

sepmag[®]

Monitor v3.2

Biomagnetic Separation Monitoring & Management Software

Quick Guide

Rev 20201118

Monitor v3,2

November 18th, 2020

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What happens during your biomagnetic separation processes?

- When you use biomagnetic separation many factors affect the suspension's behavior.
- Comparing different samples and/or conditions is complicated when you only check the final result.
- If you use a classical magnetic separator (or a simple magnet), the force will be strongly dependent on the distance from the magnet wall



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Introduction



- The **Monitor** software measures the light transmitted through the tube.
- At the start of the process, when the suspension is homogenous, the opacity is maximal.
- When separation is complete, and the remaining suspension is clear, the opacity is minimal.

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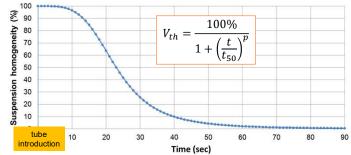
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Processes while the vessel is inside a Sepmag

- If the magnetic force is homogenous, like in **Sepmag** systems, all the beads experience the same force.
- Since the force does not depend on the position, the changes are easy to link to the suspension.
- **Monitor** software fits the experimental values to a sigmoidal curve determining *t*₅₀ and the exponent *p*.

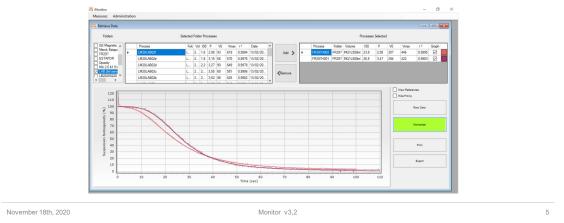


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t_{50} and p data

• Different processes can be compared and quantitative differences on the fitting parameters t_{50} and p can be used to optimize them.



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Content:

- Installation
- <u>Measurement</u>
- <u>Comparing different steps</u>



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Installation:

- Download the installer
- Run the installer (*.exe)
- Click on the 'Sepmag' button that appears on your Desktop
- The default username is admin
- The default **password** is admin

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Measurement (1/4)

- Make sure that the **Sepmag** is connected to the USB port of the computer running the software.
- Log into the program.
- Click on Measures/'Process Monitoring'

name	Measures Administration	
name 1	Logout Ctrl+L	
word	Process Monitoring Ctrl+M	
	Retrieve Data Ctrl+R	
OK Cancel	Exit Ctrl+X	Area 1

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Measurement (2/4)

Measures					
	Process Name			Process	Volume
Ready 15ml: 15261 2ml: 15262	Test001 Position Volume	Add	>		
2ml: 15266	2mil		Remove		
T	15ml				

- If the **Sepmag** is connected, **Ready** will be displayed on the screen.
- Write the name of the Process.
- Select the volume of the housing (only the available positions will show)

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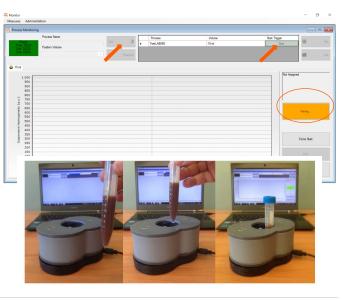
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Measurement (3/4)

- Press 'Add' and the process will appear at the table on the right, with a green 'Start' if everything is OK.
- Click '**Start**' and a 'Waiting' flashing message will appear.
- The system will start the measure when the tube is placed on the housing



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Measurement (4/4)

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Sí No



- Inserting the tube the measurement will start automatically once the tube is inserted.
- When you press 'End', the measurement will stop.
- If the Sepmag has multiple housings, several measures can be run simultaneously

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🖨 15 ml 🖨 2

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Comparing different processes (1/2)

- When developing new processes, you may want to compare different processes.
- Go to 'Retrieve Data' screen
- Select the desired process and click 'Add' to load the left table

Meas	ures Administra	tion																				
	Logout	Ctrl+L																				
	Process Monitorin	g Ctrl+M																				
	Retrieve Data	Ctrl+R	Monitor																		-	'n
1	Exit	Ctrl+X	Measures Administ	ration																		0
			Retrieve Data			:	Selected Fo	lder Pro	cesses								Processes	Selecte	đ		-	
			Al		Process	▲ Folder	Volume	t50	P VC	Vma	Date	^			Process	Folder	Volume	t50	P	/0 Vma	ax Gr	aph
			FR245 A400ml		PV006b	noLinked	30 ml	7,43	4,56 183	1040	27/1/2017 10:37		Add >	•	Test003	noLinked	2 ml	1,32	2,82 5	4 305		
				•	Test002	noLinked	2 ml	1,27	2,95 55	425	27/1/2017 16:39				Test001	noLinked	2 ml	1,44	2,84 8	4 354		
					Test004	noLinked	2 ml	1,76	3,76 69	610	27/1/2017 16:40											
					Test005	noLinked	2 ml	2,53	2,01 47	107	27/1/2017 16:48		Remove									
					TestLAB060	noLinked	15 ml	91	2,25 133	950	19/7/2017 12:55		******									

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Comparing different processes (2/2)

- The graphs can be 'selected'/'unselected' at the table.
- Normalized or Raw Data curves can be shown
- **'Print'** will generate a 'printer friendly report'
- **'Export**' will export the data to a file for external analysis

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Improving the data fitting

- If r²<0.99, the obtained fitting values (t50, p, V0, Vmax, t99) should be critically revised.
- In **Monitor**, you may modify the fitting parameters by clicking the right square indicating the color of the curve.
- You will access to a new window where you may play with the parameters.
- The 'Fitting Help' provides an additional explanation about how the different parameters may be used to improve the fitting quality



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