



Tank Cleaning Technologies a division of
inTank Technologies Limited



Distillery Industry Brochure

Solutions to put you in high spirits



Fixed
Spray Balls



Rotary
Spray Heads



Rotary
Jet Heads



Agitators



ISO-Mix Rotary
Jet Mixers



Valves



Pumps



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Distillery Industry Technologies That Don't Cost the Earth.

Dating back to the 1600s, the UK Distilling industry is deeply rooted in tradition and craftsmanship. As a result, it's important that any sustainability solutions support the industry, while maintaining the traditional methods which have identified it as a key part of the UK's world-renowned cultural heritage.

inTank Technologies supports the Distilling industry by providing the latest in process technology, designed to reduce energy costs, water and cleaning chemical usage, and waste-to-drain, without compromising on product quality.

inTank are the sole supplier of Alfa Laval's highly efficient Tank Cleaning and Mixing equipment to businesses in the UK, and Pumps and Valves to those in Scotland. Alfa Laval products have been a trusted and reliable option for the process industry since the 1970s and are the gold standard throughout the UK Distilling industry.



The Challenges Facing Distilleries

01 Contaminated yeast from previous batches

While many Distilleries embrace a distinctive “house character” by reusing yeast, unmanaged contamination can lead to unpredictable fermentations, “off” flavours, increased acidity, and lower alcohol yields. Without proper cleaning and sanitising, you can't effectively control which microorganisms influence your spirit's character.

02 Energy, water and wastewater treatment costs

With utility costs constantly rising, Distilleries need to become more efficient. Distillation takes a lot of energy for both heating and cooling, cleaning vessels between batches demands plenty of water, and wastewater treatment requires a lot of chemicals.

03 Buildup of organic residues

Effective cleaning solutions that minimise buildup of organic residues are essential for maintaining quality and efficiency. Sticky organic residues are perfect breeding grounds for unwanted bacteria and wild yeasts that can contaminate and even ruin future batches, as well as reducing heat transfer efficiency and affecting mixing performance.

04 Labour and resource-intensive manual cleaning

Though still a mainstay in many Distilleries, manual cleaning is an incredibly costly process. Operators often have to physically enter tanks, and the process uses large volumes of hot water, cleaning chemicals, and energy. Quality automated CIP systems provide considerable savings on water and cleaning chemical usage, and prevent risks to worker safety from hot water and hazardous chemicals.

Process solutions for the challenges above

Rotary Jet Head technology offers an aggressive, high impact, repeatable cleaning performance, ensuring yeast and organic residue from previous batches is eliminated without manual labour, while also reducing cleaning times and effluent to drain.



