Electrophoresis solutions for the Life Scientist

2018

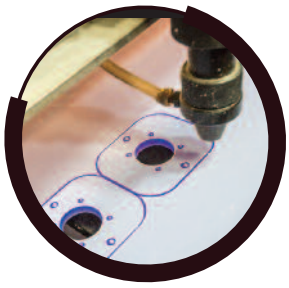
Cleaver SCIENTIFIC

Innovation is in our DNA

Innovatively designed, technically enhanced, high specification, low cost electrophoresis equipment for the global life science research laboratory market

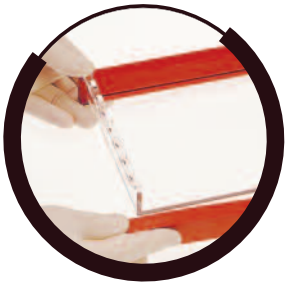
Since 2005, both multiSUB horizontal and omniPAGE vertical gel chambers have been the cornerstone of the Cleaver Scientific EZEE electrophoresis range. Over this time, the entire range has gained an enviable reputation for innovation, ease of use, strength and long life. Nowadays, EZEE gel chambers can be found in leading research and teaching laboratories in hospitals.

A complete range of Gel Electrophoresis systems and accessories from gel preparation to documentation and analysis. UK designed and manufactured for unrivalled quality.



CNC & laser cutting for precision manufacturing and assembly

Custom & bespoke product development and fabrication



Hand finished assembly ensures the highest quality

UK designed and manufactured

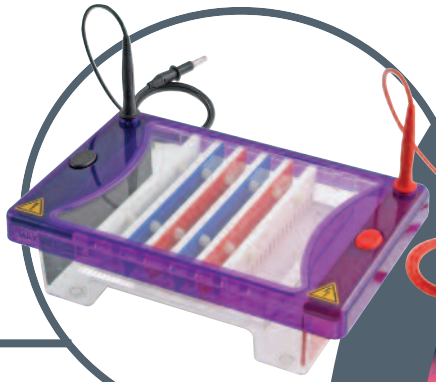
All Cleaver Scientific products, including the flagship gel electrophoresis systems, are supplied directly from its manufacturing facility in Rugby, based in the heart of the United Kingdom.

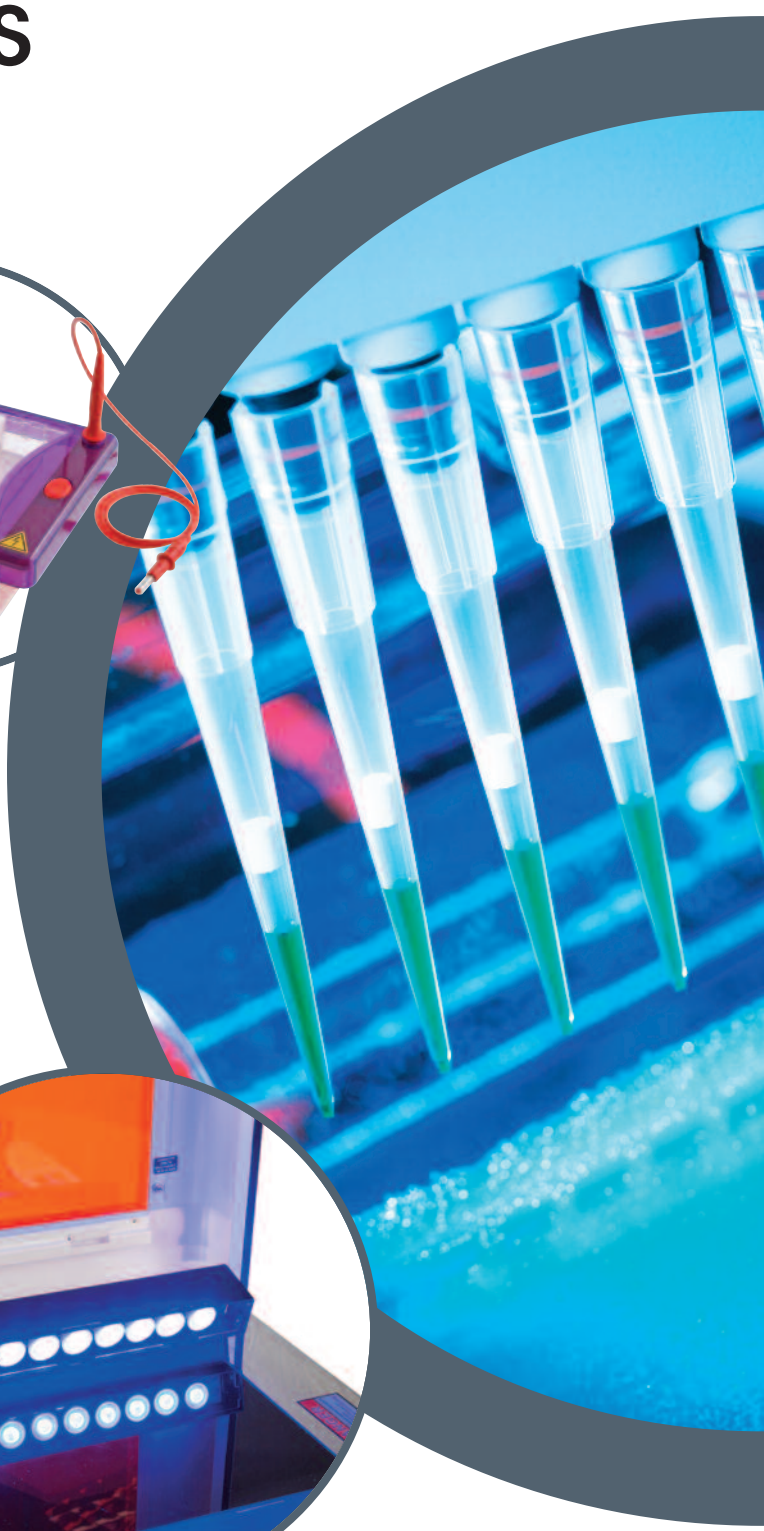
With the objective of simplifying the life of Life Science researchers, each product is the result of the combined creativity, technical and engineering expertise acquired over many years by the company's in-house manufacturing and scientific product development team. Cleaver Scientific prides itself on exceptional quality of its products offered at affordable prices.

Quality may be a much misused word, but at Cleaver Scientific it defines what we do, by the timely manufacture and supply of products to our customers that not only fulfil their purpose, but will remain durable and free of imperfections for many years to come. Accreditation to ISO9001/2015 quality management system and adherence to this standard ensures that these principles are met consistently. Safety is of paramount importance and all the products we supply are CE compliant.

Cleaver SCIENTIFIC

Product Focus





multiSUB Horizontal and omniPAGE Vertical

Workhorse electrophoresis systems with extreme reliability and life-span for every Life Science lab

SAFE series

Our Safe series of products focuses on improving lab safety by removing potential dangers such as Ethidium Bromide and UV light from the lab. Using safe Blue light and non-carcinogenic stains, research safety is enhanced without sacrificing results.

Power supplies

A wide range of voltage and current capabilities for a variety of applications.

OMNIPETTE

Ergonomically designed OMNIPETTE pipettes combine a slim handle, high accuracy and precision rates and robust structure, at very competitive prices.

Agarose

This environmentally friendly agarose, available also in tablet form, is suitable for routine analysis of nucleic acids using standard electrophoretic procedures.

Gel documentation

Budget, microDOC and high performance omniDOC systems, offer gel documentation and analysis at affordable costs.

Cleaver Scientific's multiSUB **horizontal gel electrophoresis** units have been designed by scientists with the laboratory environment in mind

multiSUB Horizontal Electrophoresis tanks provide an easy to use and flexible platform for all your horizontal electrophoresis requirements. With a wide range of tank and tray sizes as well as many comb options, these systems can handle all manner of electrophoresis experiments.

High quality injection moulded construction and durable leakproof design for complete safety and long life.

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.

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:
- 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

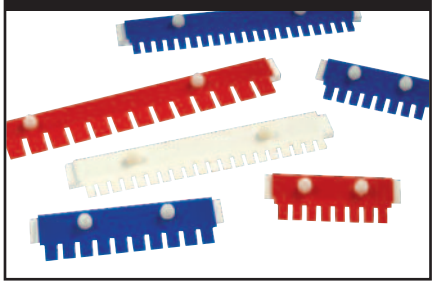
Black and white combs recommended for high resolution gels and publication quality data; red and blue to scale-up nucleic acid volumes for preparatory techniques.

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 above 300nm.

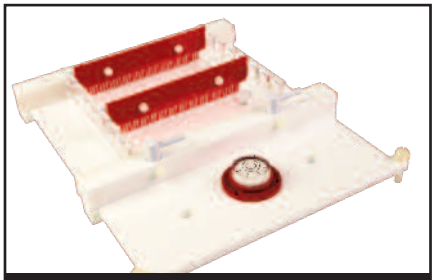
TANK AND LID DESIGN

COMBS



TRAYS

CASTING



ACCESSORIES

ACCESSORIES

'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... 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).

Flexicasters – allow agarose gels of different lengths to be cast in one unit. All models feature adjustable barriers with ultra-soft silicone gasket to ensure leak-proof casting.

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

Cassette-style electrodes – difficult to break, but inexpensive and easy to change – composed of 99.99% corrosion-resistant, pure platinum.

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).

EZ ELECTROPHORESIS

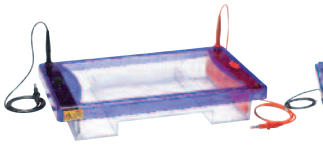
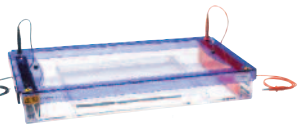
Horizontal gel systems

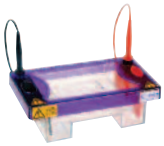
- Wide range of tanks and accessories
- Durable **Injection moulded** construction for leak-proof environment
- Designed & manufactured in **United Kingdom**

Horizontal Gel Systems
SELECTION GUIDE

	MSMINI	MSMIDI	MSCHOICE	MSCHOICEST
	For quick sample checks, following restriction digestion or PCR. MSMINI an economical choice for separation of up to 64 samples.	The same run lengths as the MSMINI but with up to 100 samples.	The perfect system for routine agarose electrophoresis. Up to 210 samples with multichannel compatible comb options for faster loading.	The perfect system for routine agarose electrophoresis. Up to 210 samples with multichannel compatible comb options for faster loading.
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
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-UV15	15x20cm / MS15- UVST20 15x25cm / MS15- UVST25
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) † 1-350 (15x25cm) ††	
Tank Buffer Volume	225ml	300ml	500ml	1000ml
Combs available; Thickness	0.75, 1.0, 1.5, 2.0mm	0.75, 1.0, 1.5, 2.0mm	0.75, 1.0, 1.5, 2.0mm	0.75, 1.0, 1.5, 2.0mm
No. of Teeth	1, 2, 4, 8MC, 8, 10, 12MC, 16	1, 2, 4, 8, 10MC, 12, 16, 20MC, 25	1, 2, 4, 10, 10MC, 12, 14MC, 16MC, 18MC, 20, 28MC, 30MC, 35	1, 2, 4, 10, 10MC, 12, 14MC, 16MC, 18MC, 20, 28MC, 30MC, 35
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
Plug-and-Go Casting Dams Supplied	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 MS15/20-FC: 1 tray	MS26-FC: up to 3x 7cm trays
Typical Running Conditions	80V, 45-60 minutes	90V, 45-60 minutes	90-150V, 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
Ordering Information All Horizontal Gel Tank Models include a Gel Tank, Lid and power cables, sample combs, loading guides and casting dams. (MSMINIONE also includes power supply). Additional accessories are dependent on the catalogue code ordered e.g. MSMINI7 includes the above plus 1x 7x7cm UV Tray.	**MSMINI7**, 7 x 7cm UV Tray **MSMINI10**, 7 x 10cm UV Tray **MSMINIDUO**, 7 x 7cm and 7 x 10cm UV Tray 2 x 8 sample combs, loading guides and casting dams	**MSMIDI7**, 10 x 7cm UV Tray **MSMIDI10**, 10 x 10cm UV Tray **MSMIDIDUO**, 10 x 7cm and 10 x 10cm UV Tray 2 x 16 sample combs, loading guides and casting dams	**MSCHOICE7**, 15 x 7cm UV Tray **MSCHOICE10**, 15 x 10cm UV Tray **MSCHOICE15**, 15 x 15cm UV Tray **MSCHOICETRIO**, 15 x 7cm, 15 x 10cm and 15 x 15cm UV Tray 2 x 20 sample combs, loading guides and casting dams	**MSCHOICEST20**, 15 x 20cm UV Tray **MSCHOICEST25**, 15 x 25cm UV Tray 4 x 28 sample combs

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



MSMAXI	MSSCREEN	miniRAPIDE	MSMIDI96	miniONE
Suitable for RFLP analysis, southern and northern blotting preps and high throughput analysis with up to 550 samples.	Multichannel compatible combs included as standard for maximum efficient with high sample numbers. Screen an entire 96 well plate in a single run with excellent resolution and run length.	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. UV transparent for direct gel imaging	Rapidly screen a 96 well or PCR plate. Multichannel pipette loading with a 1.8cm run length allows samples to be resolved in under 30 minutes. Stretch version available for extended run length	An all in one power supply and gel tank with 3 preset voltages. Inbuilt timer to stop the run at the desired time and simple casting system for small, economical gels.
23 x 39.5 x 9cm	28 x 50 x 9cm	15 x 15 x 4cm	12.5 x 22 x 9cm (MSMIDI96) 12.5 x 46.5 x 8cm (MSMIDI96ST)	190 x 130 x 55mm
20x10cm / MS20-UV10 20x15cm / MS20-UV15 20x20cm / MS20-UV20 20x25cm / MS20-UV25	26x16cm / MS26-UV16 26x24cm / MS26-UV24 26x32cm / MS26-UV32	10x8cm / in-built tray	10x12cm / MS10-UV96 10x24cm / MS10- UV96ST	10.5 x 6cm 5 x 6cm
1-200 (20x10cm) b 1-350 (20x15cm) c 1-450 (20x20cm) d 1-550 (20x25cm) e	28-336 (26x16cm) c 28-504 (26x24cm) e 28-672 (26x32cm) f	1-40 (10x8cm)	96 samples plus 12 (1 lane) or 24 (2 lanes) marker wells	
1200ml	1400ml	50ml	300ml (MSMIDI96) 700ml (MSMIDI96ST)	230ml
0.75, 1.0, 1.5, 2.0mm 1, 2, 4, 10, 16, 20MC, 25, 30, 36, 40MC, 50 25	0.75, 1.0, 1.5, 2.0mm 28MC, 56MC	1.0, 1.5mm 1, 4, 8, 12, 16, 20	1.0, 1.5mm 8 + 1x Marker, 8 + 2x Markers	
As for MSCHOICE and MSCHOICEST MS20LID-BP	Yes – buffer recirculation ports included as standard	No	No	No
Yes, 1 pair	No – supplied with dedicated MSSCREEN flexicaster;	No	Yes	No
MS15/20-FC: 1 tray MS26-FC: 1 tray	MS26-FC: 1 tray	No	Same Flexicasters as MSMIDI	No
100-150V, 60-90 minutes	100-150V, 90-120 minutes	50V, 30-60 minutes	90V, 15-30 minutes	
~4-6.5cm/h at 100-150V	~4-6cm/hr at 100-150V	~4cm/hr at 50V	~4-5cm/h at 90V	
MSMAXI10, 20 x 10cm UV Tray **MSMAXI15**, 20 x 15cm UV Tray **MSMAXI20**, 20 x 20cm UV Tray **MSMAXI25**, 20 x 25cm UV Tray **MSMAXIDUO**, 20 x 10 and 20 x 20cm UV Tray 2 x 20 sample combs, loading guides and casting dams	**MSSCREEN16**, 26 x 16cm UV Tray **MSSCREEN24**, 26 x 24cm UV Tray **MSSCREEN32**, 26 x 32cm UV Tray **MSSCREENTRIO**, 26 x 16cm, 26 x 24cm and 26 x 32cm UV Trays 6 x 28 sample combs, loading guides and Flexicaster	**FMMS10**, 10 x 8cm UV Tray 2 x 8 sample combs 1.5mm and casting dams	**MSMIDI96**, 1 Marker Lane, 1.8 cm run length **MSMIDI96/2M**, 2 Marker Lanes, 1.8 cm run length **MSMIDI96ST**, 1 Marker Lane, 3.6 cm run length **MSMIDI96ST/2M**, 2 Marker Lanes, 3.6 cm run length Comb block with 12 x 8 sample	**MSMINIONE**, 2 x 11×6cm UV Trays, 4 x 5.4×6cm UV Trays 2x Full length combs for 11×6cm UV Trays; 2x Double Comb for 5.4×6cm UV Trays, 1x Gel Caster – Large, 1x Gel Caster – Small

multiSUB Horizontal Gel Systems

The multiSUB™ series of Horizontal Gel Units offers the most versatile solution for DNA and RNA agarose gel electrophoresis currently available.

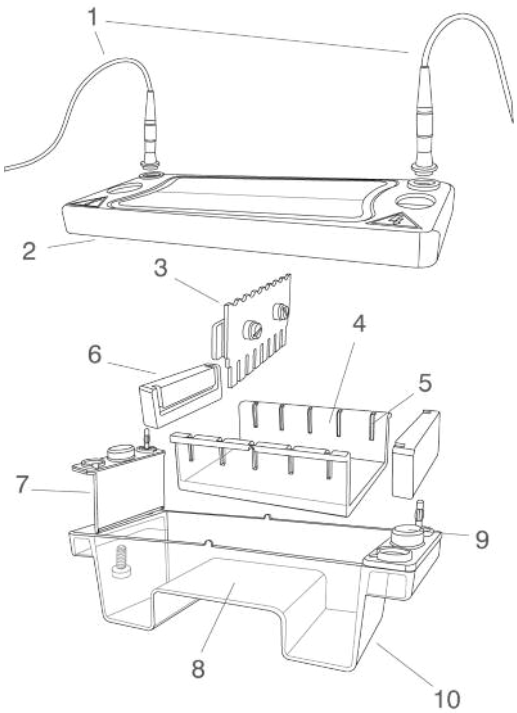
- Injection Moulded Construction - durable, leak-proof environment for complete safety and long life
- Cassette Type Electrodes - inexpensive, easy to replace
- Made of 99.99% corrosion resistant, pure platinum
- Electrical Safety - lid can be located in one way only. On removal, power is disconnected from buffer chamber
- Multiple Gel Trays - eliminate the need for additional gel tanks
- Unique gel cooling system
- Easy Click Lid Removal

All five units offer an unsurpassed combination of economy of gel and buffer volume, with gel size and sample number versatility.

Gel size and sample number requirements can be exactly matched in each unit, with the option of additional gel tray sizes. This eliminates the need for multiple gel tanks for changes in gel size or application.

All units feature removable UV transparent trays. For optimum value and versatility, systems are available with one, two or three tray options (dependent on model). Easy to use, leak proof 'plug and go' gel casting dams are included as standard to allow gels to be rapidly cast whilst the multiSUB unit is in use for gel running. With no indentations or casting gate grooves in the tray to interfere with sample progression, traditional tape casting can be used, should this be preferred.

Although lid connectors are compatible with most major power supplies, adapters are available to provide complete compatibility.



Components of multiSUB gel chambers

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

"plug and go" gel casting

Locate Edge #1 in Dam slot

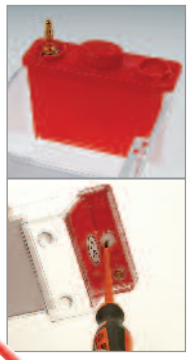
Locate Edge #2 in Dam slot

Finished, simple. Now pour gel

gel trays

Gel trays are UV transparent and free of indentations or casting gate channels which can interfere with sample progression

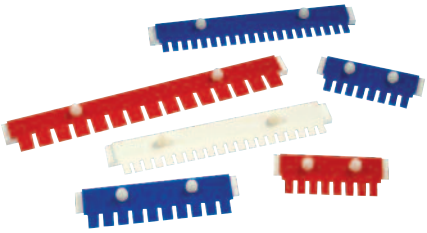
Cassette Type Electrodes - easy to replace



Retractable connectors compatible with most major power supplies

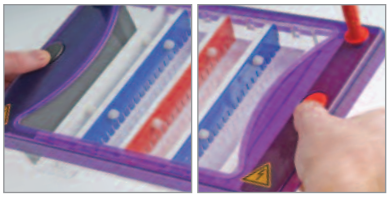
Corrosion resistant, 99.99% pure platinum electrodes and gold plated terminals - easily replaced, ensuring minimum repair times

combs



- four thicknesses, colour coded
  - **black**: 0.75mm for ultra resolved bands
  - **white**: 1mm supplied as standard
  - **red**: 1.5mm for maximising sample volume
  - **blue**: 2mm for maximising sample volume
- options for Sample Prep
- options for Multi-Channel Pipette Compatible

The number of samples can be maximised using high tooth number combs

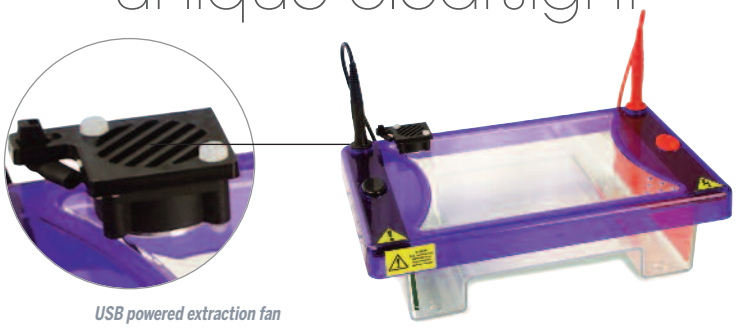


Easy Click Lid Removal

For Horizontal Package Deals

Casting dams allow gels to be rapidly cast externally while the multiSUB™ unit is in use for gel running

unique clearsight



USB powered extraction fan

ClearSight lids solve the condensation build-up problem and so provide a perfectly clear view of the gel and the dye lane progression during the run. This is achieved using a USB powered extraction fan within the lid. Clearsight lids are available as components of complete systems or as upgrades.

UK designed and manufactured

T_+44 (0)1788 565 300 E_info@cleaverscientific.com

multiSUB Mini

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. For Power Supplies, see page 58.

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

Molecular Grade Agaroses
are suitable for routine analysis of nucleic acids, see page xx

KEY FEATURES

multiSUB Mini is the preferred option for quick sample checks of small to medium volumes, particularly following restriction digestion during cloning. Its slim tray format makes MSMINI a very economical choice for separation of up to 64 samples.

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

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 Duo**, 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	buffer	
MS7-UV10	7 x 10cm UV Tray	MS7-WP	Viewing Platform	MS7/10-FC	Flexicaster for multiSUB MSMINI/MSMIDI
MS7-PE	Positive Electrode	MS7-UVS	7cm UV Gel Scoop	MSMINIxCS	ClearSight MINI, as above
MS7-NE	Negative Electrode	MSMINICP	Cool-pack and Platform		with fan & power source where 'x' should be
MS7-UVDAM	Casting Dams, pk/2	MSMINIBSB	Buffer Saver Blocks, pk/2, saves 100ml of		replaced with '7', '10' or 'DUO'

Colour	Code	Description	Sample Volume for a 5mm thick gel
	MS7-1-0.75	Comb Prep 1, Marker 1, 0.75mm thick	152µl
	MS7-2-0.75	Comb Prep 2, Marker 2, 0.75mm thick	68µl
	MS7-4-0.75	Comb Prep 4, Marker 2, 0.75mm thick	36µl
	MS7-8MC-0.75	Comb 8 sample MC, 0.75mm thick	8µl
	MS7-8-0.75	Comb 8 sample, 0.75mm thick	19µl
	MS7-10-0.75	Comb 10 sample, 0.75mm thick	14µl
	MS7-12MC-0.75	Comb 12 sample MC, 0.75mm thick	10µl
	MS7-16-0.75	Comb 16 sample, 0.75mm thick	7µl
	MS7-1-1	Comb Prep 1, Marker 1, 1mm thick	203µl
	MS7-2-1	Comb Prep 2, Marker 2, 1mm thick	90µl
	MS7-4-1	Comb Prep 4, Marker 2, 1mm thick	48µl
	MS7-8MC-1	Comb 8 sample MC, 1mm thick	11µl
	MS7-8-1	Comb 8 sample, 1mm thick	25µl
	MS7-10-1	Comb 10 sample, 1mm thick	18µl
	MS7-12MC-1	Comb 12 sample MC, 1mm thick	14µl
	MS7-16-1	Comb 16 sample, 1mm thick	10µl

Colour	Code	Description	Sample Volume for a 5mm thick gel
	MS7-1-1.5	Comb Prep 1, Marker 1, 1.5mm thick	304µl
	MS7-2-1.5	Comb Prep 2, Marker 2, 1.5mm thick	135µl
	MS7-4-1.5	Comb Prep 4, Marker 2, 1.5mm thick	72µl
	MS7-8MC-1.5	Comb 8 sample MC, 1.5mm thick	17µl
	MS7-8-1.5	Comb 8 sample, 1.5mm thick	37µl
	MS7-10-1.5	Comb 10 sample, 1.5mm thick	27µl
	MS7-12MC-1.5	Comb 12 sample MC, 1.5mm thick	20µl
	MS7-16-1.5	Comb 16 sample, 1.5mm thick	15µl
	MS7-1-2	Comb Prep 1, Marker 1, 2mm thick	405µl
	MS7-2-2	Comb Prep 2, Marker 2, 2mm thick	180µl
	MS7-4-2	Comb Prep 4, Marker 2, 2mm thick	96µl
	MS7-8MC-2	Comb 8 sample MC, 2mm thick	23µl
	MS7-8-2	Comb 8 sample, 2mm thick	50µl
	MS7-10-2	Comb 10 sample, 2mm thick	36µl
	MS7-12MC-2	Comb 12 sample MC, 2mm thick	27µl
	MS7-16-2	Comb 16 sample, 2mm thick	20µl

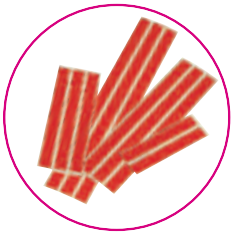
MC = multichannel pipette compatible

multiSUB Midi

With gel tray options of **10 x 7cm and 10 x 10cm, 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 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, see page 58.

