

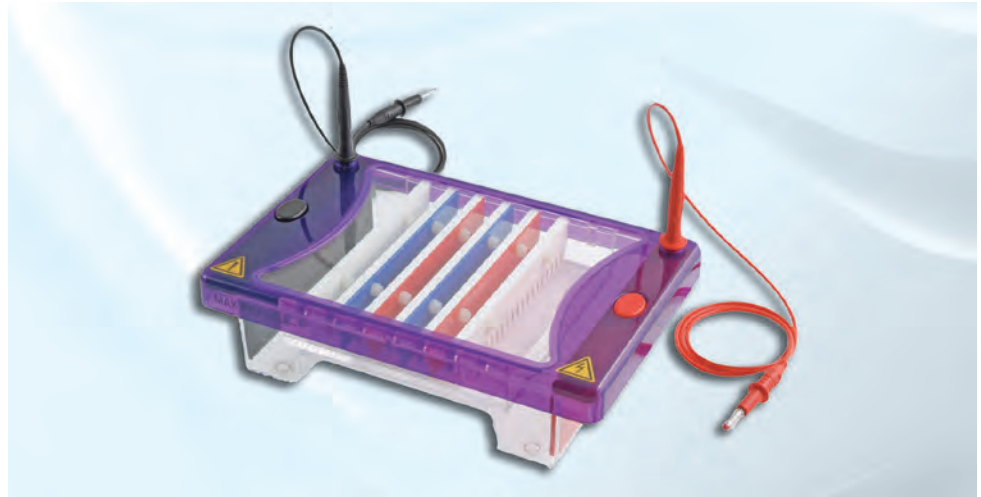


horizontal gel systems

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horizontal electrophoresis

Although a long-established technique, horizontal gel electrophoresis offers many advantages for nucleic acid separation and remains today one of the mainstays of molecular biology. Cleaver Scientific's multiSUB™ range offers the most comprehensive and versatile line of horizontal gel electrophoresis units currently available for low- and high-throughput DNA and RNA applications.



multiSUB™ Range - Overview

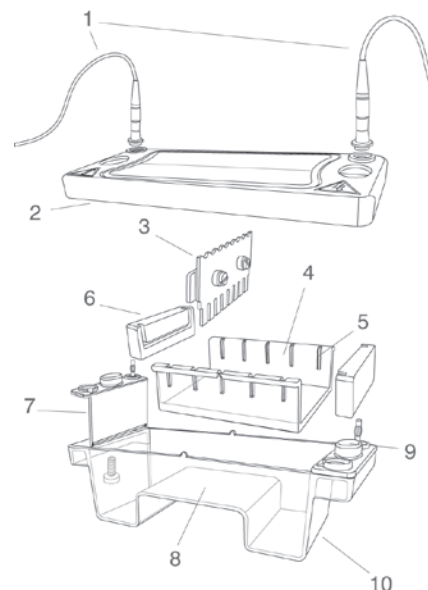
The multiSUB™ range now comprises ten models to address virtually any kind of submarine horizontal gel electrophoresis application. The relatively compact tank size of each system results in economical buffer and gel consumption without compromising resolution and separation speed, while more tray-length, comb thickness and sample throughput options – than are presently offered by any other gel tank manufacturer – provide full choice and flexibility.

Each unit is supplied as standard with a minimum of two combs and at least one removable UV transparent gel tray. Further optional gel tray sizes obviate the need for multiple gel tanks or changes in application, saving both bench space and money*. Easy-to-use 'Plug-and-Go' casting dams clip conveniently on the ends of each gel tray allowing gels to be cast externally, to enable the multiSUB™ tank to remain permanently in use for electrophoresis if required.

**Excludes battery mini-gel unit for education and the miniRapide self-contained unit which have in-built casting trays.*

Components of the multiSUB
MSMINI gel tank




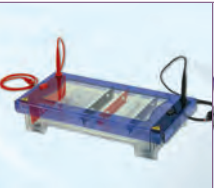
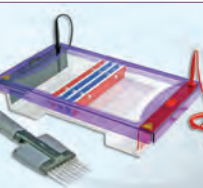
1	Power Cables
2	Safety Lid & Viewing Pane
3	Height-adjustable comb
4	UV transparent gel tray
5	Comb slots
6	'Plug-and-Go' casting dams
7	Colour-coded electrodes with power plug connectors
8	Gel Platform
9	Safety lid thumb locators
10	Moulded tank



The multiSUB™ Range – Key Features

Cleaver Scientific's multiSUB™ horizontal gel electrophoresis units have been designed by scientists with the laboratory scientist in mind. Through its advanced features each unit provides an easy to use, versatile and flexible system to evolve and adapt with the changing needs of today's laboratory researcher.

Tank and Lid Design	
	High quality injection moulded construction and durable leak-proof design for complete safety and longevity
	Cassette-style electrodes – difficult to break, but inexpensive and easy to change – composed of 99.99% corrosion-resistant, pure platinum
	Electrical safety – lid removal immediately disconnects power to the lower buffer chamber to allow entirely safe access to the gel
	Easy-click lid removal – asymmetric lid design and thumb locators on colour-coded cassette-style electrodes ensure that electrophoresis is always performed in the correct polar direction – i.e. negative to positive
Combs	
	The widest range of combs available of any gel tank manufacturer - fit virtually every application from preparatory electrophoresis to high-throughput screening
	Available in four thicknesses and colour-coded. Range from: <ul style="list-style-type: none"> • White – 1mm supplied as standard • Black – 0.75mm for tightly resolved bands • Red – 1.5mm to maximise sample volume • Blue – 2mm to maximise sample volume Black and white combs recommended for high resolution gels and publication quality data; red and blue to scale-up nucleic acid volumes for preparatory techniques
	Height-adjustable, without any requirement for specialist tools or comb holders, to give user full control over well depth and sample-loading volume; rigid comb back prevents heat-induced warping
	Reversible loading guides sit directly above each well to provide a convenient loading template for single- and multi-channel pipettes
Trays	
	Multiple gel tray options – eliminate the need for additional gel tanks and allow gels to be cast externally, keeping the tank permanently in use for electrophoresis if required
	UV and blue light transparent
Casting	
	'Plug-and-Go' casting – moulded casting dams clip easily onto the ends of the gel tray for rapid external casting, allowing the multiSUB™ unit to remain in use for gel running. Casting is as simple as 1, 2, 3...Simply place one dam onto the lab bench facing upwards and insert the tray into the groove in the dam(1) and repeat with the second dam at the other end(2). The tray is now sealed and may be placed on flat bench space or gel levelling table in readiness for leak proof gel-casting (3).
	Other casting options include flexicaster and plastic casting gates - see multiSUB™ Selection Guide
Accessories	
	Red loading guides – aid well and sample visualisation during loading (1).
	White gel platform – provides a contrasting background to view bromophenol blue migration fronts and determine electrophoresis progress during every run (2).
	Gel levelling table – recommended especially for MSMAXI or MSSCREEN gel trays. Adjustable levelling feet used in conjunction with a levelling bubble provide an even surface upon which to pour wide- and large-format gels, to ensure consistent and uniform migration
	runFAST cool pack and platform – sit directly above the gel in the buffer to provide enhanced resolution and faster run times; especially suited to larger format horizontals. To use: fill the tank with buffer and load samples (1.); insert platform above the gel (2.); place pre-frozen cool pack onto platform (3.); connect to power supply and run samples at higher voltage (4.).
	Power cables – with 4mm connectors compatible with most modern low-to-medium voltage power supplies; CE compliant (1). Adaptors available for complete power supply compatibility. Buffer Saver Blocks – conserve buffer for added economy – especially beneficial in larger format MSMAXI and MSSCREEN units (2).

					
	MSMINI	MSMIDI	MSCHOICE	MSCHOICEST	MSMAXI
	The preferred option for quick sample-checks, particularly following restriction digestion during cloning. Its slim tray format makes the MSMINI a very economical choice for separation of up to 64 samples.	These units offer the same trays lengths, but in a wider format, to run more samples just as economically as in the MSMINI under similar running conditions.	Wide-format system with 2-3 times the sample capacity as the MSMIDI and MSMINI units. A comprehensive selection of combs provides full flexibility for preparatory and screening techniques. Suitable for cloning and mini-prep analysis.	A 'stretched' version of the MSCHOICE, this system is perfect for extended high-resolution separations of samples from 96-well microplates and blocks, using its 15x20cm and 15x25cm gel trays and four 28-sample multichannel compatible combs. May also be used for routine preparatory techniques.	Large-format system versatile enough to be used for routine preparatory and high-throughput techniques. Combs with spacing compatible with fixed multichannel pipettes simplify loading from 96-well microplates and thermal cycler blocks. Suitable for RFLP analysis, Southern and northern blotting applications, and DNA library and PCR fragment analyses.
Unit Dimensions (w x L x H)	9 x 21 x 9cm	12.5 x 22 x 9cm	17.5 x 26.5 x 9cm	17.5 x 41 x 9cm	23 x 39.5 x 9cm
Active Gel Size (w x L) / Corresponding Gel Tray	7x7cm / MS7-UV7 7x10cm / MS7-UV10	10x7cm / MS10-UV7 10x10cm / MS10-UV10	15x7cm / MS15-UV7 15x10cm / MS15-UV10 15x15cm / MS15-UV20	15x20cm / MS15-UVST20 15x25cm / MS15-UVST25	20x10cm / MS20-UV10 20x15cm / MS20-UV15 20x20cm / MS20-UV20 20x25cm / MS20-UV25
Sample Capacity	1-32 (7x7cm) ^a 1-64 (7x10cm) ^b	1-50 (10x7cm) ^a 1-100 (10x10cm) ^b	1-70 (15x7cm) ^a 1-140 (15x10cm) ^b 1-210 (15x15cm) ^c	1-280 (15x20cm) ^f 1-350 (15x25cm) ^{††}	1-200 (20x10cm) ^b 1-350 (20x15cm) ^c 1-450 (20x20cm) ^d 1-550 (20x25cm) ^e
Tank Buffer Volume	225ml	300ml	500ml	1000ml	1200ml
Buffer Recirculation	No	No	Recommended for high voltage applications or extended runs. Requires modified lid with 2 buffer recirculation ports. Available on request as per part numbers below: -		
			MS15LID-BP	MS15STLID-BP	MS20LID-BP
Plug-and-Go Casting Dams Supplied	Yes, 1 pair	Yes, 1 pair	Yes, 1 pair	Yes, 1 pair	Yes, 1 pair
Flexicaster Options & Tray Capacity	MS7/10-FC: 1 tray MS15/20-FC: 2 trays* MS26-FC: 3 trays*	MS7/10-FC: 1 tray MS15/20-FC: 1 tray MS26-FC: 3 trays*	MS15/20-FC: 1 tray MS26-FC: 1 tray		
Typical Running Conditions	80V, 45-60 minutes	90V, 45-60 minutes	90-150V, 60-90 minutes	100-150V, 60-90 minutes	100-150V, 60-90 minutes
Bromophenol Blue Migration	~4-5cm/h at 80V	~4-5cm/h at 90V	~4-7cm/h at 90-150V	~4-6cm/h at 100-150V	~4-6.5cm/h at 100-150V

^a Assumes 1-2 combs per gel;

^b Assumes 1-4 combs per gel;

^c Assumes 1-6 combs per gel;

^d Assumes 1-9 combs per gel;

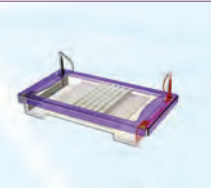




^e Assumes 1-11 combs per gel;

^f Assumes 1-12 combs per gel

[†] Assumes 1-8 combs per gel;

^{††} Assumes 1-10 combs per gel

* Assumes multiSUB™ trays are of the same length (e.g two MS7-UV7) and arranged side-by-side.

