

ALDEC G2

Smart Decanter



Cutting-edge technology

Setting new standards in performance and efficiency, the ALDEC G2 comes from the R&D labs of Alfa Laval – the world leader in separation technology.

ALDEC G2 provides extremely high performance – an improvement of up to 30% on previous generations of decanters. This new range also provides continuous operation and easy, trouble-free process control. The G2 features a compact, modular design with all the critical parts made of a highly wear resistant material.

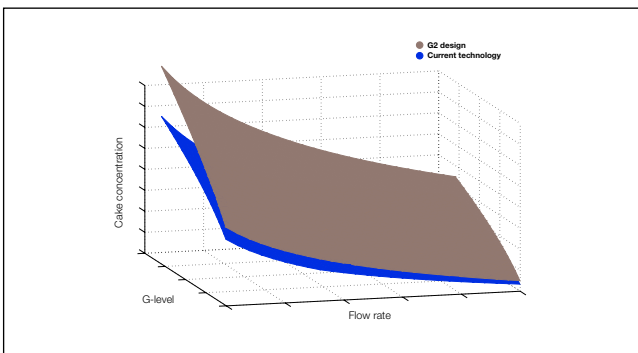


Fig. 1 G2 Performance

The ALDEC G2 – easy to purchase and easy to operate

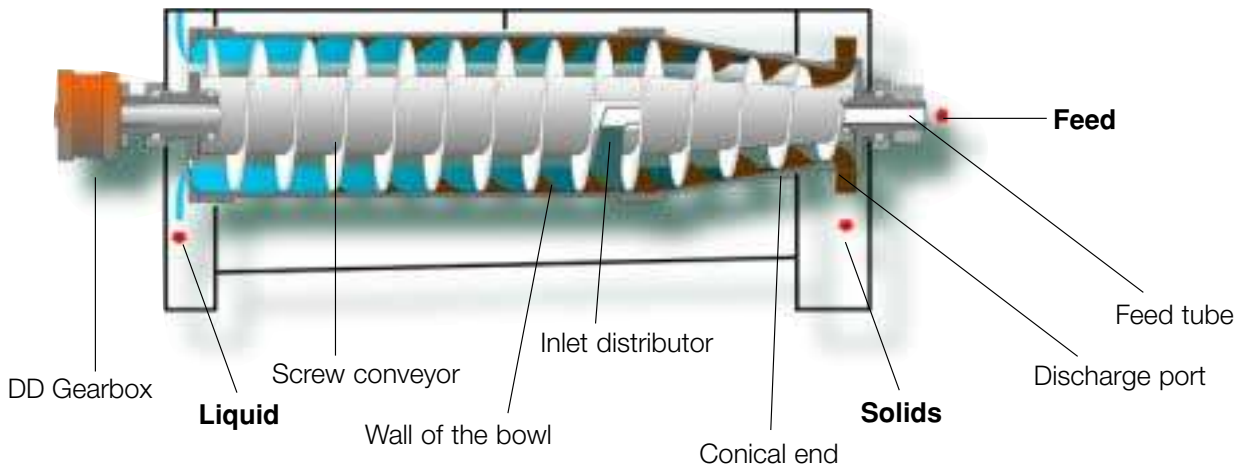
With the new G2 design, you accomplish

- more sludge treated, more efficiently
- better process control
- a high level of erosion protection
- low maintenance costs
- major savings on sludge disposal
- low energy consumption

Enhancement packages

In some cases, the economics of sludge treatment operation can require the addition of one or more special Alfa Laval enhancement packages. You can select between:

- enhanced dewatering package – achieve even greater cake dryness and lower sludge disposal costs.
- enhanced wear protection package – maintenance costs can be reduced still further by selecting more wear resistant materials. This in turn extends service intervals.
- enhanced serviceability package – features that save you time by making both operation and maintenance easier.



Working principle

Separation takes place in a horizontal cylindrical bowl equipped with a screw conveyor. The feed enters the bowl through a stationary inlet tube and is accelerated smoothly by an inlet rotor. Centrifugal forces cause sedimentation of the solids on the wall of the bowl. The conveyor rotates in the same direction as the bowl, but at a different speed, thus moving the solids towards the conical end of the bowl. The new design enables the hydraulic pressure inside the bowl to enhance scrolling through a narrow opening. Only the driest fraction of the cake leaves the bowl through the solids discharge openings into the casing. Separation takes place throughout the total length of the cylindrical part of the bowl, and the clarified liquid leaves the bowl by flowing over adjustable plate dams into the casing.