Alfa Laval TZ-74
Rotary Jet Head



Alfa Laval TJ40G
Rotary Jet Head



Alfa Laval TJ20G
Rotary Jet Head



05 Blockages and recirculated debris from Mash Tuns

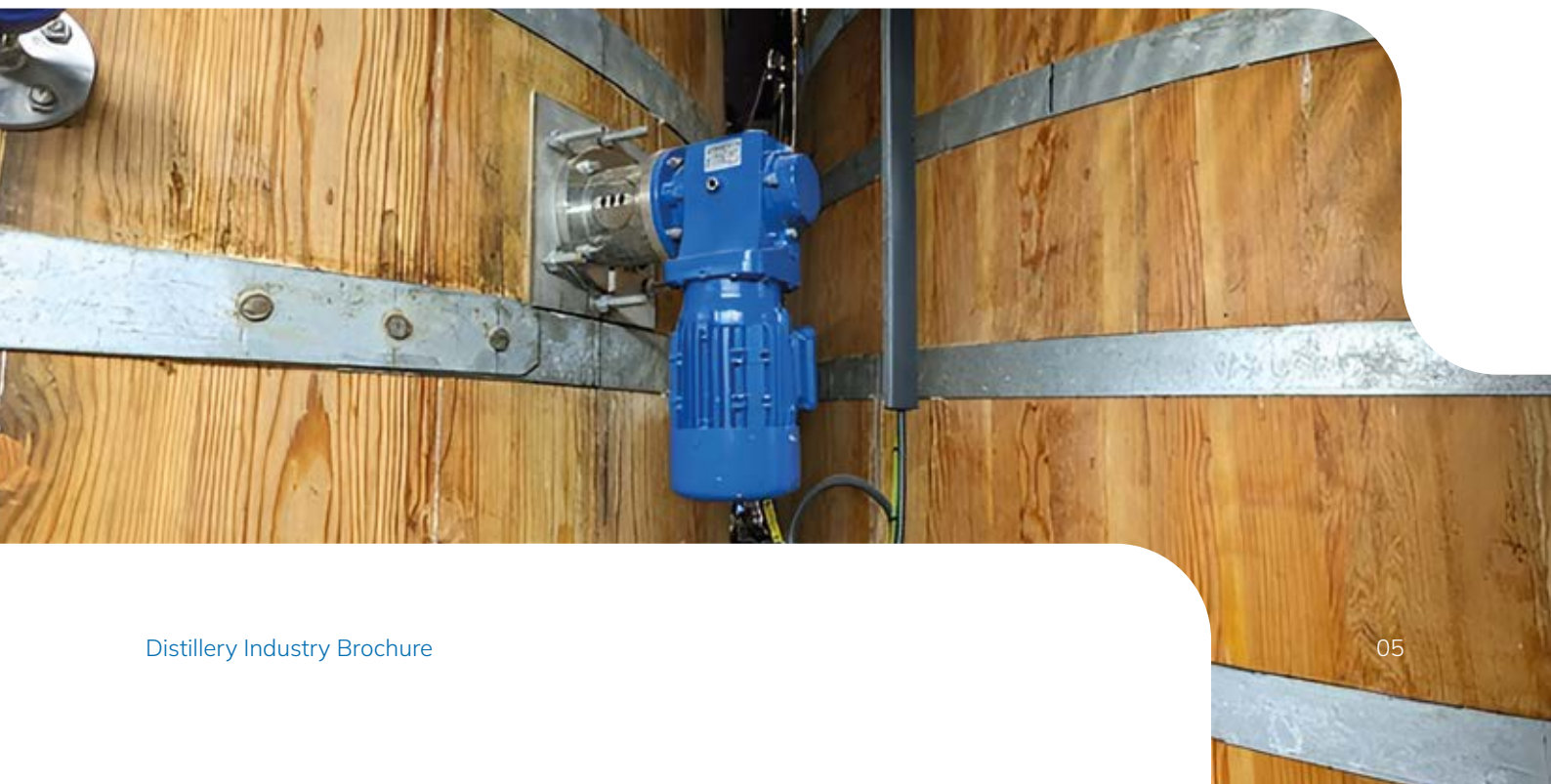
Debris that settles in Mash Tuns is often recirculated during CIP. This can cause blockages and a less effective clean, leading to organic residue buildup and growth of wild yeasts and bacteria, which can detrimentally impact future fermentations.

Process solutions

The [TZ-74 Rotary Jet Head](#) aggressively removes fibrous debris trapped under Mash Tuns' perforated flooring. A 1mm Filter mesh is recommended to extend the operating performance of [Rotary Jet Heads](#), by protecting them from recirculated debris.

Sandwich Plates

inTank offer a Sandwich Plate solution to attach side-mounted Agitators to wooden Washbacks, where welding the Stainless Steel Agitator flange directly onto the side of the wooden surface is not an option. The Sandwich Plate clamps the Agitator mounting flange securely to the side of the wooden Washback.



Alfa Laval's Solutions

Rotary Jet Cleaning Heads

Alfa Laval's [Rotary Jet Cleaning Heads](#) deliver powerful 360° impact cleaning that removes stubborn organic residues from a vessel's interior surfaces. These automated units dramatically reduce manual cleaning requirements, minimising labour and chemical usage and downtime, while guaranteeing consistent, superior cleaning results that protect product quality.

Product	Name	Solution	Technical Data	Applications
	Alfa Laval TZ-74 Brew Kettle Rotary Jet Head	For over 5 decades, the TZ-74 has been the Distilling industry standard for use in Mash Tuns. Offering a repeatable, high-impact 360° cleaning performance, its success is due to its ability to pass recirculated fibrous material through the Cleaning Head, preventing blockages and guaranteeing a high level cleaning performance.	Flow: 11-32m ³ /h Working Pressure: 3-12 bar Vessel Size: 50-500m ³ Impact Radius: 9m Wetting Radius: 15m	Mash Tuns & Spent Drain Silos
	Alfa Laval TJ20G Rotary Jet Head (Distillery Version)	Probably the most recognisable Cleaning Head in the Alfa Laval range, the TJ20G is used in many applications worldwide. This Distillery Version has been specially designed to allow recirculation debris to pass through the Cleaning Head, reducing blockages and increasing reliability.	Flow: 10-13.9m ³ /h Working Pressure: 3-8 bar Vessel Size: 15-150m ³ Impact Radius: 8m Wetting Radius: 14m ATEX & 3.1 Documentation Available	Fermenters & Washbacks
	Alfa Laval TJ40G HD Rotary Jet Head	The latest addition to the Alfa Laval range is the TJ40G Heavy Duty (HD), which is designed to meet the requirements of the Distillery industry's larger process vessels. The nozzles' unique design permits self-cleaning of the TJ40G head's exterior and 60% faster tank cleaning than Static Spray Balls, while the optional burst rinse function enables rapid chemical wetting.	Flow: 15-39m ³ /h Working Pressure: 3-12 bar Vessel Size: 150-2250m ³ Impact Radius: 10.5m Wetting Radius: 21.5m ATEX & 3.1 Documentation Available	Mash Tuns, Storage Vessels, Fermenters & Washbacks