					
	MSSCREEN	FMMS10	MSBGEL	MSMIDI96	MULTISUB-4
	Supplied with six 28-sample multichannel compatible combs, with well-spacing that favours direct loading. The content of at least one 96-well microplate or thermal cycler block may be screened in a single gel. Standard combs may be exchanged for 56-sample versions to double the sample capacity. A dedicated system for all high-throughput screening applications.	An ultra-compact self-contained system for routine molecular biology procedures and quick checks of samples. Buffer and gel volumes kept to a minimum to maximise current and separation speed.	Designed specifically with safety and cost constraints in mind, this system is ideal for education as no power supply is required – only batteries. Educational kits are available which include: protocols, non-toxic electrophoretic dyes, agarose and buffers.	96-well comb block and specialised tray replicate the format and well-spacing of microplates and thermal cycler blocks. Offset well configuration and short separation distance (1.8cm) allow samples to be run within 15-30 minutes. Ideal system for rapid screening of up to 96 PCR-fragment length polymorphisms. Stretch versions available with extended 3.6cm separation distance to double capacity.	Separates up to 1200 samples in as little as 15 minutes, over a short 1cm separation distance, in 4 stacked horizontal gel trays. A relatively small footprint area, plus the capacity to run 4 gels in 1 tank, saves on valuable laboratory bench space as well as resources.
Unit Dimensions (w x l x h)	28 x 50 x 9cm	15 x 15 x 4cm	17 x 11 x 3.5cm	12.5 x 22 x 9cm (MIDI96) 12.5 x 46.5 x 8cm (MIDI96ST)	11 x 35 x 16cm
Active Gel Size (w x l) / Corresponding Gel Tray	26x16cm / MS26-UV16 26x24cm / MS26-UV24 26x32cm / MS26-UV32	10x8cm / in-built tray	6x7.5cm / in-built tray	10x12cm / MS10-UV96 10x24cm / MS10-UV96ST	8x6cm / MSUB4UV6 8x12cm / MSUB4UV12 8x18cm / MSUB4UV18
Sample Capacity	28-336 (26x16cm) ^a 28-504 (26x24cm) ^a 28-672 (26x32cm) ^f	1-40 (10x8cm) ^a	4-32 (6x7.5cm) ^a	96 samples plus 12 (1 lane) or 24 (2 lanes) marker wells	8-126 (8x6cm) ^a 8-198 (8x12cm) ^a 8-306 (8x24cm) ^b
Tank Buffer Volume	1400ml	50ml	50ml	300ml (MSMIDI96) 700ml (MIDI96ST)	200ml: 1 tray 400ml: 2 trays 600ml: 3 trays 800ml: 4 trays
Buffer Recirculation	Yes – buffer recirculation ports included as standard	No	No	No	No
Plug-and-Go Casting Dams Supplied	No – supplied with dedicated MSSCREEN flexicaster; See MS26-FC, pg 9.	No – plastic casting gates	No – plastic casting gates	Yes, 1 pair	No
Flexicaster Options & Tray Capacity	MS26-FC: 1 tray	No	No	No	MSUB4EXCASTER: 4 trays
Typical Running Conditions	100-150V, 90-120 minutes	50V, 30-60 minutes	12V, 1-2 hours	90V, 15-30 minutes	100-150V, 15-30 minutes
Bromophenol Blue Migration	~4-6cm/hr at 100-150V	~4cm/hr at 50V	~1cm/hr at 12V	~4-5cm/h at 90V	~4-6cm/hr at 100-150V

^a Assumes 1-2 combs per gel;

^b Assumes 1-4 combs per gel;

^c Assumes 1-6 combs per gel;

^d Assumes 1-9 combs per gel;

^e Assumes 1-11 combs per gel;

^f Assumes 1-12 combs per gel;

^g Assumes 1-7 combs per gel;

^h Assumes 1-17 combs per gel;

ⁱ Assumes 1-8 combs per gel;

^{††} Assumes 1-10 combs per gel

* Assumes multiSUB™ trays are of the same length (e.g two MS7-UV7) and arranged side-by-side.



Typical Applications

Designed for quick checks of low to medium numbers of samples

multiSUB *mini*

The multiSUB Mini is the smallest unit in the range, designed for low to medium numbers of samples. The small gel size maximises run economy but does not compromise versatility as two tray options are available – **7 x 7cm** and **7 x 10cm** – and combs ranging from preparative up to 16 samples. Simply by altering the gel tray or comb, this compact unit is capable of resolving up to 64 different samples, prepping 1ml of sample or separating sample bands over a distance of 9cm.

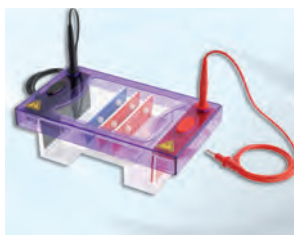
Buffer saver blocks physically reduce the volume of a gel chamber and so reduce buffer requirements, saving cost.

- Available with 7 x 7cm, 7 x 10cm or with both gel trays
- Economic low gel and buffer volumes
- Small lab bench footprint

Technical Specifications	
Gel dimensions (w x L)	7 x 7cm 7 x 10cm
Unit dimensions (w x L x H)	9 x 21 x 9cm
Max. sample capacity	7 x 7cm tray – 32 samples 7 x 10cm tray – 64 samples
Buffer volume	225ml
Combs available: No. of samples Thicknesses	1, 2, 4, 8MC, 8, 10, 12MC, 16 0.75, 1, 1.5, 2mm

Ordering Information						
MSMINI7		multiSUB Mini, 7 x 7cm UV Tray, 2 x 8 sample combs, loading guides and dams				
MSMINI10		multiSUB Mini, 7 x 10cm UV Tray, 2 x 8 sample combs, loading guides and dams				
MSMINIDUO		multiSUB Mini, 7 x 7cm & 7 x 10cm UV Tray, 2 x 8 sample combs, loading guides and dams				
MS7-UV7	7 x 7cm UV Tray	MS7-LG	Adhesive Loading Guides	MS7-x -yLG	Combination Comb and Loading Guide x = comb well no. y = comb thickness	
MS7-UV10	7 x 10cm UV Tray	MS7-WP	Viewing Platform			
MS7-PE	Positive Electrode	MSMINICP	Cool-pack and Platform			
MS7-NE	Negative Electrode	MSMINIBSB	Buffer Saver Blocks, pk/2 saves 100ml of buffer			
MS7-UVDAM	Casting Dams			MS7-UVS	7cm UV Gel Scoop	
MS7/10-FC	multiSUB Mini/Midi Flexi caster			CSL-CAB	Electrophoresis cable (Black & Red)	

Code	Description	Sample Volume for a 5mm thick gel	Code	Description	Sample Volume for a 5mm thick gel
MS7-1-0.75	Comb Prep 1, Marker 1, 0.75mm thick	152µl	MS7-1-1.5	Comb Prep 1, Marker 1, 1.5mm thick	304µl
MS7-2-0.75	Comb Prep 2, Marker 2, 0.75mm thick	68µl	MS7-2-1.5	Comb Prep 2, Marker 2, 1.5mm thick	135µl
MS7-4-0.75	Comb Prep 4, Marker 2, 0.75mm thick	36µl	MS7-4-1.5	Comb Prep 4, Marker 2, 1.5mm thick	72µl
MS7-8MC-0.75	Comb 8 sample MC, 0.75mm thick	8µl	MS7-8MC-1.5	Comb 8 sample MC, 1.5mm thick	17µl
MS7-8-0.75	Comb 8 sample, 0.75mm thick	19µl	MS7-8-1.5	Comb 8 sample, 1.5mm thick	37µl
MS7-10-0.75	Comb 10 sample, 0.75mm thick	14µl	MS7-10-1.5	Comb 10 sample, 1.5mm thick	27µl
MS7-12MC-0.75	Comb 12 sample MC, 0.75mm thick	10µl	MS7-12MC-1.5	Comb 12 sample MC, 1.5mm thick	20µl
MS7-16-0.75	Comb 16 sample, 0.75mm thick	7µl	MS7-16-1.5	Comb 16 sample, 1.5mm thick	15µl
MS7-1-1	Comb Prep 1, Marker 1, 1mm thick	203µl	MS7-1-2	Comb Prep 1, Marker 1, 2mm thick	405µl
MS7-2-1	Comb Prep 2, Marker 2, 1mm thick	90µl	MS7-2-2	Comb Prep 2, Marker 2, 2mm thick	180µl
MS7-4-1	Comb Prep 4, Marker 2, 1mm thick	48µl	MS7-4-2	Comb Prep 4, Marker 2, 2mm thick	96µl
MS7-8MC-1	Comb 8 sample MC, 1mm thick	11µl	MS7-8MC-2	Comb 8 sample MC, 2mm thick	23µl
MS7-8-1	Comb 8 sample, 1mm thick	25µl	MS7-8-2	Comb 8 sample, 2mm thick	50µl
MS7-10-1	Comb 10 sample, 1mm thick	18µl	MS7-10-2	Comb 10 sample, 2mm thick	36µl
MS7-12MC-1	Comb 12 sample MC, 1mm thick	14µl	MS7-12MC-2	Comb 12 sample MC, 2mm thick	27µl
MS7-16-1	Comb 16 sample, 1mm thick	10µl	MS7-16-2	Comb 16 sample, 2mm thick	20µl



multiSUB *midi*

With gel tray options of **10 x 7cm** and **10 x 10cm**, the multiSUB Midi has been designed for routine horizontal gel electrophoresis. Extending only the width of this unit allows more samples to be resolved per gel than the multiSUB Mini without a significant increase in buffer or gel volumes.

A maximum of 100 samples per gel can be resolved making this unit ideal for those routinely checking medium numbers of samples over short to medium gel run lengths. Loading guides allow easy well identification and sample loading. Scoops available as an option allow safe transfer of gels. For Power Supplies and Product Selector see page 57.



