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# PLASMA SEPARATION PADS FOR RAPID DIAGNOSTIC KITS

Ahlstrom-Munksjö CytoSep®



# Discover Ahlstrom-Munksjö CytoSep®

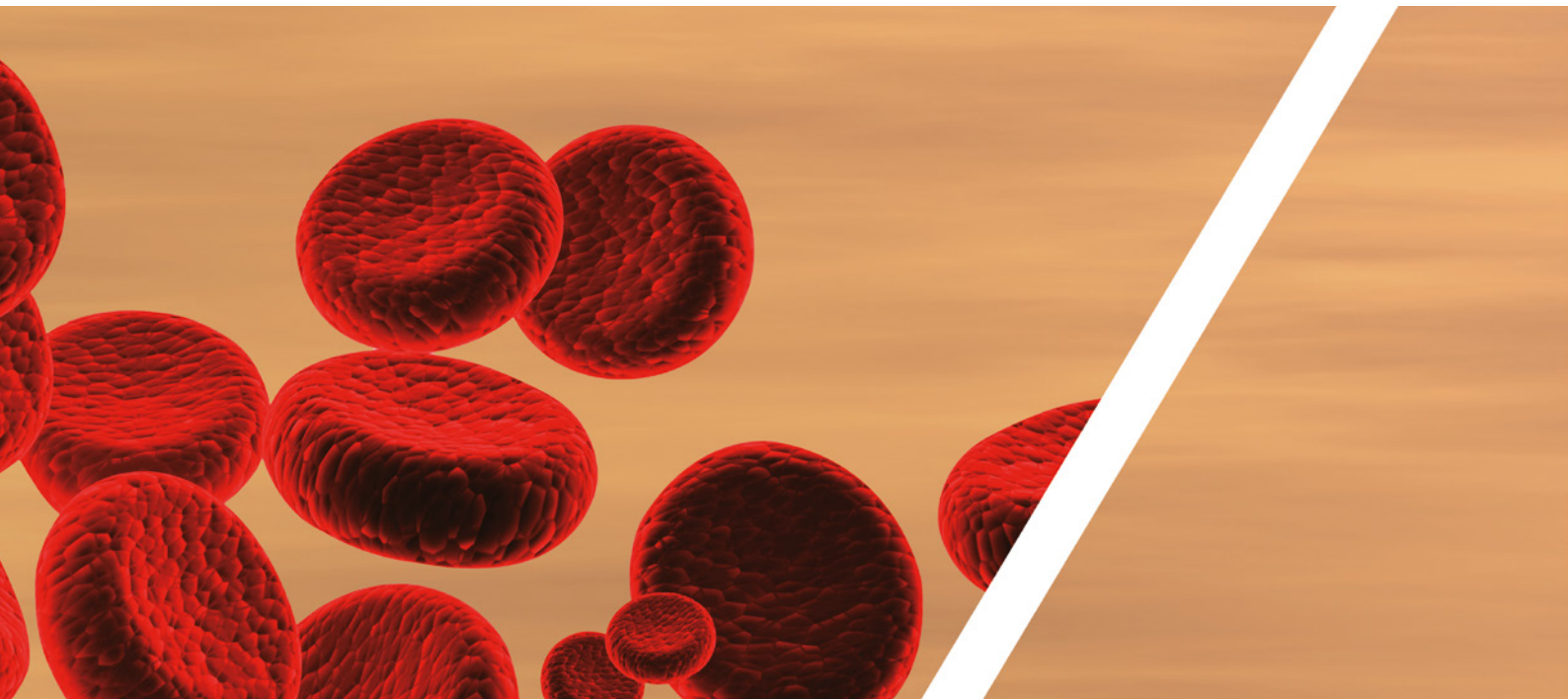
## Our reference for plasma-based diagnostic applications

Ahlstrom-Munksjö CytoSep® grades are single layer media consisting of high purity natural and synthetic fibers. The untreated media contains no chemical interfering substances and shows no significant binding of plasma components. CytoSep® retains blood cells while allowing serum to flow rapidly.

The newest CytoSep® products, HV and HV Plus chemically treated, are designed to separate increased volumes of whole blood within the same area of media and for the prevention of hemolysis.

### Key features:

- Provides consistent and rapid lateral separation of whole blood
- Available in different thicknesses to accommodate range of whole blood sample volumes and test cartridge dimensions
- Customized sheet, roll and specialty die cut sizes



### Key Characteristics of Plasma Separation pads

Separating plasma from red blood cells minimizes the interference of the cells during analyte detection while improving the sensitivity and selectivity of assays in lateral flow tests.

