

# Sartoflow<sup>®</sup> Beta Crossflow System

Crossflow system for Sartoco<sup>®</sup>n cassettes



## Description

The Family of manual and semi automatic Sartoflow Beta Crossflow Systems feature the latest advances in crossflow technology from Sartorius. The Sartoflow Beta is a compact and movable Crossflow filtration system for Micro- and Ultrafiltration in pharmaceutical and biotech applications. It is mainly used in cGMP facilities to run development, clinical trial and production lots. The system is designed to accommodate up to 10 Sartorius Sartoco<sup>®</sup>n Cassettes (7 m<sup>2</sup> membrane area). The Sartoflow Beta system covers the whole range of pharmaceutical and biotechnological crossflow applications like concentration and diafiltration of proteins, vaccines, viruses, antibodies, oligo nucleotides, endotoxin removal etc. The system is also suitable for cell harvesting and clarification processes.

The modular design allows a large variety of options to fulfill all needs of cGMP production processes. The basic features of all Sartoflow Beta systems are:

- Rotary lobe pump for shear sensitive and reliable operation (7.000 l/h at 4 bar, 1 cP, 20°C)
- Crossflow filter holder for up to 10 Sartoco<sup>®</sup>n Cassettes (7 m<sup>2</sup> membrane area)
- Min. working volume < 5.000 ml (depending on filter area and accessories)
- Tubular, zero dead leg, pressure gauges
- Sanitary membrane valves and Tri-clamp connectors

- Overpressure and dry run protection
- Self draining, zero dead leg piping
- Qualified material in contact with product: 316L (1.4404/1.4435) stainless steel, Surface finish Ra: < 0.8 µm
- Gaskets: EPDM (FDA)
- Movable system on casters
- Documentation package for easy start-up

Sartoflow Beta systems with digital 21CFR Part 11 compliant data recorder feature digital display and acquisition of the process pressures and flow rates. The audit trail and all process data are securely transferred to an external computer for read out and data storage. Data transfer via serial interface or PCMCIA data storage card is possible.

Log-In functions and password protection for user mapping are included.

The Sartoflow10 crossflow filter holder gives an additional security feature: A safety pressure switch controls the pressure of the hydraulic closure system and shuts down the system if the holder is not closed tightly. The clamping pressure can be controlled by an integrated oil pressure gauge. This allows very accurate and reproducible clamping conditions. Defined clamping conditions are essential, especially for steaming in place applications but it is also very valuable when cassettes have to be changed frequently.

The semi automatic Sartoflow Beta sps system is designed to run predefined process steps automatically. A set of parameters can be defined and controlled for each step. A process step once activated from the operator will run with the predefined feed and retentate pressure and stop automatically when the end of the process step is indicated. The feed pressure is controlled by the pump speed, the retentate pressure is controlled by a motor driven membrane valve.

Process steps will end automatically after a predefined time, a predefined permeate volume or when a predefined conductivity is triggered in the permeate.

Automatic diafiltration is possible with the optional 40 l vessel with integrated level probe and additional peristaltic diafiltration pump. Activation and end of each process step is indicated in the audit trail of the digital data recorder.

Steaming options for aseptic operations are available on request.

## Specifications

### Materials of Construction

Product wetted components	316L (1.4404/1.4435) Stainless steel
Surface finish	Ra < 0.8 µm
Connectors	1" - 1 1/2" sanitary Tri-clamp flange

# Sartorius Crossflow Systems

## Specifications

Pump output	7.000 l/h @ 4 bar   60 psi
Filter area	0.4 to 7 m <sup>2</sup>
Max. Inlet pressure	4 bar   60 psi
Min. working volume	< 5.000 ml (depending on the accessories)
Weight	300 kg
Dimensions (L x W x H)	1.500 x 800 x 1.500 mm (depending on the accessories)

## Ordering Informations and Accessories

Sartoflow Beta Basic System  
With Sartococon 2Plus  
holding device,  
three pressure indicators  
over pressure and  
dry running protection  
400 V|50 Hz: 179SFG-03----40  
110 V|60 Hz: 179SFG-03----11

Sartoflow Beta DL,  
Sartococon 2Plus holding device  
Three pressure transducers,  
two magnetic flow meters  
21 CFR Part 11 compliant  
digital data recorder  
400 V|50 Hz: 179SFG-04-00-40  
110 V|60 Hz: 179SFG-04-00-11

Sartoflow Beta sps, 179sfg-08-02  
Sartoflow10 holding device  
Three pressure transducers,  
two magnetic flow meters  
Conductivity probe  
21 CFR Part11 compliant  
digital data recorder  
Feed and Retentate  
pressure control,  
predefined process steps  
400 V|50 Hz: 179SFG-08-02-40  
110 V|60 Hz: 179SFG-08-02-11

Sartoflow Beta sps tank skid  
for automatic diafiltration  
with Sartoflow Beta sps  
Jacketed 40 l tank on  
movable skid, Level probe,  
Spray ball, Peristaltic pump  
179SFZT-05

Complete IQ/OQ package and additional  
options on request

## Ultrasart Cassettes

Membrane Material	Nominal Molecular Weight Cutoff [NMWCO]	Order Numbers Sartococon®
Cellulose triacetate	5 kD	3021452907E--SG
	20 kD	3021454907E--SG
Polyethersulfone (PESU)	1 kD	3021460907E--SG
	5 kD	3021462907E--SG
	8 kD	3021463407E--SG
	10 kD	3021463907E--SG
	Albumin	302146AL07K--SG
	Albumin (New)	302146AL07K--SW
	30 kD	3021465907E--SG
	50 kD	3021465007E--SG
	100 kD	3021466807E--SG
	300 kD	3021467907E--SG
Hydrosart®	2 kD	3021441906E--SG
	5 kD	3021442906E--SG
	10 kD	3021443906E--SG
	30 kD	3021445906E--SG
	100 kD	3021446806E--SG

## Microsart Cassettes

Membrane Material	Pore Size [µm]	Order Numbers Sartococon®
Polyethersulfone (PESU)	0.1 µm	3021545806W--SG
Polypropylene	0.2 µm	3021750706W--SG
Hydrosart®	0.2 µm	3021860706W--SG
	0.45 µm	3021860606W--SG
Hydrosart® Open Channel	0.2 µm	30218607040--SG
	0.45 µm	30218606040--SG

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Specifications subject to change without notice.  
Printed in Germany on paper that has been bleached  
without any use of chlorine.  
W/sart-000 - G  
Publication No.: SPC2049-e06021  
Order No.: 85030-530-81