Process optimization

The decanter centrifuge can be adjusted to suit specific requirements by varying the

- bowl speed to obtain the required G force for optimized separation.
- conveying speed for optimized balance between liquid clarity and solids dryness.
- pond depth in the bowl for optimized balance between liquid clarity and solids dryness.
- feed rate – the Alfa Laval decanter centrifuge is designed to handle a wide range of flow rates.

Design

Alfa Laval designed the ALDEC G2 decanter with a focus on performance, easy access, reliability and low noise levels. The rotating assembly is supported on a compact welded box beam frame with main bearings at both ends. The in-line motor is flange- or foot mounted on the decanter with adjustable brackets for belt tension adjustment. The bowl is driven at the conical end by an electric motor with a V-belt transmission.

The bowl, conveyor, casing, inlet tube, outlets and other parts in contact with the process media are made of AISI 316 and duplex stainless steel.

Direct drive

The direct drive features a unique system developed by Alfa Laval for automatic control of the conveying speed. This ensures optimal balance between liquid clarity and solids dryness, irrespective of any variations that may occur in the feed flow. The direct drive comprises a new type of gearbox and variable frequency drive, which does not expose the bowl drive to parasitic braking power. This simplifies the electrical installation and minimizes power consumption. In addition, the direct drive is capable of accurate control within the complete range of differentials, with no need for changing belts and pulleys.

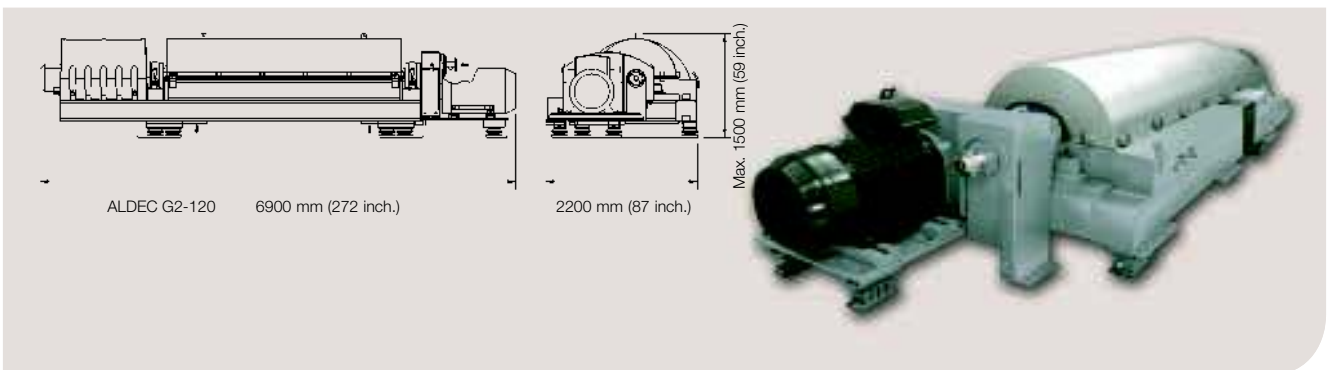
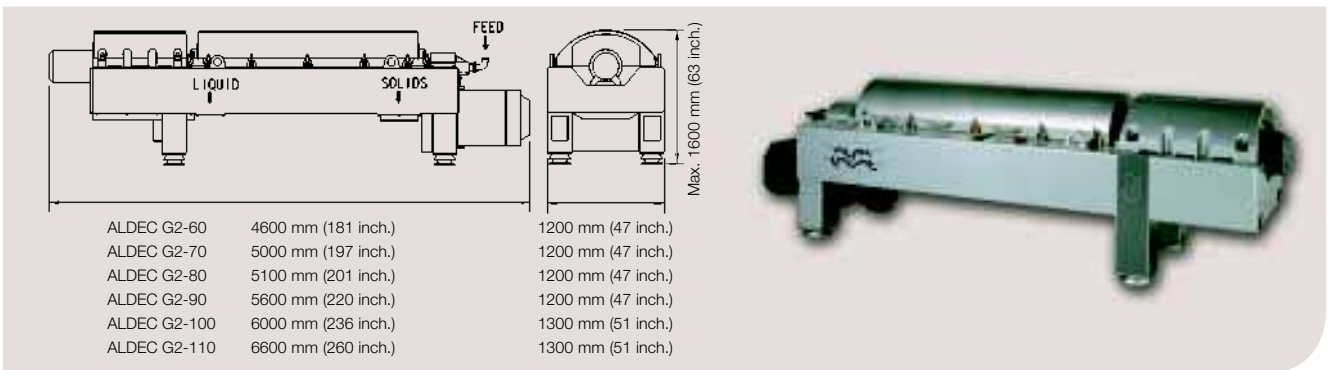
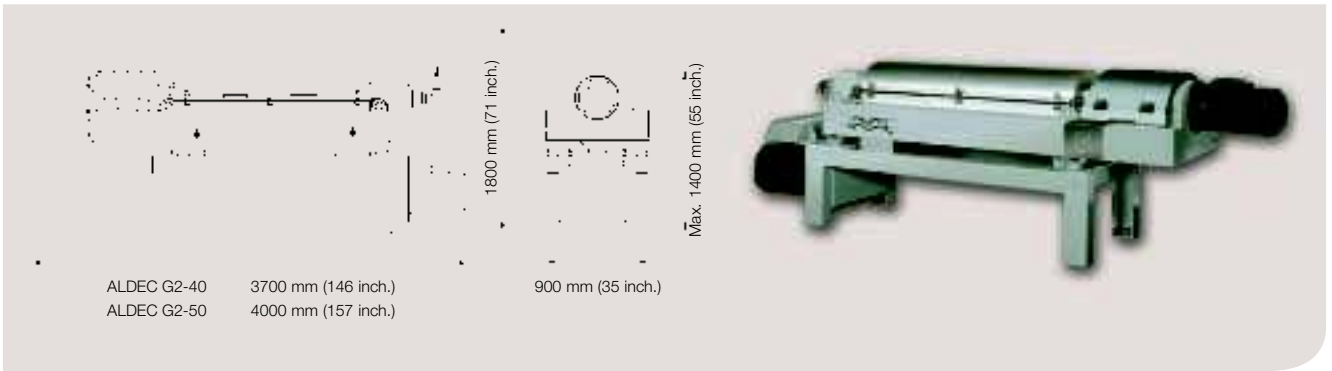
Decanter Core Controller (DCC)