Alfa Laval's Solutions

Rotary Spray Heads

Alfa Laval's Rotary Spray Heads remove residues from tank internal surfaces with a spinning “fan” of pressurised water, delivering consistent coverage with effective mechanical impact. This greatly reduces cleaning times, water and chemical usage compared to Static Spray Balls, and provides a repeatable 360° cleaning performance in Distillery vessels that need full wetting coverage.

Product	Name	Solution	Technical Data	Applications
	Alfa Laval SaniMidget	The SaniMidget is well-suited for vessels up to 10m ³ . Its compact design makes it ideal for cleaning smaller tanks with complicated internals, where organic residues are problematic.	Flow: 4m ³ /h - 6m ³ /h Pressure: 1-3 bar Vessel Size: 0.1m ³ - 10m ³ Impact Radius: 1m Wetting Radius: 3m	Yeast Propagation Vessels, Spirit Receivers, Intermediate Bulk Containers (IBCs), and Ingredient Preparation Tanks
	Alfa Laval SaniMagnum	The SaniMagnum delivers powerful cleaning for Distillery Vessels from 5-40m ³ . With 40% faster cleaning times and up to 40% reduction in water and chemical usage, compared to Static Spray Balls, the SaniMagnum helps Distilleries achieve the same level of cleanliness at a fraction of the cost.	Flow: 5m ³ /h - 18m ³ /h Pressure: 1-3 bar Vessel Size: 5m ³ - 50m ³ Impact Radius: 2m Wetting Radius: 3m	Spirit Receivers
	Alfa Laval SaniMega	The SaniMega Rotary Spray Head is ideally suited for vessels ranging from 50 to 350m ³ . Its controlled rotating fan of cleaning media is especially effective for cleaning vertical Storage Tanks.	Flow: 20m ³ /h - 29m ³ /h Pressure: 2-4 bar Vessel Size: 50m ³ - 350m ³ Impact Radius: 2.5m Wetting Radius: 6m	Whisky Spirit Receivers, Bulk Aging Vessels and Large Washbacks
ATEX & 3.1 Documentation Available				

Alfa Laval's Solutions

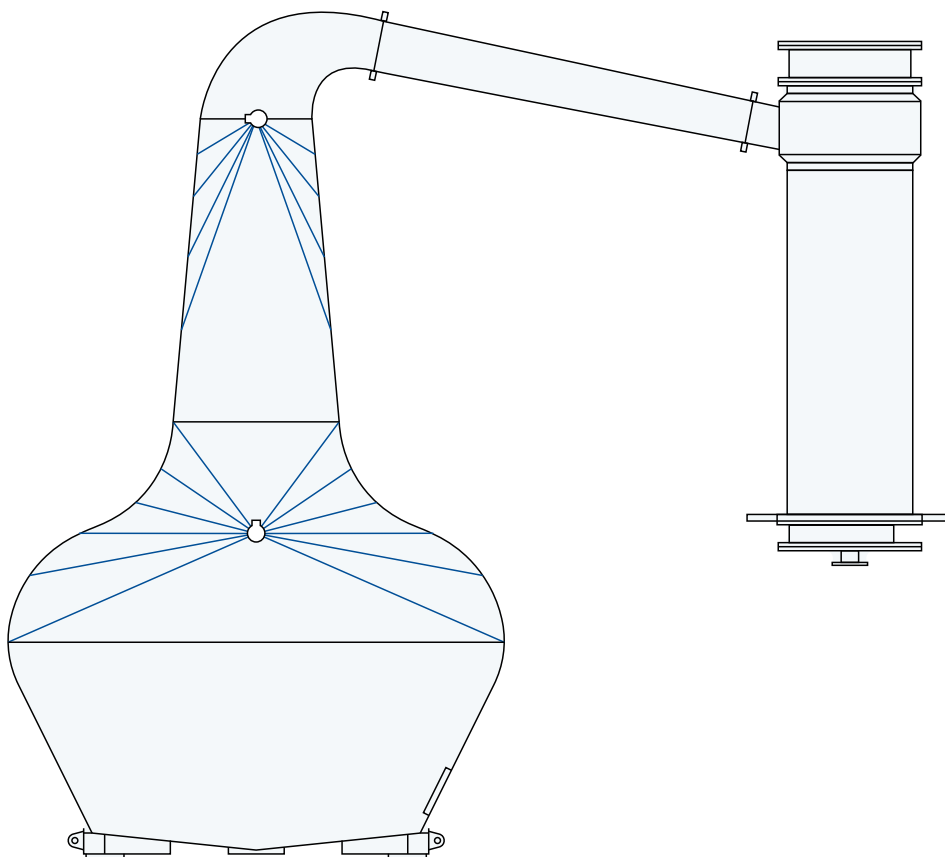
inTank Technologies' Target Drilled Bespoke Static Spray Balls

