

Description

A permanent magnet is sealed into the flexibly mounted stirrer. The position of the stirrer bulb is controlled by another magnet in the MCS platform mounted on a pulley wheel. As the pulley wheel turns the magnet orbits under the culture vessel causing the stirrer bulb to trace a gentle path around the trough in the bottom of the vessel.

The design causes the culture to be carried gently upwards in the centre of the vessel to the surface, then it is dispersed outwards where it loses energy and drops slowly to the trough.

The electronic speed control ensures the stirring speed is consistent and repeatable at all settings.

The soft start facility causes the stirrer to increase (or decrease) speed gradually over a period of 20 seconds until the set speed is reached (or stirring stops).

The interval mode allows stirring to be programmed for "on" periods from 6 seconds to 5 minutes and "off" periods from 2 minutes to 2 hours.

Standard culture vessels are calibrated in volume and have two necks and a central filling port. There is also a 5 litre vessel which has five necks and a central filling port. All culture vessel parts are suitable for repeated autoclaving at 121°C and 15psi for 30 minutes. All internal components are biologically inert.

Both the culture vessel and the stirring rod are siliconised before they leave the factory.

The MCS platforms are designed for incubator environments with a maximum temperature of 40°C and 95% relative humidity, non condensing.

Specification

Speed Range	0 to 80 rev/min
Speed Setting Accuracy	Better than 3 rev/min
SOFTSTART Speed Control	20 sec acceleration 20 sec deceleration
Interval stirring	
variable on-time	6 sec to 5 min
variable off-time	2 min to 2 hrs
Drive	Non slip magnetic drive between rotating magnets in the base and embedded magnets in each stirring rod.
Heat Input to Culture Vessels	Negligible. Continuous running produces no measurable increase in temperature.
Limiting Operating Conditions	40°C and 95% relative humidity non-condensing.
Glassware	Borosilicate glass, siliconised.

Electrical Supply: Prior to ser No /4 (can be changed at the transformer)

Voltage	Cycles	Power (nominal)	Fuse
220/250V	50/60Hz	2 W	100 mA
110/120V	50/60Hz	2 W	100 mA

Serial No /4 on (with voltage selector switch)

Voltage	Cycles	Power (nominal)	Fuse
230/120V	50/60Hz	2 W	100 mA

The units, vessels and stirring action are covered by various Patents including: UK 2054397; EUR 0053869; US 4382685; US 3854704.

Dimensions

Stirrer Units	MCS-101L	MCS-102L	MCS-104S	MCS-104L	MCS-104XL	
Width mm	395	140	250	395	530	
Depth mm	495	400	365	495	595	
Height mm	90	90	90	90	90	
Net Weight (excl vessel)	6.5Kg	3.0Kg	4.1Kg	6.1Kg	11.4Kg	
Vessels per system	1	2	4	4	4	
Max Vessel Size	5 litre	1 litre	500 ml	5 litre	5 litre	
Culture Vessels	125 ml	250 ml	500 ml	1 litre	3 litre	5 litre
Gross Volume	250 ml	500 ml	1 litre	2 litre	6 litre	10 litre
Nom Working Vol	125 ml	250 ml	500 ml	1 litre	3 litre	5 litre
Working Vol Range	50 to 175 ml	100 to 350 ml	200 to 700 ml	500 to 1500 ml	1.5 to 3.5 litre	2 to 7 litre
Height	145 mm	170 mm	205 mm	263 mm	284 mm	365 mm
Diameter	65 mm	80 mm	100 mm	140 mm	215 mm	240 mm
Top Thread Size	42 mm	42 mm	42 mm	42 mm	60 mm	60 mm
Side Thread Size	20 mm	20 mm	30 mm	42 mm	42 mm	24 mm
Side port size	14 mm	14 mm	23 mm	33 mm	33 mm	18 mm
No of side necks	2	2	2	2	2	5

Sterilisation of Glassware

In the interests of public health and the safety of our employees we cannot accept any returned glassware without our previous authorisation.

We require a certificate of sterilisation from the user before giving such authorisation.

A suitable form of certificate is enclosed with the glassware when it is despatched from Techne.

All Units

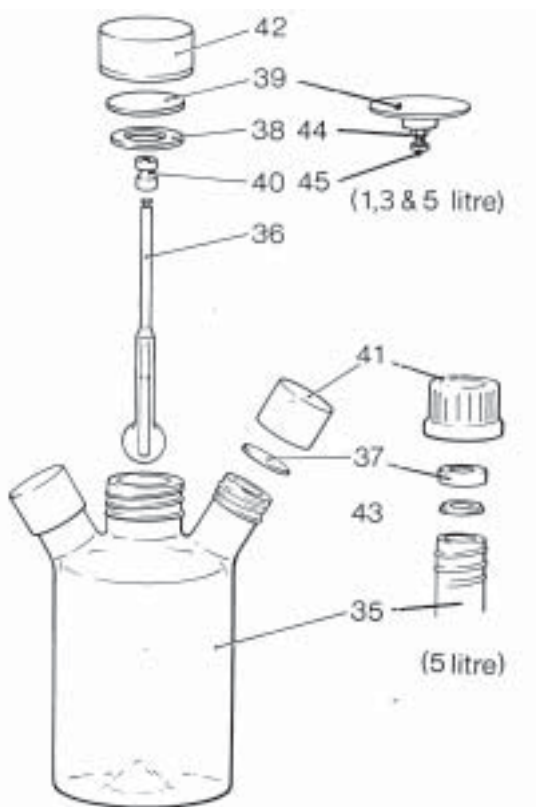
- Replace the cover and fit the appropriate location bosses.
- The location boss for 1 litre vessels is supplied with the flask.
- 500 ml, 250 ml and 125ml flasks use the same location boss, as supplied with the platform.