The decanter is controlled by a dedicated control system with a central processor, featuring a graphic interface. The DCC controls the Direct Drive dependent on solids load in the bowl. A number of parameters related to the decanter are also monitored in order to ensure easy, safe and reliable operation – even when performing at maximum levels. External bus options for control equipment from several major manufacturers enable customers to integrate the decanter centrifuge system into their own systems.



Fig. 2 Decanter Core Controller

Dimensions



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)	Start Method
ALDEC G2-40	2200 (4850)	AISI 316	AISI 316	15-22 (20-30)	5,5 (7,5)	VFD
ALDEC G2-50	2400 (5290)	AISI 316	AISI 316	15-22 (20-30)	5,5 (7,5)	VFD
ALDEC G2-60	3800 (8379)	AISI 316	AISI 316	18,5-37 (25-50)	7,5 (10)	VFD
ALDEC G2-70	4200 (9259)	AISI 316	AISI 316	22-37 (30-50)	7,5 (10)	VFD
ALDEC G2-80	5000 (11023)	duplex stainless steel	AISI 316	30-45 (40-60)	7,5/11 (10/15)	VFD
ALDEC G2-90	5400 (11905)	duplex stainless steel	AISI 316	37-45 (50-60)	7,5/11 (10/15)	VFD
ALDEC G2-100	7000 (15432)	duplex stainless steel	AISI 316	37-75 (50-100)	7,5/11 (10/15)	VFD
ALDEC G2-110	8000 (17637)	duplex stainless steel	AISI 316	37-75 (50-100)	7,5/11 (10/15)	VFD
ALDEC G2-120	13000 (28660)	duplex stainless steel	AISI 316	75-160 (100-250)	11-22 (15-30)	VFD

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