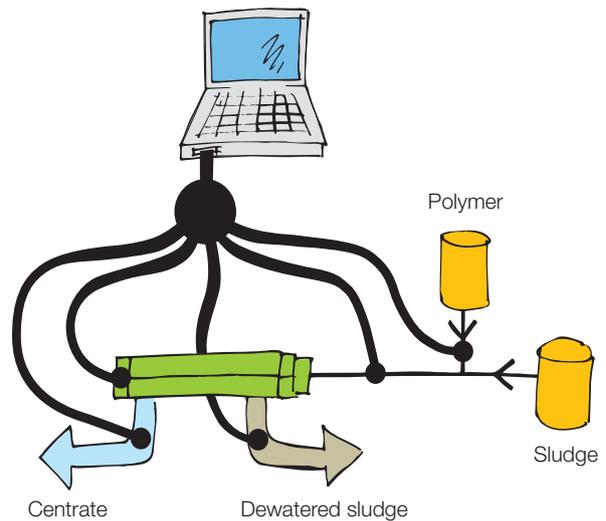


Fig. 5 Principle of Octopus

**Performance made simple**

The ALDEC G3 range features a unique design developed to make it easy to achieve:

- Low power consumption, which also means CO<sub>2</sub> emissions are significantly reduced
- About 10% greater processing capacity for any given equipment footprint
- Reduced life cycle costs
- More efficient handling of bio-solids
- Better process control
- Low maintenance and operating costs.

## 2Touch – world-class control system

Every ALDEC G3 decanter is equipped with a 2Touch control package as standard, pre-installed and tested in conjunction with each particular unit. The combination of 2Touch with the ALDEC G3 ensures the best possible performance, keeping costs for installation, commissioning, operation and maintenance to a minimum.

Additional enhancement packages are also available for the 2Touch control package:

- Maintenance and training aids, including on-line access to manuals, and videos about routine maintenance procedures.
- Service packages for remote monitoring, response and reporting.
- The Cosmos predictive maintenance system for in-depth analysis of maintenance needs, designed to prevent major unplanned downtime.

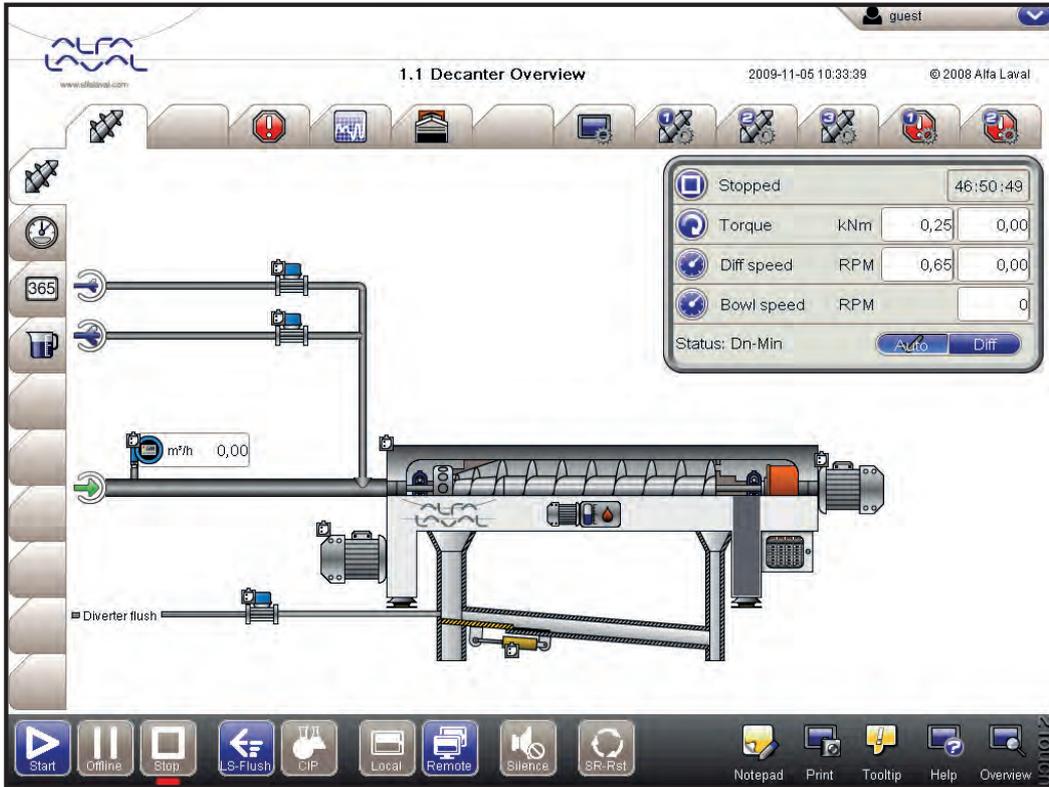
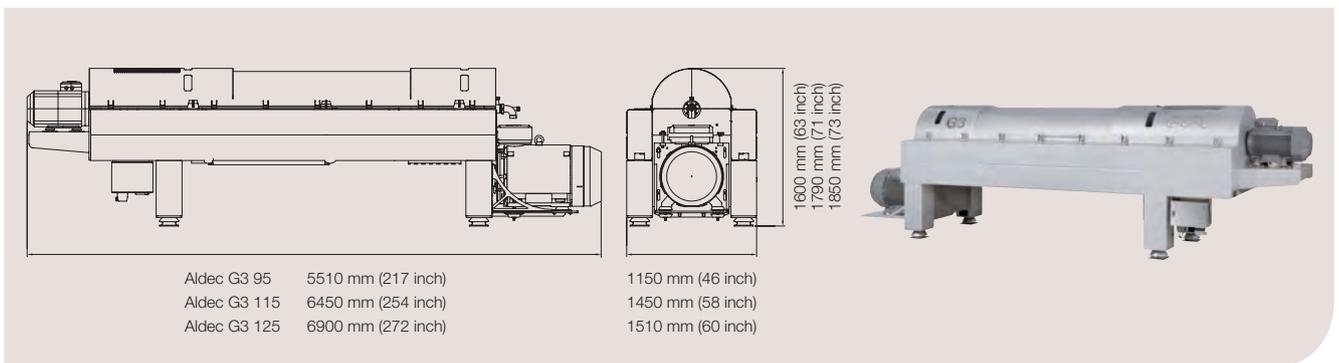


Fig. 4 2Touch screen dump

## Measurements and technical data



Designation	Max. Weight kg (lbs)	Bowl Material	Other product and liquid wetted parts	Typical Main drive Size kW (HP)	Typical Back drive Size kW (HP)	Back drive control
ALDEC G3-95	4500 (9900)	duplex stainless steel	AISI 316	30-45 (40-60)	11/22 (15/30)	VFD
ALDEC G3-115	6500 (14300)	duplex stainless steel	AISI 316	75-110 (100-150)	15/30 (20/40)	VFD
ALDEC G3-125	8600 (18959)	duplex stainless steel	AISI 316	90-132 (125-200)	22/37 (30/50)	VFD

Alfa Laval, the world leader in cutting edge decanter centrifuge technology, is committed to helping customers optimize their processes through reduced power consumption, increased performance, and continuous process optimization.

## The ALDEC G3 is the answer



Please contact Alfa Laval to find out what the potential power savings and performance improvements will be when installing an ALDEC G3 decanter centrifuge.

### How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at [www.alfalaval.com](http://www.alfalaval.com).