



AHLSTROM  
MUNKSJÖ



# AHLSTROM-MUNKSJÖ DISRUPTOR®

Filter Media for Water Purification

# Disruptor®

## Breakthrough technology for water purification

Not directly comparable to any other water purification media currently in the market, Disruptor® is an electro-adsorptive technology, not a mechanical filter media.

Due to its crystal structure, the mineral creates a natural, strong positive charge which attracts the negative charge present on most submicron contaminants.

Its electro-positive wet-laid nonwoven technology, with a pore size of 1.2 - 1.5 microns, captures very small diameter substances and pathogens, removing larger particles mechanically.

When exposed to water having a pH between 5 - 9 a charge potential is generated by the natural crystal structure of the fibers overlapping further into the fiber pore structure.



## Why choose Disruptor®

### Performance

Disruptor® has the ability to efficiently and cost-effectively remove a wide range of contaminants, such as bacteria/legionella, viruses, cyst, endotoxin, polysaccharides, colloids, trace pharmaceuticals and other pathogens from water, making it safe to consume.

### Energy Savings and Sustainability

Disruptor® offers very high flux rates at lower pressure drops compared to competing technologies with similar biological removal performance.

### Product Safety and Taste

Disruptor® removes effectively the pathogens and other contaminants, but in parallel maintaining the minerals for taste in the water without issues of handling "brine" waste water using RO systems. Compared to UF/hollow fibers Disruptor® does not block easily and filter remains odorless even if not used for several days. All Disruptor® grades are complying under NSF/ANSI 42 applicable drinking water requirements.

### Flexibility

Disruptor® can be used as a stand alone solution or in combination with other technologies depending on the level of water purification needs. It can be used in pleated configurations to fit any size filter housing, or in the format of die cut flat samples.

## How can Disruptor® be used?

Due to the open media structure, Disruptor® can be used in a very wide range of end uses covering both pressurized water purification systems as well as gravity flow applications. In addition to outstanding pathogen performance products available also with special functionalities such as chlorine removal, heat-sealing, and antimicrobial treatment for preventing bacteria build-up. The removal of selected trace metals is also possible in given pH ranges.

Disruptor® can compete as a stand alone alternative to polymeric membranes or used in combination with other water purification technologies. Disruptor® media is also easy to convert and can be made into virtually any size filter cartridge.



## Where can Disruptor® be used?

Thanks to its features, Disruptor® is applicable both for point-of-entry (POE) and point-of-use (POU) applications.

- In a single or multi-layer Disruptor® stand-alone format for biological removal
- In a single or multi-layer Disruptor® stand-alone format for biological removal and chlorine removal
- In combination with CTO (Carbon Blocks) for biological removal and chlorine and/or heavy-metal removal
- Before RO system for reducing RO membrane fouling
- After RO system for biological removal and improved water taste
- Gravity applications such as countertop dispensers, rain water treatment, roof top filters, etc.

## Primary applications



### Personal

Highly adaptable to small personal hydration devices such as water bottles and backpacks



### Residential

Applicable for both point-of-entry and point-of-use devices including whole house filters, countertop, tap, pitchers, appliance and under counter filters

## Disruptor® Standard Product Portfolio

Properties	5283	5288	5289	5293	5297
Grade type	White	White	Black	Black	White Pre-filter
Special treatment	Heat-sealable	Heat sealable Antimicrobial	Activated Carbon	Activated Carbon	Heat-sealable
Basis weight - gsm	318	313	313	313	313
Thickness - mm	0,99	0,95	0,95	0,95	1,0
MFP - micron	1,2	1,2	1,4	1,5	6,8
Rapidity - mls/min	9,0	9,0	9,0	9,0	120,0
Chlorine removal (TM-051)	N/A	N/A	77%	94%	N/A
Biological removal Initial LRV: RT, MS2, Cyst	LOG 6 / LOG 4 / LOG 3,5	LOG 6 / LOG 4 / LOG 3,5	LOG 6 / LOG 4 / LOG 3,5	LOG 6 / LOG 4 / LOG 3,5	

## Displacing conventional water treatment with Disruptor®

Water Remediation Technologies - Residential, Commercial, Industrial, Municipal, Desalination

Contaminants	Disruptor® PAC Technology	RO	NF	UF	MF	Particulate Catridges	Carbon Block	Ultra Violet
Dissolved Salts		X						
Endotoxin	X	X	X	X	X	X		
Virus	X	X	X					X
Bacteria	X	X	X	X	X	X	X	X
Cysts	X	X	X	X	X	X	X	X
Polysaccharides (TEP)	X	X	X	X	X			
Colloids	X	X	X	X				
Particulates	X	X	X	X	X	X	X	
Chemical Reduction	X	X					X	X
Trace Pharmaceuticals	X	X					X	X

Membrane definition: Reverse Osmosis = RO; Nanofiltration = NF; Ultrafiltratio = UF; Microfiltration = MF.