The key characteristics of fiber-based materials that customers have to consider for an efficient lateral plasma separation are:

- Absorption capacity for a given thickness
- Easy scale up with ability to run on reel to reel equipment
- Capacity for retaining red blood cells
- Required sample pad dimension
- Storage at room temperature

# Ahlstrom-Munksjö CytoSep® Patented

Ahlstrom-Munksjö original CytoSep® grades are made of a patented fiber blend structure used for rapid separation of plasma from whole blood samples in lateral flow immunoassays applications, retaining blood cells while allowing serum to flow rapidly.

There are three established grades which differ in thickness: CytoSep® 1660, CytoSep® 1662, CytoSep® 1663. These grades are able to load from low to high volumes of blood. For certain applications chasing buffer might be needed.

## Physical properties:

Grade	Composition	Maximum whole blood volume	Thickness	Basis Weight	Wicking rate
		$\mu\text{L}/\text{cm}^2$	mm	$\text{g}/\text{m}^2$	s/4 cm
1660	Patented fiber blend	30-35	0.33	73	74
1662	Patented fiber blend	40-45	0.61	142	31
1663	Patented fiber blend	45-50	1.04	233	39

Blood data are an average of measurement made on different lots with blood hematocrit ranging from 38 to 50%

# Ahlstrom-Munksjö CytoSep® Next Generation

The newest CytoSep® products, 1667 HV and 1668 HV Plus, are designed to separate increased volumes of whole blood within the same area of media while limiting hemolysis. This new generation of CytoSep® was developed as a thin material like 1660, thus allowing higher plasma area recovered and requiring less chasing buffer. This grade is preferable when you want to achieve better sensitivity.

CytoSep® HV Plus 1668 combines both chemical and mechanical filtration processes for higher performance and increased options for product development. The chemicals help to deform shape of red blood cells and so limit their diffusion while the specific pore size blocks the residual mobile red blood cells.

## Key benefits of CytoSep® Next Generation product range:

- Higher plasma yield for increases in line sensitivity
- Ability to separate larger volume blood samples so that less material can be used in new designs
- Designed with hemolysis prevention in mind
- Available treated with patent pending solution as CytoSep® HV Plus for higher performance

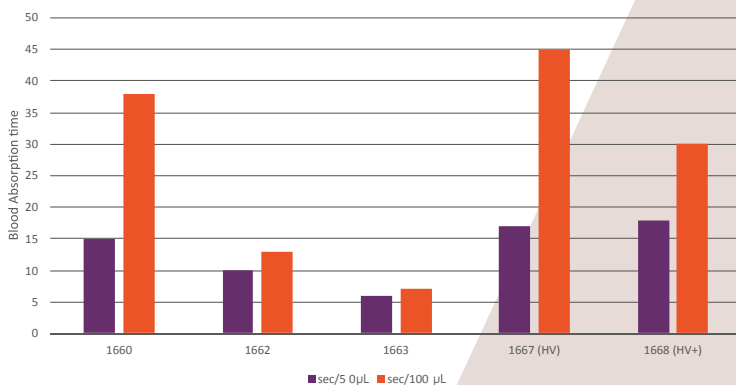
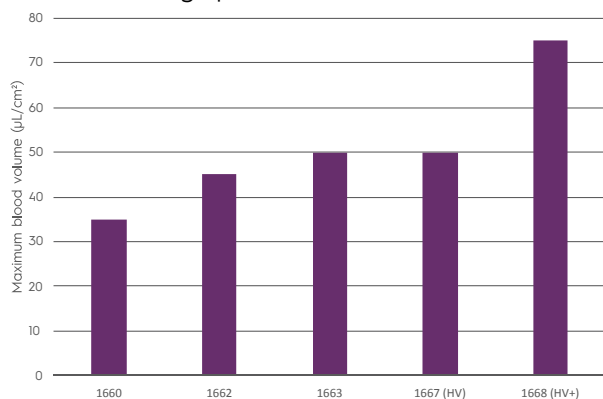
## Physical properties:

Grade	Composition	Maximum whole blood volume	Thickness	Basis Weight	Wicking rate
		$\mu\text{L}/\text{cm}^2$	mm	$\text{g}/\text{m}^2$	s/4 cm
1667 (HV)	New patented fiber blend	45-50	0.35	70	43
1668 (HV+)	Treated new patented fiber blend	70-75	0.35	70	62

Blood data are an average of measurement made on different lots with blood hematocrit ranging from 38 to 50%

# Key parameters to be considered

The volume and type of blood (venous or prick) necessary for the rapid diagnosis will influence the selection of the most appropriate pad to use based on two key parameters: **maximum blood volume and blood absorption time**, as shown in the graphs below.



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 include filter materials, release liners, food and beverage processing materials, decor papers, abrasive and tape backings, electrotechnical paper, glass fiber materials, medical fiber materials and solutions for diagnostics as well as a range of specialty papers for industrial and consumer end-uses. Our annual net sales are about EUR3 billion and we employ some 8,000 people. The Ahlstrom-Munksjö share is listed on the Nasdaq Helsinki and Stockholm.

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