Casting Dams
allow gels to be rapidly cast externally while the multiSUB™ unit is in use for gel running, see page xx



Adhesive Loading Guides
allow easy well identification and sample loading, see page xx

KEY FEATURES

These units offer the same tray lengths as the multiSUB Mini but in a wider format, to run more samples just as economically under similar running conditions. 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

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
MSMIDIDUO	**multiSUB Midi Duo**, 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	MSMIDIBSB	Buffer Saver Blocks, pk/2, saves 100ml of buffer
MS10-UV10	10 x 10cm UV Tray	MS10-WP	Viewing Platform	MSMIDIxCS	ClearSight MIDI, as above with
MS10-PE	Positive Electrode	MS10-UVS	10cm UV Gel Scoop		Fan & power source where 'x' should
MS10-NE	Negative Electrode	MS7/10-FC	Flexicaster for multiSUB Mini/Midi		be replaced with '7', '10' or 'DUO'
MS10-UVDAM	Casting Dams, pk/2	MSMIDICP	Cool-Pack and Platform		

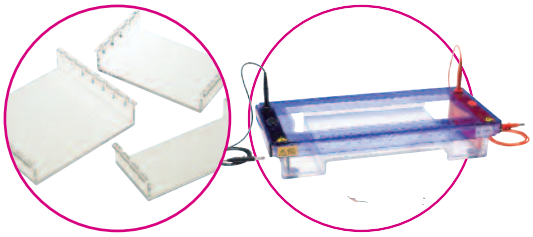
Colour	Code	Description	Sample Volume for a 5mm thick gel
	MS10-1-0.75	Comb Prep 1, Marker 1, 0.75mm thick	270µl
	MS10-2-0.75	Comb Prep 2, Marker 2, 0.75mm thick	118µl
	MS10-4-0.75	Comb Prep 4, Marker 2, 0.75mm thick	57µl
	MS10-8-0.75	Comb 8 sample, 0.75mm thick	30µl
	MS10-10MC-0.75	Comb 10 sample MC, 0.75mm thick	20µl
	MS10-12-0.75	Comb 12 sample, 0.75mm thick	17µl
	MS10-16-0.75	Comb 16 sample, 0.75mm thick	12µl
	MS10-20MC-0.75	Comb 20 sample MC, 0.75mm thick	10µl
	MS10-25-0.75	Comb 25 sample, 0.75mm thick	7µl
	MS10-1-1	Comb Prep 1, Marker 1, 1mm thick	360µl
	MS10-2-1	Comb Prep 2, Marker 2, 1mm thick	158µl
	MS10-4-1	Comb Prep 4, Marker 2, 1mm thick	77µl
	MS10-8-1	Comb 8 sample, 1mm thick	41µl
	MS10-10MC-1	Comb 10 sample MC, 1mm thick	27µl
	MS10-12-1	Comb 12 sample, 1mm thick	23µl
	MS10-16-1	Comb 16 sample, 1mm thick	16µl
	MS10-20MC-1	Comb 20 sample MC, 1mm thick	14µl
	MS10-25-1	Comb 25 sample, 1mm thick	10µl

Colour	Code	Description	Sample Volume for a 5mm thick gel
	MS10-1-1.5	Comb Prep 1, Marker 1, 1.5mm thick	540µl
	MS10-2-1.5	Comb Prep 2, Marker 2, 1.5mm thick	236µl
	MS10-4-1.5	Comb Prep 4, Marker 2, 1.5mm thick	115µl
	MS10-8-1.5	Comb 8 sample, 1.5mm thick	61µl
	MS10-10MC-1.5	Comb 10 sample MC, 1.5mm thick	41µl
	MS10-12-1.5	Comb 12 sample, 1.5mm thick	34µl
	MS10-16-1.5	Comb 16 sample, 1.5mm thick	24µl
	MS10-20MC-1.5	Comb 20 sample MC, 1.5mm thick	20µl
	MS10-25-1.5	Comb 25 sample, 1.5mm thick	15µl
	MS10-1-2	Comb Prep 1, Marker 1, 2mm thick	720µl
	MS10-2-2	Comb Prep 2, Marker 2, 2mm thick	315µl
	MS10-4-2	Comb Prep 4, Marker 2, 2mm thick	153µl
	MS10-8-2	Comb 8 sample, 2mm thick	81µl
	MS10-10MC-2	Comb 10 sample, 2mm thick	54µl
	MS10-12-2	Comb 12 sample, 2mm thick	45µl
	MS10-16-2	Comb 16 sample, 2mm thick	32µl
	MS10-20MC-2	Comb 20 sample MC, 2mm thick	27µl
	MS10-25-2	Comb 25 sample, 2mm thick	20µl

multiSUB Choice

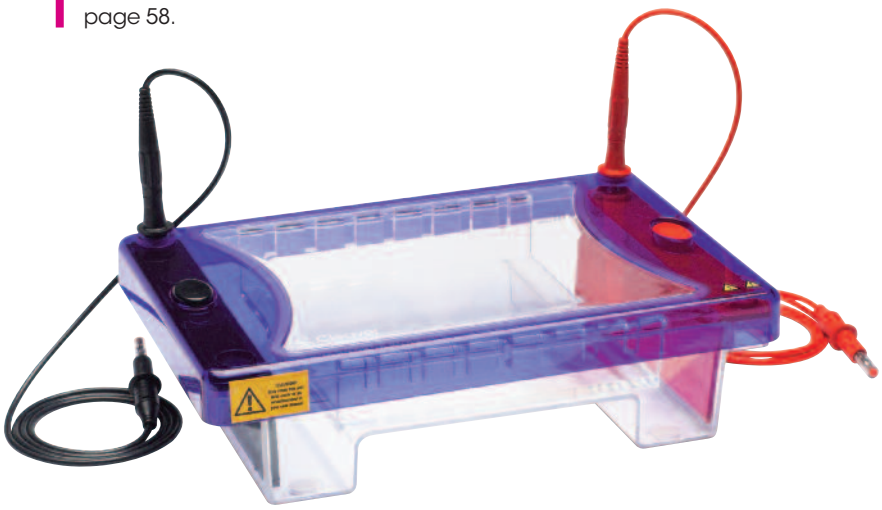
With its three tray options, multiSUB™ Choice offers a wide degree of versatility.

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 options at the time of purchase. 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. **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. For Power Supplies, see page 58.



multiSUB Choice Trio includes all 3 tray sizes for optimum versatility and value

multiSUB Choice Stretch increases sample capacity to 350



KEY FEATURES

multiSUB Choice is 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	**MSCHOICETRIO**	**multiSUB Choice Trio**, 15 x 7, 10 and 15cm UV Tray, 2 x 20 sample combs
MSCHOICE10	**multiSUB Choice**, 15 x 10cm UV Tray, 2 x 20 sample combs	**MSCHOICEST20**	**multiSUB Choice Stretch**, 15 x 20cm UV Tray, 4 x 28 sample combs
MSCHOICE15	**multiSUB Choice**, 15 x 15cm UV Tray, 2 x 20 sample combs	**MSCHOICEST25**	**multiSUB Choice Stretch**, 15 x 25cm UV Tray, 4 x 28 sample combs

MS15-UV7	15 x 7cm UV Tray	MS15-PE	Positive Electrode	MS15/20-FC	Flexicaster for multiSUB Choice / Maxi
MS15-UV10	15 x 10cm UV Tray	MS15-NE	Negative Electrode	MSCHOICExCS	ClearSight Choice, as above
MS15-UV15	15 x 15cm UV Tray	MS15-LG	Adhesive Loading Guides		with Fan & power source.
MS15-UVST20	15 x 20 cm UV Tray	MS15-UVS	15cm UV Gel Scoop		where 'x' should be replaced
MS15-UVST25	15 x 25 cm UV Tray	MSCHOICECP	Cool-Pack and Platform		with '7', '10', '15', '20', '25' or 'TRIO'
MS15-UVDAM	Casting Dams, pk/2	MSCHOICEBSB	Buffer Saver Blocks pk/2, saves 190ml of buffer		

Colour	Code	Description	Sample Volume for a 5mm thick gel
	MS15-1-0.75	Comb Prep 1, Marker 1, 0.75mm thick	371µl
	MS15-2-0.75	Comb Prep 2, Marker 2, 0.75mm thick	169µl
	MS15-4-0.75	Comb Prep 4, Marker 2, 0.75mm thick	91µl
	MS15-10-0.75	Comb 10 sample, 0.75mm thick	34µl
	MS15-12-0.75	Comb 12 sample, 0.75mm thick	30µl
	MS15-16MC-0.75	Comb 16 sample MC, 0.75mm thick (DuoComb - 17MC on reverse)	16µl
	MS15-20-0.75	Comb 20 sample, 0.75mm thick	7µl
	MS15-10MC-0.75	Comb 10 sample MC, 0.75mm thick	22µl
	MS15-14MC-0.75	Comb 14 sample MC, 0.75mm thick	22µl
	MS15-18MC-0.75	Comb 18 sample MC, 0.75mm thick (DuoComb - 17MC on reverse)	20µl
	MS15-28MC-0.75	Comb 28 sample MC, 0.75mm thick	8µl
	MS15-30MC-0.75	Comb 30 sample MC, 0.75mm thick	8µl
	MS15-35-0.75	Comb 35 sample, 0.75mm thick	9µl
	MS15-1-1	Comb Prep 1, Marker 1, 1mm thick	495µl
	MS15-2-1	Comb Prep 2, Marker 2, 1mm thick	225µl
	MS15-4-1	Comb Prep 4, Marker 2, 1mm thick	122µl
	MS15-10-1	Comb 10 sample, 1mm thick	45µl
	MS15-12-1	Comb 12 sample, 1mm thick	41µl
	MS15-16MC-1	Comb 16 sample, 1mm thick (DuoComb - 17MC on reverse)	21µl
	MS15-20-1	Comb 20 sample, 1mm thick	10µl
	MS15-10MC-1	Comb 10 sample MC, 1mm thick	29µl
	MS15-14MC-1	Comb 14 sample MC, 1mm thick	29µl
	MS15-18MC-1	Comb 18 sample MC, 1mm thick (DuoComb - 17MC on reverse)	27µl
	MS15-28MC-1	Comb 28 sample MC, 1mm thick	11µl
	MS15-30MC-1	Comb 30 sample MC, 1mm thick	11µl
	MS15-35-1	Comb 35 sample, 1mm thick	13µl

Colour	Code	Description	Sample Volume for a 5mm thick gel
	MS15-1-1.5	Comb Prep 1, Marker 1, 1.5mm thick	743µl
	MS15-2-1.5	Comb Prep 2, Marker 2, 1.5mm thick	338µl
	MS15-4-1.5	Comb Prep 4, Marker 2, 1.5mm thick	182µl
	MS15-10-1.5	Comb 10 sample, 1.5mm thick	68µl
	MS15-12-1.5	Comb 12 sample, 1.5mm thick	61µl
	MS15-16MC-1.5	Comb 16 sample, 1.5mm thick (DuoComb - 17MC on reverse)	32µl
	MS15-20-1.5	Comb 20 sample, 1.5mm thick	15µl
	MS15-10MC-1.5	Comb 10 sample MC, 1.5mm thick	44µl
	MS15-14MC-1.5	Comb 14 sample MC, 1.5mm thick	44µl
	MS15-18MC-1.5	Comb 18 sample MC, 1.5mm thick (DuoComb - 17MC on reverse)	41µl
	MS15-28MC-1.5	Comb 28 sample MC, 1.5mm thick	17µl
	MS15-30MC-1.5	Comb 30 sample MC, 1.5mm thick	17µl
	MS15-35-1.5	Comb 35 sample, 1.5mm thick	19µl
	MS15-1-2	Comb Prep 1, Marker 1, 2mm thick	990µl
	MS15-2-2	Comb Prep 2, Marker 2, 2mm thick	450µl
	MS15-4-2	Comb Prep 4, Marker 2, 2mm thick	243µl
	MS15-10-2	Comb 10 sample, 2mm thick	90µl
	MS15-12-2	Comb 12 sample, 2mm thick	81µl
	MS15-16MC-2	Comb 16 sample, 2mm thick (DuoComb - 17MC on reverse)	43µl
	MS15-20-2	Comb 20 sample, 2mm thick	20µl
	MS15-10MC-2	Comb 10 sample MC, 2mm thick	59µl
	MS15-14MC-2	Comb 14 sample MC, 2mm thick	59µl
	MS15-18MC-2	Comb 18 sample MC, 2mm thick (DuoComb - 17MC on reverse)	54µl
	MS15-28MC-2	Comb 28 sample MC, 2mm thick	23µl
	MS15-30MC-2	Comb 30 sample MC, 2mm thick	23µl
	MS15-35-2	Comb 35 sample, 2mm thick	25µl

* all models include loading guides and casting dams

MC = multichannel pipette compatible

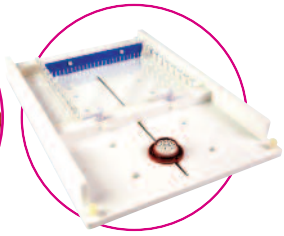
EZEE multiSUB Maxi

multiSUB™ Maxi is primarily designed for resolution of high numbers of samples such as from Clone Screening or PCR.

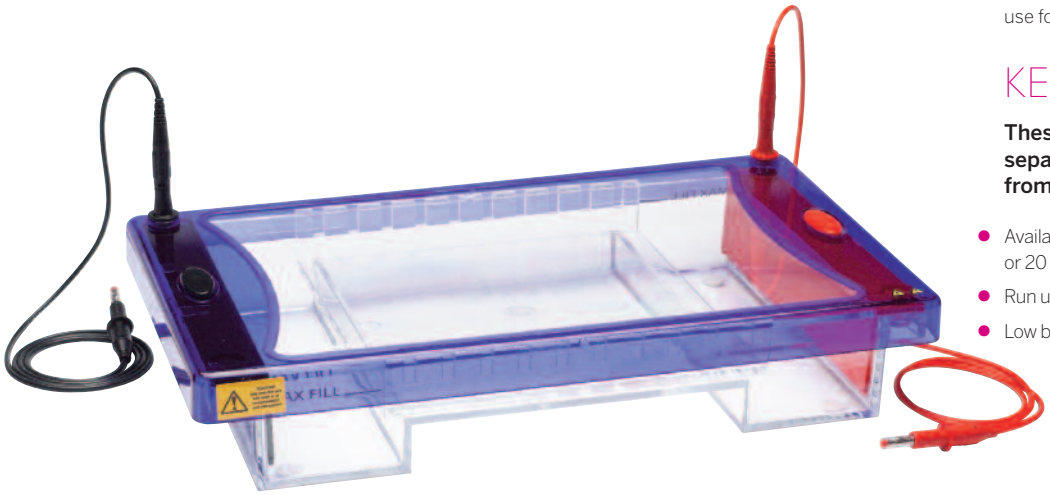
multiSUB™ Maxi allows ultra high-resolution separations over extended runs. Tray sizes correspond to standard blotter sizes.

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. For Power Supplies, see page 58.

Casting dams allow gels to be rapidly cast externally while the MultiSub™ unit is in use for gel running



Flexicaster allows casting of gel lengths up to 20cm, simply by locking the moveable dam, see page 19



KEY FEATURES

These units are primarily designed for separating high numbers of samples from PCR or cloning:

- 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

Ordering Information

MSMAXI20	**multiSUB Maxi**, 20 x 20cm UV Tray, 2 x 20 sample comb*	**MSMAXI25**	**multiSUB Maxi,** 20 x 25cm UV Tray, 2 x 20 sample combs*
MSMAXI10	**multiSUB Maxi**, 20 x 10cm UV Tray, 2 x 20 sample combs*	**MSMAXIDUO**	**multiSUB Maxi Duo**, 20 x 10 & 20 x 20cm UV Tray, 2 x 20 sample combs*
MSMAXI15	**multiSUB Maxi**, 20 x 15cm UV Tray, 2 x 20 sample combs*		

MS20-UV10	20 x 10cm UV Tray	MS20-NE	Negative Electrode	MSMAXIxCS	Clearsight Maxi, as above with
MS20-UV20	20 x 20cm UV Tray	MS20-UVS	20cm UV Gel Scoop		Fan & Power Source
MS20-UV25	20 x 25cm UV Tray	MSMAXICP	Cool-Pack and Platform		where 'x' should be replaced with
MS20-UVDAM	Casting Dams, pk/2	MSMAXIBSB	Buffer Saver Blocks pk/2, saves 450ml of buffer		'10', '15', '20', '25' or 'duo'
MS20-LG	Adhesive Loading Guides	MS15/20-FC	Flexicaster for multiSUB Choice / Maxi		
MS20-PE	Positive Electrode	CSL-GLT	Gel Levelling Table		

Colour	Code	Description	Sample Volume for a 5mm thick gel
	MS20-1-0.75	Comb Prep 1, Marker 1, 0.75mm thick	506µl
	MS20-2-0.75	Comb Prep 2, Marker 2, 0.75mm thick	236µl
	MS20-4-0.75	Comb Prep 4, Marker 2, 0.75mm thick	115µl
	MS20-10-0.75	Comb 10 sample, 0.75mm thick	54µl
	MS20-16-0.75	Comb 16 sample, 0.75mm thick	30µl
	MS20-20MC-0.75	Comb 20 sample MC, 0.75mm thick	20µl
	MS20-25-0.75	Comb 25 sample, 0.75mm thick	16µl
	MS20-30-0.75	Comb 30 sample, 0.75mm thick	13µl
	MS20-36-0.75	Comb 36 sample, 0.75mm thick	11µl
	MS20-40MC-0.75	Comb 40 sample MC, 0.75mm thick	8µl
	MS20-50-0.75	Comb 50 sample, 0.75mm thick	8µl
	MS20-1-1	Comb Prep 1, Marker 1, 1mm thick	675µl
	MS20-2-1	Comb Prep 2, Marker 2, 1mm thick	315µl
	MS20-4-1	Comb Prep 4, Marker 2, 1mm thick	153µl
	MS20-10-1	Comb 10 sample, 1mm thick	72µl
	MS20-16-1	Comb 16 sample, 1mm thick	41µl
	MS20-20MC-1	Comb 20 sample MC, 1mm thick	27µl
	MS20-25-1	Comb 25 sample, 1mm thick	21µl
	MS20-30-1	Comb 30 sample, 1mm thick	17µl
	MS20-36-1	Comb 36 sample, 1mm thick	14µl
	MS20-40MC-1	Comb 40 sample MC, 1mm thick	11µl
	MS20-50-1	Comb 50 sample, 1mm thick	10µl

Colour	Code	Description	Sample Volume for a 5mm thick gel
	MS20-1-1.5	Comb Prep 1, Marker 1, 1.5mm thick	1013µl
	MS20-2-1.5	Comb Prep 2, Marker 2, 1.5mm thick	473µl
	MS20-4-1.5	Comb Prep 4, Marker 2, 1.5mm thick	230µl
	MS20-10-1.5	Comb 10 sample, 1.5mm thick	108µl
	MS20-16-1.5	Comb 16 sample, 1.5mm thick	61µl
	MS20-20MC-1.5	Comb 20 sample MC, 1.5mm thick	41µl
	MS20-25-1.5	Comb 25 sample, 1.5mm thick	32µl
	MS20-30-1.5	Comb 30 sample, 1.5mm thick	26µl
	MS20-36-1.5	Comb 36 sample, 1.5mm thick	22µl
	MS20-40MC-1.5	Comb 40 sample MC, 1.5mm thick	17µl
	MS20-50-1.5	Comb 50 sample, 1.5mm thick	16µl
	MS20-1-2	Comb Prep 1, Marker 1, 2mm thick	1350µl
	MS20-2-2	Comb Prep 2, Marker 2, 2mm thick	630µl
	MS20-4-2	Comb Prep 4, Marker 2, 2mm thick	306µl
	MS20-10-2	Comb 10 sample, 2mm thick	144µl
	MS20-16-2	Comb 16 sample, 2mm thick	81µl
	MS20-20MC-2	Comb 20 sample MC, 2mm thick	54µl
	MS20-25-2	Comb 25 sample, 2mm thick	42µl
	MS20-30-2	Comb 30 sample, 2mm thick	34µl
	MS20-36-2	Comb 36 sample, 2mm thick	29µl
	MS20-40MC-2	Comb 40 sample MC, 2mm thick	23µl
	MS20-50-2	Comb 50 sample, 2mm thick	21µl

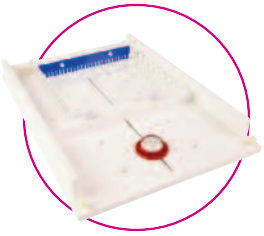
multiSUB Screen

multiSUB™ Screen was designed for rapid screening of very large numbers of Clone Screenings or PCR samples.

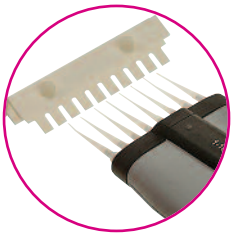
multiSUB™ Screen horizontal gel unit has a maximum sample capacity of 672 per gel. This allows loading and analysis of exactly seven 96 well format micro titre plates. The large gel run length of 32cm also allows resolution of samples over a long distance for separation of complex sample bands such as 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, 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 improve well visibility for easy sample loading. For Power Supplies, see page 58.