Typical Applications

Ideal for quick checks of samples from PCR and cloning

- Available with 10 x 7cm, 10 x 10cm or with both gel trays
- Run up to 100 samples
- Low buffer volumes
- Ideal for rapid electrophoresis

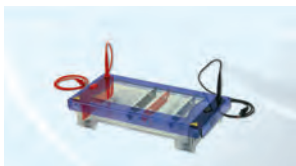
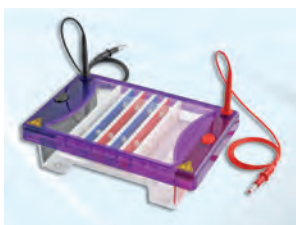
Technical Specifications

Gel dimensions (w x L)	10 x 7cm 10 x 10cm
Unit dimensions (w x L x H)	12.5 x 22 x 9cm
Max. sample capacity	10 x 7cm tray – 50 samples 10 x 10cm tray – 100 samples
Buffer volume	300ml
Combs available: No. of samples Thicknesses	1, 2, 4, 8, 10MC, 12, 16, 20MC, 25 0.75, 1, 1.5, 2mm

Ordering Information

MSMIDI7	multiSUB Midi, 10 x 7cm UV Tray, 2 x 16 sample combs, loading guides and dams				
MSMIDI10	multiSUB Midi, 10 x 10cm UV Tray, 2 x 16 sample combs, loading guides and dams				
MSMIDI DUO	multiSUB Midi, 10 x 7cm & 10 x 10cm UV Tray, 2 x 16 sample combs, loading guides and dams				
MS10-UV7	10 x 7cm UV Tray	MS10-LG	Adhesive Loading Guides	MS10-x -yLG	Combination Comb and Loading Guide x = comb well no y = comb thickness
MS10-UV10	10 x 10cm UV Tray	MS10-WP	Viewing Platform		
MS10-PE	Positive Electrode	MSMIDICP	Cool-Pack and Platform		
MS10-NE	Negative Electrode	MSMIDIBSB	Buffer Saver Blocks, pk/2 saves 100ml of buffer		
MS10-UVDAM	Casting Dams			MS10-UVS	10cm UV Gel Scoop
MS7/10-FC	multiSUB Mini/Midi Flexi caster			CSL-CAB	Electrophoresis cable (Black & Red)

Code	Description	Sample Volume for a 5mm thick gel	Code	Description	Sample Volume for a 5mm thick gel
MS10-1-0.75	Comb Prep 1, Marker 1, 0.75mm thick	270µl	MS10-1-1.5	Comb Prep 1, Marker 1, 1.5mm thick	540µl
MS10-2-0.75	Comb Prep 2, Marker 2, 0.75mm thick	118µl	MS10-2-1.5	Comb Prep 2, Marker 2, 1.5mm thick	236µl
MS10-4-0.75	Comb Prep 4, Marker 2, 0.75mm thick	57µl	MS10-4-1.5	Comb Prep 4, Marker 2, 1.5mm thick	115µl
MS10-8-0.75	Comb 8 sample, 0.75mm thick	30µl	MS10-8-1.5	Comb 8 sample, 1.5mm thick	61µl
MS10-10MC-0.75	Comb 10 sample MC, 0.75mm thick	20µl	MS10-10MC-1.5	Comb 10 sample MC, 1.5mm thick	41µl
MS10-12-0.75	Comb 12 sample, 0.75mm thick	17µl	MS10-12-1.5	Comb 12 sample, 1.5mm thick	34µl
MS10-16-0.75	Comb 16 sample, 0.75mm thick	12µl	MS10-16-1.5	Comb 16 sample, 1.5mm thick	24µl
MS10-20MC-0.75	Comb 20 sample MC, 0.75mm thick	10µl	MS10-20MC-1.5	Comb 20 sample MC, 1.5mm thick	20µl
MS10-25-0.75	Comb 25 sample, 0.75mm thick	7µl	MS10-25-1.5	Comb 25 sample, 1.5mm thick	15µl
MS10-1-1	Comb Prep 1, Marker 1, 1mm thick	360µl	MS10-1-2	Comb Prep 1, Marker 1, 2mm thick	720µl
MS10-2-1	Comb Prep 2, Marker 2, 1mm thick	158µl	MS10-2-2	Comb Prep 2, Marker 2, 2mm thick	315µl
MS10-4-1	Comb Prep 4, Marker 2, 1mm thick	77µl	MS10-4-2	Comb Prep 4, Marker 2, 2mm thick	153µl
MS10-8-1	Comb 8 sample, 1mm thick	41µl	MS10-8-2	Comb 8 sample, 2mm thick	81µl
MS10-10MC-1	Comb 10 sample MC, 1mm thick	27µl	MS10-10MC-2	Comb 10 sample MC, 2mm thick	54µl
MS10-12-1	Comb 12 sample, 1mm thick	23µl	MS10-12-2	Comb 12 sample, 2mm thick	45µl
MS10-16-1	Comb 16 sample, 1mm thick	16µl	MS10-16-2	Comb 16 sample, 2mm thick	32µl
MS10-20MC-1	Comb 20 sample MC, 1mm thick	14µl	MS10-20MC-2	Comb 20 sample MC, 2mm thick	27µl
MS10-25-1	Comb 25 sample, 1mm thick	10µl	MS10-25-2	Comb 25 sample, 2mm thick	20µl



multiSUB choice

The multiSUB Choice offers a wide degree of versatility. Three tray options are available – **15 x 7cm, 15 x 10cm and 15 x 15cm** – allowing the choice of one, two or all three gel length

Technical Specifications			
Gel dimensions (w x l)	15 x 7cm	15 x 10cm	15 x 15cm
Unit dimensions (w x l x h)	17.5 x 26.5 x 9cm	17.5 x 41 x 9cm (Stretch models only)	15 x 20cm
Max. sample capacity	15 x 7cm tray – 70 samples	15 x 10cm tray – 140 samples	15 x 20cm tray – 280 samples
Buffer volume	500ml (choice)	1000ml (choice stretch)	15 x 25cm tray – 350 samples
Combs available:	1, 2, 4, 10, 10MC, 12, 14MC, 16, 18MC, 20, 28MC, 30MC, 35		
No. of samples	0.75, 1, 1.5, 2mm		
Thicknesses			

options at the time of purchase. Further purchases of additional accessories are no longer required. Maximising comb and tray options allow up to 210 samples to be resolved per gel. The 15cm total run length allows restriction fragment or other close MW sample bands to be easily separated and identified. Speed loading is accomplished using 10, 14, 16, 18, 28 or 30 sample multi-channel pipette compatible combs. Fabricated multiSUB choice stretch units are available with optional **15 x 20cm and 15 x 25cm** gel trays and four 28-sample combs for those researchers wanting to perform higher resolution separation of more samples over a longer distance. multiSUB Choice Trio includes all 3 tray sizes for optimum versatility and value.

Typical Applications

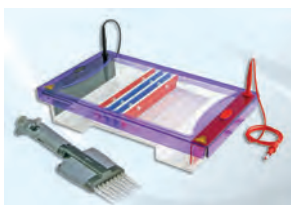
Ideal for restriction fragment analysis, sample prep or checking of high numbers of samples

- Three tray options
- Run up to 210 samples
- Low buffer volumes
- Multichannel pipette compatible combs for speed loading

Ordering Information

MSCHOICE7 multiSUB Choice	15 x 7cm UV Tray, 2 x 20 sample combs, loading guides and dams				
MSCHOICE10 multiSUB Choice	15 x 10cm UV Tray, 2 x 20 sample combs, loading guides and dams				
MSCHOICE15 multiSUB Choice	15 x 15cm UV Tray, 2 x 20 sample combs, loading guides and dams				
MSCHOICETRIO multiSUB Choice Trio	15 x 7, 10 & 15cm UV Tray, 2 x 20 sample combs, loading guides and dams				
MSCHOICETRIO15 multiSUB Choice Trio 15	3 x 15cm UV tray, 2x 20 sample combs, loading guides and dams				
MSCHOICEST20 multiSUB Choice Stretch 20	15 x 20cm UV tray, 4 x 28 sample combs, loading guides and dams				
MSCHOICEST25 multiSUB Choice Stretch 25	15 x 25cm UV tray, 4 x 28 sample combs, loading guides and dams				
MS15-UV7	15 x 7cm UV Tray	MS15-UVDAM	Casting Dams	MS15-UVS	15cm UV Gel Scoop
MS15-UV10	15 x 10cm UV Tray	MS15-PE	Positive Electrode	MSCHOICECP	Cool-Pack and Platform
MS15-UV15	15 x 15cm UV Tray	MS15-NE	Negative Electrode	MSCHOICEBSB	Buffer Saver Blocks pk/2 saves 190ml of buffer
MS15-UVST20	15 x 20 UV Tray	MS15-LG	Adhesive Loading Guides		
MS15-UVST25	15 x 25 cm V Tray	MS15-WP	Viewing Platform	MS15-x -yLG	Combi Comb/Loading Guide
MS15/20-FC	multiSUB Choice/Maxi Flexi caster				

Code	Description	Sample Volume for a 5mm thick gel	Code	Description	Sample Volume for a 5mm thick gel
MS15-1-0.75	Comb Prep 1, Marker 1, 0.75mm thick	371µl	MS15-1-1.5	Comb Prep 1, Marker 1, 1.5mm thick	743µl
MS15-2-0.75	Comb Prep 2, Marker 2, 0.75mm thick	169µl	MS15-2-1.5	Comb Prep 2, Marker 2, 1.5mm thick	338µl
MS15-4-0.75	Comb Prep 4, Marker 2, 0.75mm thick	91µl	MS15-4-1.5	Comb Prep 4, Marker 2, 1.5mm thick	182µl
MS15-10-0.75	Comb 10 sample, 0.75mm thick	34µl	MS15-10-1.5	Comb 10 sample, 1.5mm thick	68µl
MS15-12-0.75	Comb 12 sample, 0.75mm thick	30µl	MS15-12-1.5	Comb 12 sample, 1.5mm thick	61µl
MS15-20-0.75	Comb 20 sample, 0.75mm thick	16µl	MS15-20-1.5	Comb 20 sample, 1.5mm thick	32µl
MS15-35-0.75	Comb 35 sample, 0.75mm thick	7µl	MS15-35-1.5	Comb 35 sample, 1.5mm thick	15µl
MS15-10MC-0.75	Comb 10 sample MC, 0.75mm thick	22µl	MS15-10MC-1.5	Comb 10 sample MC, 1.5mm thick	44µl
MS15-14MC-0.75	Comb 14 sample MC, 0.75mm thick	22µl	MS15-14MC-1.5	Comb 14 sample MC, 1.5mm thick	44µl
MS15-16MC-0.75	Comb 16 sample MC, 0.75mm thick	20µl	MS15-16MC-1.5	Comb 16 sample MC, 1.5mm thick	41µl
MS15-18MC-0.75	Comb 18 sample MC, 0.75mm thick	8µl	MS15-18MC-1.5	Comb 18 sample MC, 1.5mm thick	17µl
MS15-28MC-0.75	Comb 28 sample MC, 0.75mm thick	8µl	MS15-28MC-1.5	Comb 28 sample MC, 1.5mm thick	17µl
MS15-30MC-0.75	Comb 30 sample MC, 0.75mm thick	9µl	MS15-30MC-1.5	Comb 30 sample MC, 1.5mm thick	19µl
MS15-1-1	Comb Prep 1, Marker 1, 1mm thick	495µl	MS15-1-2	Comb Prep 1, Marker 1, 2mm thick	990µl
MS15-2-1	Comb Prep 2, Marker 2, 1mm thick	225µl	MS15-2-2	Comb Prep 2, Marker 2, 2mm thick	450µl
MS15-4-1	Comb Prep 4, Marker 2, 1mm thick	122µl	MS15-4-2	Comb Prep 4, Marker 2, 2mm thick	243µl
MS15-10-1	Comb 10 sample, 1mm thick	45µl	MS15-10-2	Comb 10 sample, 2mm thick	90µl
MS15-12-1	Comb 12 sample, 1mm thick	41µl	MS15-12-2	Comb 12 sample, 2mm thick	81µl
MS15-20-1	Comb 20 sample, 1mm thick	21µl	MS15-20-2	Comb 20 sample, 2mm thick	43µl
MS15-35-1	Comb 35 sample, 1mm thick	10µl	MS15-35-2	Comb 35 sample, 2mm thick	20µl
MS15-10MC-1	Comb 10 sample MC, 1mm thick	29µl	MS15-10MC-2	Comb 10 sample MC, 2mm thick	59µl
MS15-14MC-1	Comb 14 sample MC, 1mm thick	29µl	MS15-14MC-2	Comb 14 sample MC, 2mm thick	59µl
MS15-16MC-1	Comb 16 sample MC, 1mm thick	27µl	MS15-16MC-2	Comb 16 sample MC, 2mm thick	54µl
MS15-18MC-1	Comb 18 sample MC, 1mm thick	11µl	MS15-18MC-2	Comb 18 sample MC, 2mm thick	23µl
MS15-28MC-1	Comb 28 sample MC, 1mm thick	11µl	MS15-28MC-2	Comb 28 sample MC, 2mm thick	23µl
MS15-30MC-1	Comb 30 sample MC, 1mm thick	13µl	MS15-30MC-2	Comb 30 sample MC, 2mm thick	25µl



multiSUB maxi

The multiSUB Maxi is primarily designed for resolution of high numbers of samples such as from Cloning or PCR. The multiSUB Maxi allows ultra high-resolution separations over extended runs. Tray sizes correspond to standard blotter sizes. It also allows easy sample transfer onto a membrane for further analysis.

