Answering the global call for ethanol

Alfa Laval’s complete series of dedicated fuel ethanol decanters are unparalleled in performance, reliability and energy efficiency. It’s the real power of G – on every capacity level.

A family of G

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Alfa Laval in brief

Alfa Laval is a leading global provider of specialized products and engineered solutions.

Our equipment, systems and services are dedicated to helping customers to optimize the performance of their processes, time and time again.

We help our customers to heat, cool, separate and transport products such as oil, water, chemicals, beverages, foodstuffs, starch and pharmaceuticals.

Our worldwide organization works closely with customers in almost 100 countries to help them stay ahead.

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
SG2 fuel ethanol decanters

Alfa Laval has more than 40 years’ experience in processing stillage from grain-ethanol production. Sharples Perfection Centrifuge Co, subsequently acquired by Alfa Laval, first introduced decanter centrifuges to this application and dominated it from the start. In 1974, the equipment was installed in a beverage plant and later in fuel ethanol plants. The lengthy experience is the basis for Alfa Laval’s product portfolio including the latest addition, the SG2 Series. A family with a proud heritage. And some brand new promises.

**SG2 fuel ethanol decanters**

**Main focus on ethanol**
The ethanol industry has been a particularly successful area for Alfa Laval decanters. And as the market for fuel ethanol is booming – forever changing the face of road transportation – Alfa Laval continues to focus closely on developing products for the industry. The SG2 decanter series has been designed and built by Alfa Laval with the specific requirements of fuel ethanol production in mind. SG2 stands for “spent grain, generation 2.”

With over 400 units installed to date, the SG2 generation is the industry’s preferred decanter for fuel ethanol. Alfa Laval is introducing new models to the series and tuning the performance of existing ones. The result is the most cost-efficient, high-volume separation solutions currently available for stillage processing.

**The right choice**
The SG2 Series offers a choice of performance and capacity levels, with bowl sizes ranging from 250 to 740 mm – yielding a throughput from 2 to 100 m³/hr (10-450 GPM[US]). Whether you need to upgrade an existing plant or build a new one, there is always an Alfa Laval SG2 decanter to fit the job.

**Good enough is not good enough**
Our decanter centrifuges are an integral part of the performance and reliability of the entire production line. Each of the acclaimed characteristics to new levels of throughput and energy efficiency.

That’s why Alfa Laval continuously adjusts and fine-tunes the SG2 decanters in response to our customers’ higher requirements. For example:

- To maximize separation efficiency, Alfa Laval has designed an inlet zone that eliminates degradation of the solids feed.
- To optimize the overall decanter performance, the screws conveyors have been adapted to stillage solids.
- To maximize solids handling capacity and minimize bottlenecks in the cake discharge, the outlet has a 360° degree opening.
- To minimize the up time and increase service intervals, wear-prone components have special abrasion protection.
- To avoid corrosion, the optimum grade of stainless steel is chosen for each component, and centrifugal casting of the steel ensures a uniform, flawless material that resists fatigue in high stress operation.

The list goes on.

**A compelling newcomer**
One result of these engineering efforts is the SG2-700, a new decanter that yields the same class, the cleanest control and the lowest energy consumption. It can help you save energy needed for evaporation and drying, 40% in up to 100% improving bottom-line results. Also, the lower price and smaller footprint of the new SG2-700 allow some innovative decanter configurations.

**How the SG2 Series will help you produce more ethanol. While spending less on machines and energy.**


This is exactly what the SG2 Series offers. More for less. Thanks to their well-balanced, straightforward design, top-grade materials and unique control systems, all SG2 decanters operate more reliably and more efficiently than other similar machines – even at centrifugal levels of 5,000 G.

**Engineered for results**
Current design elements of the SG2 Series include the compact in-line support for the rotating assembly and solids dryness – regardless that automatically controls the speed differential between the bowl and the casing. It maintains the optimum balance between liquid clarity and solids dryness – regardless of feed variability. Decanter Core Controls™ in the overall control system. Using a powerful graphic user interface, a technician and controls all vital components to ensure simple, safe and reliable operation.

**Convenient maintenance**
To minimize downtime for planned maintenance, Alfa Laval has made the SG2 Series exceptionally convenient for service with easy access to all parts and rapid assembly/disassembly. Dismantling and remounting the bowels, for example, requires less than 45 minutes.

And thanks to Alfa Laval’s vast international network of service centers, an experienced technician will always be nearby for maintenance and troubleshooting.
SG2. Spent Grain, generation 2. A name that speaks of dedication. And some brand new promises.


For SG2, Alfa Laval has taken the performance and capacity levels, with bowl sizes ranging from 250 to 740 mm – yielding a throughput from 2 to 100 m³/hr (10.45-3,483 GPM) – to another level. Whether you need to upgrade an existing plant or build a new one, there is always an Alfa Laval SG2 decanter to fit the job.