Screen FlexiCaster
Leak free casting assured, even with agarose at 80°C

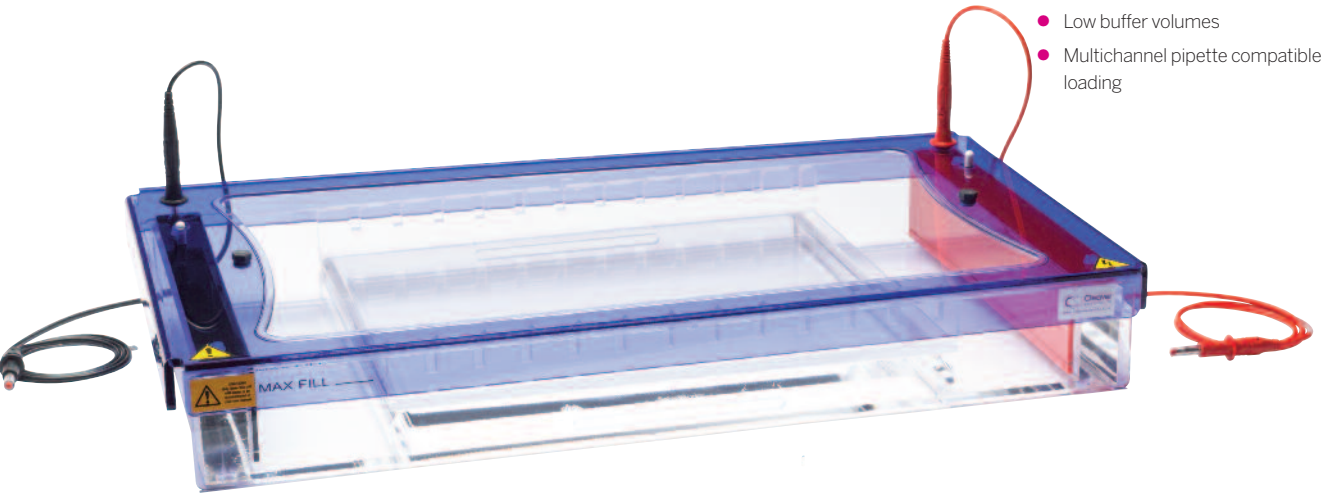


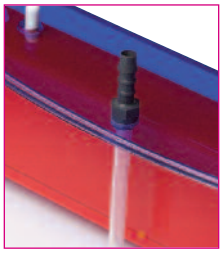
all multiSUB Screen combs
are multichannel pipette compatible

KEY FEATURES

multiSUB Screen is 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





Buffer circulation ports included as standard

Ordering Information

MSSCREEN16	**multiSUB Screen**, 26 x 16cm UV Tray, 6 x 28 sample combs, loading guides and Flexicaster
MSSCREEN24	**multiSUB Screen**, 26 x 24cm UV Tray, 6 x 28 sample combs, loading guides and Flexicaster
MSSCREEN32	**multiSUB Screen**, 26 x 32cm UV Tray, 6 x 28 sample combs, loading guides and Flexicaster
MSSCREENTRIO	**multiSUB Screen Trio**, 26 x 16cm, 26 x 24cm, 26 x 32cm UV Trays, 6 x 28 sample combs, loading guides and Flexicaster

MS26-UV32	26 x 32cm UV Tray	MS26-PE	Positive Electrode	MS26-FC	Flexicaster for gels up to 32cm.
MS26-UV24	26 x 24cm UV Tray	MS26-NE	Negative Electrode		Casts 7, 10, 15, 16, 20, 24 and 32cm long gels
MS26-UV16	26 x 16cm UV Tray	MSSCRNCP	Cool-Pack and Platform		
MS26-LG	Adhesive Loading Guides	MU-D01	Single Channel Peristaltic Pump, 30-100rpm		
MS26-UVS	26cm UV Gel Scoop	MSSCREENBSB	Buffer Saver Blocks, pk/2 saves 625ml of buffer		

Colour	Code	Description	Sample Volume for a 5mm thick gel
	MS26-28MC-0.75	Comb 28 sample MC, 0.75mm thick	25µl
	MS26-56MC-0.75	Comb 56 sample MC, 0.75mm thick	10µl
	MS26-28MC-1	Comb 28 sample MC, 1mm thick	34µl
	MS26-56MC-1	Comb 56 sample MC, 1mm thick	14µl

Colour	Code	Description	Sample Volume for a 5mm thick gel
	MS26-28MC-1.5	Comb 28 sample MC, 1.5mm thick	51µl
	MS26-56MC-1.5	Comb 56 sample MC, 1.5mm thick	20µl
	MS26-28MC-2	Comb 28 sample MC, 2mm thick	68µl
	MS26-56MC-2	Comb 56 sample MC, 2mm thick	27µl

MC = multichannel pipette compatible

multiSUB Accessories

The multiSUB Series horizontal electrophoresis units include a range of accessories to enhance functionality and ease of use in the lab. Further accessories are available as optional extras and all accessories can be ordered separately and all parts are available as spares.

Accessories included as standard

Buffer Tank

Model	Code
MINI	MS7-TANK
MIDI	MS10-TANK
CHOICE	MS15-TANK
MAXI	MS20-TANK
SCREEN	MS26-TANK

Lid without Cables

Model	Code
MINI	MS7-LID
MIDI	MS10-LID
CHOICE	MS15-LID
MAXI	MS20-LID
SCREEN	MS26-LID

Negative Electrode

Model	Code
MINI	MS7-NE
MIDI	MS10-NE
CHOICE	MS15-NE
MAXI	MS20-NE
SCREEN	MS26-NE

Positive Electrode

Model	Code
MINI	MS7-PE
MIDI	MS10-PE
CHOICE	MS15-PE
MAXI	MS20-PE
SCREEN	MS26-PE

Power Cables

Model	Code
All Models	CSL-CAB

Red Loading Guides

Model	Code
MINI	MS7-LG
MIDI	MS10-LG
CHOICE	MS15-LG
MAXI	MS20-LG
SCREEN	MS26-LG

Rubber Casting Dams

Model	Code
MINI	MS7-UVDAM
MIDI	MS10-UVDAM
CHOICE	MS15-UVDAM
MAXI	MS20-UVDAM
SCREEN	MS26-TANK

White Viewing Platform

Model	Code
MINI	MS7-WP
MIDI	MS10-WP
CHOICE	MS15-WP
MAXI	MS20-WP
SCREEN	MS26-WP

Accessories available as options

UV Gel Scoop

Model	Code
MINI	MS7-UVS
MIDI	MS10-UVS
CHOICE	MS15-UVS
MAXI	MS30-UVS
SCREEN	MS26-UVS

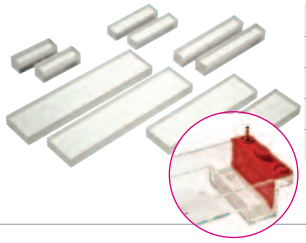
Flexicasters

Model	Code
MINI	MS7/10-FC
MIDI	MS7/10-FC
CHOICE	MS15/20-FC
MAXI	MS15/20-FC
SCREEN	MS26-FC

CoolPack and Platform

Model	Code
MINI	MS7-MSMINICP
MIDI	MS10-MSMIDICP
CHOICE	MS15-MSCHOICECP
MAXI	MS20-MSMAXICP
SCREEN	MS26-MSSCREENCP

Buffer Saver Blocks



Model	Code
MINI	MSMINIBSB
MIDI	MSMIDIBSB
CHOICE	MSCHOICEBSB
MAXI	MSMAXIBSB
SCREEN	MSSCREENBSB

multiSUB Comb options

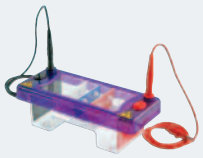
multiSUB Horizontal Gel Chambers can accommodate a wide variety of casting combs. Standard options are shown below, while custom combs can be manufactured on request. To select a comb, just add the desired thickness to the end of the comb code to get the complete ordering code, for example, MS7-8-1 is a 1 mm thick comb and MS2-4-1.5 is a 1.5 mm comb. Well volume shown below is for 1mm thick combs.

Colour-coded combs for the multiSUB are available in 4 thicknesses,

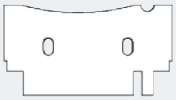
Black – 0.75mm for tightly resolved bands
Red – 1.5mm to maximise sample volume
White – 1mm supplied as standard
Blue – 2mm to maximise sample volume

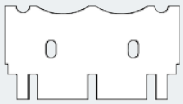
Black and white combs recommended for high resolution gels and publication quality data; red and blue to scale-up nucleic acid volumes for preparatory techniques.

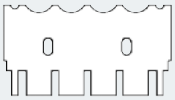
mini

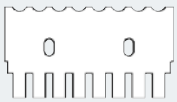


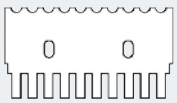
See Page 12 for other well volumes

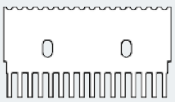

MS7-1-1, (203µl)


MS7-2-1, (90µl)

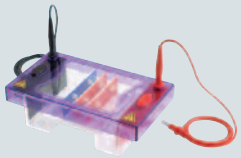

MS7-4-1, (48µl)


MS7-8-1, (25µl)


MS7-10-1, (18µl)


MS7-12-1, (14µl)

midi

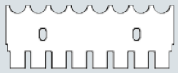


See Page 13 for other well volumes

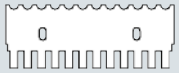
MS10-1-1, (360µl)

MS10-2-1, (158µl)

MS10-4-1, (77µl)


MS10-8-1, (41µl)

MS10-10MC, (27µl

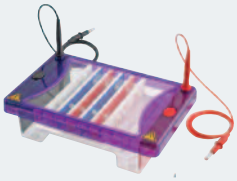

MS10-12-1, (23µl)

MS10-16-1, (16µl)

MS10-20-1, (14µl)

MS10-25-1, (10µl)

choice

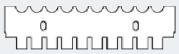


See Page 14 for other well volumes

MS15-1-1, (495µl)

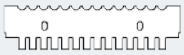
MS15-2-1, (225µl)

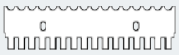
MS15-4-1, (122µl)


MS15-10-1, (45µl)

MS15-10MC, (29µl)

MS15-12-1, (41µl)

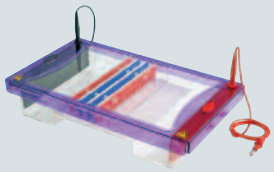

MS15-14MC-1, (29µl)


MS15-16MC-1, (27µl)

MS15-28MCSS-1, (11µl)

MS15-35, (10µl)

maxi



See Page 15 for other well volumes

MS20-1-1, (675µl)

MS20-2-1, (315µl)

MS20-4-1, (153µl)

MS20-10-1, (72µl)

MS20-16, (41µl)

MS20-20MC-1, (27µl)

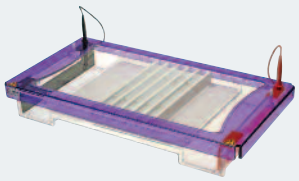
MS20-25-1, (21µl)

MS20-36-1, (14µl)

MS20-40MCSS-1 (11µl)

MS20-50, (10µl)

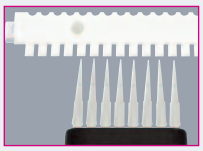
screen

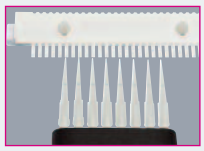


See Page 16 for other well volumes

MS26-28MC, (34µl)

MS26-56MCSS, (14µl)


MC = fits multichannel pipettes


MCSS = fits multichannel loading every second row

multiSUB miniONE

The **multiSUB™ miniONE** electrophoresis system includes all of the equipment that you need to get up and running: gel tank, power supply and two casting sets. This gel tank/power supply combination is compact and easy to use.

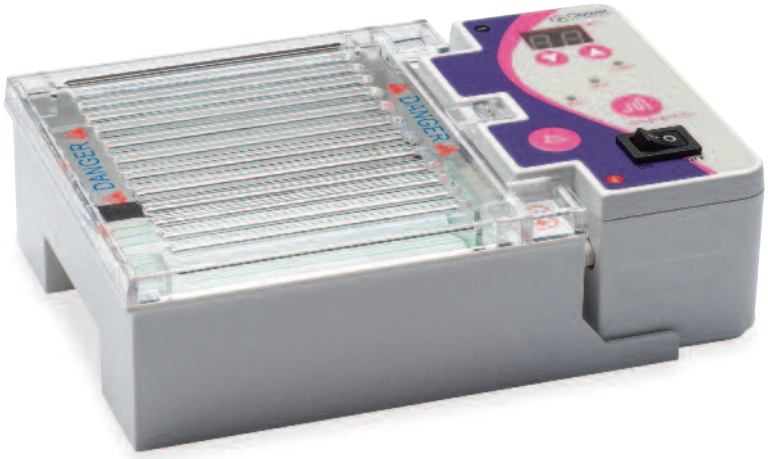
multiSUB miniONE is an all in one horizontal electrophoresis unit. Featuring a built in power supply with voltage options of 35V, 50V and 100V, the miniONE is a versatile system suitable for a wide range of applications. A built in timer for runs from 0-99 minutes means you can set up your parameters and leave the system to complete the run automatically without fear of loosing bands.

The system comes complete with 2 gel casters for wide and mini gels as well as reversible combs for high throughput or high sample volume.

KEY FEATURES

miniONE electrophoresis system is ideal for personal use, small laboratories or the classroom.

- All in one horizontal electrophoresis system
- In built power supply with 35V, 50V and 100V settings
- Timer function for runs form 0 – 99 minutes
- 2 gel sizes and reversible comb options



Technical Specifications

Input Power	AC100~120V, 50~60Hz / AC200~240V, 50~60Hz
Output Power	DC35V / DC50V / DC100V
Bath Dimensions (mm)	120 x 110 x 45mm
Volume of Tank	230ml
Construction of Bath	PC+ABS with high temperature resistance
Timer range	1min~99min
Max.Power	40W

Pour and cast gel

Place tray in unit and cover with buffer

Load samples

Start the run

Ordering Information

MSMINIONE	Includes multiSUB™ miniONE electrophoresis system with	MSO-GCL	multiSUB miniONE Gel Caster – Large
	Built in power supply,	MSO-GCS	multiSUB miniONE Gel Caster – Small
	2 x MSO-UVL, 4 x MSO-UVS, 1 x MSO-GCL, 1 x MSO-GCS,	MSO-UVL	multiSUB miniONE Large Gel Tray 110mm×60mm
	2 x MSO-1-5/9DS, 2 x MSO-1-12/22DS	MSO-UVS	multiSUB miniONE Small Gel Tray 54mm×60mm
MSO-1-12/22DS	Full length combs for miniONE Large Tray		
MSO-1-5/9DS	Double Comb for miniONE small gel trays		

multiSUB Midi96

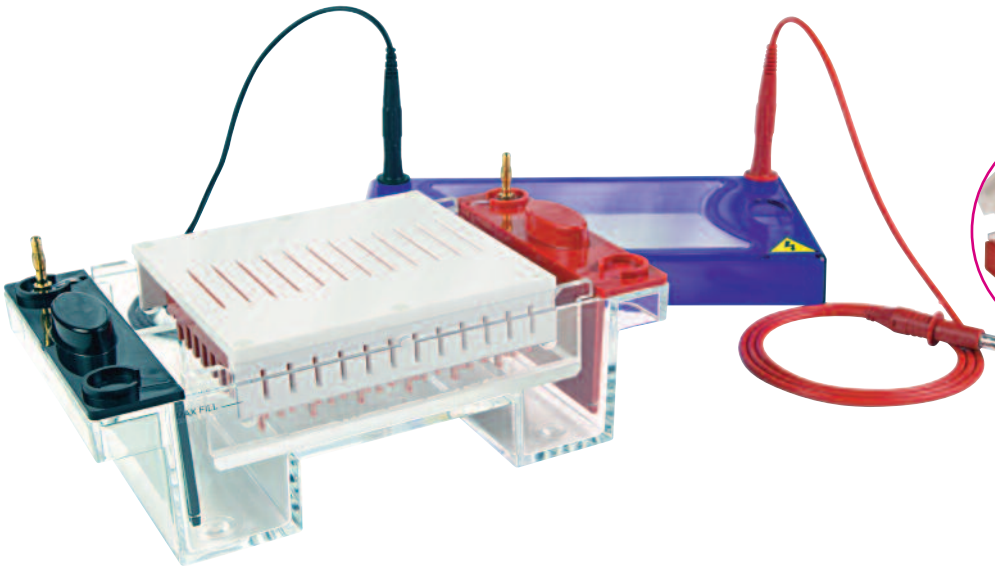
The **multiSUB™ Midi96 Gel System** allows a full 96 well plate to be loaded directly via an 8 channel pipette, making it perfect for high throughput work.

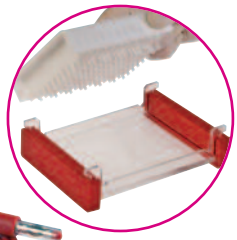
Its 10x12cm (W x L) gel dimensions and 96-well comb block format correspond to the standard microplate configuration. One or Two marker lanes and a run length of 1.8 cm for resolving DNA fragments. Multichannel pipette compatible well spacing allows fast sample loading. MSMIDI96ST Stretch Systems are 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.

KEY FEATURES

multiSUB MIDI96 is Ideal for analysis of up to 96 PCR- fragment length polymorphisms loaded from 96-well microplates or thermal cycler blocks

- Ideal for high throughput electrophoresis
- Average run-time is just 15 to 30 minutes
- Direct microplate format for easy lane identification
- Multi-channel pipette compatible combs for speed loading

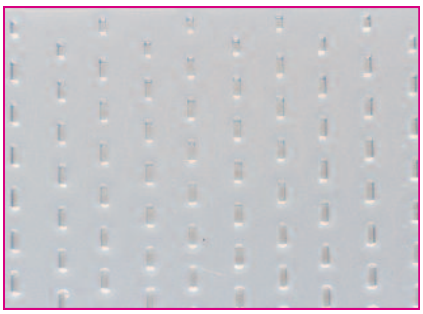




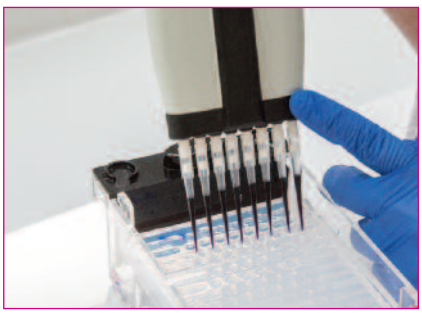
multiSUB™ Midi96 is designed for loading of DNA samples from multi-well plates

Comb blocks, available as standard and stretched options, are multichannel pipette compatible for speed loading

96 format UV tray with a cast gel



A cast gel



Load using a multichannel pipette

Ordering Information

MSMIDI96	**multiSUB Midi96,** UV tray, Comb block with 12 x 8 sample, 1mm thick combs, casting dams; Run length = 1.8cm
MSMIDI961.5	**multiSUB Midi96**, UV tray, Comb block with 12 x 8 sample, 1.5mm thick combs, casting dams. Combs have one marker lane; Run length = 1.8cm
MSMIDI96/2M	**multiSUB Midi96**, UV tray, Comb block with 12 x 8 sample, 1mm thick combs, casting dams. Combs have two marker lanes; Run length = 1.8cm
MSMIDI96/1.5/2M	**multiSUB Midi96**, UV tray, Comb block with 12 x 8 sample, 1.5mm thick combs, casting dams. Combs have two marker lanes; Run length = 1.8cm
MSMIDI96ST	**multiSUB Midi96 Stretch**, UV tray, Comb block with 12 x 8 sample, 1mm thick combs, casting dams; Run length = 3.6cm
MSMIDI96ST1.5	**multiSUB Midi96 Stretch**, UV tray, Comb block with 12 x 8 sample, 1.5mm thick combs, casting dams. Combs have one marker lane; Run length = 3.6cm
MSMIDI96ST/2M	**multiSUB Midi96 Stretch**, UV tray, Comb block with 12 x 8 sample, 1mm thick combs, casting dams. Combs have two marker lanes; Run length = 3.6cm
MSMIDI96ST/1.5/2M	**multiSUB Midi96 Stretch**, UV tray , Comb block with 12 x 8 sample, 1.5mm thick combs, casting dams. Combs have two marker lanes; Run length = 3.6cm
MSMIDI96STDBL	**multiSUB Midi96 Stretch**, UV tray, Comb block with 24 x 8 sample, 1mm thick combs, casting dams - Note: run length = 1.8cm.

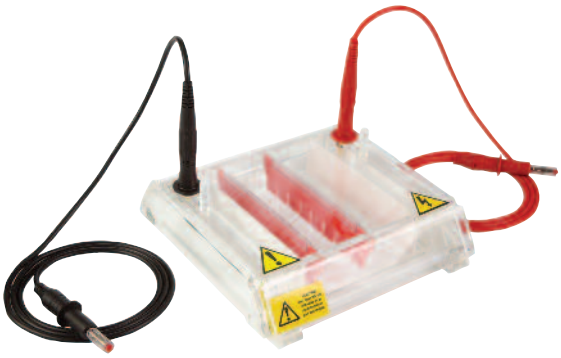
COMB BLOCKS

MSMIDI96-8-1-CB	Midi96 Comb 8 sample MC + 1 Marker, 1mm thick	MSMIDI96ST-8-1.5-CB*	Midi96 STRETCH Comb 8 sample MC + 1 Marker, 1.5mm thick
MSMIDI96-8-1.5-CB	Midi96 Comb 8 sample MC + 1 Marker, 1.5mm thick	MSMIDI96ST-8-1.5/2M-CB*	Midi96 STRETCH Comb 8 sample MC + 2 Marker, 1mm thick
MSMIDI96-8-1/2M-CB	Midi96 Comb 8 sample MC + 2 Marker, 1mm thick	MSMIDI96ST-8-1.5/2M-CB*	Midi96 STRETCH Comb 8 sample MC + 2 Marker, 1.5mm thick
MSMIDI96-8-1.5/2M-CB	Midi96 Comb 8 sample MC + 2 Marker, 1.5mm thick	MS10-UV96	multisub Midi, 96 well tray
MSMIDI96ST-8-1-CB*	Midi96 STRETCH Comb 8 sample MC + 1 Marker, 1mm thick	MS10-UV96ST	multisub Midi STRETCH, 96 well tray

*Stretch blocks fit in the Stretch Units only

multiSUB miniRAPIDE

The **miniRAPIDE** makes imaging your gels simple. With its UV transparent base there is no need to handle the gel directly, prefect for teaching or space restricted labs.



KEY FEATURES

miniRAPIDE is intended for agarose gel electrophoresis

- UV Transparent for direct gel imaging
- Low buffer volumes for low cost running
- Multichannel pipette compatible combs for speed

Technical Specifications

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

Combs

FMMS-1-1, (330µl)

FMMS-4-1, (90µl)

FMMS-8-1, (40µl)

FMMS-12-1, (25µl)

FMMS-16-1, (15µl)

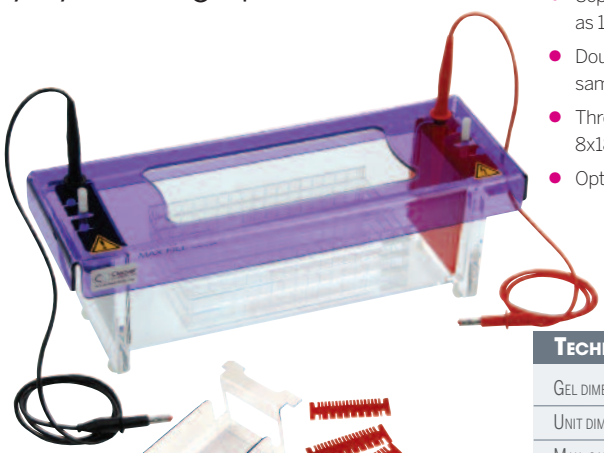
FMMS-20MC-1, (10µl)

For 1.5mm comes, replace -1 with -1.5 in the ordering code e.g. FMMS-4-1.5.

multiSUB-4

multiSUB-4 is a compact system capable of running over 1200 samples simultaneously by stacking up to 4 horizontal gels.

Each multiSUB-4 is supplied with 4 gel trays and 8 combs as standard. Two double-sided comb and three tray length formats, 8x6, 8x12 and 8x18cm are also available. These multichannel-compatible combs and gel plate configurations are compatible with microplates and thermal cycler blocks to ensure rapid loading of DNA minipreps and PCR products by 8-channel pipette.



KEY FEATURES

- Separates a maximum 1200 samples in as little as 15 minutes in 4 stacked gel trays
- Double-sided 1.5mm 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
- Optional Flexicaster

Technical Specifications

Gel dimensions (w x l)	8 x 6cm, 8 x 12cm, 8 x 18cm
Unit dimensions	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	1, 8, 12, 18 DuoCombs
Thicknesses	1, 1.5mm

Ordering Information

CSL-MULTISUB4	**multiSUB-4 multi-level Gel Chamber**, includes 4x 12cm UV Trays, 8x 18/8 Sample 1.5mm Combs (Tape UV Trays to seal)		
MULTISUB4EXCAS	Multisub-4, as above but with External Caster for 4 gels	MSUB4-12/1-1	12/1 Sample 1mm Combs for multiSUB-4
MSUB4UV6	multiSUB-4 tray 8 x 6cm	MSUB4-18/8-1	18/8 Sample 1mm Combs for multiSUB-4
MSUB4UV12	multiSUB-4 tray 8 x 12cm	MSUB4-12/1-1.5	12/1 Sample 1.5mm Combs for multiSUB-4
MSUB4UV18	multiSUB-4 tray 8 x 18cm	MSUB4-18/8-1.5	18/8 Sample 1.5mm Combs for multiSUB-4

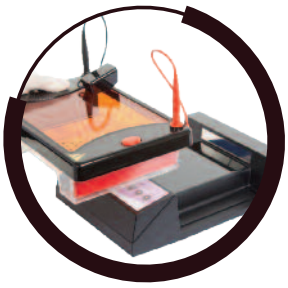
EZE runVIEW

Cleaver Scientific "safe" series represents a safer alternative to the use of UV irradiation and ethidium bromide, both of which are known to have harmful mutagenic effects.

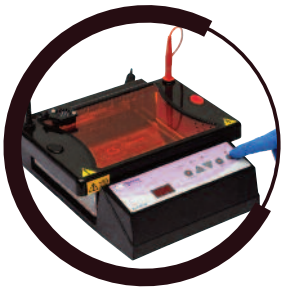
runVIEW includes everything* required to perform horizontal real-time gel electrophoresis with high resolution capability within a single compact bench top unit. The optional gel documentation system fits directly over the base unit and gel tank for imaging at the end of the electrophoresis run. runVIEW offers exceptional value, costing 30-50% less than individual components; gel tank, power supply and transilluminator

* except chemicals and reagents

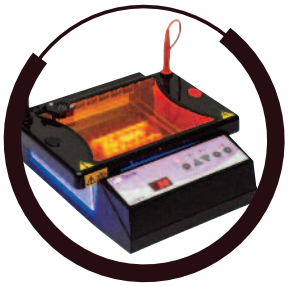
runVIEW is an innovative system that combines blue LED lighting and an inbuilt power supply to create a real time electrophoresis system giving you near instant verification of results. Perfect for saving time in quick sample check or for teaching the principles of electrophoresis.



place the gel tank and agarose gel onto the base station



load samples as with the standard MSCHOICE tank



fit the bluVIEW lid and start the run to observe band in real time

Original runVIEW CHOICE consists of an multiSUB CHOICE gel chamber with special bluVIEW lid, containing an orange spectral emission filter within its viewing pane, plus a base unit with integrated power supply and blue LED gel illuminator.