Four gel tray sizes are available – **20 x 10cm, 20 x 15cm, 20 x 20cm and 20 x 25cm**. Multichannel pipette compatible combs up to 40 sample facilitate speed loading of up to 440 samples per gel. 50 sample combs allow maximum sample capacity of 550 samples per gel. Casting dams allow gels to be rapidly cast externally while the MultiSub™ unit is in use for gel running.

Technical Specifications

Gel dimensions (w x L)	20 x 10cm 20 x 15cm	20 x 20cm 20 x 25cm
Unit dimensions (W x L x H)	23 x 39.5 x 9cm	
Max. sample CAPACITY	20 x 10cm - 200 samples 20 x 15cm - 350 samples 20 x 20cm - 450 samples 20 x 25cm - 550 samples	
Buffer volume	1200ml	
Combs available: No. of samples Thicknesses	1, 2, 4, 10, 16, 20MC, 25, 30, 36, 40MC, 50 0.75mm, 1mm, 1.5mm, 2mm	

- Now available with 20 x 25cm, 20 x 20cm, 20 x 15cm or 20 x 10cm gel trays
- Run up to 550 samples
- Low buffer volumes
- Ideal for extended separations

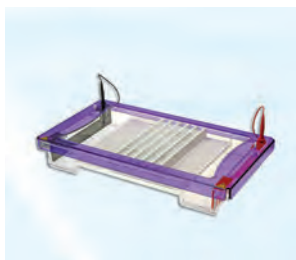
Typical Applications

Primarily designed for separating high numbers of samples from PCR or cloning

Ordering Information

MSMAXI10 multiSUB Maxi	20 x 10cm UV Tray, 2 x 20 sample, 1mm thick combs, casting dams, loading guides				
MSMAXI15 multiSUB Maxi	20 x 15cm UV Tray, 2 x 20 sample, 1mm thick combs, casting dams, loading guides				
MSMAXI20 multiSUB Maxi	20 x 20cm UV Tray, 2 x 20 sample, 1mm thick combs, casting dams, loading guides				
MSMAXIDUO multiSUB Maxi	20 x 10 & 20 x 20cm UV Tray, 2 x 20 sample, 1mm thick combs, casting dams, loading guides				
MSMAXI25 multiSUB Maxi	20 x 25cm UV Tray, 2 x 20 sample, 1mm thick combs, casting dams, loading guides				
MS20-UV10	<i>20 x 10cm UV Tray</i>	MS20-LG	<i>Adhesive Loading Guides</i>	MSMAXICP	<i>Cool-Pack and Platform</i>
MS20-UV15	<i>20 x 15cm UV Tray</i>	MS20-WP	<i>Viewing Platform</i>	MSMAXIBSB	<i>Buffer Saver Blocks pk/2</i>
MS20-UV20	<i>20 x 20cm UV Tray</i>	MS20-PE	<i>Positive Electrode</i>		<i>saves 450ml of buffer</i>
MS20-UV25	<i>20 x 25cm UV Tray</i>	MS20-NE	<i>Negative Electrode</i>	MS20-x -yLG	<i>Combi Comb and Loading Guide;</i>
MS20-UVDAM	<i>Casting Dams</i>	MS20-UVS	<i>20cm UV Gel Scoop</i>		<i>x = comb well no., y = comb thickness</i>
MS15/20-FC	<i>multiSUB Choice/Maxi Flexi caster</i>				

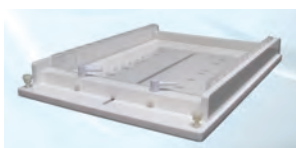
Code	Description	Sample Volume for a 5mm thick gel	Code	Description	Sample Volume for a 5mm thick gel
MS20-1-0.75	Comb Prep 1, Marker 1, 0.75mm thick	506µl	MS20-1-1.5	Comb Prep 1, Marker 1, 1.5mm thick	1013µl
MS20-2-0.75	Comb Prep 2, Marker 2, 0.75mm thick	236µl	MS20-2-1.5	Comb Prep 2, Marker 2, 1.5mm thick	473µl
MS20-4-0.75	Comb Prep 4, Marker 2, 0.75mm thick	115µl	MS20-4-1.5	Comb Prep 4, Marker 2, 1.5mm thick	230µl
MS20-10-0.75	Comb 10 sample, 0.75mm thick	54µl	MS20-10-1.5	Comb 10 sample, 1.5mm thick	108µl
MS20-16-0.75	Comb 16 sample, 0.75mm thick	30µl	MS20-16-1.5	Comb 16 sample, 1.5mm thick	61µl
MS20-20MC-0.75	Comb 20 sample MC, 0.75mm thick	20µl	MS20-20MC-1.5	Comb 20 sample MC, 1.5mm thick	41µl
MS20-25-0.75	Comb 25 sample, 0.75mm thick	16µl	MS20-25-1.5	Comb 25 sample, 1.5mm thick	32µl
MS20-30-0.75	Comb 30 sample, 0.75mm thick	13µl	MS20-30-1.5	Comb 30 sample, 1.5mm thick	26µl
MS20-36-0.75	Comb 36 sample, 0.75mm thick	11µl	MS20-36-1.5	Comb 36 sample, 1.5mm thick	22µl
MS20-40MC-0.75	Comb 40 sample MC, 0.75mm thick	8µl	MS20-40MC-1.5	Comb 40 sample MC, 1.5mm thick	17µl
MS20-50-0.75	Comb 50 sample, 0.75mm thick	8µl	MS20-50-1.5	Comb 50 sample, 1.5mm thick	16µl
MS20-1-1	Comb Prep 1, Marker 1, 1mm thick	675µl	MS20-1-2	Comb Prep 1, Marker 1, 2mm thick	1350µl
MS20-2-1	Comb Prep 2, Marker 2, 1mm thick	315µl	MS20-2-2	Comb Prep 2, Marker 2, 2mm thick	630µl
MS20-4-1	Comb Prep 4, Marker 2, 1mm thick	153µl	MS20-4-2	Comb Prep 4, Marker 2, 2mm thick	306µl
MS20-10-1	Comb 10 sample, 1mm thick	72µl	MS20-10-2	Comb 10 sample, 2mm thick	144µl
MS20-16-1	Comb 16 sample, 1mm thick	41µl	MS20-16-2	Comb 16 sample, 2mm thick	81µl
MS20-20MC-1	Comb 20 sample MC, 1mm thick	27µl	MS20-20MC-2	Comb 20 sample MC, 2mm thick	54µl
MS20-25-1	Comb 25 sample, 1mm thick	21µl	MS20-25-2	Comb 25 sample, 2mm thick	42µl
MS20-30-1	Comb 30 sample, 1mm thick	17µl	MS20-30-2	Comb 30 sample, 2mm thick	34µl
MS20-36-1	Comb 36 sample, 1mm thick	14µl	MS20-36-2	Comb 36 sample, 2mm thick	29µl
MS20-40MC-1	Comb 40 sample MC, 1mm thick	11µl	MS20-40MC-2	Comb 40 sample MC, 2mm thick	23µl
MS20-50-1	Comb 50 sample, 1mm thick	10µl	MS20-50-2	Comb 50 sample, 2mm thick	21µl



Typical Applications

Ideal for checking very large numbers of samples or extended high resolution separations

- Available with 26 x 16, 26 x 24 and 26 x 32cm, or all three gel trays
- Run up to 672 samples
- Low buffer volumes
- Multichannel pipette compatible combs for speed loading



- Fits all MSMINI, MIDI, CHOICE, MAXI & SCREEN gel trays
- Leak free casting assured, even with agarose at 80°C
- Supplied with all MSSCREEN 16, 24, 32 and TRIO units; also available separately

multiSUB screen

Designed for rapid screening of very large numbers of Clonal or PCR samples, the multiSUB Screen horizontal gel unit has a 672 maximum sample capacity per gel. This allows loading and analysis of exactly seven 96-well format microtitre plates.

The large gel run length of 32cm also allows resolution of samples over a long distance for separation of complex sample bands such as in restriction fragment analysis.

The unit is available with a full length tray or with other tray length options of 16 or 24cm so that the user's exact requirements can be matched. In addition to options for single length gel trays, the multiSUB Screen is available with all three gel tray lengths to provide the maximum in flexibility, versatility and value.

Buffer recirculation ports are included as standard to allow enhanced resolution over extended runs while loading guides enhance well visibility for easy sample loading.

Technical Specifications	
Gel dimensions (w x L)	26 x 32cm, 26 x 24cm, 26 x 16cm
Unit dimensions (w x L x H)	28 x 50 x 9cm
Max. sample capacity	26x32cm tray – 672 samples 26x24cm tray – 504 samples 26x16cm tray – 336 samples
Buffer volume	1400ml
Combs available: No. of samples Thicknesses	28MC, 56MC 0.75, 1, 1.5, 2mm



multiSUB screen flexicaster

The new MS26-FC flexicaster, which is now included with each multiSUB™ screen unit, may be used with nearly all Cleaver Scientific multiSUB™ horizontal gel trays. When casting, one end of the gel tray is pushed into position against a fixed wall, while a moveable dam with twin cam-lock design and rubber insert locks into position at the other end to provide a leak proof seal – even

when freshly boiled agarose is poured at temperatures as high as 80°C! The MS26-FC flexicaster may also be purchased separately, and its flexibility in accommodating different gel tray lengths makes it the perfect casting solution for those laboratories with different multiSUB™ systems.

MS26-FC Tray Compatibility	
Tray	Caster Capacity
MS7-UV7, MS7-UV10.	3 of each
MS10-UV7, MS10-UV10. MS15-UV7, MS15-UV10, MS15-UV15, MS15-UV17,	2 of each
MS15-UVST20, MS15-UVST25. MS20-UV10, MS15-UV15,	1 of each
MS20-UV17, MS15-UV20, MS15-UV25.	1 of each
MS26-UV16, MS26-UV24, MS26-UV32.	1 of each

Ordering Information

MSSCREEN32	multiSUB Screen, 26 x 32cm UV Tray, 6 x 28 sample combs, loading guides & flexicaster				
MSSCREEN24	multiSUB Screen, 26 x 24cm UV Tray, 6 x 28 sample combs, loading guides & flexicaster				
MSSCREEN16	multiSUB Screen, 26 x 16cm UV Tray, 6 x 28 sample combs, loading guides & flexicaster				
MSSCREENTRIO	multiSUB Screen, 26 x 16cm, 26 x 24cm, 26 x 32cm UV Trays, 6 x 28 sample combs, loading guides & flexicaster				
MS26-UV32	26 x 32cm, UV Tray	MS26-UVS	26cm UV Gel Scoop	MSSCRNBSB	Buffer Saver Blocks, pk/2 saves 625ml of buffer
MS26-UV24	26 x 24cm, UV Tray	MS26-PE	Positive Electrode	MS26-x-yLG	CombiComb and Loading Guide; x = comb well no., y = comb Thickness
MS26-UV16	26 x 16cm, UV Tray	MS26-NE	Negative Electrode	MSSCRNCP	Cool-Pack and Platform
MS26-LG	Adhesive Loading Guides	MS26-WP	Viewing Platform		
MS26-FC	Flexicaster for gels up to 32cm. Casts MSMINI, MSMIDI, MSCHOICE, MSMAXI and MSSCREEN gels.				

