

# Biological Stirrers

## Biological Stirrers

The stirrers are designed for optimal suspension cell culture and the use of microcarriers.

A system comprises of a stirrer platform and a number of glass culture vessels.

- Five stirrer platform sizes are available, along with 7 sizes of culture vessel
- Speed range from 0 to 80rpm
- Softstart/stop for slow acceleration and deceleration
- Interval setting option
- Stainless steel stirrer platform with locators for the culture vessels
- Designed for incubator environments upto 40°C and 95% humidity

### Unique stirring action

The culture vessels incorporate a unique base design which, together with the bulb-ended stirrer, ensures that the cells are lifted into suspension at the lowest possible speeds. This gentle stirring action promotes high cell yields by preventing cell shearing.

The stirrers create virtually no heat so there is negligible heat transfer from the magnetic drive to the culture vessel, making the system suitable for use in both incubators and cold rooms.

### Calibrated speed control and interval stirring

Cell attachment to microcarriers and high cell yields are ensured by the special softstart/stop design and interval stirring option. The former ensures slow acceleration and deceleration of the stirrer, avoiding excessive turbulence in the culture media and eliminating cell damage. The interval stirring can be used during the attachment phase to further reduce agitation of the media or when culturing particularly fragile cells.

## MCS-101L

- Accommodates one 3 or 5 litre culture vessel
- Strong, rugged and lightweight

## MCS-102L

- Holds up to two 1 litre culture vessels
- Small, light and compact and space saving



Computer generated image of flow pattern.



MCS-101L



MCS-102L



MCS-104S



MCS-104L



MCS-104XL

## MCS-104S

- Hold up to four 500ml culture vessels
- Small, light, compact and space saving

## MCS-104L

- Holds up to four 1 litre culture vessels
- Strong, rugged and lightweight

## MCS-104XL

- Accommodates four 5 litre culture vessels
- Designed for large-scale production
- Strong, rugged and lightweight

### Technical Specifications

	All models
<b>Speed</b>	
Speed range	0 to 80rpm
Speed setting accuracy	$\pm 3$ rpm
Softstart speed control	20 second acceleration 20 second deceleration
<b>Interval stirring</b>	
Variable on-time	6 seconds to 5 minutes
Variable off-time	2 minutes to 2 hours
Limited operating conditions	40°C and 95% relative humidity (non-condensing)
Voltage	Dual Voltage 230/110V 50/60Hz
Nominal power consumption	2W

# Biological Stirrers

## Technical Specifications

### Specifications unique to each model

	MCS-101L	MCS-102L	MCS-104S	MCS-104L	MCS-104XL
Vessels per system	1	2	4	4	4
Maximum vessels size (ml)	5000 (3000 min.)	1000	500	1000	5000 (only)
W x D x H (mm)	395 x 495 x 90	140 x 400 x 90	250 x 365 x 90	395 x 495 x 90	530 x 595 x 90
Net weight, excluding vessels	6.5 kg	3.0 kg	4.1 kg	6.1 kg	11.5 kg
Shipping weight	7.5 kg	4.2 kg	5.3 kg	7.1 kg	13.5 kg

## Ordering Information

Product Code	Description
FMCS101L	MCS-101L biological stirrer
FMCS102L	MCS-102L biological stirrer
FMCS104S	MCS-104S biological stirrer
FMCS104L	MCS-104L biological stirrer
FMCS104X	MCS-104XL biological stirrer

## Cell Culture Vessels

The culture vessels can be sealed for use with pathogenic materials. The stirrer rod design eliminates rotating bearings within the culture vessels, avoiding the difficulties arising from attempts to clean and autoclave conventional vessels.

The stirring system uses Pyrex® borosilicate glass culture vessels and stirrer rods which are siliconised to reduce the possibility of cells attaching to and growing on the surfaces. Vessels are available with nominal working volumes of 125ml, 250ml, 500ml, 1 litre, 3 litre (all with two side necks) and 5 litre (with two or five side necks).

Note that you must order culture vessels to suit your needs; they are not supplied with the MCS platform.



## Technical Specification

	125ml	250ml	500ml	1 litre	3 litre	5 litre	5 litre
Filled volume, (ml)	250	500	1000	2000	6000	10000	10000
Nominal working volume, (ml)	125	250	500	1000	3000	5000	5000
Working volume range, (ml)	50 –175	100 –350	200 – 700	500 –1500	1500 – 3500	2000 – 7000	2000 – 7000
Height, (mm)	145	170	205	263	284	365	365
Diameter, (mm)	65	80	100	140	215	240	240
Port size (mm)	14	14	23	33	33	18	33
No. of side necks	2	2	2	2	2	5	2

## Ordering Information

Flask size	Complete Culture Vessel	Flask Only	Stirrer Rod Only
125ml	F7988	F7987	6007989
250ml	F7689	F7690	6007635
500ml	F7607	F7609	6007619
1 litre	F7608	F7610	6007620
3 litre	FA298	FA299	6100290
5 litre (5 neck)	FA296	FA297	6100289
5 litre (2 neck)	FA709	FA710	6100289



# WolfLabs

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The specifications listed in this brochure are subject to change by the manufacturer and therefore cannot be guaranteed to be correct. If there are aspects of the specification that must be guaranteed, please provide these to our sales team so that details can be confirmed.

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