Track DNA without harmful UV

UV light can cause detrimental effects to the structure of DNA, meaning DNA extracted from UV imaged gels have significantly lower yields in downstream applications such as cloning and sequencing. Blue light, at a high wavelength massively increases downstream yield in comparison to UV when used for gel visualisation. Not only does the runVIEW system allow increased downstream reliability, it also protects the user from exposure to UV light, and provides a real time view of DNA migration, meaning constant check using gel documentation systems are no longer required.

No expensive commercial gels

runVIEW works with standard EtBr, SYBR Green and SYBR Safe gels cast within the 15x7, 15x10 or 15x15cm CHOICE 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.

runVIEW

runVIEW systems consists of a multiSUB gel chamber with special bluVIEW lid, containing an orange spectral emission filter within its viewing pane, plus a base unit with integrated power supply and blue LED gel illuminator.

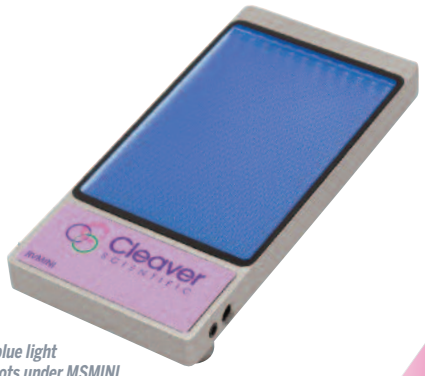
Three models comprise the runVIEW series, the original runVIEW™ CHOICE, plus runVIEW™ MINI and MIDI. All systems benefit from the blue light illumination of fluorescently stained agarose gels to allow users to view the size fractionation of nucleic acids in real-time. While runVIEW™ CHOICE features a power supply integrated within the base unit, for runVIEW™ MINI and MIDI, an adjustable blue-light illuminator platform accommodates both the MINI and MIDI electrophoresis tanks. Band visualisation is achieved through the corresponding lid containing an orange spectral emission filter. Each lid remains free of condensation through a built in extractor fan.

KEY FEATURES

These units are primarily designed to facilitate Real-time size fractionation and recovery of nucleic acids:

- 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. Extra thick 3mm preparatory combs also included for enhanced DNA recovery.

CSL-RVMSCHOICE



New RVMINI blue light illuminator, slots under MSMINI and MSMIDI gel tanks for real time gel documentation

SEE PAGE 26 FOR RUNSAFE

Technical Specifications

runVIEW CHOICE Viewing Dock

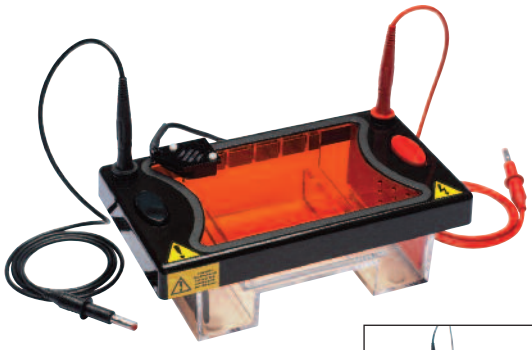
Blue Light Wavelength	470nm	Timer	1-999 minutes with alarm
Voltage/ Resolution	25-150V / 1V	Safety Device	No load detection
Current/ Resolution	300mA / 1mA	Operating Temperature	Ambient to 40°C
Power	30W	Dimensions	293 x 220 x 80 mm
Operating Mode	Constant Voltage or Current	Rated Voltage	100-240V, 50/60Hz

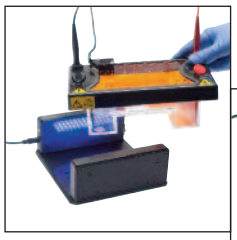
runVIEW Gel System

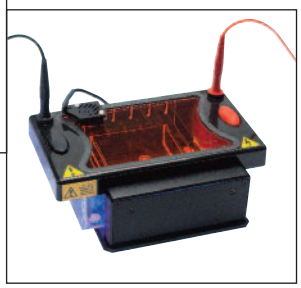
Gel Dimensions (W x L)	15 x 7, 15 x 10 and 15 x 15cm	Combs	2x 1-sample / 2-sample preparatory; Included Double-sided combs,
Unit Dimensions (W x D x H)	6.5 x 17.5 x 9cm		2x 4-sample preparatory / 16-sample combs; 4x 20- /28-sample
Buffer volume	500ml		multichannel compatible screening (1mm); plus 2x 4- and
runVIEW Lid Design	Orange spectral emission filter with		2x 6-sample preparatory with loading guides (3mm)
	condensation-free viewing pane	Comb Thickness	1mm, 3mm

Ordering Information

CSL-RVMSCHOICE7	**runVIEW® CHOICE** complete with 15 x 7cm gel tray & 2x 1 sample, 2x 2 sample, 2x 4 sample, 4x 28MC sample 1mm combs; plus 2x 4- and 2x 6-sample 3mm preparatory
CSL-RVMSCHOICE10	**runVIEW® CHOICE** complete with 15 x 10cm gel tray & 2 x 1 sample, 2x 2 sample, 2x 4 sample, 4x 28MC sample 1mm combs; plus 2x 4- and 2x 6-sample 3mm preparatory
CSL-RVMSCHOICE15	**runVIEW® CHOICE** complete with 15 x 15cm gel tray & 2x 1 sample, 2x 2 sample, 2x 4 sample, 4x 28MC sample 1mm combs; plus 2x 4- and 2x 6-sample 3mm preparatory
CSL-RVMSCHOICETRIO	**runVIEW® CHOICE** complete with 15x7cm, 15x10 & 15x15 gel tray & 2x 1 sample, 2x 2 sample, 2x 4 sample, 4x 28MC sample 1mm combs; plus 2x 4- and 2x 6-sample 3mm preparator
CSL-RVSTATION	**runSTATION** complete with RVGELDOC and RVCHOICETRIO
CSL-RVMSBSBVLID	**runVIEW Base Station** & bluVIEW Lid







Blue light source features a sliding panel to accommodate both MINI and MIDI units

runVIEW MIDI

KEY FEATURES

RunVIEW™ MINI and MIDI are ideal for quick checks of low to medium numbers of samples following PCR and cloning.

- runVIEW™ CONVERTER package - with emission filter lid and blue light illuminator, to allow standard MSMINI and MSMIDI units to be converted to real-time electrophoresis
- runVIEW™ STANDARD package – includes blue light illuminator, and runVIEW™ MINI or MIDI tank, for those users with their own power supply
- Blue light is completely safe to both operator and DNA alike, and results in improved cloning efficiency compared to UV
- Emission filter lid with built-in extractor fan enables condensation-free viewing of gels

Ordering Information

CSL-RVMSMINI-S	**CSL-RVBSBVLID-MINI plus MSMINIDUO tank** with 7x7 & 7x10cm trays, 1 set of casting dams and 2x 8-sample combs
CSL-RVMSMIDI-S	**CSL-RVBSBVLID-MIDI plus MSMIDIDUO tank** with 10x7 & 10x10cm trays, 1 set of casting dams and 2x 16-sample combs
CSL-RVBSBV- LID-MINI	runVIEW™ Base Station & bluVIEW lid for MS- MINI systems
CSL-RVBSBV- LID-MIDI	runVIEW™ Base Station & bluVIEW lid for MS- MIDI systems

runDOC

runDOC is a portable, lightweight gel documentation system with small footprint, designed exclusively for use with runVIEW.

The runDOC is designed exclusively to fit and complement the runVIEW to provide a complete real-time electrophoresis and imaging system. It comprises a lightweight darkroom hood and a high resolution 18 megapixel digital camera to capture images of nucleic acid gels stained with for example Et-Br, SYBR and runSAFE.

Hood is positioned over the runVIEW tank and base unit to create a light-tight environment suitable for image capture

KEY FEATURES

- All-in-one system – The runDOC and runview provide a complete real-time electrophoresis and imaging system
- Traditional gelDOC – The 18 megapixels CMOS camera of the runDOC enables to capture high resolution publication quality images using the runview base as a transilluminator
- Versatile - Interchangeable filter slides and bluVIEW filter allow to capture images of DNA bands stained with a variety of safe stains such as runSAFE, SYBR green, Et-Br etc.

Technical Specifications

Camera*	
Type	1/1.7 Type Cmos Sensor With Digi4+ Processor
Lens Type	Ef-S 18-55mm
Effective Pixels	18 MegaPixels
Maximum Aperture	F/3.5 (W) - F/5.6 (H)
Shutter Speed	30 - 1/4000s. (Total Range)
Camera Filter	+3 Close Up
runDOC Filter Slide	Orange Filter for EtBr;
	Amber Filter for SyBr And Runsafe
Storage Media	8GB SD Memory Card
Dark Room	
Darkroom Material	Ebony Acrylic
Dimensions / Weight	40x34x19.5cm (HxWxD) / 0.8kg
Power	Rechargeable Li-Ion Battery and
	Plug-In Charger
	Optional Mains Cable Charger

** Please be aware that Camera specification is subject to change*

Ordering Information

CSL-RVGELDOC	**runVIEW® Gel Documentation Hood** with 18MP camera	**CSL-RVSTATION**	**runSTATION** complete with RVGELDOC and RVCHOICETRIO
CSL-RVGELDOCSYS	**runVIEW® Gel Documentation Hood** with camera, laptop & 1D Analysis Software	**CSL-RVGDCOMPLETE**	**runVIEW Package** including RVGELDOCSYS and RVCHOICETRIO
RVGELDOC-F1	Orange Filter for runDOC (Ethidium Bromide)		
RVGELDOC-F2	Amber Filter for runDOC (runSAFE and SYBR stains)		

reagents & CHEMICALS

runSAFE

The runSAFE range comprises four stain and loading dye combinations to visualize electrophoretic mobility of a wide range of DNA in agarose gels

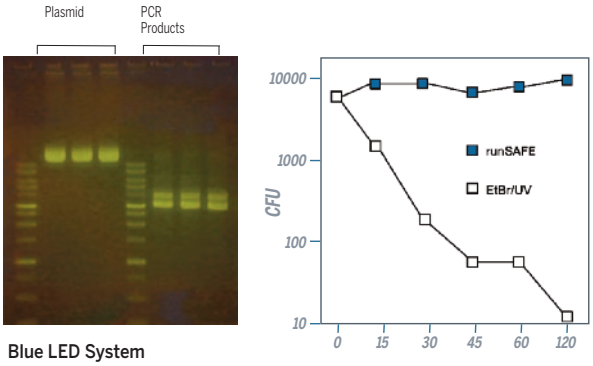
runSAFE is conveniently supplied in a 6x loading dye which is mixed with 5 parts double-stranded DNA before loading onto an agarose gel. runSAFE is non-toxic, safe for the environment and can be disposed of in the regular laboratory waste without using expensive decontamination methods. runSAFE is sensitive and binds DNA to detect as little as 0.2ng DNA per band within a gel; while gel imaging is best performed using the amber emission filter found of the bluVIEW lid or runDOC filter slide. The runSAFE Range is comprised as follows::

- runSAFE – general purpose stain for DNA ranging from 50bp markers to large super-coiled plasmid
- runSAFE-PLUS500 – for DNA larger than 500bp in size
- runSAFE-2000 – for DNA vectors and inserts ranging from 500-2000bp
- runSAFE-500 – for small DNA fragments, PCR products, sequence tracts and primers less than 500bp

KEY FEATURES

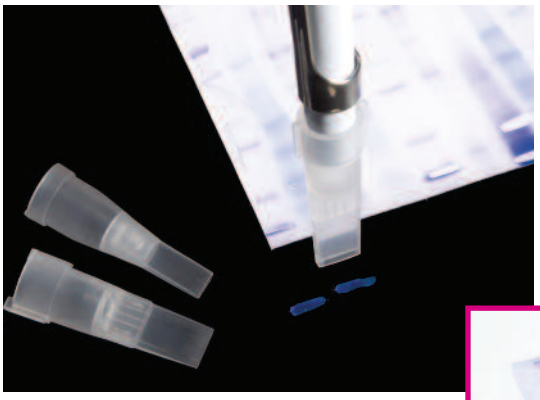
- Safe – all four runSAFE stains have ultra-low toxicity (LC>5000mg/kg) and lack cell permeability
- Convenient – each stain is supplied as a ready to use 6x Loading dye; simply add 1 part stain to 5 parts DNA, mix and load your gel
- Fast – no time-consuming post-staining or de- staining of gels is required.
- Sensitive – very low background staining of the gel; detects as little as 0.2ng DNA per band
- Flexible – each stain may be used with Blue or UV light

runSAFE - less DNA damage, improved cloning efficiency

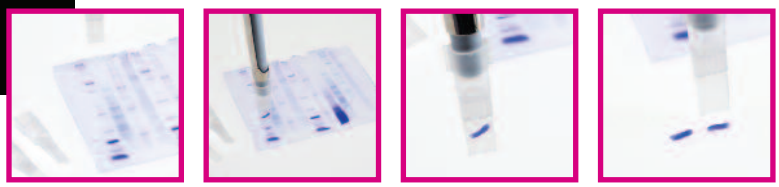


Slower migrating species, indicative of a linear or relaxed circular vector, resulting from DNA nicking or strand breaks, are significantly reduced in DNA plasmid mixed with run-SAFE and exposed to blue light. The concentration of nicked DNA plasmid increases significantly after 8' of exposure to EtBR and UV irradiation.

gel cutting tips



Gel Excision Tips offer a convenient and efficient one handed method of removing bands using a simple and rapid two-step process. The tips, in two sizes, 4.0 x 1mm and 6.5 x 1mm, cut directly into agarose or acrylamide gels, so eliminating cross contamination between samples. Alternative methods which require multiple steps including washing or rinsing are slow and tedious. These tips allow a safe and efficient one handed operation, with a push button gel and tip release, providing researchers with uniform extractions. Tips fit standard 1000µl pipettors and are available in bags and racks.



Ordering Information

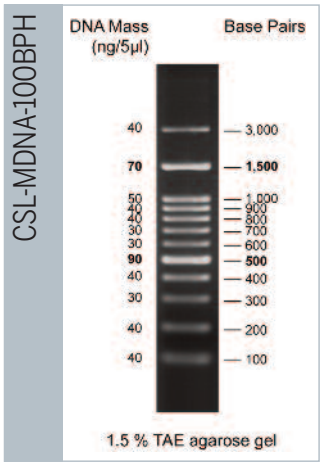
runSAFE	Description	Tracking Dyes	Size Range
CSL-RUNSAFE	runSAFE stain, 1ml	Bromophenol Blue, Xylene Cyanol FF, Orange G	50bp – 20Kb
CSL-RUNSAFE- PLUS500	runSAFE-PLUS500 stain, 1ml	Bromophenol Blue, Xylene Cyanol Blue	>500bp
CSL-RUNSAFE- 2000	runSAFE- 2000, 1ml	Xylene Cyanol Blue, Orange G	500-2000bp
CSL-RUNSAFE- 500	runSAFE-500, 1ml	Orange G	<500bp

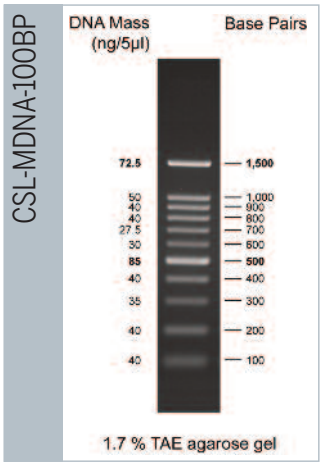
GEL EXCISION TIPS			
CSL-GELX4	Rectangular Tips - 6.5mm x 1mm, bag/250	CSL-GELX6.5	Rectangular Tips - 4.0mm x 1mm, bag/250
CSL-GELX4 RACK	Rectangular Tips - 6.5mm x 1mm, 5x racks of 48	CSL-GELX6.5RACK	Rectangular Tips - 4.0mm x 1mm, 5x racks of 48

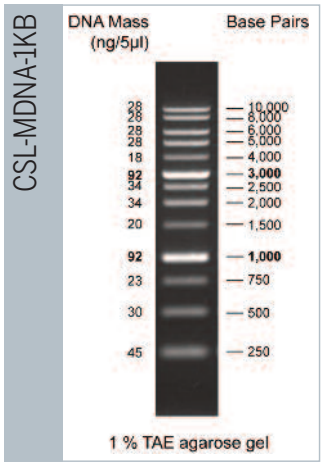
dnaLADDERS

Pre-made and containing loading dye for immediate use, Cleaver Scientific's ready-to-use DNA markers are specially formulated to run accurately and produce sharp, well defined ladders.

Available in six molecular weight ranges and composed of discrete marker fragments isolated from restriction-digested proprietary plasmids, each DNA marker will remain stable for up to 6 months at room temperature and 12 months if kept in the fridge at 4°C. Each marker contains high intensity reference bands and may be used to perform size comparisons with DNA molecules ranging from the smallest of PCR fragments to large, linearised cosmid vectors.

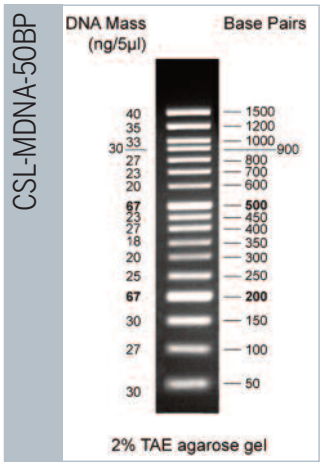


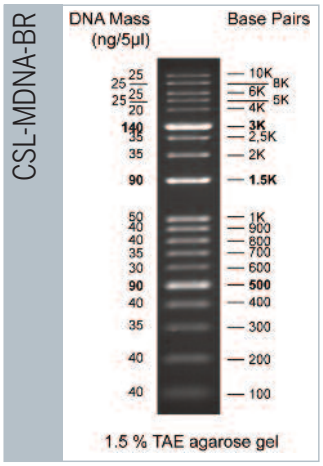


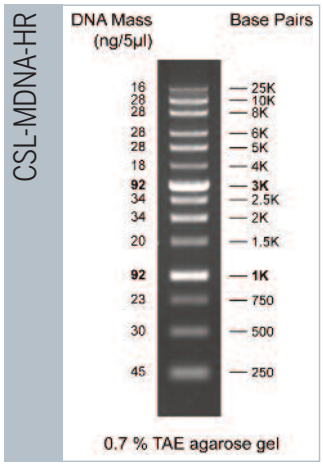


KEY FEATURES

- Ready to use
- Crisp band patterns
- Includes bromophenol blue for ease of use
- Stable at room temperature







Please Note: Ladder banding patterns subject to change, identifiable range will remain the same

Ordering Information

Cat. No.	CSL-MDNA-100BPH	CSL-MDNA-100BP	CSL-MDNA-1KB	CSL-MDNA-50BP	CSL-MDNA-BR	CSL-MDNA-HR
Size Range	100-3000bp	100-1500bp	250bp-10kb	50-1500bp	100bp-10kb	250bp-25kb
Number of bands	12	11	13	17	19	14
Reference bands	500, 1500bp	500, 1500bp	1Kb, 3kb	200, 500bp	500bp, 1.5 & 3kb	1Kb, 3kb
Package concentration	54µg/500µl vial	50µg/500µl vial	50µg/500µl vial	56µg/500µl vial	86µg/500µl vial	52µg/500µl vial
Storage	---------- 6 months at 25°C, 12 months at 4°C & 24 months at - 20°C ----------					
Recommended loading vol.	5µl/well	5µl/well	5µl/well	5µl/well	5µl/well	5µl/well
Tracking dyes	Orange G, Xylene Cyanol FF, Bromophenol Blue					
Source	Proprietary plasmids and PCR fragments phenol-extracted following restriction digestion and dissolved in 10mM Tris-HCl (pH 8.0) and 10mM EDTA					

reagents & CHEMICALS

buffers&DYES

Nucleic acid agarose gel electrophoresis is usually conducted with either Tris-acetate-EDTA (TAE) buffer or Tris-borate-EDTA (TBE) buffer. While TAE buffer provides faster electrophoretic migration of linear DNA and better resolution of supercoiled DNA, TBE buffers have a stronger buffering capacity for longer or higher voltage electrophoresis runs.

TBE and TAE electrophoresis buffers are used for faster separations of linear double-stranded DNA.
Cleaver Scientific dry TBE is supplied in packs of 10 powder sachets to maintain shelf life. Each buffer sachet may be opened as required and reconstituted in distilled water to make 1 litre of working solution.
Buffers are also provided as ready-made 50x TAE and 10x TBE solutions in 1 and 5 litre volumes. These are ideal for laboratories running horizontal nucleic acid gels on a daily basis that require off-the-shelf working stock solutions.

Powdered and Liquid Buffers

10X Bromophenol Blue DNA loading dye, the standard tracking dye for electrophoresis. The charge-to-mass ratio of bromophenol blue allows it to co-migrate with smaller molecules within agarose and PAGE gels (e.g. at 300bp in a standard 1% agarose, TBE gel) which, with its conspicuous dark blue colour, makes it the perfect tracking dye to monitor the progress of electrophoresis runs. DNA loading dye is supplied in 1ml volumes for easy handling.

Orange G Loading dye 1x (with ficoll) Used as a marker in PAGE and Agarose electrophoresis of DNA, as it migrates through the gel consistently with smaller DNA fragments. Contains sucrose and Xylene Cyanol. Used as a 1x solution.

RNAse free water, DEPC-treated to eliminate enzyme activity and then autoclaved, this sterile highly purified water product is perfect for use in PCR and Northern blotting techniques. RNase-Free water is available either as a single 250ml bottle or in fifty 5ml aliquots to prevent cross-contamination.

Technical Specifications

TAE	Final constituent concentrations: Tris acetate 0.04M, EDTA 0.001M, pH 8.0
TBE	Final constituent concentrations: Tris 0.089M, Boric Acid 0.089M, EDTA 0.002M, pH 8.3

Purified water (18 mega Ohms) for use with sensitive experimental procedures often needs verifying as pyrogen free, this is done using the LAL test or Limulus (Horseshoe crab) amoebocyte lysate assay. The LAL test is extremely sensitive to endotoxins which are the result of bacterial lysis.
BP Grade Sterile Water has endotoxins removed by electrostatic filtration at the final purification stage prior to autoclaving. The LAL tested water conforms to the standard having less than <0.25EU/ml to ensure the water is of pr-requisite quality. This product is therefore pyrogen free. CFU>0 WFi compatible.

Ordering Information

POWDERED AND LIQUID BUFFERS			
TBEP	Powdered Tris-Borate-EDTA Running Buffer – 10 sachets (1 litre / pack)		
TBE10X1L	Buffer Tris-Borate-EDTA Running Buffer, 10 x 1L	TAE50X1L	Buffer Tris-Acetate-EDTA Running Buffer, 50 x 1L
TBE10X5	Buffer Tris-Borate-EDTA Running Buffer, 10 x 5L	TAE50X5L	Buffer Tris-Acetate-EDTA Running Buffer, 50 x 5L
CSL-LOADDYE	10x Bromophenol Blue Loading Dye, 1ml	CSL-LOADDYE10	10x Bromophenol Blue Loading Dye, 10ml
CSL-ORANGEDYE	Orange G Loading Dye, 1ml		
RFW250	RNase-Free Water, 1x250ml	RFW50X5	RNase-Free Water, 50x5ml
UPW1000	BP Grade Sterile Water, 1000ml		

agarose

Cleaver Scientific CleverGEL is an environmentally friendly agarose suitable for analysis of nucleic acids using standard electrophoretic procedures. Available as standard Low EEO, High Resolution PCR grade, Low melting point and Instant agarose tablets.

KEY FEATURES

CleverGel Low EEO agarose:

- Ideal for routine analytical electrophoresis and blotting of DNA and RNA 0.1-10Kb in size
- Low EEO
- High gel strength

CleverGel High Resolution – PCR grade:

- Ideal for routine analytical electrophoresis and blotting of DNA and RNA 0.1-10Kb in size
- Low EEO
- High gel strength

CleverGel Low Melting Point:

- Ideal for routine analytical electrophoresis and blotting of DNA and RNA 0.1-10Kb in size
- Low EEO
- High gel strength

CleverGel Instant Agarose Tablets:

- Ideal for routine analytical electrophoresis and blotting of DNA and RNA 0.1-10Kb in size
- Low EEO
- High gel strength

CleverGEL is manufactured by a process which excludes organic solvents harmful to marine life, making it far kinder to the environment than conventional agarose. A low EEO (electroendoosmotic) flow minimises diffusion so that even the smallest of nucleic acid fragments remains sharp and tightly resolved.