Static Spray Balls are a cost-effective means of removing organic residues from tank walls. Targeted drilling allows these durable Spray Balls to be customised to suit the geometry of any vessel – from small process tanks to Spirit Stills — delivering consistent, comprehensive coverage.

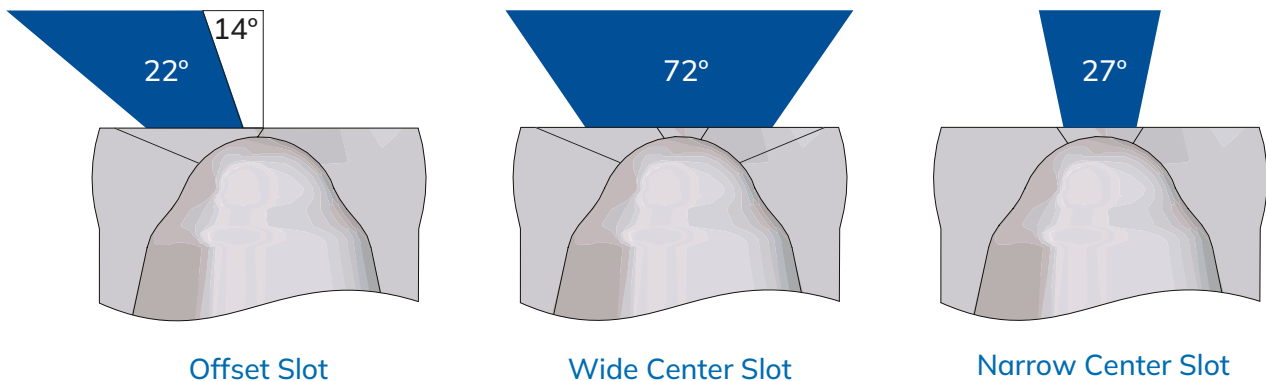
Target Drilled Thick-Walled Fixed Spray Balls – Designed for the Distillery Industry

Target-drilled Spray Balls are widely seen in the Distilling Industry, where they are used in applications like Spirit Stills to not only clean the body of the vessel, but also the neck, whilst using the minimum amount of water. The target spray pattern guarantees that cleaning media will not travel out of the top of the Still neck.

Compared to standard Spray Balls, which only offer 360° or 180° spray patterns, the thick-wall construction of these Spray Balls offers more of a jet spray, giving a higher impact cleaning performance.



The [Alfa Laval PlusClean](#) is a wall and bottom dish-mounted cleaning nozzle designed to clean shadow areas within vessels where 100% guaranteed cleaning coverage is required. The PlusClean offers an ideal solution to under-blade cleaning of Agitator blades.



When activated during Cleaning-in-Place (CIP), the [PlusClean®](#) targets potential shadow areas with a fan of pressurised cleaning media. When used in conjunction with Alfa Laval Cleaning Head technology, the PlusClean® guarantees 100% impact cleaning coverage and up to 80% savings in water and chemical usage, compared to Static Spray Balls. This makes it a highly sustainable cleaning solution for the Distillery Industry.

The [PlusClean](#) is installed flush to the tank wall, allowing the unit to be used in tanks with frame type Agitators. As this patented design does not extend or retract into the tank, it offers a highly hygienic solution, preventing any product or water that could affect future batches from being trapped within the PlusClean.



