



SciLog® MabTec®

- intelligent bioprocessing system
- automated high density cell culture system

The SciLog® MabTec® is an automated high density cell culture system.

The MabTec® high density cell culture system is a fully automated gravimetric bioreactor maintenance system. Its capabilities include automated feed, harvest or recirculation in fully disposable or hybrid bioreactor flow paths. The system also includes the ability to conduct unattended bioreactor inoculations, bolus feed and/or pump flow reversals (to prevent filter fouling) all on one unit with run times from hours to months.

The MabTec® is available with a choice of pump heads and can feed bioreactor sizes from 50mL to 2000L. The MabTec® is engineered to fit seamlessly with any bioreactor and enhance its performance. A laboratory scale, available separately, must be connected to use the MabTec®'s gravimetric features.

Features and Benefits

- Safe, walk-away system operation
- Maintains a steady state bioreactor weight / volume within +/- 0.5%
- Real-time data collection with optimization tools
- Small, lightweight and mobile
- Works with any bioreactor
- Eliminates bioreactor addition errors
- Reduces aggregation of cells in the perfusion filter
- Intuitive application interface



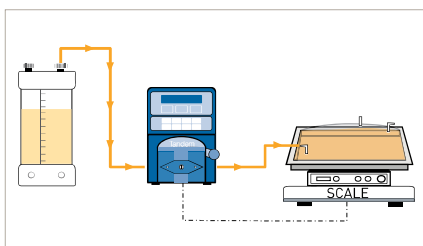
Note: SciLog® & MabTec® are registered trademarks of Parker Hannifin Corporation.

MabTec® motor size, pump head and tubing recommendations vs reactor size and reactor exchanges per day

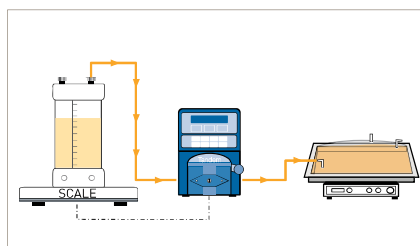
		Reactor Volume Size																						
		0.05	0.25	0.5	1	1.5	2	2	2.2	3	3	4	4	5	5	10	20	50	100	250	500	1000	2000	
#Exchange per day	1	0.03	0.17	0.35	0.69	1.04	1		2	2		3		3		7	14	35	69	174	347	694	1389	
	2	0.07	0.35	0.69	1	2	3		3	4		6	6	7		14	28	69	139	347	694	1389		
	3	0.10	0.52	1	2	3	4	4	5	6		8	8	10	10	21	42	104	208	521	1042	2083		
	4	0.14	0.69	1	3	4	6	6	6	8	8	11	11	14	14	28	56	139	278	694	1389			
	5	0.17	0.87	2	3	5	7	7	8	10	10	14	14	17	17	35	69	174	347	868	1736			
	10	0.35	2	3	7	10	14	14	15	21	21	28	28	21	35	69	139	347	694	1736				
	15	0.52	3	5	10	16	21	21	23	31	31		42		52	104	208	521	1042					
20	0.69	3	7	14	21			28	31		63		56		69	139	278	694	1389					
		#13	#15	#24			#16	#14	#15	#14	#16	#24	#15	#24	#15	#24	#35							
		8 RPM				160 RPM				8				160 RPM				600 RPM						
		1081				1082				1081				1082				1081						

*Flow rates in grams per minute

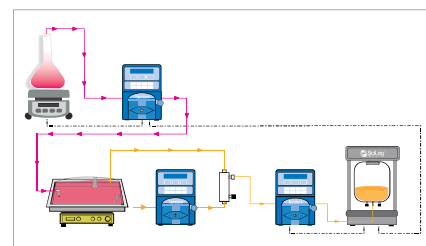
- 8 RPM with 1081 and #13 tubing
- 8 RPM with 1082 and #15 tubing
- 8 RPM with 1082 and #24 tubing
- 160 RPM with 1081 and #14 tubing
- 160 RPM with 1081 and #16 tubing
- 160 RPM with 1082 and #15 tubing
- 160 RPM with 1082 and #24 tubing
- 600 RPM with 1082 and #15 tubing
- 600 RPM with 1082 and #24 tubing
- 600 RPM with 1082 and #35 tubing


Fig. 1 Pre-Programmed Modes

The MabTec® has a pre-programmed mode for inoculating, transfecting and induction when used with a laboratory scale. This pre-programmed mode allows the user to deliver precise additions without being physically present, which is ideal for processes that are scheduled to run at inconvenient hours or on a repeated schedule.


Fig. 2 - Fed Batch

The MabTec® can be used to automate the feeding of cell cultures. Automation of this process greatly reduces the possibility of human error while reducing operator time. The MabTec® can be programmed to deliver a continuous feed for a specified number of days up to 100. Two modes exist for feeding; one that monitors levels in the reactor and makes additions while the other monitors the reactor and amount of feed media.


Fig. 3 - Ultra High Density Cell Culture

The MabTec® system is uniquely designed to provide a complete perfusion strategy. The user is able to maintain fresh media in the reactor, remove the desired component or prevent the build-up of waste products, all without a scale under the bioreactor. By keeping bioreactor weight maintained to within 2% and providing a constant stream of nutrient rich and pH buffered media, the bioreactor environment becomes ideal for ultra high density cell cultures.

Specifications

Description	
Dimension / Weight	Width: 5.75" (146 mm) x height: 8.5" (2126 mm) x depth: 11" (279 mm): 14 lbs (6.4 Kg)
Enclosure & Rating	16 Ga, aluminium baked epoxy blue 4-40dC, 0-100% humidity, IP20
Pressure Sensors	Accommodates three disposable pressure sensors [included]. The calibrated pressure range is 0 - 60 psi. Any point within this range can be recalibrated using an external pressure reference source.
Power	115 / 220-240 VAC, 60 / 50 Hz, 75 Watts, double fused: T1AL 250V (CE: IR35A 250VAC)
Motor / Encoder	8, 160, 600 RPM, 30 VDC, 3.8A, 120 ppr 8 and 160 RPM, 600 RPM 100 ppr
I/O Ports	Male DB9 scale connections, female DB9 printer or PC vonnection, external IO DB37 connector 4 TTL input, 3 4-20mA analog input: constant rate / constant pressure filtration with size user-definable alarms
Operational Mode	Exact Feed: 2 scales, perfusion, re-circulation, feed: 2 scale, feed: 1 scale, seed induction, manual

Options and Accessories

Pump Heads:

- Pressure: 25 psi continuous
45 psi max.
- 1081 Flow Rate (ml/min): 0.03 - 1515
- 1082 Flow Rate (ml/min): 0.5 - 2258

Accessories:

- SciPres® Pressure sensors
- Fittings and tubing kit
- Manifolds
- Printer
- Master slave cables
- Laboratory balance
- WeighStation™

Ordering Information

200

- MTEC - 1

Code Motor	Code Pump Head
0 8 RPM	81 1081 Pump
1 160 RPM	82 1082 Pump
6 600 RPM	

Example: 200-MTEC- 1181- SciLog® MabTec® - with scale, 160 RPM motor and 1081 head