Cleaver Scientific CleverGEL is an environmentally friendly agarose suitable for analysis of nucleic acids using standard electrophoretic procedures. Available as standard Low EEO, High Resolution PCR grade, Low melting point and Instant agarose tablets.

Instant Agarose Tablets

Technical Specifications

	Low EEO	Low Melting Point	High Resolution	Instant Agarose
CAS	9012-36-6	39346-81-1	39346-81-1	9012-36-6
Gelling Point*	36°Cffl1.5°C	26-30°C	≤33°C	36°Cffl1.5°C
Melting Point*	88°Cffl1.5°C	≤65°C	≤70°C	88°Cffl1.5°C
Solubility	Clear, colourless @ 1% [w/v] solution	Clear, colourless @ 2% [w/v] solution		Clear, colourless @ 1% [w/v] solution
Moisture	≤10%	≤10%	≤10%	≤10%
Gel Strength	>1200 g/cm^2 (1% [w/v] Gel)	>200 g/cm^2 (1% [w/v] Gel)	≥750 g/cm^2 (1.5% [w/v] Gel)	>1200 g/cm^2 (1% [w/v] Gel)
Nuclease & Protease Free	Yes	Yes	Yes	Yes

*For a 1.5% [w/v] gel

Ordering Information

GENERAL PURPOSE		LOW MELTING POINT	
CSL-AG5	**Agarose 5g,** Low EEO	CSL-LMA5	**Agarose 5g,** LMP
CSL-AG100	**Agarose 100g,** Low EEO	CSL-LMA50	**Agarose 50g,** LMP
CSL-AG500	**Agarose 500g,** Low EEO	CSL-LMA100	**Agarose 100g**, LMP
CSL-AG1000	**Agarose 1000g,** Low EEO (2x500g bottles)	**HIGH RESOLUTION PCR-GRADE**	
CSL-AG2000	**Agarose 2000g,** Low EEO (4x500g)	CSL-HRA5	**Agarose 5g,** HR
CSL-AG5000	**Agarose 5000g,** Low EEO (10x500g)	CSL-HRA100	**Agarose 100g,** HR
CSL-AG10KG	**Agarose 10Kg,** Low EEO (20x500g)	CSL-HRA500	**Agarose 500g,** HR

AGAROSE TABLETS	
CSL-AGTAB	**Agarose 100g,** Low EEO (200x 0.5g tablets, supplied as 20 blister packs of 10x 0.5g tablets)

The omniPAGE range of **vertical gel electrophoresis** combines ease of use with high resolution separations.

Cleaver Scientific provides a comprehensive range of vertical electrophoresis systems - complete with tanks, inserts and reagents – to fulfil a variety of applications and techniques in different gel sizes and throughputs. The omniPAGE range comprises three sizes of gel chamber, Mini 10 x 10cm, Mini Wide 20 x 10cm and WAVE Maxi 20 x 20cm. Together they share a host of common features including a guaranteed leak proof seal required for trouble free and rapid gel casting. Mini systems are compatible with a wide range of precast gels meaning you won't need to change from your gel when switching to a Cleaver tank.

High quality injection moulded construction and durable leakproof design for complete safety and longevity.

Electrical safety – lid removal immediately disconnects power to the lower buffer chamber to allow entirely safe access to the gel.

Unique sliding-clamp technology – within PAGE insert allows rapid set up of handcast and precast gels.

Combs and spacers are injection moulded for consistency and 'clean' well formation.

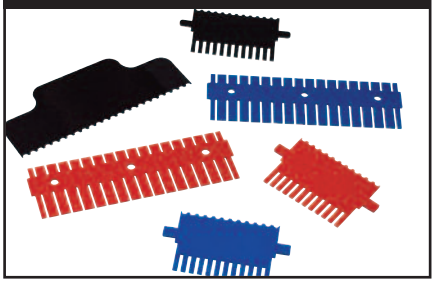
Available in four thicknesses and colour-coded. Range from:
- Black – 0.75mm for tightly resolved bands
- White – 1mm supplied as standard
- Red – 1.5mm to maximise sample volume
- Blue – 2mm to maximise sample volume

Black and **white** combs recommended for high resolution gels and publication quality data; **red** and **blue** to scale-up volumes for preparatory techniques.

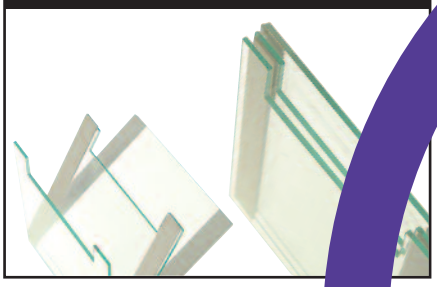
Run up to 4 gels at a time – While most vertical gel units can run only one or two gels, omniPAGE Mini units can run one, two or up to four gels at any time using a triple glass plate sandwich.

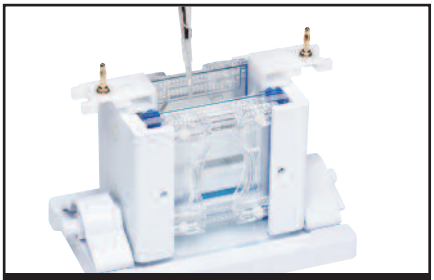
RUNNING MODULE DESIGN

COMBS

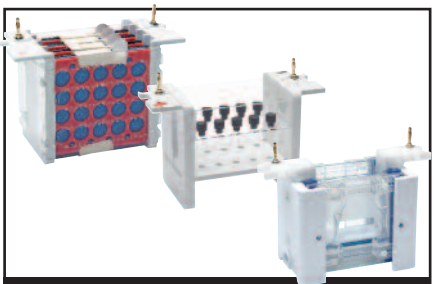


PLATES





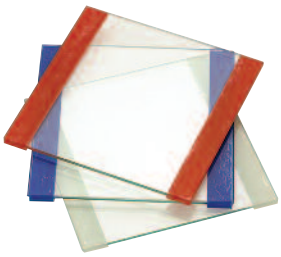
CASTING



MODULES

COOL PACK

Casting and running – dual purpose PAGE inserts eliminate time- consuming transfer of glass plates between separate casting and running modules. Cam-Pin caster locks PAGE insert onto the ultra-soft silicone mat within casting base to provide a leak-free seal.



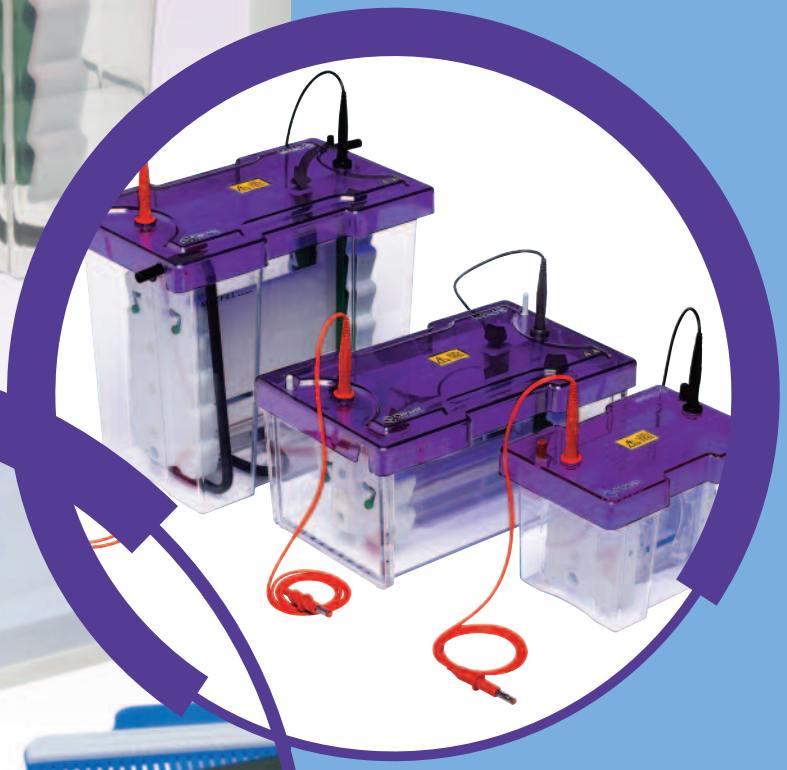
Interchangeable Modules – for PAGE and 2-D electrophoresis as well as electroblotting using a single universal buffer tank

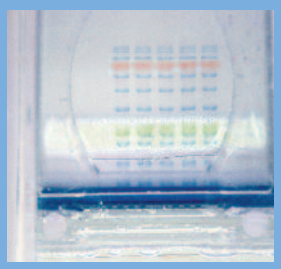
Glass Plates – at 2mm thick for mini vertical systems and 4mm for maxi models, Cleaver Scientific plates are more durable and so provide long service lives. Available plain, notched, with or without bonded spacers.

Effective buffer cooling – a simple to use cooling pack system ensures enhanced resolution without costly and time consuming additional equipment. No chiller, tap or obstructing connecting leads are required. The cooling pack is simply pre-chilled in a freezer and placed in the gel tank. Additionally, the use of cooling packs reduces buffer volume.

ELECTROPHORESIS

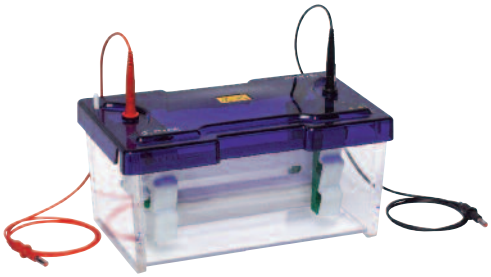
Vertical gel systems





- 3 tank sizes with a wide range of sample combs and pre-cast gel compatibility
- Durable **Injection moulded** construction for leek-proof environment
- Designed & manufactured in **United Kingdom**

Vertical Gel Systems
SELECTION GUIDE



	OMNIPAGE MINI SYSTEM	OMNIPAGE MINI WIDE SYSTEM
	• Run 1-4 handcast gels, and up to 2 precast gels in mini format • Sliding clamp assembly ensures fast set up times and leak-free operation • Insert for both gel casting and running eliminating time- consuming transfer of fragile gels • Modular design for rapid turnaround of data, allowing PAGE, 2-D and blotting to be completed within a working day	• Mini wide format effectively allows 2 mini gels to be compared within a single gel for gel-to-gel reproducibility • Run 1-2 handcast gels; perfect for users with >20 samples to compare and resolve • Even pressure screw system prevents gel leakage • Combine pI (isoelectric point) separation with speed by resolving 2x 7cm IPG strips or 2x 8cm capillary tube gels per gel using special 2-D gel combs and plates • Ability to perform three techniques in a day: IEF, PAGE and blotting
Unit Dimensions (w x l x h)	19 x 13 x 15cm	26 x 16 x 16cm
Active Gel Dimensions (w x l)	8 x 8.5cm	18 x 8cm
Sample Capacity	PAGE: 80 samples, 20/gel Blot: 4 blots 2D: 10 tubes	PAGE: 192 samples, 48/gel Blot: 4 blots 2D: 10 tubes
Tank Buffer Volume	Min 250ml; Max 1200ml	Min 600ml; Max 2800ml
Compatible Gel Formats		
Precast	Commercial 10x10cm and 10x8cm (W x H) precast gels: e.g. IDGel™, SERVA, Thermo and Invitrogen, etc.	
Handcast	OmniPAGE VS10 glass plates with or without bonded spacers for handcast gels	VS10W plain and notched glass plates with or without bonded spacers for handcast gels
Compatible Electroblotting Transfer Systems Integrated modular	OmniPAGE Mini CVS10CBS, CVS10CBS-HI and CVS10CES	OmniPAGE Mini Wide VS10WCBS and VS10WCES
Standalone Wet/tank transfer	SB10 and EBM10, 4- and 5-blot transfer systems	SB10W and EBM20, 4- and 5-blot transfer systems
Semi-dry	SD10 10x10cm and SD20 20x20cm for 1x and 4x blots	SD20 20x20cm for 2x blots
Electrophoresis System		
• **Standard**	**2-gel systems** (can run 4 gels)	**2-gel system (can run 4 gels)**
• **Precast** (tank, lid and running insert only)	**CVS10PRE**	
• **Tapecast** (includes glass plates)	**CVS10D**	**VS10WD**
• **Handcast** (with glass plates and caster)	**CVS10DSYS**	**VS10WDSYS**
(with extra casting stand and plates to run 2 gels in tank, while casting 2 simultaneously)	**CVS10DSYS-CU**	**VS10WDSYS-CU**

VS20WAVE MAXI SYSTEM	VS30 MAXI-PLUS SYSTEM
• Runs 1-4 large format gels at maximum resolution • Fewer screws compared to traditional formats resulting in rapid set up times • Optional blotting insert • Detachable cooling core for fast, smile-free electrophoresis • Seamless injection moulded construction free of potential leakage-prone glue joins • Capacity to run 1-4 18cm capillary tube gels or IPG strips in second dimension; optional 2-D module	• Ideal for second-dimension electrophoresis • Accepts IPG strips 24cm in length, the longest available commercially • Rapid set-up cool packs enhance resolution, particularly during extended runs
30 x 18 x 27cm	36 x 33 x 18cm
16 x 17.5cm	28 x 20cm
PAGE: 192 samples, 48/gel Blot: 4x WAVE gels 2D: 10 tubes	PAGE: 300 samples, 75/gel Blot: 4 x Maxi Plus gels
Min 1200ml; Max 5300ml	Min 1800ml: Max 8400ml
VS20 plain and notched glass plates with or without bonded spacers for handcast gels	VS30 plain and notched glass plates with or without bonded spacers for handcast gels
Maxi WAVE VS20CBS, VVS20CBS-HI and VS20WAVECES	Maxi Plus VS30CBS
SB20 and EBM20, 4- and 5-blot transfer systems	
SD20 20x20cm	SD33 33x45cm, and SD50 20x50cm *
2-gel system (can run 4 gels)	**2-gel system (can run 4 gels)**
VS20WAVED	**VS30D**
VS20WAVESYS	**VS30DSYS**
VS20WAVESYS-CU	

*Manufactured to order

omniPAGE Mini

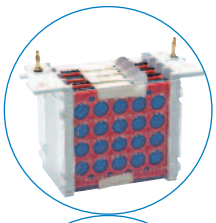
The perfect unit for routine vertical electrophoresis using pre-cast or hand-cast gels. The omniPAGE MINI features injection moulded construction for leak proof running, and a simple clamp system to ensure a tight seal between buffer chambers to prevent current leakage.

Gel casting and running is done using the same internal module, no transfer of glass plates during gel casting is necessary. The module features unique sliding gates, to allow very rapid set up of both hand cast and precast gels. Ultra soft silicone seals and pressure bars which surround the glass plates guarantee leak proof gel casting. 2mm thick glass plates minimise breakage and have bonded spacers for convenience.

MINI TETRAD

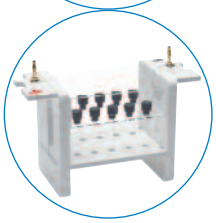
A 4-gel TETRAD system is created by simply introducing additional plates with spacers and appropriate combs. TETRAD is supplied with a casting base and external casting upstand to allow gels to be prepared in advance, ready for the next run.

interchangeable modules

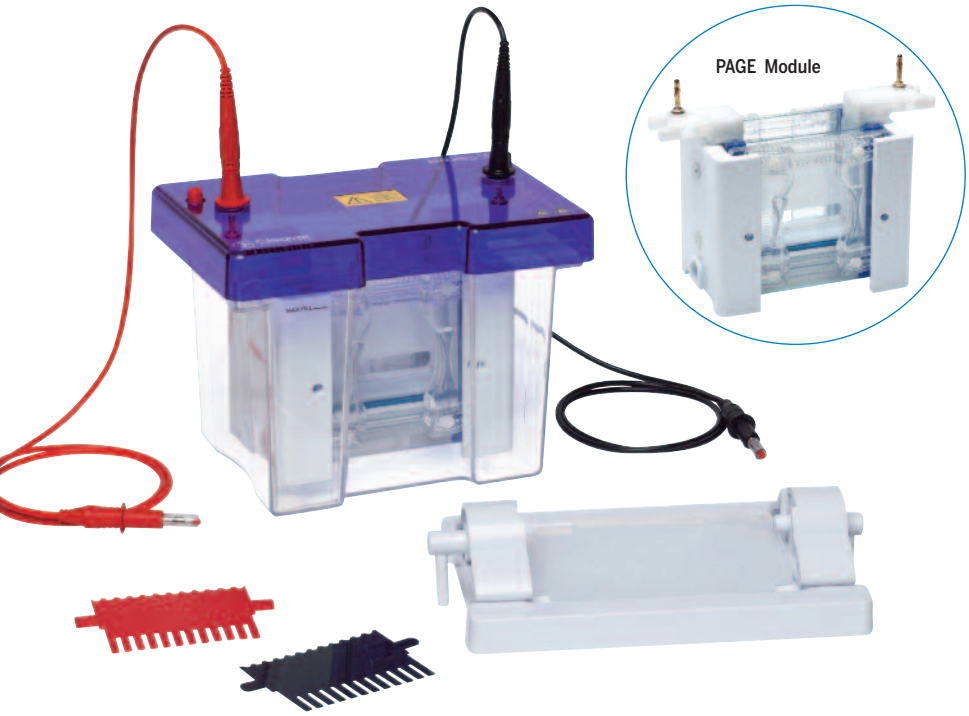


Electroblotting Module –Complete with Platinum wire electrodes, 4 blotting cassettes and fibre pads to aid compression, this insert fits neatly into the omniPAGE Mini tank for Western Blotting.

High Intensity Electroblotting Module – with 2 blotting cassettes and Platinum plate electrodes, the high intensity blotting module allows fast transfer of proteins to membranes with excellent time savings.



Capillary IEF Module - the Tube Gel Module includes a rapid release gasket for easy tube extraction. Focusing can be accomplished in as little as three hours.



KEY FEATURES

Mini SDS PAGE, Native PAGE, Gradient, Second dimension and Nucleic acid separations

- Injection moulded construction
- Compatible with all 8 x 10 and 10 x 10cm precast gels
- Rapid gel casting and loading
- Low buffer volumes
- Rapid set up cooling
- Run up to four gels in tetrad model

For Vertical Package Deals

Ordering Information

CVS10D	**omniPAGE Mini**, 10 x 10cm includes Glass Plates with bonded 1mm thick spacers, 2x 12 sample combs, cooling pack, blanking plate		
CVS10DSYS	**omniPAGE Mini,** 10 x 10cm includes Glass Plates with bonded 1mm thick spacers, 2x 12 sample combs, cooling pack, blanking plate and casting base		
CVS10DSYS-CU	**omniPAGE Mini,** 10 x 10cm incl. Glass Plates with bonded 1mm thick spacers, 2x 12 sample combs, cooling pack, blanking plate, casting base and casting upstand		
CVS10TETRAD	**omniPAGE Mini,** 10 x 10cm incl. Glass Plates with bonded 1mm thick spacers, 2x 12 sample combs, cooling pack, blanking plate, casting base and casting upstand PLUS 2x additional 1mm 12-sample combs, 1x pk/2 plain glass plates with 1mm spacers, 1x pk/2 notched glass plates and 2x pk/2 notched glass plates with 1mm spacers		
CVS10PRE	omniPAGE Mini, 10 x 10cm includes blanking plate, cooling pack		
VS10DCAST	10 x 10cm Casting Base	VS10NGS1.5	10 x 10cm Notched Glass Plates with 1.5mm Bonded Spacers (pk/2)
VS10DCASTM	Replacement Silicone Mat for 10 x 10cm Casting Base	VS10PGS1.5	10 x 10cm Plain Glass Plates with 1.5mm Bonded Spacers (pk/2)
CVS10DIRM	Inner Running Module, with Sliding Clamps or Screw Clamps	VS10NGS2	10 x 10cm Notched Glass Plates with 2mm Bonded Spacers (pk/2)
VS10ICB	Mini Cooling Pack	VS10PGS2	10 x 10cm Plain Glass Plates with 2mm Bonded Spacers (pk/2)
VS10NG	10 x 10cm Notched Glass Plates 2mm thick (pk/2)	VS10DP	Blanking Plate, 10 x 10cm
VS10PG	10 x 10cm Plain Glass Plates 2mm thick (pk/2)	VS10S0.75	10cm Spacers - 0.75mm (pk/2)
VS10NGS0.75	10 x 10cm Notched Glass Plates with 0.75mm Bonded Spacers (pk/2)	VS10S1	10cm Spacers - 1mm thick (pk/2)
VS10PGS0.75	10 x 10cm Plain Glass Plates with 0.75mm Bonded Spacers (pk/2)	VS10S1.5	10cm Spacers - 1.5mm thick (pk/2)
VS10NGS1	10 x 10cm Notched Glass Plates with 1mm Bonded Spacers (pk/2)	VS10S2	10cm Spacers - 2mm thick (pk/2)
VS10PGS1	10 x 10cm Plain Glass Plates with 1mm Bonded Spacers (pk/2)		

simple, rapid, leak-proof gel casting....

Dual purpose PAGE module eliminates time-consuming transfer of glass plates between separate casting and running

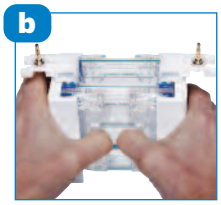
Ground glass plates with bonded injection moulded spacers consistent with comb thickness ensure 'clean' well formation, as well as the correct alignment for leak-free casting; also eliminate the need for easily mislaid and awkward to use spacer aligners

Very forgiving, ultra-soft silicone mat within cam-caster compensates for glass plate misalignment to ensure leak-free casting

a

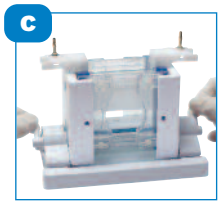
Insert glass plates between pressure frame and gasket

b



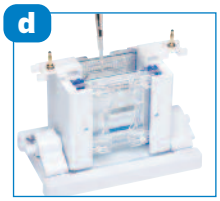
Slide gates to make efficient seal

c



Transfer to casting base and tighten cams

d

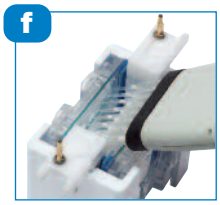


Insert gel solution and comb and allow to polymerise

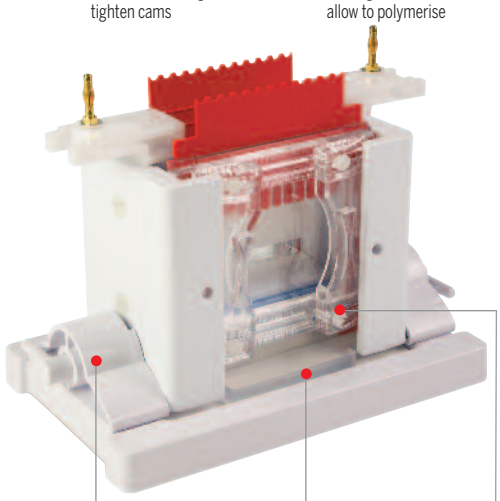
e

Transfer to tank and fill with buffer

f



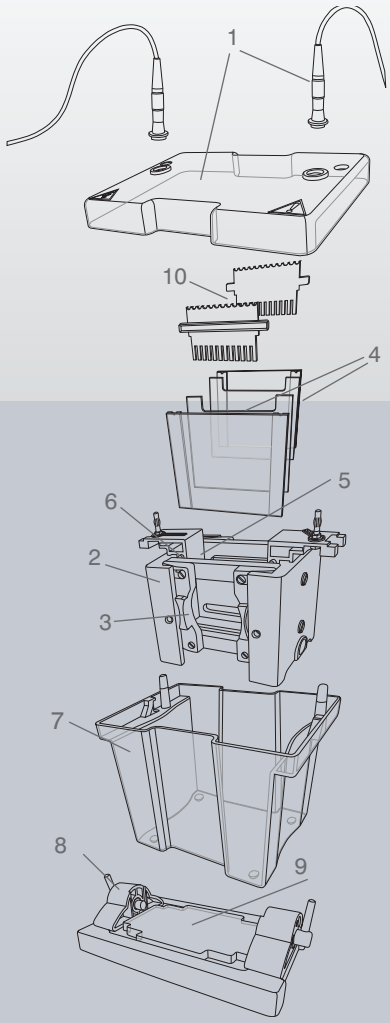
Load samples using Loading Guides and run



Cam pins lock PAGE insert onto the ultra-soft silicone mat within the casting base to provide leak-free seal

Flat, level gasket prevents current leakage from inner buffer chamber

Sliding gates allow optimum pressure to be applied and so create leak-free seal



Mini component parts

1. Lid and power cables
2. PAGE insert
3. Sliding clamps
4. Glass plates
5. Inner buffer chamber
6. Gasket
7. Outer tank
8. Cam-pin caster
9. Ultra-soft casting mat
10. Combs