Alfa Laval's Solutions

Agitators

Alfa Laval's Agitators deliver consistent and reliable mixing performance in Distillery Storage Vats, Washbacks and Blending Tanks, eliminating any layering and ensuring spirits are perfectly uniform throughout. The EnSaFoil Impeller blades use up to 80% less energy than traditional designs and offer more gentle, low-shear product treatment, ensuring consistent quality while reducing operating costs.

Product	Name	Solution	Applications	ATEX Approved
	Alfa Laval ALT Top-Mounted Agitator	The Alfa Laval ALT is a versatile, top-entry mounted Agitator that offers reliable mixing for a range of tank sizes, and delivers consistent, low-shear blending while minimising energy consumption.	Yeast & Blending Tanks	✓
	Alfa Laval ALS Side-Mounted Agitator	The ALS offers a good solution for low viscosity products that need to be kept homogenous in Distillery Industry Fermenters and Washbacks. Being side-mounted also makes maintenance easier.	Washbacks/Spirit Receiver/Holding Tank/LWF Tanks/Hot Liquor Tanks	✓
	Alfa Laval ALB Bottom-Mounted Agitator	Operating, inspection and servicing are made easier with this ground-level, bottom-mounted Agitator. The ALB offers a good mixing solution for low viscosity products needing to be kept homogenous.	Yeast & Blending Tanks	✓

Alfa Laval's Solutions

Rotary Jet Mixers

Alfa Laval's Rotary Jet Mixers deliver exceptional versatility – functioning as both highly effective mixers and a high impact tank cleaning head between batches. During rinsing of Mash Tuns and Fermentation Vessels, Distillery-specific Rotary Jet Mixers allow for larger particulates to pass through the head, preventing build-up that would result in less efficient cleaning.

Alfa Laval Rotary Jet Mixers

As dual-purpose Mixing and Cleaning Heads, Alfa Laval's Rotary Jet Mixer range is commonly used for blending across large tank farms, as well as deaeration, dilution, blending and delayering where the focus is spirit homogeneity. Alfa Laval's Rotary Jet Mixers are ATEX-rated and also double as highly efficient cleaning heads that offer a high impact, 360°, repeatable cleaning performance.

Product	Name	Flow	Working Pressure	Vessel Size	Impact Radius	Wetting Radius
	IM-10	3.5-16.5m³/h	2-8 bar	1-10m³	5m	9m
	IM-15	8-36m³/h	2-12 bar	2-100m³	6m	11.5m
	IM-20	13-55m³/h	2-12 bar	5-200m³	7.5m	13.5m
	IM-25	23-75m³/h	2-12 bar	10-1000m³	15m	41m

Applications: Mash Tuns, Spent Drain Silos

Alfa Laval's Solutions

Valves

Alfa Laval's Valve solutions are trusted to provide Distilleries with precise control and exceptional hygiene. Mixproof Valves prevent cross-contamination between process streams, while ThinkTop automation units enable fully programmed cleaning cycles that reduce water and chemical consumption.

Product	Name	Solution
	LKB Butterfly Valves	Cost-effective flow control for non-critical Distillery applications like water supply and cooling systems, offering reliable performance with minimal maintenance requirements.
	SBV Ball Valves	Ideal for sampling points in Distillation Columns and Spirit Receivers, being easy to clean and providing tight shutoff that eliminates any possibility of leakage.
	Single Seat Valves	Perfect for precise flow control in critical Distilling processes where contamination control and cleanability are essential.
	LKC Non-Return Valves	Prevent backflow contamination in fermentation lines that could affect the flavour or processing speed of future batches, and loss of product.
	Anti Vacuum Valves	Protect thin-walled vessels from collapse during the rapid heating and cooling of CIP by releasing negative pressure once a preset threshold is reached.



Sampling Valves

Sampling Valves allow for quality to be monitored without disrupting operations. These hygienic Valves help maintain consistency and meet regulatory requirements while preventing contamination.



Mixproof Valves

Allow simultaneous flow of different solutions through the same Valve housing without risk of mixing, which is critical when handling different spirits or when separating raw materials from finished products.



Mixproof CIP Valves

Enable simultaneous flow of product and cleaning solutions, preventing cross-contamination. Offers an alternative to the Unique Mixproof Valve, where seat lift is not needed for CIP.



ThinkTop V50 & V70

ThinkTop V50 and V70 automation units have a burst function that allows Valves to be opened and cleaned for just half-second intervals, reducing water consumption for the same cleaning quality.



ThinkTop Basic

Paired with Alfa Laval Valves, ThinkTop Basic automation units offer reliable, ATEX-compliant Valve control for general applications.