Code	Description a 5mm thick gel	Sample Volume for a 5mm thick gel	Code	Description a 5mm thick gel	Sample Volume for a 5mm thick gel
MS26-28MC-0.75	Comb 28 sample MC, 0.75mm thick	25µl	MS26-28MC-1.5	Comb 28 sample MC, 1.5mm thick	51µl
MS26-56MC-0.75	Comb 56 sample MC, 0.75mm thick	10µl	MS26-56MC-1.5	Comb 56 sample MC, 1.5mm thick	20µl
MS26-28MC-1	Comb 28 sample MC, 1mm thick	34µl	MS26-28MC-2	Comb 28 sample MC, 2mm thick	68µl
MS26-56MC-1	Comb 56 sample MC, 1mm thick	14µl	MS26-56MC-2	Comb 56 sample MC, 2mm thick	27µl



miniRapide

The miniRapide is a completely self contained system designed for quick checks of samples. Gel casting, running and analysis are all performed in the same ultra compact unit. Buffer and gel volumes have been kept to a minimum and the parallel electrode arrangement allows ultra efficient current transfer, enabling resolution to be completed within 30 minutes. The UV transparent base allows direct viewing on a UV Transilluminator with no need for time consuming transfer and potential gel damage. Dual comb slots allow the loading of up to 40 samples per gel while multichannel pipette compatible combs further enhance the speed and convenience.

Typical Applications

For routine, rapid checking of samples

- A convenient self contained solution for routine agarose gel electrophoresis
- Ultra compact
- Low buffer volumes
- Multichannel pipette compatible combs for speed loading

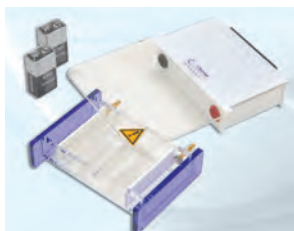
Technical Specifications

Gel dimensions (W x L)	10 x 8cm
Unit dimensions (W x L x H)	15 x 15 x 4cm
Max. sample CAPACITY	40 samples
Buffer volume	50ml
Combs available: No. of samples Thicknesses	1, 4, 8, 12, 16, 20 1, 1.5mm

Ordering Information

FMMS10	miniRapide 10 x 8cm, 2 x 8 sample combs 1.5mm and casting dams
FMMS-DAM	miniRapide Casting dams, pk/2
RPW0.2	Replacement Platinum Wire 0.2mm – 50cm

Code	Description	Sample Volume for a 5mm thick gel	Code	Description	Sample Volume for a 5mm thick gel
FMMS-1-1	Comb 1 sample , 1 dye , 1mm thick	330 μ l	FMMS-1-1.5	Comb 1 sample , 1 dye , 1.5mm thick	495 μ l
FMMS-4-1	Comb 4 sample, 1mm thick	90 μ l	FMMS-4-1.5	Comb 4 sample, 1.5mm thick	135 μ l
FMMS-8-1	Comb 8 sample, 1mm thick	40 μ l	FMMS-8-1.5	Comb 8 sample, 1.5mm thick	60 μ l
FMMS-12-1	Comb 12 sample, 1mm thick	25 μ l	FMMS-12-1.5	Comb 12 sample, 1.5mm thick	38 μ l
FMMS-16-1	Comb 16 sample, 1mm thick	15 μ l	FMMS-16-1.5	Comb 16 sample, 1.5mm thick	23 μ l
FMMS-20MC-1	Comb 20 sample MC, 1mm thick	10 μ l	FMMS-20MC-1.5	Comb 20 sample MC, 1.5mm thick	15 μ l



batteryGel

The MSBGEL battery mini-gel is designed specifically with safety and cost in mind: as no power supply is necessary. Results are obtainable within 1.5 hours if used with our completely safe educational electrophoresis kit, which is free of ethidium bromide. It includes non-toxic electrophoretic dyes, spotting pipettes, agarose, buffer and classroom protocols.

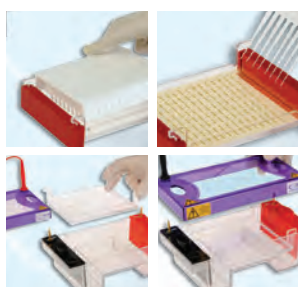
- Low voltage makes the MSBGEL ideal for use in schools and colleges where safety is paramount
- Integrated safety lid makes the gel inaccessible during use
- UV-transparent acrylic for direct visualisation of the gel within the tank
- Small size minimises buffer and gel consumption
- Cost-effective – no need for expensive power supplies, or transilluminators if supplied with optional kit

Technical Specifications

Gel dimensions (w x L)	6 x 7.5cm
Unit dimensions (W x L x H)	17 x 11 x 3.5cm
Max. sample (CAPACITY)	32 samples
Buffer volume	50ml
Combs available: No. of samples Thicknesses	4, 8, 12 and 16 1mm

Ordering Information

MSBGEL	Battery operated horizontal gel 6 x 7.5cm, 2 x 8 sample 1-mm-thick combs, casting gates		
MSBGEL-KIT	Educational electrophoresis kit with 1x100ml TBE buffer, 1x 5g agarose, 4x electrophoretic dyes, spotting pipette and classroom protocols		
RPW0.2	Replacement Platinum Wire 0.2mm – 50cm		
MSBGEL-CG	<i>Casting gates Pk/2 for MSBGEL</i>	MSBG-1-8	<i>Comb 8 sample, 1mm thick</i>
MSBGEL-BAT	<i>PP3 batteries for MSBGEL Pk/2</i>	MSBG-1-12	<i>Comb 12 sample, 1mm thick</i>
MSBG-1-4	<i>Comb 4 sample, 1mm thick</i>	MSBG-1-16	<i>Comb 16 sample, 1mm thick</i>



- Designed for loading of DNA samples from multi-well plates
- Ideal for high throughput electrophoresis
- Average run-time is just 15 to 30 minutes
- Direct microplate format for easy lane identification
- Multichannel pipette compatible combs for speed loading

Technical Specifications

Gel dimensions (w x l)	
MSMIDI96:	10 x 12cm
MSMIDI96ST:	10 x 24cm
Unit dimensions (w x l x h)	
MSMIDI96:	12.5 x 22 x 9cm
MSMIDI96ST:	12.5 x 46.5 x 8cm
Max. sample capacity	96 samples plus 1 or 2 marker lanes
Buffer volume (w x l)	
MSMIDI96:	300ml
MSMIDI96ST:	700ml
Combs available:	8 + 1x Marker,
No. of samples	8 + 2x Markers
Thicknesses	1, 1.5mm

multiSUB *midi-96*

The multiSUB Midi 96 Gel System is ideal for high throughput electrophoresis of PCR products or samples containing a small number of DNA bands.

Its 10x12cm (w x l) gel dimensions and 96-well comb block format correspond to the standard microplate configuration. Two different types of comb are available: one which has 8 wells and one additional lane for DNA markers and one which has 8 wells and 2 additional lanes for markers. The offset layout of the wells allows a maximum run length of 1.8cm per well, resulting in improved separation.

multiSUB Midi 96 can accommodate samples from a 96-well plate – samples can be loaded directly using 8-channel pipettes. As with all multiSUB units, leak-proof casting is simplified using the supplied casting dams while their ultra-compact size minimises buffer usage and bench space requirements.

MSMIDI96ST Stretch Systems are also available for those users requiring an extended run length per well of up to 3.6cm, or for loading of samples from two 96-well plates - MSMIDI96STDBL.

Typical Applications

Ideal for analysis of up to 96 PCR-fragment length polymorphisms loaded from 96-well microplates or thermal cycler blocks

Ordering Information	
MSMIDI96	Multi Sub Midi96, UV tray, Comb block with 12 x 8 sample, 1mm thick combs, casting dams
MSMIDI961.5	Multi Sub Midi96, UV tray, Comb block with 12 x 8 sample, 1.5mm thick combs, casting dams. Combs have one marker lane
MSMIDI96/2M	Multi Sub Midi96, UV tray, Comb block with 12 x 8 sample, 1mm thick combs, casting dams. Combs have two marker lanes
MSMIDI96/1.5/2M	Multi Sub Midi96, UV tray, Comb block with 12 x 8 sample, 1.5mm thick combs, casting dams. Combs have two marker lanes
MSMIDI96ST	Multi Sub Midi96 STRETCH, UV tray, Comb block with 12 x 8 sample, 1mm thick combs, casting dams
MSMIDI96ST1.5	Multi Sub Midi96 STRETCH, UV tray, Comb block with 12 x 8 sample, 1.5mm thick combs, casting dams. Combs have one marker lane
MSMIDI96ST/2M	Multi Sub Midi96 STRETCH, UV tray, Comb block with 12 x 8 sample, 1mm thick combs, casting dams. Combs have two marker lanes
MSMIDI96ST/1.5/2M	Multi Sub Midi96 STRETCH, UV tray, Comb block with 12 x 8 sample, 1.5mm thick combs, casting dams. Combs have two marker lanes
MSMIDI96STDBL	Multi Sub Midi96 STRETCH, UV tray, Comb block with 24 x 8 sample, 1mm thick combs, casting dams - N.B. run length = 1.8cm.
MSMIDI96-8-1-CB	MSMIDI 96 Comb 8 sample MC + 1 Marker, 1mm thick COMB BLOCK
MSMIDI96-8-1.5-CB	MSMIDI 96 Comb 8 sample MC + 1 Marker, 1.5mm thick COMB BLOCK
MSMIDI96-8-1/2M-CB	MSMIDI 96 Comb 8 sample MC + 2 Marker, 1mm thick COMB BLOCK
MSMIDI96-8-1.5/2M-CB	MSMIDI 96 Comb 8 sample MC + 2 Marker, 1.5mm thick COMB BLOCK
MSMIDI96ST-8-1-CB	MSMIDI 96 STRETCH Comb 8 sample MC + 1 Marker, 1mm thick COMB BLOCK
MSMIDI96ST-8-1.5-CB	MSMIDI 96 STRETCH Comb 8 sample MC + 1 Marker, 1.5mm thick COMB BLOCK
MSMIDI96ST-8-1/2M-CB	MSMIDI 96 STRETCH Comb 8 sample MC + 2 Marker, 1mm thick COMB BLOCK
MSMIDI96ST-8-1.5/2M-CB	MSMIDI 96 STRETCH Comb 8 sample MC + 2 Marker, 1.5mm thick COMB BLOCK
MSMIDI96-8-1	MSMIDI 96 Comb 8 sample MC, 1mm thick. one marker lane.
MSMIDI96-8-1.5	MSMIDI 96 Comb 8 sample MC, 1.5mm thick. one marker lane.
MSMIDI96-8-1/2M	MSMIDI 96 Comb 8 sample MC, 1mm thick. two marker lanes.
MSMIDI96-8-1.5/2M	MSMIDI 96 Comb 8 sample MC, 1.5mm thick. two marker lanes.
MS10-UV96	Multi Sub Midi, 96 Well Tray
MS10-UV96ST	Multi Sub Midi STRETCH, 96 Well Tray



multiSUB-4

The multiSUB-4 is a compact system capable of running a maximum 1200 samples simultaneously by stacking up to 4 horizontal gels. This achieves high sample throughput while maintaining the time- and space-saving advantages of a small, compact unit.

Each multiSUB-4 is supplied with 4 gel trays and 8 combs as standard, while additional trays and combs may be purchased as required. Two double-sided comb and three tray length formats are also available.

An optional flexicaster, either supplied separately or as a package with the multiSUB-4, is also available that allows up to four **8x6**, **8x12** and **8x18cm** multiSUB-4 gel trays to be cast simultaneously outside the tank.