Colour	Code	Description	Sample Volume per well
	VS10-1-0.75	Comb 1 Prep, 1 Marker, 0.75mm thick	500µl
	VS10-5-0.75	Comb 5 sample, 0.75mm thick	70µl
	VS10-8MC-0.75	Comb 8 sample MC, 0.75mm thick	40µl
	VS10-9-0.75	Comb 9 sample, 0.75mm thick	35µl
	VS10-10-0.75	Comb 10 sample, 0.75mm thick	30µl
	VS10-12-0.75	Comb 12 sample, 0.75mm thick	25µl
	VS10-16MC-0.75	Comb 16 sample MC, 0.75mm thick	20µl
	VS10-20-0.75	Comb 20 sample, 0.75mm thick	15µl
	VS10-1-1	Comb 1 Prep, 1 Marker, 1mm thick	650µl
	VS10-5-1	Comb 5 sample, 1mm thick	100µl
	VS10-8MC-1	Comb 8 sample MC, 1mm thick	60µl
	VS10-9-1	Comb 9 sample, 1mm thick	50µl
	VS10-10-1	Comb 10 sample, 1mm thick	40µl
	VS10-12-1	Comb 12 sample, 1mm thick	35µl
	VS10-16MC-1	Comb 16 sample MC, 1mm thick	25µl
	VS10-20-1	Comb 20 sample, 1mm thick	20µl

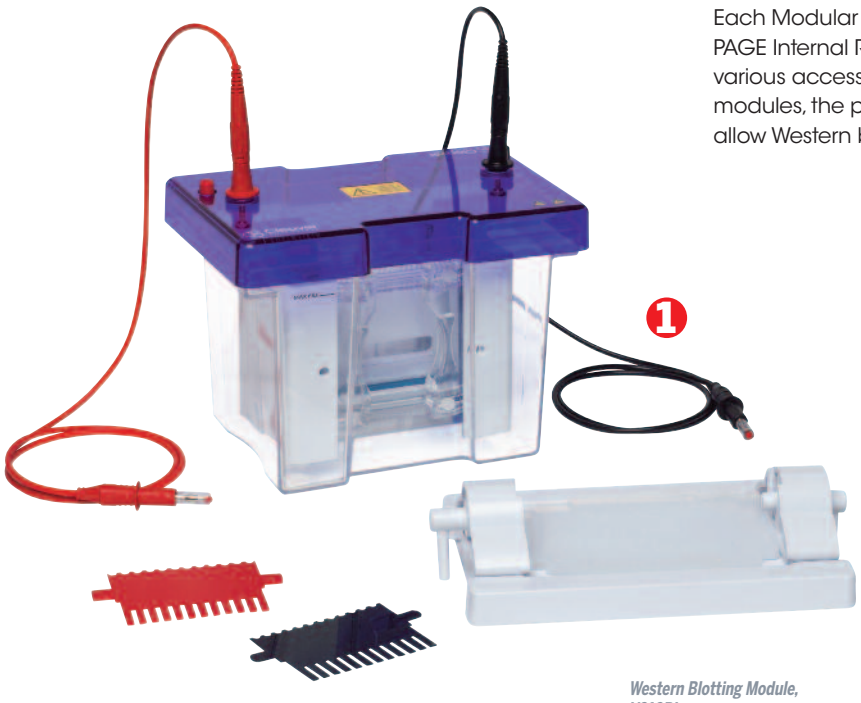
Colour	Code	Description	Sample Volume per well
	VS10-1-1.5	Comb 1 Prep, 1 Marker, 1.5mm thick	1000µl
	VS10-5-1.5	Comb 5 sample, 1.5mm thick	140µl
	VS10-8MC-1.5	Comb 8 sample MC, 1.5mm thick	80µl
	VS10-9-1.5	Comb 9 sample, 1.5mm thick	70µl
	VS10-10-1.5	Comb 10 sample, 1.5mm thick	30µl
	VS10-12-1.5	Comb 12 sample, 1.5mm thick	50µl
	VS10-16MC-1.5	Comb 16 sample MC, 1.5mm thick	40µl
	VS10-20-1.5	Comb 20 sample, 1.5mm thick	30µl
	VS10-1-2	Comb 1 Prep, 1 Marker, 2mm thick	1300µl
	VS10-5-2	Comb 5 sample, 2mm thick	200µl
	VS10-8MC-2	Comb 8 sample MC, 2mm thick	120µl
	VS10-9-2	Comb 9 sample, 2mm thick	100µl
	VS10-10-2	Comb 10 sample, 2mm thick	80µl
	VS10-12-2	Comb 12 sample, 2mm thick	70µl
	VS10-16MC-2	Comb 16 sample MC, 2mm thick	50µl
	VS10-20-2	Comb 20 sample, 2mm thick	40µl

MC = multichannel pipette compatible

omniPAGE Mini Modular Systems

The omniPAGE range of Modular Vertical Gel Systems allow multiple electrophoresis techniques to be performed in the same unit. Using the same main tank and lid, three different modules are interchangeable for PAGE, tube gel and electroblotting techniques.

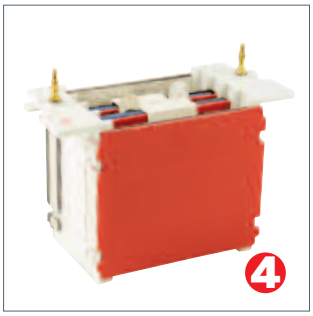
Each Modular System comprises the Gel Chamber, PAGE Internal Running Module, Casting Base and various accessories. Through the addition of further modules, the packages flexibility is increased to allow Western blotting and Capillary IEF.



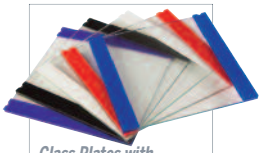
Capillary IEF Module, VS10DCI

Western Blotting Module, VS10BI

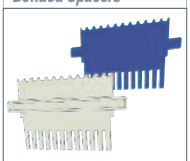
Hi-intensity Blotting Module, VS10BI-HI



ACCESSORIES



Glass Plates with Bonded Spacers



Combs

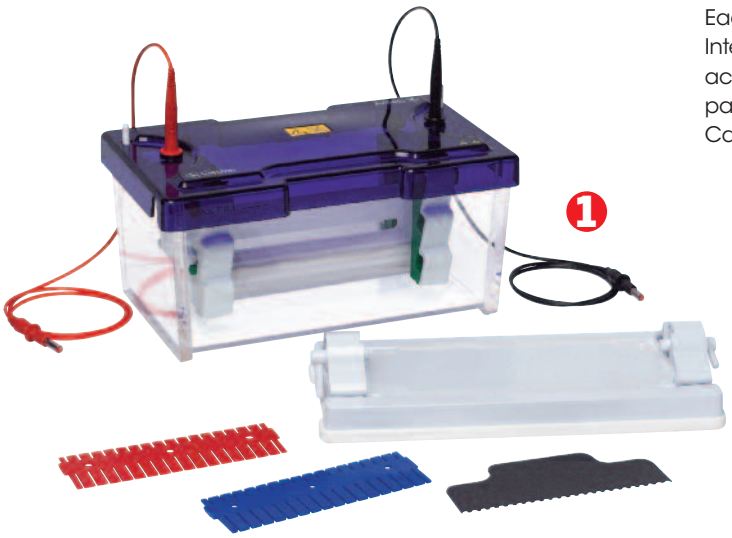
Cool Packs

Ordering Information

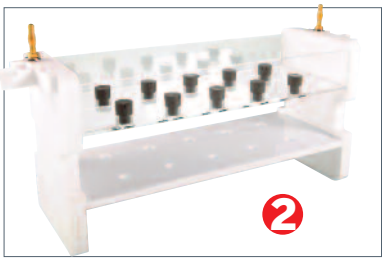
CVS10CES	**Complete Mini (10x10cm) Vertical Electrophoresis Modular System**, comprising:
	1x Mini Vertical Unit, **CVS10DSYS** (1) which includes: PAGE Module, 2x2mm thick notched glass plates, 2x2mm thick plain glass plates with 1mm thick bonded spacers, 1x blanking plate, 2x combs (1mm thick, 12 samples), 1x casting base, silicone mat, cooling pack plus: 1x Capillary Electrophoresis Module, **VS10DCI** (2) and 1x Electroblotting Module, **VS10BI** (3) comprising: internal electroblotting module, 4x compression cassettes for gel sizes up to 10x10cm and 8x fibre pads
CVS10C2DS	**Complete Mini (10 x 10cm) Vertical Electrophoresis & 2-D System**, comprising:
	1x Mini Vertical Unit, **CVS10DSYS** (1) which includes: PAGE Module, 2x2mm thick notched glass plates, 2x2mm thick plain glass plates with 1mm thick bonded spacers, 1x blanking plate, 2x combs (1mm thick, 12 samples), 1x casting base, silicone mat, cooling pack plus: 1x Capillary Electrophoresis Module, **VS10DCI** (2)
CVS10CBS	**Complete Mini (10 x 10cm) Vertical Electrophoresis & Blotting System**, comprising:
	1x Mini Vertical Unit, **CVS10DSYS** (1) which includes: PAGE Module, 2x2mm thick notched glass plates, 2x2mm thick plain glass plates with 1mm thick bonded spacers, 1x blanking plate, 2x combs (1mm thick, 12 samples), 1x casting base, silicone mat, cooling pack plus 1x Standard Electroblotting Module, **VS10BI** (3)
CVS10CBS-HI	**Complete Mini (10 x 10cm) Vertical Electrophoresis & High Intensity Blotting System**, comprising:
	1x Mini Vertical Unit, **CVS10DSYS** (1) which includes: PAGE Module, 2x2mm thick notched glass plates, 2x2mm thick plain glass plates with 1mm thick bonded spacers, 1x blanking plate, 2x combs (1mm thick, 12 samples), 1x casting base, silicone mat, cooling pack plus: 1x High Intensity Electroblotting Module, **VS10BI-HI** (4)
VS10DCI	omniPAGE Mini Tube Unit (2)
VS10BI	OmniBlot Mini Insert - including 4 cassettes, 16 foam pads (3)
VS10BI-HI	High Intensity omniPAGE Blot Mini insert - includes 2 cassettes and 8 fibre pads (4)

omniPAGE Mini Modular Systems

Mini wide vertical gel unit, with a gel width of 20cm, effectively allows double the number of samples to be resolved as the mini unit. This allows consistency of sample comparison on a single gel and is designed for those with greater than 20 samples to compare and resolve. Simple set up using ultra soft silicone seals guarantees trouble free glass plate loading and gel casting.



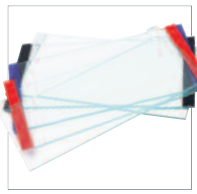
Each Modular System comprises the Gel Chamber, PAGE Internal Running Module, Casting Base and various accessories. Through the addition of further modules, the packages flexibility is increased to allow Western blotting and Capillary IEF.



Capillary IEF Module, VS10WDCI

Western Blotting Module, VS10WBI

ACCESSORIES



Glass Plates with Bonded Spacers

Combs

Cool Packs

Ordering Information

VS10WD	**Mini Wide, 20 x 10cm Dual**, 2 sets of Glass Plates with 1mm thick bonded Spacers, 2 x 24 sample, 1mm thick combs, cooling pack		
VS10WDSYS	**Mini Wide, 20 x 10cm Dual**, 2 sets of Glass Plates with 1mm thick bonded Spacers, 2 x 24 sample, 1mm thick combs, cooling pack including caster		
VS20CAST	20 x 10cm Casting Base	VS10WNGS1	20 x 10cm Notched Glass Plates with 1mm Bonded Spacers (pk/2)
VS20DCASTM	Replacement Silicone Mat for 20 x 10cm Casting Base	VS10WPGS1	20 x 10cm Plain Glass Plates with 1mm Bonded Spacers (pk/2)
VS10WDIRM	Inner Running Module	VS10WPGS1.5	20 x 10cm Plain Glass Plates with 1.5mm Bonded Spacers (pk/2)
VS20-x -LG	Loading guides for RigRunner V-MINI combs, x = comb well number	VS10WPGS2	20 x 10cm Plain Glass Plates with 2mm Bonded Spacers (pk/2)
VS10WNG	20 x 10cm Notched Glass Plates 4mm thick (pk/2)	VS10WDP	Blanking Plate, 20 x 10cm
VS10WPG	20 x 10cm Plain Glass Plates 4mm thick (pk/2)	RPW-0.2100	Replacement Platinum Wire - 0.2mm, 50cm
VS10WNGS0.75	20 x 10cm Notched Glass Plates with 0.75mm Bonded Spacers (pk/2)	VS20ICB	Cooling Pack
VS10WPGS0.75	20 x 10cm Plain Glass Plates with 0.75mm Bonded Spacers (pk/2)		
SB10W	Mini Wide Blot Unit, 20 x 10cm System including tank and lid, 4 cassettes, 8 fibre pads, cooling pack	VS10WDC	Mini Wide Tube Gel Unit, 20x10cm with tank and lid, glass capillary tubes, blanking ports and cooling pack
VS10WBI	Mini Wide Blot Module - includes 4 cassettes and 8 fibre pads	VS10WDCI	Mini Wide Tube Gel Module - includes glass tubes and blanking ports
SB10WC	Mini Wide Blot Cassette	MCT10	Mini Capillary Tubes, pk/100
SB10WF	Fibre pads - pk/8	MCT101.5	Mini Capillary Tubes, 1.5mm, pk/100
VS10WCES	**Complete Mini Wide (20x10cm) Vertical Electrophoresis Modular System**, comprising:		
	1x Mini Wide Vertical Unit, **VS10WDSYS** (1) which includes: PAGE Module, 2x4mm thick notched glass plates, 2x4mm thick plain glass plates with 1mm thick bonded spacers, 1x blanking plate, 2x combs (1mm thick, 24 samples), 1x casting base, silicone mat, cooling pack		
	plus: 1x Wide Electroblotting Module, **VS10WBI** (3) 1x Wide Capillary Electrophoresis Module, **VS10WDCI** (2)		
VS10WCBS	**Complete Mini Wide (20 x 10cm) Vertical Electrophoresis & Blotting System**, comprising:		
	1x Mini Wide Vertical Unit, **VS10WDSYS** (1) which includes: 2x4mm thick notched glass plates, 2x4mm thick plain glass plates with 1mm thick bonded spacers, 1x blanking plate, 2x combs (1mm thick, 24 samples), 1x casting base, silicone mat, cooling pack plus: 1x Wide Electroblotting Module, **VS10WBI** (3)		
VS10WC2DS	**Complete Mini Wide (20x10cm) 2-D System**, comprising:		
	1x Mini Wide Vertical Unit, **VS10WDSYS** (1) which includes: 2x4mm thick notched glass plates, 2x4mm thick plain glass plates with 1mm thick bonded spacers, 1x blanking plate, 2x combs (1mm thick, 24 samples), 1x casting base, silicone mat, cooling pack plus: 1x Wide Capillary Electrophoresis Module, **VS10WDCI** (3)		

EZ omniPAGE Maxi Wave

The Maxi 'WAVE' System is designed to perform a variety of separations, including first- and second-dimension SDS-PAGE, native, preparative, gradient and high-resolution nucleic acid electrophoresis, plus capillary tube gel IEF and electroblotting, the Maxi WAVE is one of the most versatile maxi vertical systems available.

The innovative, vertical screw-clamp system within the PAGE insert requires only four screws to secure up to four 20x20cm gels. This gives the Maxi WAVE the advantage of a much faster set up time compared to products whose traditional clamping configurations require as many as 24 screws to secure just two glass plates. In addition, the WAVE's innovative vertical screw-clamp configuration distributes pressure evenly along the height of the gel rather than in the centre to eliminate plate bowing and gel compression. This still maintains a leak-proof seal during casting; while the ergonomic wave-like design of the PAGE insert aids both handling and set up.

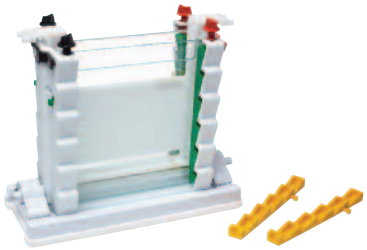
A detachable inner cooling coil connects to the laboratory water supply or a recirculating chiller to provide uniform, smile-free electrophoresis, while allowing runs to be performed at higher voltage.

MAXI WAVE TETRAD

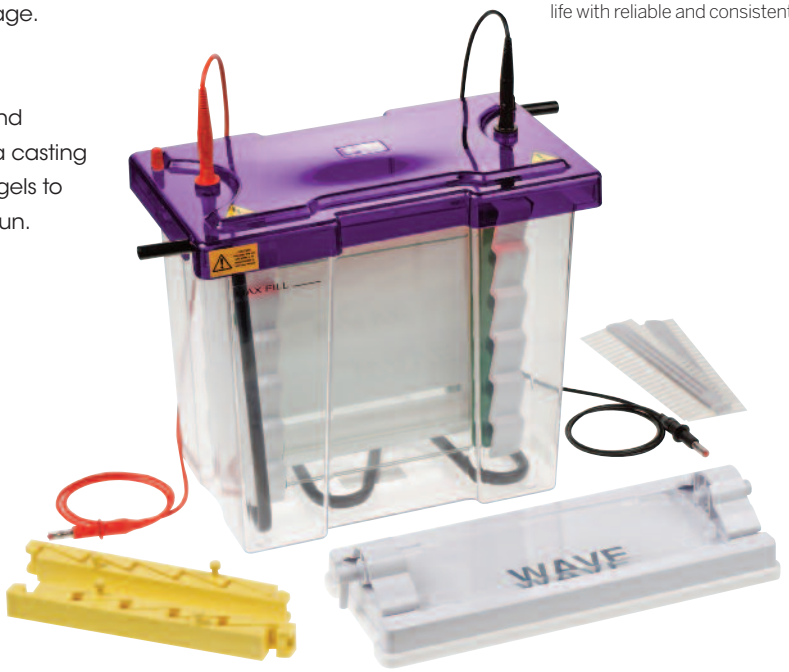
A 4-gel TETRAD system is created by simply introducing additional plates with spacers and appropriate combs. TETRAD is supplied with a casting base and external casting upstand to allow gels to be prepared in advance, ready for the next run.

KEY FEATURES

- Run up to FOUR gels simultaneously [TETRAD systems]
- Only four screws required to secure glass plates - significantly reduces set up time
- Vertical screw-clamps distribute pressure evenly along the height of the gel to prevent plate bowing and gel compression
- Detachable inner cooling coil facilitates rapid and uniform, smile-free electrophoresis, even at higher voltages
- Injection moulded construction guarantees long life with reliable and consistent performance



External Casting Upstand is basically a standard internal module but without Platinum wire



Ordering Information

VS20WAVESYS	**Maxi WAVE, 20 x 20cm Dual** with Glass Plates with bonded 1mm thick spacers, 2x 24 sample combs, cooling pack, dummy plate and casting base
VS20WAVESYS-CU	**Maxi WAVE, 20 x 20cm Dual** with Glass Plates with bonded 1mm thick spacers, 2x 24 sample combs, cooling pack, dummy plate, casting base and external casting upstand
VS20WAVETETRAD1	**Maxi WAVE, 20 x 20cm Dual** with Glass Plates with bonded 1mm thick spacers, 2x 24 sample combs, cooling pack, dummy plate, casting base and external casting upstand, PLUS 2x pks/2 notched glass plates with 1mm bonded spacers and 2x 1mm 24-sample combs

VS20WAVE-EC	VS20 WAVE External Casting Stand - No Casting Base
VS20WAVEDIRM	VS20WAVE Page insert
VS20WAVE-CC	Detachable Cooling Coil
VS20DCAST	V-Maxi WAVE, 20 x 20cm Dual Caster
VS20DCASTM	Replacement Rubber mats for 20 x 20cm caster
VS20ICB	Maxi Cooling Pack
VS20-x -LG	Loading guides for V-Maxi WAVE maxi combs, x = comb well number
VS20NG	20 x 20cm Notched Glass Plates 4mm thick (pk/2)
VS20PG	20 x 20cm Plain Glass Plates 4mm thick (pk/2)
VS20NGS0.75	20 x 20cm Notched Glass Plates with 0.75mm Bonded Spacers (pk/2)
VS20PGS0.75	20 x 20cm Plain Glass Plates with 0.75mm Bonded Spacers (pk/2)
VS20NGS1	20 x 20cm Notched Glass Plates with 1mm Bonded Spacers (pk/2)

VS20PGS1	20 x 20cm Plain Glass Plates with 1mm Bonded Spacers (pk/2)
VS20PGS1.5	20 x 20cm Plain Glass Plates with 1.5mm Bonded Spacers (pk/2)
VS20PGS2	20 x 20cm Plain Glass Plates with 2mm Bonded Spacers (pk/2)
VS20DP	Dummy Plate, 20 x 20cm
VS20S0.75	20cm Spacers - 0.75mm (pk/2)
VS20S1	20cm Spacers - 1mm thick (pk/2)
VS20S1.5	20cm Spacers - 1.5mm thick (pk/2)
VS20S2	20cm Spacers - 2mm thick (pk/2)
VS20WAVE-IEFKIT	IEF Conversion for 18cm IPG strips and tube gels, includes: 1 set of plain glass plates with bonded spacers, 0.6x20cm (WxH); and 2x 2-D combs with one 3.5mm marker lane and one 18cm preparatory well

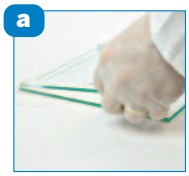
Gel Casting

Dual purpose PAGE insert eliminates time-consuming transfer of glass plates between separate casting and running modules

Ground glass plates with bonded injection moulded spacers consistent with comb thickness ensure 'clean' well formation, as well as the correct alignment for leak-free casting; also eliminate the need for easily mislaid and awkward to use spacer aligners

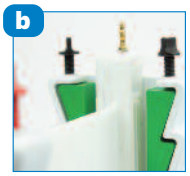
Very forgiving, ultra-soft silicone mat within cam-caster compensates for glass plate misalignment to ensure leak-free casting

a



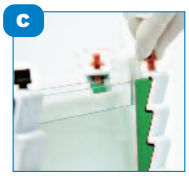
Assemble each gel cassette on a flat level surface, by placing the plain glass plate down with the spacers facing upwards followed by the notched glass plate.

b



Loosen the vertical screwpins in the PAGE insert to release the locking mechanism, allowing the gel clamps to sit in the resting slots.

c



Insert a gel cassette into each side of the inner buffer chamber in the PAGE insert, and begin tightening the vertical screw-pins.

d

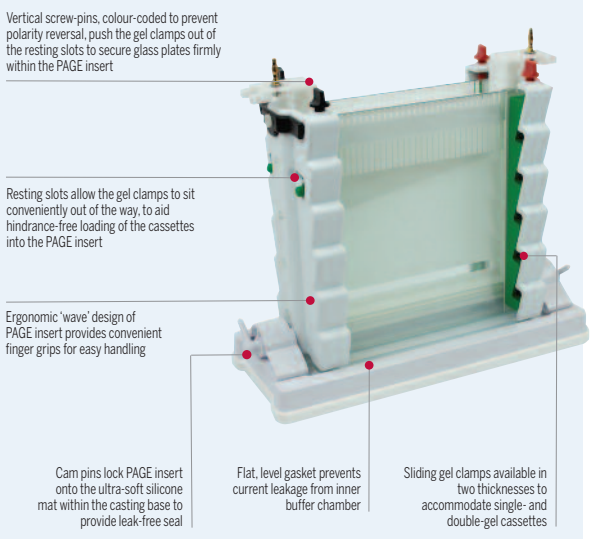
Continue to tighten the screw-pins until the gel clamps glide out of the resting slots and fix firmly against the glass plates pushing them upright.

e

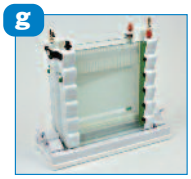
Check the bottom of the glass plates to ensure that they are flush together, and place the PAGE insert on the casting base; make sure that the cams are facing downwards.

f

Insert cams and turn until tight, drawing the PAGE insert onto the casting to form a leak-proof seal.

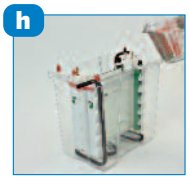


g



Pour in the gel solution, insert the combs and allow the wells to polymerise.

