

April 14, 2016 - For immediate release

“On the way to zero discharge” is one of the themes presented by Alfa Laval at IFAT 2016

At the IFAT exhibition in Munich, Germany, from May 30 to June 3, Alfa Laval presents a complete spectrum of technologies and services that help process industries reduce their environmental footprint from water and waste streams by maximizing reuse of water, by turning waste to value and by minimizing energy consumption and waste.

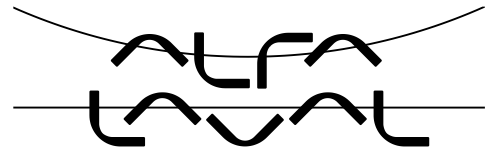
Most industrial processes consume lots of water – a scarce resource. They also generate waste that needs to be treated in order to meet tough requirements, keep the license to operate and perhaps even extend capacity. On the positive side, waste streams often contain valuable resources from the main process, which can be recycled. Alfa Laval has considerably expanded its portfolio and now offers a wide variety of technologies for industrial water and waste treatment. Many of these are on display at Alfa Laval’s stand A1.251 and 01A.11 at IFAT 2016 in Munich.

On-site wastewater treatment – also an untapped water resource

Industrial wastewater varies considerably in specification. Often it is not accepted by the municipal wastewater treatment plant so either pre-treatment or complete on-site treatment is needed. At the same time a world population growing by 75 million every year combined with disappearing natural water resources is a serious challenge. By 2025 two billion people will be without access to fresh water. So every litre saved - or recovered for reuse - in process industries is welcome. In fact, wastewater is an untapped water resource that more and more companies want to explore.

Alfa Laval offers many treatment methods to help meet legislation and make water reuse happen.

- **All-in-one Membrane Filtration Modules for membrane bioreactors (MBR)**, based on Alfa Laval’s patented Hollow sheet technology are characterized by high efficiency, small foot print and operator friendly, gravity based operation. They perform both secondary and tertiary treatment as well as final polishing, and deliver a very clean effluent ready to send back to nature – or for reuse. The system is sold for numerous industrial applications in e.g. food and dairy, [potato starch](#), slaughter houses, fish industry, [winery](#), brewery, soft drinks, textile (wool washing), treatment of oily water for slop oil recovery at refineries, pharmaceuticals and chemicals. [A speciality chemicals producer](#) aims to save 40% on fresh water consumption by reusing their treated wastewater for domestic purpose and cooling towers.
- **Alfa Laval AS-H Iso-Disc® Cloth Media Filters** for tertiary filtration produce a very high quality effluent that can meet legislation on discharge criteria and is suitable for immediate water reuse as it is California Title 22 Certified for Water Reuse Standards. Iso-Disc filters are fully automatic and very compact, requiring substantially less space and capital costs than traditional sand filters. They are sold for treatment of both [municipal wastewater](#), which some [reuse in recreational lakes](#) thereby saving costs for fresh water, and industrial wastewater from e.g. soft drinks and meat production. Iso-Disc is also ideal to remove organic and inorganic pollutants in all industries that require water filtration technology, for treatment of surface water for cooling towers or process water supply, cooling tower side-stream treatment, pre-treatment to produce high purity water.
- **Zero liquid discharge systems – Evaporators and crystallizers** based on Alfa Laval’s recently launched [WideGap 100](#) as well as the AlfaVap heat exchangers are ideal for concentration of effluent, waste reduction and product recovery plus water reuse in many industries. These Alfa Laval technologies enable excellent performance in difficult and high



fouling applications. Examples include anaerobic and salty chemicals effluent, oilfield produced water, reverse osmosis reject, palm oil mill effluent, black water evaporation from olive oil production, ion exchanger regeneration waste, [distillery spent wash effluent](#), brine waste from sugar and starch production as well as power plant applications.

Reclaimed water can be reused in many ways: As industrial process water, for cleaning, cooling towers, irrigation of crops, golf courses, recreational lakes, wetlands or ground water recharge.

Waste-to-value - Recover water and other valuable products

Valuable products are normally lost in waste streams. Alfa Laval can help convert cost to profit and offer various solutions to recover water and other products of value that can be recycled or sold.

- **Recovery of oily waste streams** like e.g. [slop oil that can be converted into a high value hydrocarbon](#) using decanters and high-speed separators.
- **Breweries can recover** 5-7% of the used wort, 2-3% of the beer produced, spent yeast and grains plus obtain up to 50% reduction in water usage with Alfa Laval microfiltration, high speed separators and decanters. Recovered products can be recycled back to the production or sold.
- **Wastewater from oil and gas extraction** can with use of Alfa Laval evaporation systems be recovered with up to [80% for reuse in the production](#).

Waste dewatering - Reduce the amount of waste for disposal by up to 90%

The liquid content of sludge from on-site waterworks, industrial wastewater treatment and waste from operations has a high impact on disposal costs. Alfa Laval offers numerous technologies, including new gravity and press equipment, to effectively separate the liquid phases and achieve a high level of dry solids content, significantly reducing the amount of waste - and thereby costs for transport, disposal and drying.

