BEST-PRACTICE LINE FOR JNSD WITH ASEPTIC BLENDING

Drastically cut energy and water consumption

MARKET TRENDS DRIVING PRODUCTION CHALLENGES

Global market trends in beverage production include an increasingly competitive landscape, growing environmental consciousness and the growing scarcity, rising cost and varying quality of water – your main ingredient by volume.

Your challenges in the face of these trends are to stay competitive and to meet environmental demands from consumers and increasing regulation. You need to actively reduce your production costs with tight, streamlined production and bring your total cost of ownership to a minimum. You also need to reduce your environmental impact by optimizing energy and water use to reduce consumption.

UNIQUE COMBINATION OF UV, FILTER AND ASEPTIC TECHNOLOGY

To help you overcome these challenges, we have devised an innovative solution that combines existing technology in an entirely new configuration to drastically reduce energy and water consumption and costs – while ensuring food safety and letting you depend on guaranteed performance. In traditional solutions, we pasteurize the full volume of juice concentrate and water, with the most energy-intensive process step being the heat treatment. But in this new line we pasteurize only the smallest possible volume – the concentrate. We treat the water separately with an optimized UV light dose and filtration, which are more cost and energy-efficient aseptic technologies. Then we blend the concentrate and water aseptically in-line after treatments. Besides decreasing water consumption by 50% or more, this also reduces energy consumption by up to 67% or more.

The ground-breaking solution that rethinks and redesigns the traditional JNSD line was recognized by the International Fruit and Vegetable juice Association and honoured with the "IFU 2019 Innovation Award" at the annual Juice Summit in Antwerp, Belgium.

BEST-PRACTICE LINE FOR JNSD WITH ASEPTIC BLENDING

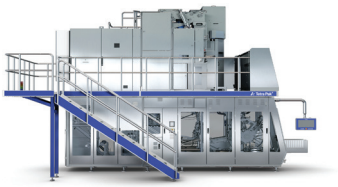
This line produces commercially sterile high-acid beverages such as juices, nectars and still drinks using a combination of heat treatment, filtration, UV light treatments and aseptic blending. Steps include pasteurizing the concentrate, treating the water with an optimized UV light dose and filtration and then blending concentrate and water aseptically in-line after the treatments. The process drastically reduces energy and water consumption, cutting both production cost and environmental impact per litre of product produced.

HOW IT WORKS

- Pasteurize only the concentrate rather than the entire volume
- Treat water with optimized UV light dose and filtration
- Blend concentrate and water aseptically in-line after treatment

Tetra Pak® Water Treatment unit FUV

Tetra Pak® CIP unit P



Tetra Pak® A3/Flex

DRASTICALLY CUT ENERGY CONSUMPTION AND COSTS BY UP TO 67%

By heat treating only the concentrate and treating water with UV light and filtration – you drastically reduce your energy consumption and costs compared to a conventional setup where you pasteurize the entire product stream. The solution also minimizes the need for sterilization and cleaning which saves even more. And these savings come with proven and aseptically safe and hygienic line design – with guaranteed product quality and food safety.

EASILY REDUCE YOUR WATER CONSUMPTION BY 50% AND BEYOND

By drastically reducing the full system volume in your pasteurizer and having far less equipment to clean, you save thousands of litres of water every time you clean and sterilize your system. Furthermore, smart routines at product changeover and end of production reduce the amount of rinse water you need to use, bringing water consumption and product losses to an absolute minimum.

GET THE LOWEST TOTAL COST OF OWNERSHIP ON THE MARKET

The one-of-a-kind smart combination of technologies in this solution saves money across the board. With drastically reduced utility costs thanks to lower energy, steam and water consumption – as well as reduced losses, waste and maintenance costs – you get the lowest total cost of ownership on the market.

MEET MARKET DEMANDS FOR SUSTAINABILITY

Ride the wave of growing environmental consciousness, address water-scarcity and satisfy your consumers' demands when you easily reduces water your consumption by 50% or more with this solution. You also shrink your CO_2 footprint with drastically reduced energy and steam consumption by up to 67% or more. And with less water, product and detergents going to drain you also reduce effluent stream significantly. When you package your products in carton packaging – one of the most sustainable packaging solutions – you reduce your impact even further and build your sustainable reputation. We use 100% FSC CoC certified paperboard and OK certified bioplastics in our carton packages – and carton packaging is highly recyclable and is more efficient to produce and transport than alternatives.