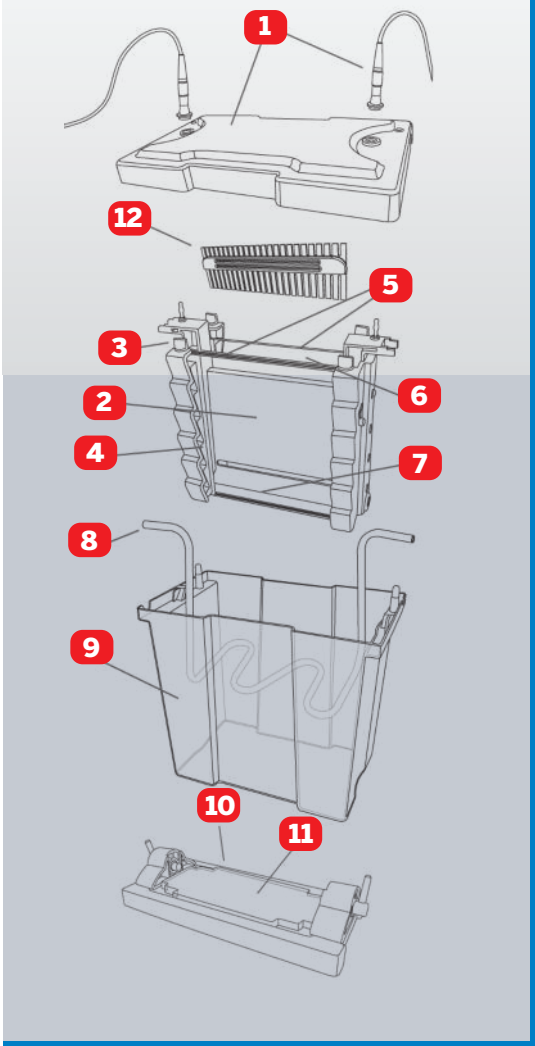
h



Transfer the PAGE insert to gel the tank. Fill the inner and outer buffer chambers before loading samples.

i

Replace the lid, connect to the power supply and run.



Maxi WAVE component parts

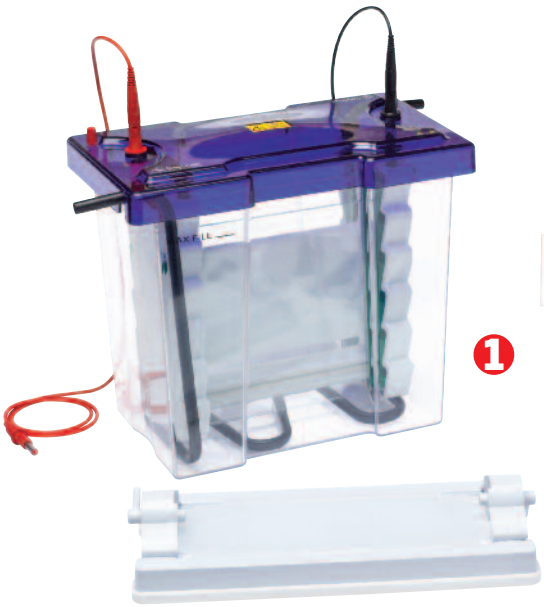
1. Lid and power cables
2. PAGE insert
3. Vertical screw-pin
4. Clamping bars
5. Glass plates
6. Inner buffer chamber
7. Gasket
8. Detachable cooling coil
9. Outer tank
10. Cam-pin caster
11. Ultra-soft casting mat
12. Combs

Colour	Code	Description	Sample Volume per well
	VS20-1-0.75	Comb 1 Prep, 1 Marker, 0.75mm thick	1100µl
	VS20-5-0.75	Comb 5 sample, 0.75mm thick	160µl
	VS20-10-0.75	Comb 10 sample, 0.75mm thick	80µl
	VS20-18MC-0.75	Comb 18 sample MC, 0.75mm thick	40µl
	VS20-24-0.75	Comb 24 sample, 0.75mm thick	30µl
	VS20-30-0.75	Comb 30 sample, 0.75mm thick	25µl
	VS20-36MC-0.75	Comb 36 sample MC, 0.75mm thick	20µl
	VS20-48-0.75	Comb 48 sample, 0.75mm thick	15µl
	VS20-1-1	Comb 1 Prep, 1 Marker, 1mm thick	1500µl
	VS20-5-1	Comb 5 sample, 1mm thick	200µl
	VS20-10-1	Comb 10 sample, 1mm thick	100µl
	VS20-18MC-1	Comb 18 sample MC, 1mm thick	50µl
	VS20-24-1	Comb 24 sample, 1mm thick	40µl
	VS20-30-1	Comb 30 sample, 1mm thick	35µl
	VS20-36MC-1	Comb 36 sample MC, 1mm thick	25µl
	VS20-48-1	Comb 48 sample, 1mm thick	20µl

Colour	Code	Description	Sample Volume per well
	VS20-1-1.5	Comb 1 Prep, 1 Marker, 1.5mm thick	2200µl
	VS20-5-1.5	Comb 5 sample, 1.5mm thick	320µl
	VS20-10-1.5	Comb 10 sample, 1.5mm thick	160µl
	VS20-18MC-1.5	Comb 18 sample MC, 1.5mm thick	80µl
	VS20-24-1.5	Comb 24 sample, 1.5mm thick	60µl
	VS20-30-1.5	Comb 30 sample, 1.5mm thick	50µl
	VS20-36MC-1.5	Comb 36 sample MC, 1.5mm thick	40µl
	VS20-48-1.5	Comb 48 sample, 1.5mm thick	30µl
	VS20-1-2	Comb 1 Prep, 1 Marker, 2mm thick	3000µl
	VS20-5-2	Comb 5 sample, 2mm thick	400µl
	VS20-10-2	Comb 10 sample, 2mm thick	200µl
	VS20-18MC-2	Comb 18 sample MC, 2mm thick	100µl
	VS20-24-2	Comb 24 sample, 2mm thick	80µl
	VS20-30-2	Comb 30 sample, 2mm thick	70µl
	VS20-36MC-2	Comb 36 sample MC, 2mm thick	50µl
	VS20-48-2	Comb 48 sample, 2mm thick	40µl

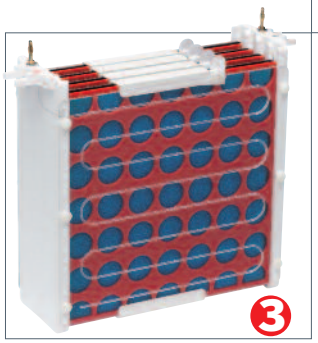
omniPAGE Maxi Wave

The omniPAGE range of Modular Vertical Gel Systems allow multiple electrophoresis techniques to be performed in the same unit. Using the same main tank and lid, three different inserts are interchangeable for PAGE, tube gel and electroblotting techniques.



Each Modular System comprises the Gel Chamber, PAGE Internal Running Module, Casting Base and various accessories. Through the addition of further modules, the packages flexibility is increased to allow Western blotting and Capillary IEF.

Capillary IEF Module, VS20DCI



Western Blotting Module, VS20BI

Hi-Intensity Blotting Module, SW20BI-HI

ACCESSORIES

Glass Plates with Bonded Spacers

Combs

Cool Packs

Ordering Information

VS20CES	**Complete Maxi WAVE (20x20cm) Vertical Electrophoresis Modular System**, comprising:
	1x Maxi WAVE Vertical Unit, **VS20WAVESYS** (1) which includes: 2x4mm thick notched glass plates, 2x4mm thick plain glass plates with 1mm thick bonded spacers,
	1x blanking plate, 2x combs (1mm thick, 24 samples), 1x casting base, silicone mat, cooling pack
	plus: 1x Electroblotting Module, **VS20BI** (3) comprising: internal electroblotting module, 4x compression cassettes for gel sizes up to 20x20cm and 18x fibre pads
	plus: 1x Capillary Electrophoresis Module, **VS20DCI** (2) which includes: internal running module for tube gels, capillary tubes, blanking plugs and 1x VS20WAVE IEF-KIT:
	1 set of plain glass plates with bonded spacers, 0.6x20cm (WxH); and 2x 2-D combs with one 3.5mm marker lane and one 18cm preparatory well
VS20C2DS	**Complete Maxi WAVE 2-D System**, comprising:
	1x Maxi WAVE Vertical Unit, **VS20WAVESYS** (1) which includes: 2x4mm thick notched glass plates, 2x4mm thick plain glass plates with 1mm thick bonded spacers,
	1x blanking plate, 2x combs (1mm thick 24 samples), 1x casting base, silicone mat, cooling pack
	plus: 1x Capillary Electrophoresis Module, **VS20DCI** (2) which includes: internal running module for tube gels, capillary tubes, blanking plugs and 1x VS20WAVE-IEF-KIT:
	1 set of plain glass plates with bonded spacers, 0.6x20cm (WxH); and 2x 2-D combs with one 3.5mm marker lane and one 18cm preparatory well
VS20CBS	**Complete Maxi WAVE (20 x 20cm) Vertical Electrophoresis & Blotting System**, comprising:
	1x Maxi WAVE Vertical Unit, **VS20WAVESYS** (1) which includes: 2x4mm thick notched glass plates, 2x4mm thick plain glass plates with 1mm thick bonded spacers,
	1x blanking plate, 2x combs (1mm thick, 24 samples), 1x casting base, silicone mat, cooling pack
	plus: 1x Electroblotting Module, **VS20BI** (3) comprising: internal electroblotting module, 4x compression cassettes for gel sizes up to 20x20cm and 6x fibre pads
VS20CBS-HI	**Complete Maxi WAVE (20 x 20cm) Vertical Electrophoresis & High Intensity Blotting System**, comprising:
	1x Maxi WAVE Vertical Unit, **VS20WAVESYS** (1) which includes: 2x4mm thick notched glass plates, 2x4mm thick plain glass plates with 1mm thick bonded spacers,
	1x blanking plate, 2x combs (1mm thick, 24 samples), 1x casting base, silicone mat, cooling pack, plus: 1x High Intensity Electroblotting Module, **SB20BI-HI** (4) which
	includes: internal electroblotting module, 2x compression cassettes for gel sizes up to 20x20cm and 6x fibre pads

omniPAGE Comb options

omniPAGE Vertical Gel Chambers can accommodate a wide variety of casting combs. Standard options are shown below, while custom combs can be manufactured on request. To select a comb, just add the desired thickness to the end of the comb code to get the complete ordering code, for example, VS10-4-1 is a 1 mm thick comb and VS20-24-1.5 is a 1.5 mm comb. Well volume shown below is for 1mm thick combs, except for Sharks Tooth combs which are 0.25mm. For volume of other thicknesses, please refer to the Cleaver Scientific website.

Colour-coded combs for the multiSUB are available in 4 thicknesses,

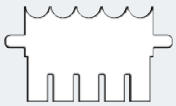
Black – 0.75mm for tightly resolved bands **White** – 1mm supplied as standard
Red – 1.5mm to maximise sample volume **Blue** – 2mm to maximise sample volume

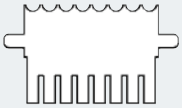
Black and white combs recommended for high resolution gels and publication quality data; red and blue to scale-up nucleic acid volumes for preparatory techniques.

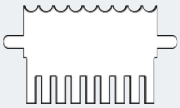
NOTE: Volume refers to maximum well volume of the longer tooth

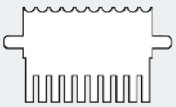
mini

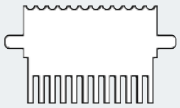
VS10-1-1, (650µl)

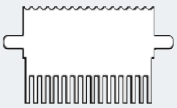

VS10-5-1, (100µl)


VS10-8MC-1, (60µl)


VS10-9-1, (50µl)


VS10-10-1, (40µl)

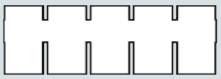

VS10-12-1, (35µl)

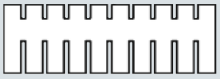

VS10-16-1, (25µl)

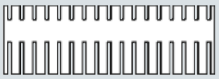
VS10-20-1, (20µl)

mini wide and maxi wave

VS20-1-1, (1500µl)


VS20-5-1, (1200µl)


VS20-10-1, (100µl)


VS20-18MC-1, (50µl)

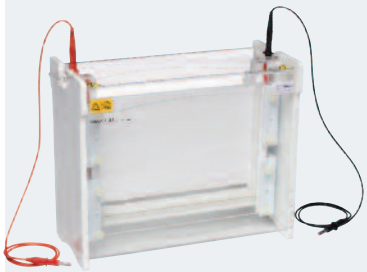
VS20-24-1, (40µl)

VS20-30-1, (35µl)

VS20-36-1, (25µl)

VS20-48-1, (20µl)

maxi plus



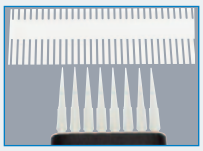
VS30-1-1, (2250µl)

VS30-28-1, (80µl)

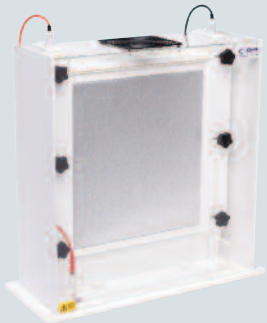
VS30-56-1, (40µl)

VS30-75-1, (25µl)

MC = fits multichannel pipettes


MCSS = fits multichannel loading every second row

large format



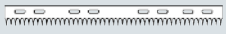
CSQ20-24-1SQT, (40µl)

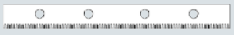
CSQ20-24-0.25, (7µl)

CSQ20-48-1SQT, (20µl)

CSQ20-48-0.25, (3µl)

CSQ33-48-1SQT, (35µl)


CSQ33-48-0.25, (7µl)


CSQ233-80-1SQT, (20µl)

CSQ33-96-0.25, (3µl)

omniPAGE Gradient Mixers

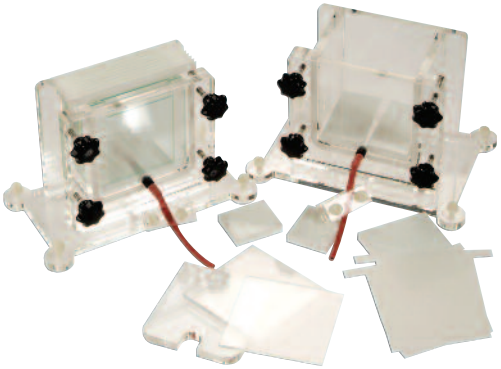
Ideal for Caesium, Sucrose and Gel gradients the Gradient Mixer series comprises two chambers - a reservoir and a mixing chamber with an interconnecting valve. A second valve regulates the output flow from the mixing chamber. All mixers have a flat base which allows them to be placed on a magnetic stirrer. A magnetic stirring bar can be placed directly in the mixing chamber to ensure a constant gradient. The support rod allows the mixer to be fixed to a retort stand for extra stability.

KEY FEATURES

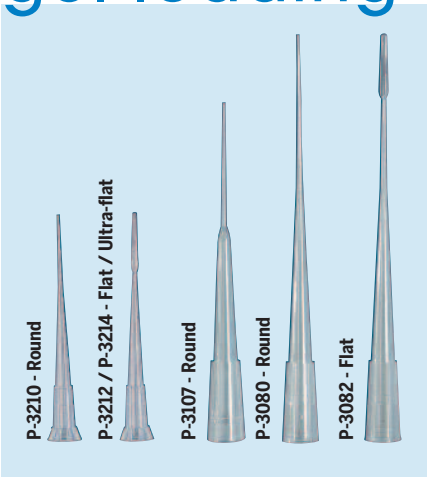
- Leak proof seals
- Easy to use
- Compatible with vertical gel chambers

Multiple Gel Casters

Advance casting of multiple mini and maxi gels can help to achieve consistent results between runs. These multiple gel casting systems are tailored for use with omniPAGE mini and omniPAGE maxi vertical electrophoresis units; with three models of 6, 12 and 24 gel capacities. Fewer gels can be poured if required using the acrylic saver blocks supplied with each system.
The fixed hinged clamps allows the gel sandwich to be adjusted to the correct pressure irrespective of the number or the thickness of gels being poured. Separation sheets allow the easy separation of the glass plates after pouring.



microcapillary gel loading tips

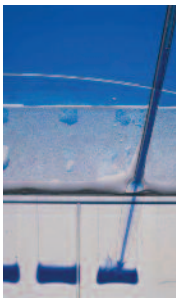


These Gel-Loading Pipette Tips are designed for sample loading of electrophoresis gels. They provide positive-displacement accuracy and reproducibility using Pipetman and most other single channel air-displacement pipettors. RNase/DNase-free Tips comprise three styles, each featuring a flexible, 33mm long, 5µl microcapillary tube sections:

- Round-shaft Tip, with 0.57mm OD tube end - these greatly improve loading techniques for 0.75, 1.0 and 1.5mm PAGE gels.
- Intermediate 0.37mm OD flat Tip is ideal for loading 0.4mm sequencing gels.
- Ultra-thin 0.17mm OD ultra-flat Tip is perfect for loading 0.2mm wedge-spacer gels.

KEY FEATURES

- Two styles Round or Flat (Duckbill)
- 'Unifit' design provides tight seal
- Complete visibility of sub-microlitre volumes - 200µl models (83mm) at 5µl; 2µl/10µl models at 2µl
- For use with 2, 10, 20, 100 and 200µl pipettes
- Metal and RNase free



Ordering Information

GRADIENT MIXERS

CSL-GM15	15ml Gradient Mixer	CSL-GM100	100ml Gradient Mixer
CSL-GM25	25ml Gradient Mixer	CSL-GM500	500ml Gradient Mixer
CSL-GM50	50ml Gradient Mixer		

MULTI VERTICAL GEL CASTERS

CSL-6CAST	6 gel caster for 8 x 10cm or 10 x 10cm mini gels	CSL-12CAST	12 gel caster for 8 x 10cm or 10 x 10cm mini gels

GEL LOADING TIPS		Packaging	GEL LOADING TIPS		Packaging
P-3210	Round Orifice, 0.2-10µl, 0. 5mm diam.	Case = 4x rack/200	P-3107	Round Orifice, 20-200µl, 1.1mm diam.	Case = 5x rack/200
P-3212	Flat Orifice, 0.2-10µl, 0. 33mm diam.	Case = 4x rack/200	P-3080	Round Orifice, 20-200µl, 0. 5mm diam.	Case = 4x rack/200
P-3214	UftraFlat Orifice, 0.2-10µl, 0.17mm diam.	Case = 4x rack/200	P-3082	Flat Orifice, 20-200µl, 0. 33mm diam.	Case = 4x rack/200

omniPAGE Maxi Plus

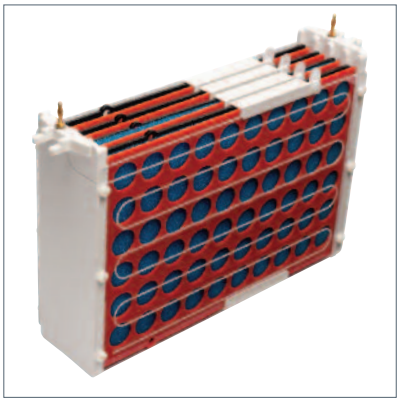
The Maxi Plus unit provides a convenient solution for the second stage of 2-D electrophoresis.

The 26cm active gel width provides a large gel area to resolve large IEF strips. In combination with the IEF system above, this offers a complete package for 2-D electrophoresis. The unit utilises the omniPAGE advanced design features to provide convenient ease of use with high resolution separations.
Rapid set up cooling retains resolution in extended separations and also saves on buffer volume without affecting run quality. Four gels can be resolved per run. A wide range of accessories is available to allow easy transition between 2-D and standard vertical electrophoresis techniques. In particular different types of 2-D comb allow a wide degree of versatility in sample selection and gel set-up.

KEY FEATURES

- Ideal for second dimension electrophoresis
- Accepts strips up to 26cm in length
- Rapid set up coolpacks for enhanced resolution

FOR IEF SYSTEM, SEE PAGE 48



Western Blotting Module, VS30BI

Ordering Information

VS30D	**omniPAGE MAXIPLUS, 30 x 22cm Dual** with Glass Plates with bonded 1.5mm spacers, 2 x 28 sample combs, 2 x 2-D combs, cooling pack, blanking plate		
VS30DSYS	**omniPAGE MAXIPLUS**, as above with Casting Base	VS30PGS0.75	30 x 22cm Plain Glass Plates with 0.75mm Bonded Spacers (pk/2)
VS30BI	omniPAGE MAXI Blot Plus Module - includes 4 cassettes and 8 fibre pads	VS30NGS1	30 x 22cm Notched Glass Plates with 1mm Bonded Spacers (pk/2)
VS30DCAST	30 x 22cm Dual Casting Base	VS30PGS1	30 x 22cm Plain Glass Plates with 1mm Bonded Spacers (pk/2)
VS30DCASTM	Replacement Silicone Mat for 30 x 22cm Casting Base	VS30PGS1.5	30 x 22cm Plain Glass Plates with 1.5mm Bonded Spacers (pk/2)
VS30DIRM	Inner Running Module	VS30PGS2	30 x 22cm Plain Glass Plates with 2mm Bonded Spacers (pk/2)
VS30ICB	Maxi Cooling Pack	VS30DP	Blanking Plate, 30 x 22cm
VS30-x-LG	Loading guides for omniPAGE MAXI combs, x = comb well number	VS30S0.75	22cm Spacers - 0.75mm (pk/2)
VS30NG	30 x 22cm Notched Glass Plates 4mm thick (pk/2)	VS30S1	22cm Spacers - 1mm thick (pk/2)
VS30PG	30 x 22cm Plain Glass Plates 4mm thick (pk/2)	VS30S1.5	22cm Spacers - 1.5mm thick (pk/2)
VS30NGS0.75	30 x 22cm Notched Glass Plates with 0.75mm Bonded Spacers (pk/2)	VS30S2	22cm Spacers - 2mm thick (pk/2)

MC = multichannel pipette compatible

Colour	Code	Description	Sample Volume per well
	VS30-1-1	Comb 1 Prep, 1 Marker, 1mm thick	2250µl
	VS30-28-1MC	Comb 28 sample, 1mm thick MC compatible	80µl
	VS30-56-1MC	Comb 56 sample, 1mm thick MC compatible	40µl
	VS30-75-1MC	Comb 75 sample, 1mm thick MC compatible	25µl

Colour	Code	Description	Sample Volume per well
	VS30-1-1.5	Comb 1 Prep, 1 Marker, 1.5mm thick	3375µl
	VS30-28-1.5MC	Comb 28 sample, 1.5mm thick MC compatible	120µl
	VS30-56-1.5MC	Comb 56 sample, 1.5mm thick MC compatible	60µl
	VS30-75-1.5MC	Comb 75 sample, 1.5mm thick MC compatible	37µl

Combs also available in other thicknesses and sample number, please inquire

EZ omniPAGE Blot Transfer Systems

Electroblotting is a technique to immobilise proteins or nucleic acid separation on a solid membrane support. Samples are then detected using specific antibodies or nucleic acid probes to detect individual proteins or nucleic acid sequences. This allows the quantification of proteins and nucleic acids from various samples, and makes it a powerful technique in proteomics and genomics.

Cleaver Scientific offers four types of system:

MODULAR ELECTROBLOTTERS – combine PAGE and transfer techniques within the same tank. These options are shown in the PAGE vertical sections

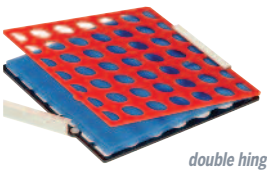
TANK TRANSFER SYSTEMS – available with either plate or wire electrodes, support efficient, quantitative transfers over a wide molecular weight range. Plate electrode systems are faster through greater field strength; wire electrodes are more economical, consuming less current and generating less heat.

SEMI-DRY TRANSFER SYSTEMS – perfect for rapid, high-intensity transfers of mid-range proteins, 10- 100kD in size.

MICROFILTRATION (DOT AND SLOT BLOTTING) – does not require electrophoresis and is used to determine the working conditions for a new blotting assay, antibody titres and antibody-antigen specificity. Also suitable for nucleic acids

Tank Sub & Modular Electroblotters

Designed primarily for wet electroblotting of proteins, these Electroblotters offer a combination of increased capacity with economy saving features.
Both units, Mini 10 x 10cm and Maxi 20 x 20cm, have increased capacity over standard systems with up to five gel blot cassettes utilised at any one time. This is especially useful in high throughput laboratories.
A uniform electric field is provided by a high intensity coiled electrode and ensures uniform transfer across the blot surface. The cassette's open architecture ensures the maximum blot area allows direct transfer of current. Its rigid construction ensures contact between the gel and membrane is retained throughout the blot and an even pressure is maintained. These units are compatible with magnetic stirrers to aid heat dispersal and prevent pH drifts in the buffer due to incomplete buffer mixing. Each system includes a cooling pack to further enhance transfer efficiency by removing excess heat. This also saves on buffer for added economy.



double hinged cassettes for added convenience

KEY FEATURES

- Ideal for wet electroblotting of proteins - Western blotting
- Up to five gel blot cassettes utilised at any one time
- Hinged cassettes for added convenience
- Accommodates gel thicknesses from 0.25 up to 3mm

Technical Specifications

Unit dimensions (W x D x H)	Mini	19 x 13 x 19cm
	Maxi	24 x 16 x 26cm
Max. sample, Mini capacity	5 Blots, 10 x 10cm	
Maxi	5 Blots, 20 x 20cm	
	20 Blots, 10 x 10cm	
Buffer volume,	Mini	Min 1000ml; Max 1500ml
	Maxi	Min 4300ml; Max 6000ml

Ordering Information

EBM10	**TankBlot Mini ElectroBlotter,** 10 x 10cm System for five cassettes,	SB10C	Eblot Mini Cassette
	with tank and lid, 5x cassettes, 12x fibre pads and cooling pack	SB10F	Fibre pads - pk/8
EBM20	**TankBlot Maxi ElectroBlotter**, 20 x 20cm System for five cassettes,	SB20C	Eblot Maxi Cassette
	with tank and lid, 5x cassettes, 12x fibre pads and cooling pack	SB20F	Fibre pads - pk/6

Semi Dry Blotters

These Semi Dry Blotters offer rapid transfer times for DNA, RNA and protein blotting - typically 15 to 30 minutes.