Cost- and energy-efficient Alfa Laval sludge thickening and dewatering equipment are used to reduce waste volumes in numerous industrial applications such as food, beverage, chemical, pharmaceutical, paper, oil and gas, power, electronics and many more:

- ALDRUM drum thickeners – example from the [paper recycling industry](#)
- ALDEC decanters – example from [plastics recycling](#)
- AS-H plate presses - examples include dewatering of chemically softened sludge from mining
- AS-H belt thickeners – examples comprise dairy, pulp & paper and oil
- Screw presses – examples include dairy, fruit, beverage, wine, electronics, tobacco and fish
- AS-H belt presses – examples in food production for soil removal from wash water and at power plants for fine coal solids separation from rainwater.

Some of these technologies can also be used for mud dewatering (biological and non-biological), mine tailings, pond clean-up and dredging.

Thermal sludge treatment – a short cut to cost saving, heat recovery, Class A compost and biogas

Pre-heating of wastewater sludge using Alfa Laval spiral and tube-in-tube heat exchangers prior to dewatering can cut costs and provide an opportunity for heat recovery. Alfa Laval thermal equipment can also be used for sludge digestion to produce biogas and for sludge hydrolysis and pasteurization to meet even the most stringent environmental legislation and obtain class A or B sludge quality suitable for reuse as compost or fertilizer. For some types of industrial waste, e.g. pharmaceutical, pasteurization of wastewater sludge is a must.



Discover more at IFAT and join the Alfa Laval press breakfast

Visitors to IFAT will have the opportunity to hear much more about the new industrial water and waste treatment solutions from the company's experts at Alfa Laval's stand A1.251, where a number of products are on display.

At IFAT Alfa Laval will host a **press breakfast** at stand A1.251 in hall A1 **Tuesday May 31 at 08.30.**

Want to join? Please contact rolf.lindenberg@alfalaval.com.

For more information, see www.alfalaval.com/IFAT2016

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For more information about Alfa Laval's solutions for industrial water and waste treatment, please visit www.alfalaval.com/industrial-waste.

Images

Please see page 4 and 5 for images and captions. For high resolution images please contact Annette Risberg.

Editor's Notes

Alfa Laval is a leading global provider of specialized products and engineering solutions based on its key technologies of heat transfer, separation and fluid handling.

The company's equipment, systems and services are dedicated to assisting customers in optimizing the performance of their processes. The solutions help them to heat, cool, separate and transport products in industries that produce food and beverages, chemicals and petrochemicals, pharmaceuticals, starch, sugar and ethanol.

Alfa Laval's products are also used in power plants, aboard ships, in the mechanical engineering industry, in the mining industry and for wastewater treatment, as well as for comfort climate and refrigeration applications. Alfa Laval's worldwide organization works closely with customers in nearly 100 countries to help them stay ahead in the global arena.

Alfa Laval is listed on Nasdaq OMX, and, in 2015, posted annual sales of about SEK 39.7 billion (approx. 4.25 billion Euros). The company has about 17,500 employees.

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1. *Most industrial processes consume lots of water – a scarce resource. They also generate waste that needs to be treated in order to meet tough requirements, keep the license to operate and perhaps even extend capacity. On the positive side, waste streams often contain valuable resources from the main process, which can be recycled.*



3. *Wastewater is an untapped water resource. Water reclaimed using Alfa Laval Membrane Bioreactor (MBR) or AS-H Iso-Disc® Filtration can be reused for process water, cleaning, cooling towers, irrigation of crops, golf courses and much more.*



The two photos show wastewater effluent before (top) and after (below) tertiary filtration with the Alfa Laval AS-H Iso-Disc® Cloth Media Filter.



4. *Industrial wastewater treated using Alfa Laval Membrane Filtration Modules for MBR and AS-H Iso-Disc Cloth Media Filters is so clean that it can safely be discharged as final effluent – or maybe reused for process water, cleaning water, cooling towers etc.*

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5. Alfa Laval offers numerous technologies, including new gravity and press equipment, to effectively separate the liquid phases and achieve a high level of dry solids content, significantly reducing the amount of waste - and costs for transport, disposal and drying.



Speciality chemicals producer in India use Alfa Laval MBR to save up to 40% water,

pursuing their Zero liquid discharge strategy.



Alfa Laval Screw Press dewater biological activated sludge, high on fats, oil and grease at a salmon processing factory at a remote island in Chile, where electricity is a scarce resource, eliminating the need – and costs - to transport wet sludge to the main land for dewatering and disposal.



A brewery in Wales saves 5 to 7 % of wort, thanks to an Alfa Laval decanter centrifuge that recovers wort from trub in the whirlpool. In addition, the brewery can add the dry trub material from the centrifuge to the spent grains and sell it for cattle feed.