Alfa Laval's Solutions

Pumps

Alfa Laval's range of Pumps maximise the overall efficiency of your processes. From robust, durable options, suitable for recirculating liquid containing husks or grains without losing efficiency, to ATEX-approved models that can be used in environments with high ABV alcohol, Alfa Laval Pumps provide greater efficiency, sustainability and uptime for distilleries.

Product	Name	Solution	Applications
	Alfa Laval LKH Centrifugal Pump	The LKH's IE4 motors provide both high efficiency and low carbon footprint. Its clear flow impeller is set further from the backing plate with small scrapers to allow particle clearance, reducing grain and husk buildup around the mechanical seal.	Mash Tuns, Holding Tanks, Under Backs, Spent Wash & Lees Vessels
	Alfa Laval LKHex Centrifugal Pump	This versatile Pump offers superior efficiency, reducing energy consumption and CO2 footprint. Frequently seen in Spirit Tanks, the ATEX-approved LKHex is easy to maintain, minimising downtime.	Spirit Tanks
	Alfa Laval SolidC Centrifugal Pump	This reliable, cost-effective Centrifugal Pump delivers consistent performance for CIP processes, and with front loading seals and a long-life compression coupling, maintenance downtime is significantly reduced.	Mash Tuns & Blending Tanks
	Alfa Laval DuraCirc Circumferential Pump	Designed for applications such as Mash Tuns, where higher viscosity and potential for recirculated particles is present, the DuraCirc Pump delivers the perfect balance of durability, reliability, high efficiency and superior performance.	Mash Tuns & Blending Tanks



Complement your core equipment with Alfa Laval's range of high-quality [accessories](#) designed specifically to enhance the efficiency, control and safety of your Distillery operations.

Product	Name	Solution
	Manways	Alfa Laval Manways provide secure, hygienic access to vessel interiors for inspection and maintenance. Their quick-release designs reduce downtime between batches while maintaining pressure integrity.
	Sight Glass	Alfa Laval Sight Glasses offer distillers critical visual monitoring of process flows without breaking system integrity. These hygienic viewing points enable immediate quality assessment and verification of proper spirit flow throughout production.
	Filters	During CIP operations, Alfa Laval Axial Filters capture debris and prevent particles from recirculating through cleaning systems. As standard, inTank recommend a 1mm Mesh that protects against blockages, ensures thorough vessel cleaning, and maintains efficient CIP performance.

Alfa Laval's Solutions

Software

Our suite of specialised software tools helps Distilleries optimise their processing systems for maximum efficiency and quality.

CAS

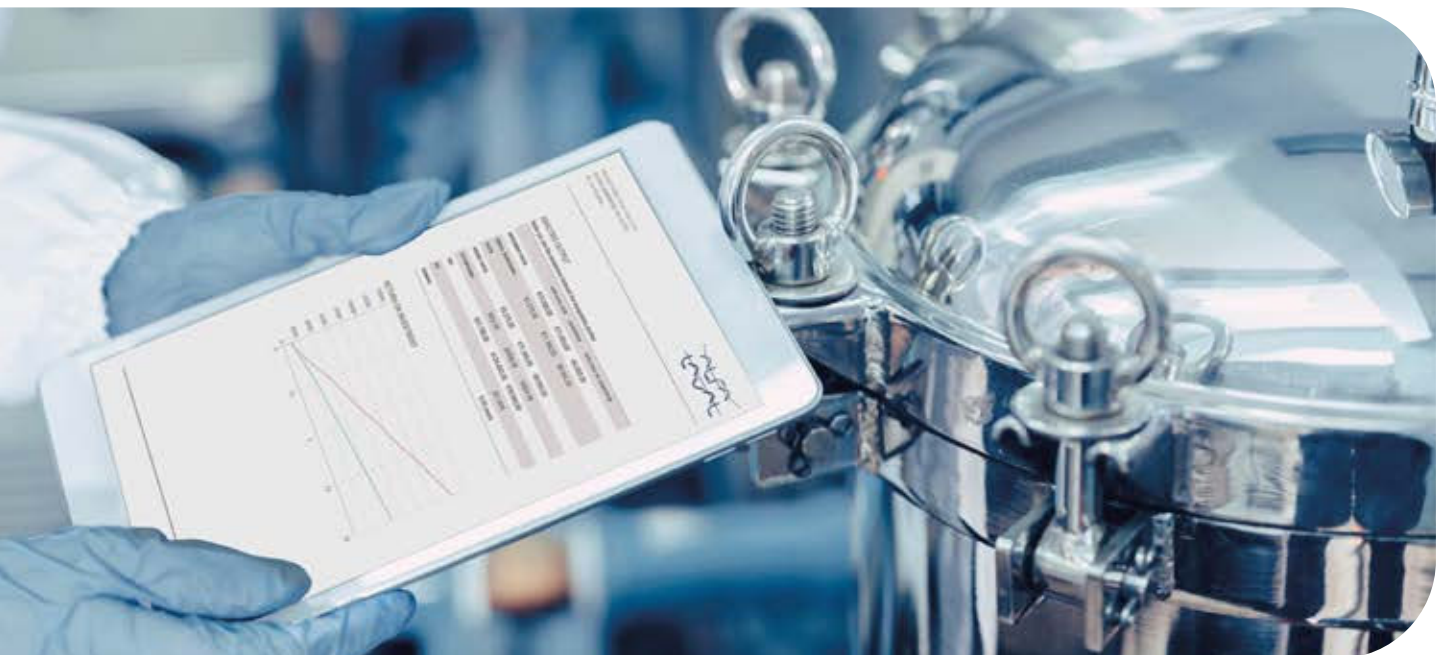
The Alfa Laval in-house CAS software tool is used for designing, selecting, and optimising Tank Cleaning for the Distillery industry. It calculates correct nozzle sizes and dip pipe lengths, providing detailed results, reports and recommendations to help you determine the best design configuration for optimised cleaning performance.