Siliconising Glassware

- All glassware is siliconised before being dispatched. It will eventually require resiliconising in order to maintain its water repellant qualities.
- CAUTION: THE WORKROOM MUST BE WELL VENTILATED.
- Clean the glassware thoroughly and ensure it is free from grease.
- Wash out and immerse the glassware in a water repelling treatment such as Merck Ltd, "Repelcote VS".
- Make sure the glassware is fully wetted by the solution.
- Allow the solvent to evaporate. There will normally be sufficient absorbed by water on the glassware to hydrolyse "Repelcote VS" to a highly water repellent silicone film.

Assembling the Culture Vessel

- Push the grooved end of the stirrer rod into the flexible suspension joint (item 40).
- Fit the washer (item 38) over the rod and push the suspension joint onto the flask cap adaptor (item 39).
- Complete the vessel assembly as shown.
- In culture vessels of more than 500 ml the length of the stirrer rod may need to be adjusted to ensure that the stirrer bulb clears the bottom of the trough.
- This is done using the screw and lock-nut in the flask cap adaptor. Note: This screw and nut are of special material to maintain hygienic conditions.
- See the following pages for lists of parts.



Culture Vessel Parts

ITEM	PART	DESCRIPTION	QTY	NOTES
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125 ml VESSEL, F7988

35	F7987	FLASK	1	
36	6007989	STIRRER ROD	1	
37	6007629	SEAL	2	
38	6007625	SEALING WASHER	1	
39	6007627	FLASK CAP ADAPTOR	1	
40	6007634	FLEXIBLE JOINT	1	
41	6007630	CAP 20mm	2	
42	6007632	CAP 42mm	1	

250 ml VESSEL, F7689

35	F7690	FLASK	1	
36	6007635	STIRRER ROD	1	
37	6007629	SEAL	2	
38	6007625	SEALING WASHER	1	
39	6007627	FLASK CAP ADAPTOR	1	
40	6007634	FLEXIBLE JOINT	1	
41	6007630	CAP 20mm	2	
42	6007632	CAP 42mm	1	

500 ml VESSEL, F7607

35	F7609	FLASK	1	
36	6007619	STIRRER ROD	1	
37	6007623	SEAL	2	
38	6007625	SEALING WASHER	1	
39	6007627	FLASK CAP ADAPTOR	1	
40	6007634	FLEXIBLE JOINT	1	
41	6007631	CAP 30mm	2	
42	6007632	CAP 42mm	1	

ITEM	PART	DESCRIPTION	QTY	NOTES
1 LITRE VESSEL, F7608				
35	F7610	FLASK	1	
36	6007620	STIRRER ROD	1	
37	6007624	SEAL	2	
38	6007626	SEALING WASHER	1	
39	6105066	FLASK CAP ADAPTOR	1	
40	6007634	FLEXIBLE JOINT	1	
41	6007632	CAP 42mm	2	
42	6007633	CAP 60mm	1	
44	6400049	NUT S/S	1	
45	6400048	SCREW S/S	1	Flasks 255mm High
45	6008729	SCREW S/S	1	Flasks 272mm High

3 LITRE VESSEL, FA298

35	FA299	FLASK	1	(276mm high)
36	6007621	STIRRER ROD	1	For old flask F7615
36	6100290	STIRRER ROD	1	For FA299
37	6007624	SEAL	2	
38	6007626	SEALING WASHER	1	
39	6105066	FLASK CAP ADAPTOR	1	
40	6007634	FLEXIBLE JOINT	1	
41	6007632	CAP 42mm	2	
42	6007633	CAP 60mm	1	
44	6400049	NUT S/S	1	
45	6400048	SCREW S/S	1	FA299 flasks and F7615 flasks 331mm high
45	6008729	SCREW S/S	1	F7615 flasks 351mm high

ITEM	PART	DESCRIPTION	QTY	NOTES
5 LITRE VESSEL (5 NECK), FA296				
35	FA297	FLASK	1	(357mm high)
36	6007622	STIRRER ROD	1	For older flask F7884 437mm high
36	6100289	STIRRER ROD	1	For FA297
37	6007958	SEAL SMALL	5	
37	6007959	SEAL LARGE	5	
38	6007626	SEALING WASHER	1	
39	6105066	FLASK CAP ADAPTOR	1	
40	6007634	FLEXIBLE JOINT	1	
41	6007957	CAP 12mm	5	
42	6007633	CAP 60mm	1	
43	6007960	SEAL WASHER SMALL	5	
43	6007961	SEAL WASHER LARGE	5	
44	6400049	NUT S/S	1	
45	6400048	SCREW S/S	1	
5 LITRE VESSEL (2 NECK), FA709				
35	FA710	FLASK	1	
36	6100289	STIRRER ROD	1	
37	6007624	SEAL	2	
38	6007626	SEALING WASHER	1	
39	6105066	FLASK CAP ADAPTOR	1	
40	6007634	FLEXIBLE JOINT	1	
41	6007632	CAP 42mm	1	
42	6007633	CAP 60mm	1	
44	6400049	STAINLESS NUT	1	
45	6400048	STAINLESS SCREW	1	