Typical Applications

Ideal for rapid checking of very large numbers of samples from PCR and cloning

- Separates a maximum 1200 samples in as little as 15 minutes in 4 stacked horizontal gel trays
- Multichannel-compatible combs and gel plate configurations compatible with microplates and thermal cycler blocks ensure rapid loading of DNA minipreps and PCR products by 8-channel pipette
- Double-sided 1.5-mm-thick combs allow more sample volume to be loaded into each well
- Three gel tray options available in 8x6, 8x12 and 8x18cm (WxL) sizes for maximum flexibility
- Small footprint area reduces uptake of bench space within the laboratory

Technical Specifications	
Gel dimensions (W x L)	8 x 6cm, 8 x 12cm, 8 x 18cm
Unit dimensions (W x L x H)	11 x 35 x 16cm
Max. sample CAPACITY	per 18cm tray with 1cm run length: 306 with 2cm run length: 144 with 3cm run length: 72
Buffer volume	200, 400, 600 or 800ml (for 1, 2, 3 or 4 gel trays resp.)
Combs available: No. of samples Thicknesses	1, 8, 12, 18 DuoCombs 1, 1.5mm

Ordering Information			
CSL-MULTISUB4	Multisub4, Multi-Level Gel Chamber, Includes 4x 18cm UV Trays, 8x 18/8 Sample 1.5mm Combs (Tape UV Trays To Seal)		
CSL-MULTISUB4EXCAS	Multisub4, As Above But With External Caster For 4 Gels		
MSUB4UV6	<i>multiSUB4 tray 8 x 6cm</i>	MSUB4-18/8-1	<i>18/8 Sample 1mm Combs for multiSUB4</i>
MSUB4UV12	<i>multiSUB4 tray 8 x 12cm</i>	MSUB4-12/1-1.5	<i>12/1 SAMPLE 1.5mm Combs for multiSUB4</i>
MSUB4UV18	<i>multiSUB4 tray 8 x 18cm</i>	MSUB4-18/8-1.5	<i>18/8 SAMPLE 1.5mm Combs for multiSUB4</i>
MSUB4EXCASTER	<i>External Caster For Msub4 (4 Trays)</i>	CSL-CAB	<i>Electrophoresis cable (Black & Red)</i>
MSUB4-12/1-1	<i>12/1 Sample 1mm Combs for multiSUB4</i>		

casting systems

Two horizontal flexicasters are now available for use with the multiSUB Mini and Midi and multiSUB Midi and Maxi gel trays. Each flexicaster is entirely versatile and includes an adjustable barrier that may be locked into position to ensure efficient leak free casting. No further casting accessories are needed other than the gel tray, while adjustable levelling feet and a spirit bubble facilitate even gel-pouring.



- Adjustable barrier with ultra-soft silicone gasket ensures leak-proof casting
- Mini flexicaster accommodates 7x7, 7x10, 10x7 and 10x10cm gel trays
- Maxi flexicaster accommodates 15x7, 15x10 and 15x15 and 20x10, 20x15, 20x20 and 20x25cm gel trays
- Maxi flexicaster also accommodates MSMINI and MSMIDI gel trays

Ordering Information	
MS7/10-FC <i>Multi Sub Mini/Midi Flexi caster</i>	MS15/20-FC <i>Multi Sub Choice/Maxi Flexi caster</i>

package deals horizontals

Cleaver Scientific now offers a comprehensive range of Combination Packages to address any budget or horizontal electrophoresis application.



mini horizontal with power supply

Ordering Information	
MSMINIDUO-NANO300	Mini Horizontal Electrophoresis Package, includes:
MSMINIDUO	horizontal unit with 7x7cm and 7x10cm gel trays and combs (Pg 5)
nanoPAC-300	300V, 400mA, 60W mini power supply (Pg 59)
MSMINIDUO-NANO300KIT	Mini Horizontal Electrophoresis Package with electrophoresis starter kit, includes:
MSMINIDUO-NANO300	
CSL-LOADDYE	10x Bromophenol Blue Loading Dye, 1ml (Pg 86)
CSL-MDNA-1kb	1kb DNA ladder (Pg 86)
CSL-AG100	100g agarose (Pg 86)
CSL-TBEP	Powdered Tris-Borate-EDTA Running Buffer – 10 pouches (Pg 85)



midi horizontal with power supply

Ordering Information	
MSMIDIDUO-NANO300	Midi Horizontal Electrophoresis Package, includes:
MSMIDIDUO	horizontal unit with 10x7cm and 10x10cm gel trays and combs (Pg 6)
nanoPAC-300	300V, 400mA, 60W mini power supply (Pg 59)
MSMIDIDUO-NANO300KIT	Midi Horizontal Electrophoresis Package with electrophoresis starter kit, includes:
MSMIDIDUO-NANO300	
CSL-LOADDYE	10x Bromophenol Blue Loading Dye, 1ml (Pg 86)
CSL-MDNA-1kb	1kb DNA ladder (Pg 86)
CSL-AG100	100g agarose (Pg 86)
CSL-TBEP	Powdered Tris-Borate-EDTA Running Buffer – 10 pouches (Pg 85)



choice horizontal with power supply

Ordering Information	
MSCHOICETRIO-CS300	Choice Horizontal Electrophoresis Package, includes:
MSCHOICETRIO	horizontal unit with 15x7cm, 15x10cm & 15x15cm gel trays & combs (Pg 7)
CS-300V	300V, 700mA, 150W midi power supply (Pg 60)
MSCHOICETRIO-CS300KIT	Choice Horizontal Electrophoresis Package with electrophoresis starter kit, includes:
MSCHOICETRIO-CS300	
CSL-LOADDYE	10x Bromophenol Blue Loading Dye, 1ml (Pg 86)
CSL-MDNA-1kb	1kb DNA ladder (Pg 86)
CSL-AG100	100g agarose (Pg 86)
CSL-TBEP	Powdered Tris-Borate-EDTA Running Buffer – 10 pouches (Pg 85)



maxi horizontal with power supply

Ordering Information	
MSMAXIDUO-CS300	Maxi Horizontal Electrophoresis Package:
MSMAXIDUO	horizontal unit with 20x10cm and 20x20cm gel trays and combs (Pg 8)
CS-300V	300V, 700mA, 150W midi power supply (Pg 60)

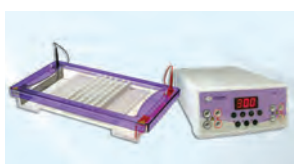
package deals horizontals

Combs and gel tray options may be changed at order.



maxi horizontal with power supply

Ordering Information	
MSMAXIDUO-CS300KIT Maxi Horizontal Electrophoresis Package with electrophoresis starter kit, includes:	
MSMAXIDUO-CS300	
CSL-LOADDYE	10x Bromophenol Blue Loading Dye, 1ml (Pg 86)
CSL-MDNA-1kb	1kb DNA ladder (Pg 86)
CSL-AG100	100g agarose (Pg 86)
CSL-TBEP	Powdered Tris-Borate-EDTA Running Buffer – 10 pouches (Pg 85)



screen horizontal with power supply

Ordering Information	
MSSCREENTRIO-CS500 Screen Horizontal Electrophoresis Package, includes:	
MSSCREENTRIO	horizontal unit with 26x16cm, 26x24cm & 26x32cm gel trays & combs (Pg 9)
CS-500V	500V, 800mA, 300W maxi power supply (Page 61)
MSSCREENTRIO-CS500KIT Screen Horizontal Electrophoresis Package with electrophoresis starter kit, includes:	
MSSCREENTRIO-CS500	
CSL-LOADDYE	10x Bromophenol Blue Loading Dye, 1ml (Pg 86)
CSL-MDNA-1kb	1kb DNA ladder (Pg 86)
CSL-AG100	100g agarose (Pg 86)
CSL-TBEP	Powdered Tris-Borate-EDTA Running Buffer – 10 pouches (Pg 85)



midi96 horizontal with power supply

Ordering Information	
MSMIDI96-CS300 Midi96 Horizontal Electrophoresis Package, includes:	
MSMIDI96	horizontal unit with UV tray and 12x8-sample 1mm comb block (Page 11)
CS-300V	300V, 700mA, 150W mini power supply (Page 60)
MSMIDI96-CS300KIT Midi96 Horizontal Electrophoresis Package with electrophoresis starter kit, includes:	
MSMIDI96-CS300	
CSL-LOADDYE	10x Bromophenol Blue Loading Dye, 1ml (Pg 86)
CSL-MDNA-1kb	1kb DNA ladder (Pg 86)
CSL-AG100	100g agarose (Pg 86)
CSL-TBEP	Powdered Tris-Borate-EDTA Running Buffer – 10 pouches (Pg 85)



multiSUB-4 horizontal with power supply

Ordering Information	
MSUB4-CS300 MultiSUB-4 Horizontal Electrophoresis, includes:	
MULTISUB-4	horizontal unit with four 8x12cm gel trays and combs (Page 12)
CS-300V	300V, 700mA, 150W midi power supply (Page 60)
MSUB4-CS300KIT MultiSUB-4 Horizontal Electrophoresis Package with electrophoresis starter kit, includes:	
MSUB4-CS300	
CSL-LOADDYE	10x Bromophenol Blue Loading Dye, 1ml (Pg 86)
CSL-MDNA-1kb	1kb DNA ladder (Pg 86)
CSL-AG100	100g agarose (Pg 86)
CSL-TBEP	Powdered Tris-Borate-EDTA Running Buffer – 10 pouches (Pg 85)

accessories



gel levelling table

The Gel Levelling Table provides a useful way of pouring gels of uniform thickness. The table features a large 32 x 26cm platform with large thumb-wheel levelling feet at each corner. A levelling bubble is supplied.



buffer saver blocks

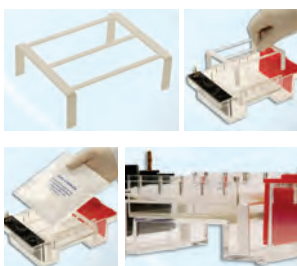
Buffer saver blocks physically reduce the volume in positive and negative compartments of a gel chamber and so reduces buffer requirements, saving cost. Blocks are available for all multiSUB Horizontal Gel Units.



combi-comb/loading guides

- Colour coded for thickness
- Comb and guide in one piece for convenience
- Adjustable height

These guides combine the convenience of a regular comb with the appropriate guide (same teeth number and width) for loading samples, simply flip over.



runFAST high efficiency horizontal gel cooling

- Effective cooling
- Cools without external chilling systems
- Improves gel resolution and reduces run times

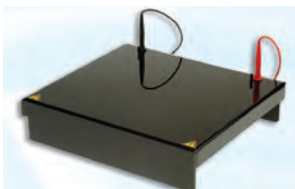
Comprising a removable Gel Platform and CoolPack the unique runFAST system will cool the buffer chamber of multiSUB horizontal gel units without any external chilling. Simply place the platform over the running tray and place a pre-chilled CoolPack on top. This allows the CoolPack to sit above the gel in buffer directly removing any heat generated.



gel rulers

- Sharp, clear, easily visible markings
- For use with ethidium bromide gels
- Ideal for gel presentation

Ordering Information			
High Efficiency Horizontal Gel Cooling Systems		Horizontal Buffer Saver Blocks	
MSMINICP	Cool-Pack and Platform for MSMINI	MSMINIBSB	Buffer Saver Blocks for MSMINI, pk/2 saves 100ml of buffer
MSMIDICP	Cool-Pack and Platform for MSMIDI	MSMIDIBSB	Buffer Saver Blocks for MSMIDI, pk/2 saves 100ml of buffer
MSCHOICECP	Cool-Pack and Platform for MSCHOICE	MSCHOICEBSB	Buffer Saver Blocks for MSCHOICE, pk/2 saves 190ml of buffer
MSMAXICP	Cool-Pack and Platform for MSMAXI	MSMAXIBSB	Buffer Saver Blocks for MSMAXI, pk/2 saves 450ml of buffer
MSSCREENCP	Cool-Pack and Platform for MSSCREEN	MSSCREENBSB	Buffer Saver Blocks for MSSCREEN, pk/2 saves 625ml of buffer
Horizontal Systems Combi Comb / Loading Guides		Gel Levelling Table	
(x = comb well number, y = comb thickness)		CSL-GLT	Gel Levelling Table
MS7-x -yLG	Combination Comb and Loading Guide for MSMINI		
MS10-x -yLG	Combination Comb and Loading Guide for MSMIDI	UV Fluorescent Ruler	
MS15-x -yLG	Combination Comb and Loading Guide for MSCHOICE	CSL-RULER	UV Fluorescent Ruler
MS20-x -yLG	Combination Comb and Loading Guide for MSMAXI		
MS26-x -yLG	Combination Comb and Loading Guide for MSSCREEN		



- For Single Cell Gel Electrophoresis
- Minimise exposure to light and reduce background DNA damage
- High efficiency cooling for enhanced resolution

comet assay tanks

Cleaver Scientific COMET assay tanks are available in four slide formats to study single cell gel electrophoresis (SCGE), a technique made popular by drug toxicology and carcinogenesis studies for the detection and quantitation of DNA damage in cells. Each tank's robust construction from ebony acrylic ensures that cells remain free of exposure to background light and DNA damage during electrophoresis, while a cooled central platform provides a convenient surface for slide preparation and control of slide temperature during the assay. Following electrophoresis DNA damage may be measured using Comet Assay scoring software.