TRAX

Our in-house Alfa Laval TRAX tool simulates the cleaning performance of Rotary Jet Heads, providing data on wetting intensity, pattern mesh width, traversal speed and cleaning coverage. This information enables us to optimise parameters like flow, pressure and cleaning times for specific tank applications in the Distillery industry.

Joules

Alfa Laval's Joules software is a sustainability tool that helps customers compare fluid handling equipment and estimate potential water, energy and chemical savings. It's used to provide Distilleries with valuable data on environmental and financial benefits, supporting informed decisions on upgrading existing equipment and optimising processes.



Alfa Laval's Solutions

Shared Benefits Across Spirit Types



Whether producing wine, whisky, gin, or any other spirit, inTank's solutions deliver:



Sustainability

Reduced water usage, energy consumption, and chemical requirements across all spirit production processes.



Quality Assurance

Consistent cleaning and processing performance maintains your spirit's distinctive character.



Compliance

All equipment meets strict hygiene requirements for various spirit categories, with ATEX ratings for high-ABV environments.

Beyond Whisky: Solutions for Winemakers & Gin Distillers

Wine Production

While traditional in methodology, wine production faces many of the same challenges as whisky distillation. inTank's solutions help winemakers maintain the quality and character of their products while improving efficiency:



Fermentation Vessel Solutions

Our [Rotary Jet Cleaning Heads](#) and Static Spray Balls ensure complete sanitation of fermentation tanks, preventing unwanted bacteria that could affect wine flavour profiles.



Tank Agitation for Blending

EnSaFoil Impeller blades ensure gentle, energy-efficient mixing that maintains wine integrity during blending operations.



Alfa Laval ALT
Top-Mounted Agitator



Alfa Laval ALS
Side-Mounted Agitator



Alfa Laval ALB
Bottom-Mounted Agitator





Gin Distillation

Gin production presents unique challenges with its botanical infusions and precise flavour requirements:



Botanical Management

Our cleaning solutions effectively remove essential oil residues from Botanical Baskets and Infusion Chambers, preventing cross-contamination between batches.



CIP Systems for Quick Changeovers

For craft Distillers producing multiple spirit varieties, our CIP systems enable rapid changeovers between recipes without flavour carryover.



Spirit Receiver Tanks

Our Rotary Spray Heads provide thorough cleaning of Spirit Receiver tanks, essential for maintaining the purity of your gin's distinctive flavour profile.



