

## Craft Beer Clarification with the Jumbo Star System

**Benefits:**

- Low-oxygen beer
- Respect for product quality
- Choice of final product clarity
- Sanitizable system
- High filtration autonomy
- Low filtration costs
- Ease of use



# Why Choose a Jumbo Star System?

Craft breweries have been increasingly introducing a clarification step in their beer production process. Sartorius can supply craft breweries with filtration solutions that ensure the production of a beer with the desired clarity, without affecting its organoleptic and sensory properties. The Jumbo Star systems are especially suited to small- and medium-size craft breweries.

Jumbo Star cartridges filter material pleating technology results in as much as 28 m<sup>2</sup> of filtration area for each 40-inch module. Jumbo Star systems offer advantages that make them the ideal choice for beer filtration:

## Respect for Product Quality

The filtration system is stainless steel and uses all-polypropylene Sartopure® PP Jumbo Star cartridges. The completely inert material does not affect product quality, and the closed system can be oversaturated with CO<sub>2</sub> before filtration to minimize oxidation risk. Moreover, the large filtration-area-to-filtration-speed ratio reduces beer protein stress, ensuring high organoleptic quality.

## Choice of Final Product Clarity

Filters are available in a wide range of retention rates (from 20 to 0.45 µm). Our experience shows the best filtration autonomy and filtered product quality can be obtained with nominal pore sizes of 8 µm and 5 µm.

## Excellent Hygienic | Sanitary Standards

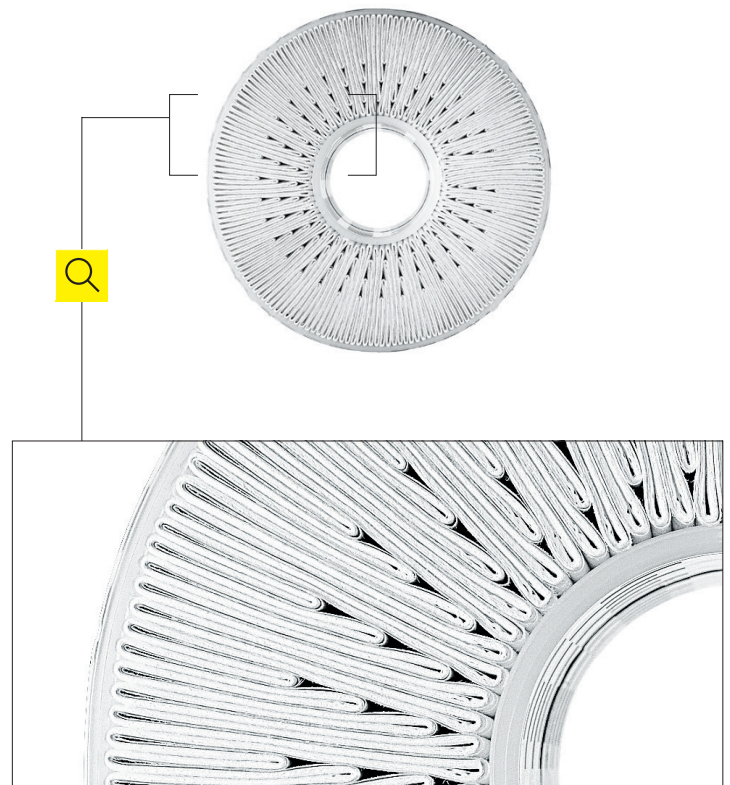
The high mechanical resistance and chemical compatibility of the systems' construction material makes it possible to clean, regenerate, and sanitize the entire system efficiently. Sanitization, performed with chemical agents, hot water, or steam, prevents microbiological contamination thus preserving product quality.

## High Filtration Autonomy

Depending on the type of beer, the Jumbo Star cartridge 28 m<sup>2</sup> filtration area allows uninterrupted filtration of 100 hL or more at flow rates of up to 50 hL/hr. This reduces downtime needed for cleaning as well as water and sanitizer consumption.

## Centrifugation Alternative

Jumbo Star systems are a valid alternative to centrifugation, offering the advantage of enhanced economy (considering both purchase price and handling costs) with the same throughput and still respecting product quality.



## Low Filtration Costs

Filter geometry and large filter adapter diameter (DN100) allow back-flushing with the right flow rate, optimizing regeneration efficiency. Filter efficiency and autonomy are fully recovered at the end of filtration.

## Efficiency and Ease of Use

All Jumbo Star systems are designed to be used intuitively even by operators with little experience.



## Jumbo Star System Basic Version

The basic version includes a housing for the 40" Jumbo Star cartridge and a centrifugal pump dimensioned for efficient performance of regeneration and sanitization.

Its use is very easy: the Jumbo Star system is fed by a mono pump up to a maximum flow rate of 5 000 L/hr and the centrifugal pump is connected to a storage tank for the appropriate cleaning solutions.

The following options can be added to the basic version:

- Stainless steel filter with backflushing unit for dry-hopped beers
- 350-liter storage tank with possibility of chemicals recirculation
- Bypass for the filter during production and easier cleaning process

## Jumbo Star Semi- and Fully-Automated Systems

With a view to implementing the system in companies with an automated-manufacturing approach, that can benefit from the Industry 4.0 incentives, Sartorius has developed 4.0 Ready semi-automated and fully automated Jumbo Star systems:

- PLC automation
- Easy and intuitive HMI
- Connectivity to other production equipment: CIP, filling machine, fermenter, etc.
- Remote control
- Continuous control of process variables

Moreover, if producers do not have a process equipment supervision software at their disposal, Sartorius developed a SCADA system for the specific supervisory control and data acquisition of Sartorius apparatuses.



## Germany

Sartorius Stedim Biotech GmbH  
August-Spindler-Strasse 11  
37079 Goettingen  
Phone +49 551 308 0

## USA

Sartorius Stedim North America Inc.  
565 Johnson Avenue  
Bohemia, NY 11716  
Toll-Free +1 800 368 7178



For further contacts, visit  
[www.sartorius.com](http://www.sartorius.com)