Technical Specification				
	CSL-COM10	CSL-COM20	CSL-COM40	CSL-COM80
Slide Capacity	10	20	40	80
Unit Dimensions (w x l x h)	17x34x9cm	31x34x9cm	33x59x9cm	34x115x9cm
Volume	550ml	1000ml	2100ml	4000ml
Recommended Running Conditions	25V/300mA for 1h			

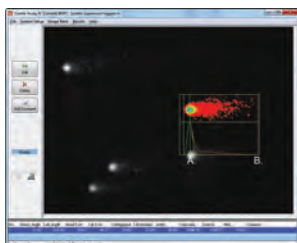


CSL Chiller

The CSL-CHILLER (see page 81 for full details) is available ready assembled with the thermostat mounted on the refrigerator and supplied with insulated tubing and clips to form a system ready to use. Supported by an industry leading 3 year warranty emphasising our confidence in the reliability of our product.

The system comprises of the following:

- 5 litre tank with drain tap
- relay control for refrigeration on/off
- cooling power 140W @ 0°C
- temperature range -20 to 100°C



Full Screen Shot of a Comet Profile

A. The Comet 'Head' comprising largely intact genomic DNA.

B. The Comet 'Tail' of mobile damaged or fragmented DNA.

the comet assay

Background: First introduced in 1981 to quantify double-stranded DNA breakages in single cells exposed to γ -irradiation, the Comet Assay (or SCGE) has since been adapted to analyse specific DNA lesions and repair processes.

Overview: Following genotoxic insult, such as ionizing radiation, the resultant strand breakage of supercoiled duplex DNA reduces the size of the large genomic DNA from which these strands are separated or drawn out by electrophoresis. The genomic DNA then takes on the appearance of a 'comet' as its negatively charged broken ends and fragments migrate towards the anode during electrophoresis.

Method: After exposure to a genotoxic insult cells are suspended within low melting point agarose and embedded within a thin layer of agarose on a microscope slide. Cellular protein is then removed by lysis in detergent, when DNA is allowed to unwind in alkaline conditions before electrophoresis. The DNA is electrophoresed, stained and then analysed using software.

Results: Microscopy imaging is used to measure DNA fluorescence upon staining. In DNA damaged cells the resultant image resembles a 'comet' with the cellular DNA separated into a head and tail. The head is mainly composed of intact genomic DNA, whereas any fragmented or damaged DNA is concentrated within and towards the tail.

Cleaver Scientific also offers Comet Assay software, cameras, microscopes and slide kits, please enquire by emailing sales@cleaverscientific.com

Ordering Information			
CSL-COM10	Comet Assay Tank for 10 Slides	CSL-COM80	Comet Assay Tank for 80 Slides
CSL-COM20	Comet Assay Tank for 20 Slides	CSL-CHILLER	Chiller unit for active slide temperature control
CSL-COM40	Comet Assay Tank for 40 Slides		



- Compact high resolution system for clinical electrophoresis
- Accommodates strips and gels up to 24x20cm
- Complete range of cellulose acetate gels and kits
- Densitometer software and scanner available

Using CellasGEL ...

1. Equilibrate a CellasGEL for 10' in electrophoresis buffer using an agitating platform (e.g. 3D Shaker, pg 74).

2. Dry surplus buffer from the CellasGEL before securing it to a Bridge located within a pre-prepared Cellas tank.

3. Apply samples to the CellasGEL using the appropriate Applicator, and electrophorese at 200V for 30-90' (see Power Supplies, pg 60).

4. Remove the CellasGEL from the tank, and use the required Clinical Test Kit for staining and destaining and clearing.

5. Place the CellasGEL on a suitably sized mylar sheet or glass plate and dry in an oven for 10' at 80°C (e.g. CSL-NHYBRIDBASIC, pg. 77)

6. Quantify bands using Scanner and Densitometer Software.

clinical electrophoresis

Cellulose acetate electrophoresis is an important technique in clinical diagnostics. Cleaver Scientific's CellasGEL range is a complete system solution for research and clinical cellulose acetate electrophoresis applications. The CellasGEL range includes both equipment and consumables to assist in the research and diagnosis of specific disease states.

Cellas Electrophoresis System

The ideal tank for standard 'dry' membrane and 'wet' gel cellulose acetate techniques, the Cellas electrophoresis system is designed and built to our high quality standard to address both routine clinical and research requirements. Two adjustable supports, which can be positioned anywhere within the tank, readily accommodate different lengths of dry cellulose acetate membrane to a maximum 20cm.

Ordering Information

CSLCELLAS Horizontal Unit for Cellulose Acetate Electrophoresis

Cleaver Scientific also provides a comprehensive range of 'wet' cellulose acetate gels, consumables and diagnostic kits. These include:

CellasGEL – 'wet' cellulose acetate gels

CellasGEL 'wet' cellulose acetate gel strips are ready to use and overcome many of limitations of traditional 'dry' cellulose acetate membranes. CellasGEL's advantages over dry cellulose acetate membranes are as follows:

1. **Wet state** – unlike dry membranes, CellasGEL is a cellulose acetate film produced in a wet form to facilitate buffer adsorption, but without the entrapment of air bubbles that inhibit electrophoresis
2. **Greater thickness** – CellasGEL's greater thickness (190-500 μ m) compared to dry membranes (160-190 μ m) allows application of larger sample volumes to enhance detection of poor quality specimens low in protein content
3. **High resolution** – samples may be applied to CellasGEL as wider but finer bands, without risk of diffusion, to make band quantitation more reproducible; this is further enhanced by extended migration distances (60-70mm) that improve band separation
4. **Amphiphilic** – CellasGEL's lipophilic and hydrophilic properties make it the perfect separation medium for many different biological molecules, ranging from lipoproteins to haemoglobins

CellasGEL is supplied either as individual packs of 25 or 100 strips or within clinical test kits for the following applications:

- **Immunofixation Electrophoresis (IFE):** Monoclonal Gammopathies of Undetermined Significance (MGUS); Multiple Myeloma (MM)
- **Serum Protein Analysis:** Dysproteinaemia; Incipient Gammopathies
- **Haemoglobin Analysis:** Haemoglobinopathies such as Thalassemias and Sickle Cell Disorders
- **Lipoprotein Analysis:** Hyperlipidaemias; High-density (HDL), Low-density (LDL) and Very-low-density (VLDL) lipoprotein evaluation

Ordering Information

Code	Size (w x L)	Description
CSLGEL2.514250	2.5x14cm	CellasGEL 250 μ m, standard thickness, 100/pack
CSLGEL2.514200	2.5x14cm	CellasGEL 200 μ m, standard thickness, 100/pack
CSLGEL2.514190	2.5x14cm	CellasGEL 190 μ m, high resolution, 100/pack
CSLGEL5.714500	5.7x14cm	CellasGEL 500 μ m, high volume, 25/pack
CSLGEL5.714250	5.7x14cm	CellasGEL 250 μ m, standard thickness, 25/pack
CSLGEL5.714200	5.7x14cm	CellasGEL 200 μ m, standard thickness, 25/pack
CSLGEL5.714190	5.7x14cm	CellasGEL 190 μ m, high resolution, 25/pack

Other gels, membranes, strips, bridges & applicators available –

PLEASE ENQUIRE



Applicators

Unlike dry cellulose acetate strips that are restricted to low volume micro tests, CellasGEL's greater thickness allows tests to be performed on semi-micro and macro scales using a wide range of specialist applicators. Consequently greater sample-volumes may be loaded as larger, but finer bands over a wider front. This reduces sample saturation and aids densitometric band quantitation, thereby improving resolution.

Ordering Information			
Code	Description	Volume applied/sample band width	Compatible Strip Size
CSLAPPS22	1x 2-specimen semi-micro applicator	0.7µl / 7mm	2.5x14cm
CSLAPPS4SP	1x 4-specimen semi-micro applicator	0.9µl / 9mm	5.7x14cm
CSLAPPS4	1x 4-specimen semi-micro applicator	1.2µl / 9mm	5.7x14cm
CSLAPPS6	1x 6-specimen semi-micro applicator	0.7µl / 7mm	5.7x14cm
CSLAPP8	1x 8-sample micro applicator	0.3µl / 5mm	5.7x14cm



Bridges

A universal bridge (CSLBDG8.5S) supports each 2.5x14cm and 5.7x14cm CellasGEL during sample application by serving as a convenient loading template for the required applicator. Up to three universal bridges may be then placed into each Cellas tank for electrophoresis.

Densitometer

A universal densitometer scanner with software capable of reading 144 tests per minute is available for band quantitation following post-electrophoretic staining.