Fixed Spray Balls



Rotary Spray Heads



Rotary Jet Heads

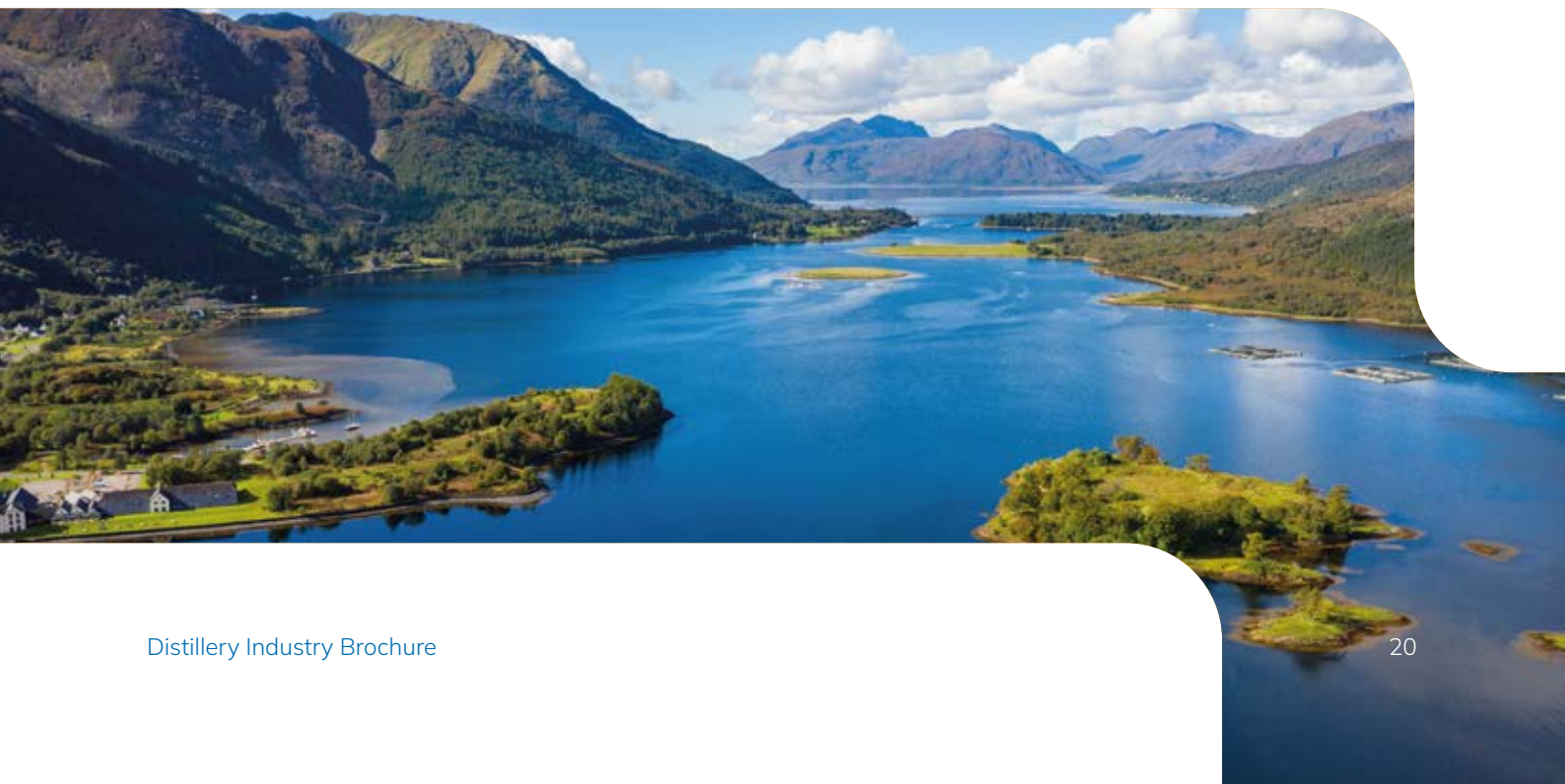


Sustainable solutions are at the core of inTank's business. We are united with a focus on reducing water, waste, chemical, CO2 and energy usage across the process industry. With Agitators that reduce energy costs by 80% and Valves that use up to 90% less water when cleaning, customers can trust inTank's solutions to be kind to both their budget and the planet.

Why inTank?

inTank Technologies is committed to being the leading tank-focused solution provider for the UK Process Industry, delivering exceptional value while maintaining a reputation for outstanding customer service.

A 'Whatever it takes' approach drives inTank's dedication to helping manufacturers optimise their operations. inTank understands the unique challenges of spirit production, and the solutions we provide are specifically designed to reduce water, chemical, CO2, and energy usage in Distilleries. With mixing systems that can cut energy costs by up to 80% and tank cleaning equipment that uses up to 90% less water, you can trust inTank's solutions to boost both your sustainability credentials and your bottom line.





Accelerating sustainable solutions

Picture a more sustainable world. A world where we use less to create more. Where we tackle our growing energy needs with technologies that both improve efficiency and reduce CO2 emissions. A world where we harness the power of natural resources while preserving our environment.

Our technology supports customers in building this world, accelerating the transition to greater efficiency, offering cleaner energy solutions and reducing water, electricity, CO2 and chemical usage.



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