# What is next for Gravity Flow applications? Introducing Disruptor® FastFlow

Ahlstrom-Munksjö launches the latest extension to the Disruptor® product family called Disruptor® FastFlow which is a real stand-alone technology for the higher end water purification market.

The unique Disruptor® technology is especially well suited for more demanding gravity flow applications. Due to the open media structure it is possible to gain sufficient flow without sacrificing the high microbiological purification rates.

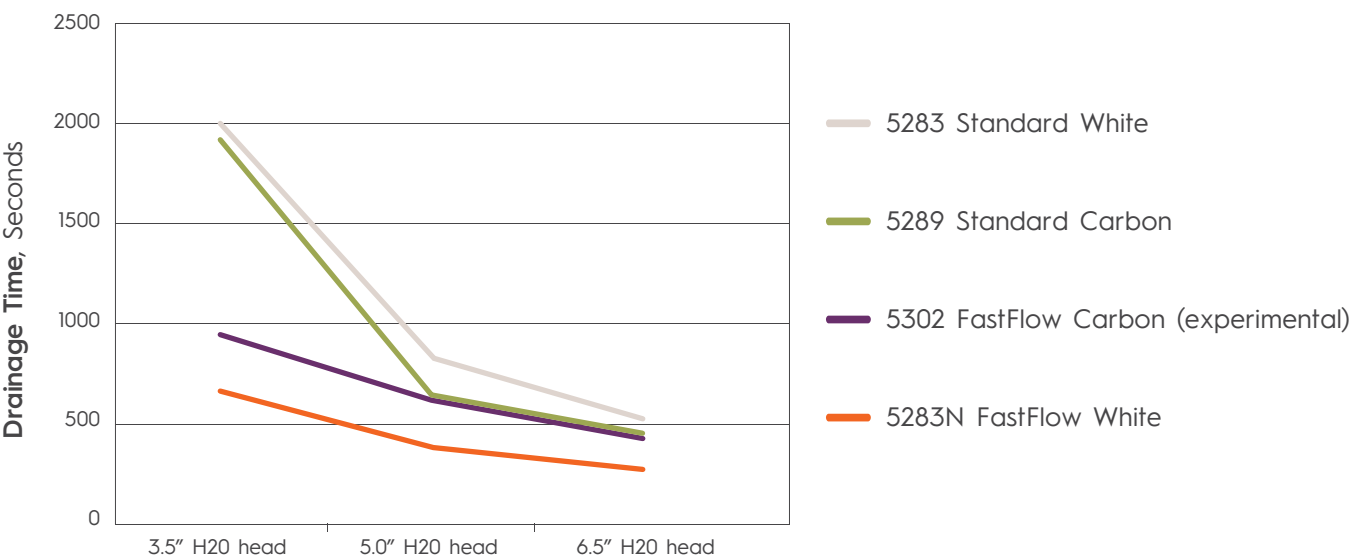
## Main features and benefits

- Faster wetting time reaching constant flow conditions
- Faster overall time to filter the targeted water quantity
- Same LVRs as with the standard Disruptor® product offering including also activated carbon for chlorine removal and silver for media bacteria protection.
- Disruptor® FastFlow can also be used in pressurized system

## Primary applications

- Pitchers
- Water bottles
- Countertop devices (residential)

## Comparison of Traditional and FastFlow Disruptor® Grades



## Disruptor® FastFlow Product Portfolio

Grade	Basis weight gsm	Thickness mm	MFP µm	Initial Virus Removal LRV	Initial Bacteria Removal LRV	Initial Cyst Removal LRV
5302	313	0,95	1,4	LOG 4	LOG 6	LOG 3,5
5283N	318	0,99	1,2	LOG 4	LOG 6	LOG 3,5

## AHLSTROM-MUNKSJÖ IN BRIEF

Ahlstrom-Munksjö is a global leader in fiber-based materials, supplying innovative and sustainable solutions to its customers. Our mission is to expand the role of fiber-based solutions for sustainable everyday life. Our offering includes filter materials, release liners, food and beverage processing materials, décor papers, abrasive and tape backings, electrotechnical paper, glass fiber materials, medical fiber materials, diagnostics and energy storage solutions, as well as a range of specialty papers for industrial and consumer end-uses. Our annual net sales is about EUR 2.7 billion and we employ some 7,800 people. Read more at [www.ahlstrom-munksjo.com](http://www.ahlstrom-munksjo.com)

## CONTACT AHLSTROM-MUNKSJÖ SALES

### Global

☎ +1 717 486 3438

✉ [disruptor@ahlstrom-munksjo.com](mailto:disruptor@ahlstrom-munksjo.com)



**DISCLAIMER:** The information supplied in this document is for guidance only and should not be construed as a warranty. All implied warranties are expressly disclaimed, including without limitation any warranty of merchantability or fitness for use. All users of the material are responsible for ensuring that it is suitable for their needs, environment and end use. All data is subject to change as Ahlstrom-Munksjö deems appropriate.