Ordering Information	
CSLBDG8.5S	1x 8.5cm bridge for 1x 5.7x14cm or 2x 2.5x14cm CellasGEL strips
CSLDENS	TurboScan Software Densitometer (excludes computer and scanner)
CSLSCAN	Flatbed scanner for TurboScan software

Bridges – also available for Helena-, Pratiaga- and Shandon-type strips and other size formats

Ordering Information - CellasGEL Applications Packages equipped with bridges, applicator and clinical test kit

Clinical Test Kit		Accessories Required		Package (Kit + Accessories)	Diagnostic Application
Code	Description	Applicator	Bridges	Code	
CSLKITCU	CellasKIT: 1-patient test for serum and concentrated urine IFE 2x semi-micro tests (1x serum and 1x urine) for 1 patient performed on 6x CellasGEL strips (2.5x14cm; 190µm) on 3x bridges in 1x CSL-CELLAS*. Kit content, sufficient for 5 patients (10x semi-micro tests): 30 CellasGEL strips & TGS buffer; Coomassie stain, clearing & saline solutions; volumetric distributors & antisera (anti- IgG, IgA, IgM, Igκ & Igλ); blotting paper & mylar film. Excludes: Destain.	1x CSLAPPS22 (semi-micro)	3x CSLBDG8.5S	CSLKITCU-ABS Includes: 1x CSLKITCU 1x CSLAPPS22, 3x CSLBDG8.5S	MGUS, MM
CSLKITI2432	CellasKIT: 6-patient test for serum IFE 6x semi-micro or 8x micro tests (1/patient) on 6x CellasGEL strips (5.7x14 cm; 190µm), performed on 6x bridges in 2x CSL-CELLAS units**. Kit content, sufficient for 24 patients (semi-micro) & 32 (micro): 24 CellasGEL strips & Tris- Hippurate buffer; Amidoblack stain, saline & clearing solutions; volumetric distributors & antisera (anti- IgG, IgA, IgM, Igκ & Igλ); blotting paper & mylar film. Excludes: Destain.	2x CSLAPPS6 (semi-micro)	6x CSLBDG8.5S	CSLKITI2432-ABS Includes: 1x CSLKITI2432, 2x CSLAPPS6, 6x CSLBDG8.5S	MGUS, MM
		2x CSLAPP8 (micro)	6x CSLBDG8.5S	CSLKITI2432-ABM Includes: 1x CSLKITI2432, 2x CSLAPP8M 6x CSLBDG8.5S	
CSLKITSP100200	CellasKIT: serum proteins 4x semi-micro or 8x micro tests for each CellasGEL strip (5.7x14cm; 200µm); 3 strips / CSL-CELLAS* performed on 3x bridges. Kit content, sufficient for 100x semi-micro or 200x micro tests: 25 CellasGEL strips & Tris-Hippurate buffer; Ponceau S stain, destain & clearing solutions; blotting paper & mylar film.	1x CSLAPPS4SP (semi-micro)	3x CSLBDG8.5S	CSLKITSP-ABS Includes: 1x CSLKITSP100200 1x CSLAPPS4, 3x CSLBDG8.5S	Dysproteinaemia; Albumin, Alpha-1, Alpha-2, Transferrin, C3 & Gamma Globulin Quantitation
		1x CSLAPP8 (micro)	3x CSLBDG8.5S	CSLKITSP-ABM Includes: 1x CSLKITSP100200 1x CSLAPP8, 3x CSLBDG8.5S	
CSLKITSP150200	CellasKIT: serum proteins (high resolution) 6x semi-micro or 8x micro tests for each CellasGEL strip (5.7x14cm; 190µm); 3 strips / CSL-CELLAS* performed on 3x bridges. Kit content, sufficient for 150x semi-micro or 200x micro tests: 25 CellasGEL strips & Tris-Hippurate buffer; Coomassie stain, citric acid & clearing solutions; blotting paper & mylar film.	1x CSLAPPS6 (semi-micro)	3x CSLBDG8.5S	CSLKITSPHR-ABS Includes: 1x CSLKITSP150200 1x CSLAPPS4, 3x CSLBDG8.5S	Incipient Gammopathies
		1x CSLAPP8 (micro)	3x CSLBDG8.5S	CSLKITSPHR-ABM Includes: 1x CSLKITSP150200 1x CSLAPP8, 3x CSLBDG8.5S	
CSLKITHG100	CellasKIT: haemoglobin 4x semi-micro tests for each CellasGEL strip (5.7x14cm; 250µm); 3 strips / CSL-CELLAS* performed on 3x bridges. Kit content, sufficient for 100x semi-micro tests: 25 CellasGEL strips & Tris-Glycine buffer; Ponceau S stain, destain & clearing solutions; blotting paper & mylar film.	1x CSLAPPS4 (semi-micro)	3x CSLBDG8.5S	CSLKITHG100-ABS Includes: 1x CSLKITHG100, 1x CSLAPPS4x3x CSLBDG8.5S	Haemo- globinopathies
CSLKITLP100	CellasKIT: lipoproteins 4x semi-micro tests for each CellasGEL strip (5.7x14cm; 250µm); 3 strips / CSL-CELLAS* performed on 3x bridges. Kit content, sufficient for 100x semi-micro tests: 25 CelloGel strips & Tris- Hippurate buffer; Sudan Black stain & clearing solution; blotting paper, mylar film and 1 plastic box.	1x CSLAPPS4 (semi-micro)	3x CSLBDG8.5S	CSLKITLP100-ABS Includes: 1x CSLKITLP100 1x CSLAPPS4 3x CSLBDG8.5S	Hyper- lipidaemias

*Requires 1x CSLCELLAS purchased separately; **Requires 2x CSLCELLAS purchased separately

runVIEW – real-time horizontal gel electrophoresis system

- The most versatile, self-contained system on the market for real-time horizontal gel electrophoresis
- System includes everything except chemicals and reagents to run horizontal SYBR- and EtBr-stained gels in real-time
- Combines the flexibility and high resolution capability of the MSCHOICE system (pg 7) with the time- and space-saving convenience of having the power supply and gel illuminator integrated within one highly compact bench top unit
- Optional dark room with 10 megapixel digital camera fits directly over the base unit and gel tank to allow gels to be imaged either as bands migrate in real-time or at the end of the electrophoresis run
- Includes accessories for standard gel electrophoresis and for size fractionation and simplified real-time gel free DNA band extraction and purification



runVIEW components:

- | |
|--|
| 1. runVIEW tank with bluVIEW lid |
| 2. Base unit with integrated power supply and blue LED gel illuminator |
| 3. Blue-light transparent 15x7, 15x10 and 15x15cm gel trays |
| 4. Combs |
| 5. Casting dams |
| 6. Cables |

Real-time size fractionation and recovery of nucleic acids

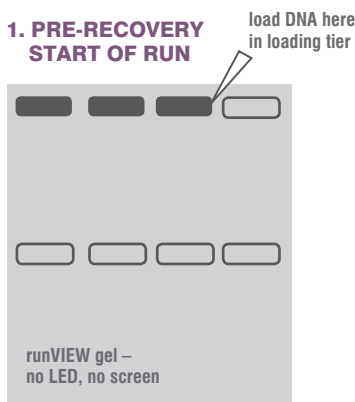
runVIEW is an innovative new system which can be used to maximise the efficiency of DNA recovery from EtBr and SYBR stained gels by minimising the number of steps involved in post-electrophoretic purification. runVIEW consists of a multiSUB™ MSCHOICE system with bluVIEW lid, containing an orange spectral emission filter within its viewing pane, and a base unit with integrated power supply and blue LED gel illuminator.

Simple DNA recovery

Using runVIEW is simple: first, cast a gel featuring two rows of wells with one matching pair of the preparatory combs supplied, before transferring the blue-light transparent gel tray to the MSCHOICE tank located on the base unit. Add sufficient buffer just to cover the gel, and remove the combs to load the DNA samples into the upper row of wells ('Loading' tier). Replace the lid to connect the MSCHOICE tank to the integrated power supply before applying the voltage and switching on the blue LED gel illuminator. Watch through the bluVIEW lid's viewing pane as the samples migrate in real-time to the second row of wells ('extraction' tier). Once the DNA bands of interest enter the 'extraction' tier, simply stop the power supply, remove the lid and harvest the DNA by pipette.

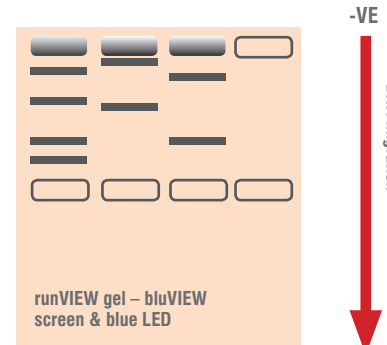
Using runVIEW

1. PRE-RECOVERY START OF RUN



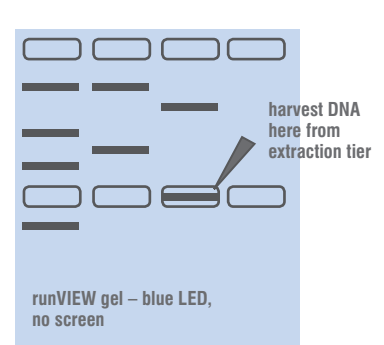
1. Load sample in 'loading tier' of wells.

2. PRE-RECOVERY DURING RUN

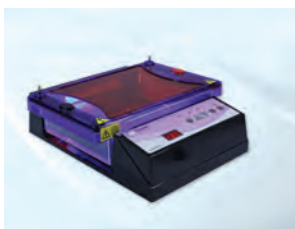


2. Run samples until they reach the 'extraction tier' of wells.

3. RECOVERY END OF RUN



3. Stop the run and extract the buffer to purify the DNA.



MSCHOICE tank with bluVIEW lid on base unit



runVIEW base unit

Track DNA without harmful UV

Blue light is safe and has none of the detrimental effects of UV transillumination, including mutagenesis which can compromise cloning efficiency, while runVIEW's capacity to provide real-time visualisation of electrophoresis enables DNA to be tracked as it migrates through the gel. This allows the user to judge precisely when the band of interest is ready for extraction.

Save on time-consuming gel elution techniques

Running DNA into a well containing buffer effectively purifies the DNA of agarose, eliminating the need for time-consuming gel excision and purification techniques that also result in sample loss. Once harvested, the DNA needs only to be cleaned by a straightforward ethanol precipitation when it is ready for further digestion or ligation.

No expensive commercial gels

runVIEW works with standard EtBr, SYBR Green and SYBR Safe gels cast within the 15x7, 15x10 or 15x15cm MSCHOICE gel trays, and therefore does not require expensive precast gels and accessories.

A self-contained system

The base unit, which houses the in-built power supply and blue LED gel illuminator, is compact, dual-voltage and portable, and allows electrophoresis, gel visualisation and extraction to be performed at the bench, without the inconvenience of having to transport gels to a darkroom elsewhere within the laboratory.

Other benefits offered by runVIEW include:

- Power supply integrated within the base unit – adjustable in precise 1V or 1mA increments to a maximum 150V or 300mA constant voltage or current output; timer function to 999 minutes for extended runs.
- Specialist combs for specialist applications - double-sided 1mm preparatory combs (1- / 2-sample and 4- / 16-sample standard) included for nucleic acid recovery, plus four multichannel compatible 20- / 28-sample combs for rapid screening of nucleic acids from 96-well thermal cycler blocks and microtitre plates.
- Get real-time - existing MSCHOICE users may customise their system by purchasing the base station and bluVIEW lid.

Technical Specifications			
runVIEW Viewing Dock			
Blue Light Wavelength	470nm	Timer	1-999 minutes with alarm
Voltage/ Resolution	25-150V / 1V	Safety Device	No load detection
Current/ Resolution	300mA / 1mA	Operating Temperature	Ambient to 40°C
Power	30 W	Dimensions	293 x 220 x 80 mm
Operating Mode	Constant Voltage or Current	Rated Voltage	100-240V, 50/60Hz
runVIEW Gel System			
Gel Dimensions (w x l)	15 X 7, 15 x 10 & 15 X 15cm	bluVIEW Lid Design	Orange spectral emission filter with condensation-free viewing pane
Unit dimensions (w x d x h)	26.5 X 17.5 X 9cm	Included Double-sided Combs	2x 1-sample / 2-sample preparatory; 2x 4-sample preparatory / 16-sample combs; 4x 20- /28- sample multichannel compatible screening
Buffer volume	500ml	Comb Thickness	1mm

Ordering Information	
CSL-RVMSCHOICE7	runVIEW system complete with 15 x 7cm gel tray, 1 set of casting dams and 8 double-sided combs
CSL-RVMSCHOICE10	runVIEW system complete with 15 x 10cm gel tray, 1 set of casting dams and 8 double-sided combs
CSL-RVMSCHOICE15	runVIEW system complete with 15 x 15cm gel tray, 1 set of casting dams and 8 double-sided combs.
CSL-RVMSCHOICETRIO	runVIEW system complete with 15 x 7, 15 x 10 and 15 x 15cm gel trays, 3 sets of casting dams and 8 double-sided combs
CSL-RVBSVLID	runVIEW base station & bluVIEW lid.
CSL-RVGELDOC	runVIEW gel documentation hood with 10MP camera (camera specification on pg 65).