UNLEASH YOUR INNOVATION IN PRODUCT DEVELOPMENT CENTRES

- Product Development Centres at your service
- Develop and test your recipes in a scalable environment
- Flexible industrial pilot-plant facilities
- Food technologists and engineers with expertise in ambient juice, nectar and still drink production
- Processing, packaging and powder handling equipment
- Global experience and application expertise
- Close collaboration, full confidentiality

AUTOMATION SOLUTIONS FOR TOTAL CONTROL AND TOP PERFORMANCE

- Maximize efficiency and enable future-proof flexibility
- Provide complete control with full traceability
- Recipe management for automated repeatability in production

TETRA PAK® PLANTMASTER SOLUTIONS ENABLE EVEN GREATER CONTROL

- Overview of process flowcharts
- Product routing and selections
- Advanced data control
- Full end-to-end process overview
- Full traceability
- Easy preventive maintenance
- Process description

CUSTOMIZED SERVICE SOLUTIONS

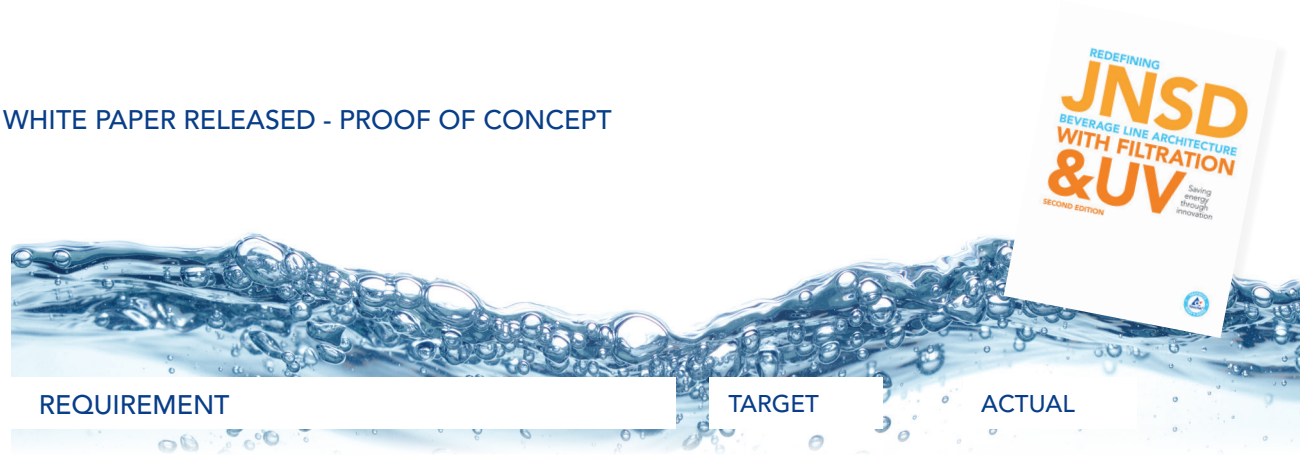
We provide customized service solutions to maximize your operational excellence, minimize your cost and environmental impact, and ensure the right product quality every time, throughout the lifecycle of your operation.

EXCEPTIONAL PERFORMANCE – WE GUARANTEE IT

Our competitive and validated performance guarantees are based on the parameters that matter to your success. They ensure exceptional performance throughout the lifecycle regarding consistent product quality, uncompromising food safety and maximum product versatility and efficiency – with minimal environmental impact and long-term sustainable growth. The parameters are predefined in a contractual agreement and guarantee that we're with you all the way – we stay until it works. We guarantee the performance we promise, with key performance indicators based on your production scenario and covering for example:

- Utility consumption
- Blending performance
- Product losses

WHITE PAPER RELEASED - PROOF OF CONCEPT



REQUIREMENT	TARGET	ACTUAL
Log reduction for target pathogen microorganism	5 log	10.6 log
Log reduction for target spoilage microorganism	9 log	11.3 log
Reduction in energy consumption costs	≥ 40%	67%
Reduction in water consumption for CIP and SIP	≥ 25%	50%
Investment cost compare to a similar conventional line	≤10%	achieved
Return on investment of the additional 10% cost	≤ 6 months	achieved

Tetra Pak®