That's why Alfa Laval continues to develop new innovative models to the SG2 Series and catering the performance of handling ones. The result is the most cost-efficient, high-volume separation solutions currently available for stillage processing.

The right choice

The SG2 Series offers a choice of performance and capacity levels, with bowl sizes ranging from 250 to 740 mm – yielding a throughput from 2 to 100 m³/hr (10.45-3,483 GPM). Whether you need to upgrade an existing plant or build a new one, there is always an Alfa Laval SG2 decanter to fit the job.

Good enough is not good enough

Our decanter centrifuges are engineered to performance and reliability levels that meet or exceed the most acclaimed characteristics to new levels of processing efficiency and energy efficiency.

That's why Alfa Laval has designed and built Alfa Laval with the specific requirements of fuel ethanol production in mind. SG2 stands for “spent grain, generation 2.”

With over 400 units installed to date, the SG2 decanter has been industry preferred decanter for decades. Now Alfa Laval is introducing new models to the series and further the performance of handling ones. The result is the most cost-efficient, high-volume separation.

How the SG2 Series will help you produce more ethanol. While spending less on machines and energy.

Dwayne Braun, General Manager, US Bio Platte Valley, Central City, Nebraska, USA.

“We have been very impressed with the performance of our Alfa Laval Decanter centrifuges both from the process performance standpoint as well as the low maintenance requirements. When we first started up the plant, our equipment was running 24/7. We had an experienced technician nearby for maintenance and troubleshooting. Alfa Laval decanter centrifuges for larger ethanol plants

<table>
<thead>
<tr>
<th>Plant Size</th>
<th>40-60 MGY</th>
<th>50-110 MGY</th>
<th>&gt;100 MGY</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG2-600 ethanol decanter</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bowl diameter</td>
<td>575 mm</td>
<td>650 mm</td>
<td>740 mm</td>
</tr>
<tr>
<td>Bowl speed, max</td>
<td>3,075 rpm</td>
<td>3,100 rpm</td>
<td>2,800 rpm</td>
</tr>
<tr>
<td>Capacity</td>
<td>33-60 m³/hr, 155-275 GPM (US)</td>
<td>50-90 m³/hr, 220-400 GPM (US)</td>
<td>65-120 m³/hr, 285-525 GPM (US)</td>
</tr>
</tbody>
</table>

SG2 fuel ethanol decanters

*Actual capacity depends on type and composition of raw material.
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Don’t change a winning team – an old truth. After nearly half a century of successful ethanol processing in the ethanol industry, it might be tempting to sit back and rest on our laurels. Except, that’s completely contrary to Alfa Laval’s business philosophy.

Good enough is not good enough. Our decanter centrifuges are an extension of our vision to exceed the highest expectations. Those acclaimed characteristics to new levels of throughput and energy efficiency.

That’s why Alfa Laval continuously adjusts and fine-tunes the SG2 decanters in response to our customers’ higher requirements. For example:

- To maximize separation efficiency, Alfa Laval has designed an oil seal that eliminates degradation of this critical feed.
- To optimize the overall decanter performance, the screw conveyors have been adapted to solid liquid.
- To maximize solids handling capacity and minimize bottomcakes in the cake discharge, the outlet has a 360-degree opening.
- To maximize the up time and increase service intervals, wear-prone components have special abrasion protection.
- To avoid corrosion, the optimum grade stainless steel is selected for each component. The centrifugal casting of the steel ensures an uniform, flawless material that resists fatigue in high stress operation.

The list goes on.

A compelling newcomer. One result of these engineering efforts is the SG2-700. A new decanter that yields the best of the best. The greatest contrast among the lowest energy needs for evaporation and drying. While the SG2-700 improves bottomline results, also the lower price and smaller footprint of the new SG2-700 allow some innovative decanter configurations.

How the SG2 Series will help you produce more ethanol. While spending less on machines and energy.


This is exactly what the SG2 Series offers. More for less. Thanks to their well-balanced, straightforward design, top-grade materials and unique control systems, all SG2 decanters operate more reliably and more efficiently than other similar decanters operating at centrifugal levels of 5,000 G.

Engineered for results. Common design elements of the SG2 Series include the compact in-line support for the rotating assembly and reliable operation. Unique control systems, all SG2 Series exceptionally convenient and reliable operation.

A family with a proud heritage. And some brand new promises. Don’t change a winning team – an old truth. After nearly half a century of successful ethanol processing in the ethanol industry, it might be tempting to sit back and rest on our laurels. Except, that’s completely contrary to Alfa Laval’s business philosophy.

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