All units can be used for all types of blotting: western, southern and northern via uncomplicated buffer and set up procedures and are compatible with gel thicknesses from 0.25 up to 10mm without the need for additional equipment.
Semi Dry Blotting has the added benefit of economic transfers due to very low buffer volumes – typically only a few millilitres of buffer are required per transfer. The electrodes, comprising platinum coated anode and stainless steel cathode, will exhibit practically no corrosion and so provide many years of trouble free use. Uniform heat dispersion across the blot sandwich ensures stable transfer times and no heat induced sample loss or transfer distortions.

KEY FEATURES

- Rapid transfer times
- Western, Southern and Northern Blots
- Economic Transfers due to very low buffer volumes
- Screw down lid - accommodates gels from 0.25 up to 10mm
- Uniform heat dispersion

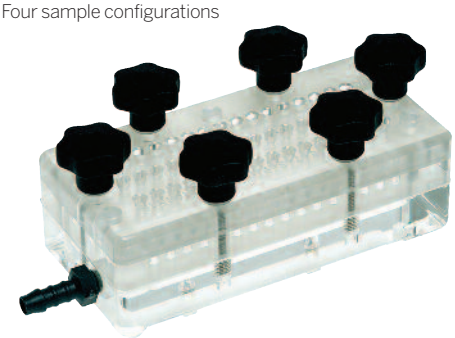
Dot and Slot

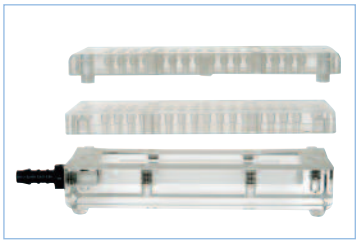
Dot Blot and Slot Blot microfiltration manifolds are designed for DNA and RNA filter blot hybridisations and immunological (Ag/Ab) screening applications.

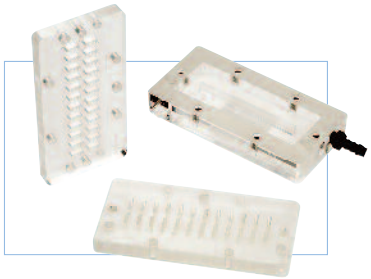
Machined from high density acrylic, their precision lapped mating surfaces and leak proof gasket ensures uniform filter contact, preventing lateral transfer of samples– smudging – by ensuring that a complete vacuum is formed. A permanent filter template is provided with each manifold to simplify the cutting of filters to the exact size. A vacuum of approximately 600mm Hg (0.8 Bar) is required during sample application. Four configurations are available for 24 & 48 for slots and 48 & 96 wells for dots in the configuration of standard microplates. Each well is alpha-numerically grid referenced for easy identification

KEY FEATURES

- Low cost
- Easy assembly
- Alpha-numeric sample identification
- Four sample configurations







Model	D48	D96	S24	S48
Configuration	3 x 16	8 x 12	2 x 12	3 x 16
Size of well	6mm diameter 12mm deep	6mm diameter 12mm deep	6 x 0.5mm 12mm deep	6 x 0.5mm 12mm deep
Vacuum required	----- 600mg Hg 0.8 BAR with cold trap -----			
Unit dimensions	60x95x100cm	60x105x140cm	60x74x83cm	60x95x100cm
Membranes size required	12.1 x 4.4cm	11 x 7.4cm	12.1 x 4.4cm	12.1 x 4.4cm

Ordering Information

SEMI DRY BLOTTERS			
SD10	**Semi Dry Mini**, 10 x 10cm System	**SD20**	**Semi Dry Midi,** 20 x 20cm System
DOT & SLOT BLOTTERS			
CSL-D48	**48-well Dot Blot Manifold**, 3 x 16 array	**CSL-S24**	**24-well Slot Blot Manifold**, 2 x 12 array
CSL-D96	**96-well Dot Blot Manifold**, 8 x 12 array	**CSL-S48**	**48-well Slot Blot Manifold**, 3 x 16 array

reagents & CHEMICALS

PAGE Buffers

Five buffers are available in powder sachets for a range of native and denaturing protein gel electrophoresis techniques.

Each powder sachet, which is supplied as a 10-pack, may be reconstituted to make 1 litre of working solution. Running buffers are also available in 1 litre and 5 litre volumes as ready made 10x Tris-Glycine and 10x Tris-Glycine-SDS solutions.

KEY FEATURES

- Convenient, pre-made stock solution or powder – just dilute or dissolve as necessary with water
- Save time & trouble – no weighing, pH adjustment or need to stock individual compounds
- Long shelf-life
- Consistency assured – rigorous QC for reproducible separations

Technical Specifications

Powder Buffer	Composition	Applications
Tris-Glycine SDS	Each litre of 1x working solution contains: Tris-base (25mM); glycine (192mM); SDS, 0.1% (w/v); followed by distilled water. Working solution pH = 8.3.	Denaturing SDS-PAGE for most cellular proteins, 10- 200kDa in size
Tris-Glycine	Each litre of 1x working solution contains: Tris-base (25mM); glycine (192mM); followed by distilled water. Working solution pH = 8.3.	Native PAGE
Tris-Tricine-SDS	Each litre of 1x working solution contains: Tris-base (0.1M); tricine, (0.1M); SDS, 0.1% (w/v); followed by distilled water. Working solution pH = 8.25.	Denaturing SDS-PAGE, with greater resolving power for small proteins 2-20kDa in size
MOPS-SDS	Each litre of 1x working solution contains: MOPS (50mM); Tris Base (50mM); SDS, 0.1% (w/v); EDTA (1mM); followed by distilled water. Working solution pH = 7.7.	Denaturing SDS-PAGE for medium- to large-sized proteins
MES-SDS	Each litre of 1x working solution contains: MES (50mM final stock concentration); Tris Base (50mM); SDS, 0.1% (w/v); EDTA (1mM); followed by distilled water. Working solution pH = 7.3.	Denaturing SDS-PAGE for small- to medium-sized proteins; faster than MOPS

BP Grade ultra pure water

BP Grade Sterile Water has endotoxins removed by electrostatic filtration at the final purification stage prior to autoclaving. The LAL tested water conforms to the standard having less than <0.25EU/ml to ensure the water is of pre-requisite quality. This product is therefore pyrogen free. CFU>0 WFi compatible.

Ponceau S

Ponceau S staining solution is reusable and available in a convenient 500ml volume for membrane staining and early protein detection following transfer before western blotting. Ponceau S may also be supplied a powder staining kit for long-term storage.

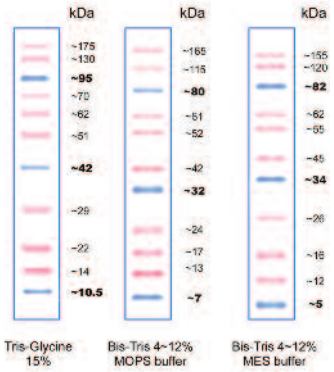
Ordering Information

POWDER BUFFERS		LIQUID BUFFERS	
CSL-TGSDSP	Powdered Tris-Glycine-SDS Running buffer - 10 Sachets (10 litres/pk)	CSL-TG10X1L	Buffer Tris-Glycine 10 x 1 litre
CSL-TGP	Powdered Tris-Glycine Running buffer - 10 Sachets (10 litres/pk)	CSL-TG10X5L	Buffer Tris-Glycine 10 x 5 litre
CSL-TTSDSP	Powdered Tris-Tricine-SDS Running buffer - 10 Sachets (10 litres/pk)	CSL-TG-SDS10X1L	Buffer Tris-Glycine SDS 10 x 1 litre
CSL-MSDSP	Powdered MOPS-SDS buffer Running buffer - 10 Sachets (10 litres/pk)	CSL-TG-SDS10X5L	Buffer Tris-Glycine SDS 10 x 5 litre
CSL-MESDSP	Powdered MES-SDS buffer Running buffer - 10 Sachets (10 litres/pk)		
CSL-PSS	Ponceau S staining solution (500ml)	CSL-PSB	Ponceau S staining solution powder staining kit (makes 2000ml)
UPW1000	BP Grade Sterile Water, 1000ml		
RFW250	RNase-Free Water, 1x250ml	RFW50X5	RNase-Free Water, 50x5ml

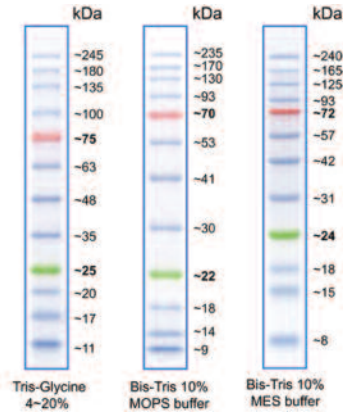
Protein Markers

Stable for up to 2 years if stored at -20°C and supplied pre-stained in gel loading buffer for direct loading, Cleaver Scientific PINK Plus and BLUE Wide Range recombinant protein markers are perfect for SDS-PAGE applications.

Sizes range from 10-175kDa for PINK Plus and 10-245kDa for BLUE Wide Range, making both markers suitable for accurate molecular weight determination of most cellular proteins.
Each marker is covalently bound to a pink or blue colour chromaphore to produce a ladder of evenly interspersed bands of uniform intensity. Coloured reference bands serve as visual indicators of electrophoresis run progression and the efficiency of western transfer onto membranes following SDS-PAGE. Both PINK Plus and BLUE Wide Range markers can be detected at volumes as low as 2.5µl per well.



PPL Pink Plus



BBL Blue Wide Range

Technical Specifications

Cat. No.	CSL-PPL	CSL-BBL
Size Range	10-175kDa	10-245kDa
Number of Bands	11	12
Reference Bands	10, 40 and 90kDa blue	25 & 75kDa; green & red
Contents	Max. 2.2mg total protein in 15% (v/v) glycerol, 2% SDS,	Max. 2.4mg total protein in 15% (v/v) glycerol, 2% SDS,
Volume Supplied	500µl	500µl
Storage	3 months at 4°C & 24 months at -20°C	
Loading Volume	2.5-5µl/well	
Number of Applications	100-200	
Source	Recombinant proteins, various sources	

Blotting membranes

Used in Western Blotting of Proteins and for use in Hybridisation Techniques. PDVF with nitrocellulose and nylon membranes are available for different application needs.
A protein's properties (i.e., charge, hydrophobicity, etc.) affects its ability to bind to membrane surfaces. Finding the optimal membrane may require experimenting with your specific protein on different materials. We supply PVDF membrane in sheet form and as a 3M role which can be cut to size to fit your particular need.

Blotting membrane rolls

Supplied in 0.24x3m and 0.3x3m (w x l) sizes, allowing them to be cut to match specific gel formats, these membrane rolls are suitable for transfer of proteins and nucleic acids from polyacrylamide and agarose gels. Offered in 0.2 and 0.45µm pore sizes.

Blot absorbent filter paper

This blot-absorbent filter paper is supplied in packs of 50 and in sizes of 10x10cm and 20x20cm. Its 1mm thick texture and high buffer retention properties, being able to absorb twice its own weight in buffer, allow it to exert the gel-membrane compression needed for efficient transfers.

Ordering Information

PROTEIN MARKERS			
CSL-PPL	Pink Plus Prestained Protein Ladder, 10-175kDa, with 10, 40 & 90kDa reference bands, 1x 500µl vial.	CSL-BBL	Blue Wide Range Prestained Protein Ladder, 10-245kDa, with 25 & 75kDa reference bands, 1x 500µl vial.
BLOTTING MEMBRANES AND ROLLS			
CSL-RNC45	Nitrocellulose roll, 0.3x3m (w x l)	CSL-RNY45	Positively charged supported nylon, 0.24x3m (w x l)
CSL-RNC2	Nitrocellulose roll, 0.3x3m (w x l)	CSL-RNY2	Positively charged supported nylon, 0.24x3m (w x l)
CSL-PVDF0.22S	10 Pre-cut PVDF 28 x28 cm 0.22µm	CSL-PVDF0.45R	Roll PVDF 28 cm x 3 m, 0.45µm
CSL-PVDF0.45S	10 Pre-cut PVDF 28 x28 cm 0.45µm	CSL-PVDF0.22R	Roll PVDF 28 cm x 3 m, 0.22µm
BLOT ABSORBENT FILTER PAPER			
CSL-BP1010	Blot-Absorbent Filter paper, 10x10cm, pack of 50	CSL-BP2020	Blot-Absorbent Filter paper, 20x20cm, pack of 50

COMETassay

COMET assay tanks are available in three 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.

KEY FEATURES

Quantifying DNA damage and repair in drug development application and Reproductive science.

- 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 fluorescent microscopy and imaging software.

Technical Specifications

Slide Capacity	10	20	40
Unit Dimensions (w x l x h)	17x34x9cm	31x34x9cm	33x59x9cm
Volume	550ml	1000ml	2100ml

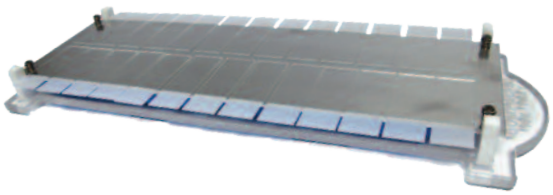
For COMET assay cooling we recommend the CSL-CHILLER. This CHILLER is ready assembled with the thermostat mounted on the refrigerator and supplied with insulated tubing and clips to form a system ready to use. A simple-to-use rotor dial plus two keys provide access to the interactive interface for fast, accurate set-up

Technical Specifications

Temperature range	-25 to 100°C	Pump flow rate	17 L/min (max.)
Stability (water @ 10°C)	ffl 0.1°C	No. stored temp, values	3
Uniformity (water @ 10°C)	ffl 0.1°C	Safety over-temperature	adjustable cut-out
Setting resolution	0.1°C	Heater power 230 V	1.3 kW
Display	4 digit LED	Height above tank rim	200mm
Timer function	1min to 99hrs 59mins	Depth below tank rim	135mm

High specification Chiller

This Chilling Plate is custom designed and manufactured specifically for Comet Assay. The Chilling Plate can accommodate 26 Comet assay slides and assists in the Comet Assay process by allowing a rapid solidification of the low melting point agarose on the Comet Assay slides and facilitates easy retrieval of the slides once the agarose gels are solid.



Ordering Information

CSL-COM10	**Comet Assay Tank** for 10 Slides	CSL-CHILLER	Chiller unit for active slide temperature control
CSL-COM20	**Comet Assay Tank** for 20 Slides	CSL-CHILLPLATE	Chill Plate for 26 Comet Assay Slides
CSL-COM40	**Comet Assay Tank** for 40 Slides		

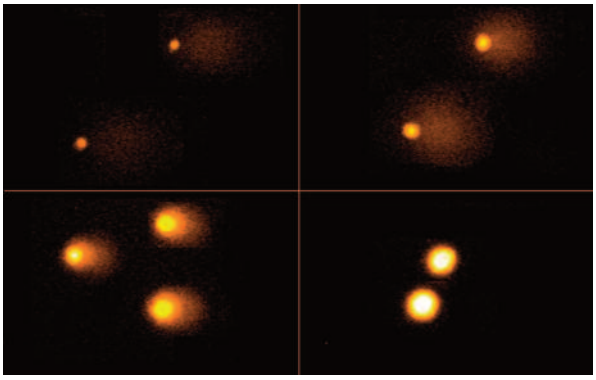
COMPAC-50

Developed in collaboration with the Oxidative Stress Group in the Department of Cancer Studies and Molecular Medicine within the University of Leicester, the COMPAC-50 is a high throughput electrophoresis system, to perform the Comet Assay using a patented vertical slide orientation design. This allows up to 50 slides to be run in a single tank, with a fraction of the footprint of traditional tanks.

The unique patent pending design employs two carriers to hold a total of 50 slides (25 per carrier) vertically. This provides two distinct advantages over conventional Comet Assay systems that utilise a horizontal platform for manual mounting of multiple individual slides. Firstly to produce a highly compact system which saves 75% of Lab space. Secondly by holding 25 slides in a rack this allows slides to be processed together in one batch saving on handling assay time by up to 90%. Consequently, this is not only beneficial for electrophoresis but also in the lysis, neutralisation, staining and washing steps of the Comet Assay, when each batch of slides may be treated during each step respectively using the four ebony acrylic staining dishes supplied. In addition, the COMPAC-50 benefits from a high performance ceramic cooling base with sliding drawer to accommodate a cool pack, which is frozen before use, to maintain optimal buffer temperature.

KEY FEATURES

- Patented design used vertical slide orientation to increase throughput
- Slide carriers eliminate manual handling decreasing errors and assay time.
- Ten staining dishes supplied for batch-treatment of slides during the lysis, neutralisation, staining and washing steps
- Ebony acrylic construction ensures reduced exposure to background light and potential DNA damage
- Highly compact design optimises electrophoresis efficiency during Comet Assay
- Ebony acrylic construction ensures reduced exposure to background light and potential DNA damage
- 50 slides may be run within 20 minutes using powerPRO300 power supply (page 53)



Typical Results
Repair of UVB-induced DNA damage in human keratinocytes, using enzyme-modified comet assay. HaCaT cells were irradiated with 1 J/cm2 UVB, then allowed to repair in fresh medium and DNA damage analysed at different time points (A) 0 h, (B) 1 h,(C) 6 h, (D) unirradiated (courtesy of Karbaschi, M. University of Leicester, Leicester, UK).

Technical Specifications

Unit Dimensions (WxLxH)	26.5 x 15 x 15cm
Total Slide Capacity	50 slides 25 x 75mm
Slide Capacity per Rack	25
Volume	550 ml
Recommended Power Supply	powerPRO300 300V, 700mA, 150W

Ordering Information

COMPAC-50	**High Throughput Comet System** for 50 slides, includes 2x 25 slide carriers, 10x staining dishes, tank with ceramic cooling platform and cool pack, lid and power cables	STAINDISH	Ebony acrylic stain dish, pk/1
		STAINDISH4X	Ebony acrylic stain dish, pk/4
		COMPAC- 50-PE	Positive electrode
COMPAC-PP300	**COMPAC-50** and **powerPRO300** Power Supply 300V, 700mA, 150W	COMPAC- 50-NE	Negative electrode
COMRAC-25	Vertical slide carrier for 25 slides, pk/1	CSL-LMA50	Agarose 50g, Low melting point (Pg 23)

CELLAS Clinical

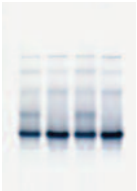
Cellulose acetate electrophoresis is an important technique in clinical diagnostics. The Cleaver Scientific range of cellulose acetate products offers a complete system solution for research and clinical cellulose acetate electrophoresis applications. CellasGEL includes both equipment and consumables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

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.

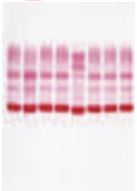
KEY FEATURES

Qualitative identification and quantification of Hb variants. Finding abnormalities of Hb synthesis like sickle cell disorders, thalassaemias etc.

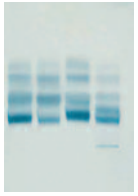
- Compact high resolution system for clinical electrophoresis
- Accommodates strips and gels up to 24x20cm
- Complete range of cellulose acetate gels and kits
- Densitometer software and scanner available



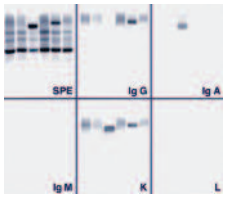
Haemoglobins



Serum proteins



Lipoproteins



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ORDERING INFORMATION, CELLASGEL APPLICATIONS PACKAGES EQUIPPED WITH BRIDGES, APPLICATOR AND CLINICAL TEST KIT

CELLAS Horizontal Unit for Cellulose Acetate Electrophoresis

Code	Description	Packages (Kit and Accessories) required, Code	Diagnostic Application
CSLKITCU	**CellasKIT: serum and concentrated urine IFE** **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, Ig & Ig); blotting paper & mylar film. Excludes: Destain.	CSLKITCU-ABS Includes: 1x CSLKITCU, 1x CSLAPPS22, 3x CSLBDG8.5S	MGUS, MM
CSLKITI2432	**CellasKIT: serum IFE** 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, Ig & Ig); blotting paper & mylar film. Excludes: Destain	CSLKITI2432-ABS Includes: 1x CSLKITI2432, 1x CSLAPPS6, 6x BCSLDG8.5S CSLKITI2432-ABM Includes: 1x CSLKITI2432, 1x CSLAPP8M 6x CSLBDG8.5S	MGUS, MM
CSLKITSP100200	**CellasKIT: serum proteins** 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	CSLKITSP-ABS Includes: 1x CSLKITSP100200 1x CSLAPPS4, 3x CSLBDG8.5S CSLKITSP-ABM Includes: 1x CSLKITSP100200 1x CSLAPPM8, 3x CSLBDG8.5S	Dysproteinaemia; Albumin, Alpha-1, Alpha-2, Transferrin, C3 & Gamma Globulin Quantitation
CSLKITSP150200	**CellasKIT: serum proteins (high resolution)** Kit content, sufficient for 150x semi-micro or 200x micro tests: 25 CellasGEL strips & TGS buffer; Coomassie stain, citric acid & clearing solutions; blotting paper & mylar film. Excludes: Destain	CSLKITSPHR-ABS Includes: 1x CSLKITSP150200 1x CSLAPPS4, 3x CSLBDG8.5S CSLKITSPHR-ABM Includes: 1x CSLKITSP150200 1x CSLAPPM8, 3x CSLBDG8.5S	Incipient Gammopathies
CSLKITHG100	**CellasKIT: haemoglobin** Kit content, sufficient for 100x semi-micro tests: 25 CellasGEL strips & Tris-Glycine buffer; Ponceau S stain, destain & clearing solutions; blotting paper & mylar film.	CSLKITHG100-ABS Includes: 1x CSLKITHG100, 1x CSLAPPS4 3x CSLBDG8.5S	Haemo-globinopathies
CSLKITLP100	**CellasKIT: lipoproteins** Kit content, sufficient for 100x semi-micro tests: 25 Cellogel strips & Tris-Hippurate buffer; Sudan Black stain & clearing solution; blotting paper & mylar film	CSLKITLP100-ABS Includes: 1x CSLKITLP100 1x CSLAPPS4 3x CSLBDG8.5S	Hyper-lipidaemias

CellasGEL 'wet' 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---m) compared to dry membranes (160-190µm) 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.

Ordering Information

CSLGEL2.514250	2.5x14 CellasGEL 250 micron 100/pack	CSLGEL5.714250	5.7x14 CellasGEL 250 micron, 25/pack
CSLGEL2.514200	2.5x14 CellasGEL 200 micron 100/pack	CSLGEL5.714190	5.7x14 CellasGEL 190, high resolution, 25/pack
CSLGEL2.514190	2.5x14 CellasGEL 190, high resolution, 100/pack	CSLGEL2.517200	2.5x17 CellasGEL 200 micron, 25/pack
CSLGEL5.714500	5.7x14 CellasGEL 500, high volume, 25/pack		

Part Number	Description	Volume applied / sample band width	Compatible Strip Size	Part Number	Description	Volume applied / sample band width	Compatibl Strip Size
CSLAPPS22	1x 2-specimen semi-micro applicator	0.7µl / 7mm	2.5x14cm	CSLAPPS6	1x 6-specimen semi-micro applicator	0.7µl / 7mm	5.7x14cm
CSLAPPS4SP	1x 4-specimen semi-micro applicator	0.9µl / 9mm	5.7x14cm	CSLAPPM8	1x 8-sample micro applicator	0.3µl / 5mm	5.7x14cm
CSLAPPS4	1x 4-specimen semi-micro applicator	1.2µl / 9mm	5.7x14cm				

CellasGEL WET MEMBRANE BRIDGES AND DENSITOMETER

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

CellasMEM 'dry' membranes

Although CellasGEL cellulose acetate gels have a number of advantages over traditional dry cellulose acetate membranes, many manual systems and modern robotic platforms still use dry cellulose acetate membranes, which are usually supported on a plastic backing. Consequently, CellasMEM, a range of dry cellulose acetate membranes supported on a Mylar film has been developed to address this demand.

Package deals provide a quick and convenient solution for those users wishing to perform the more popular Helena-type applications. The most basic kit includes 25x76 and 60x76mm CellasMEM membranes, 8-sample micro applicator, and paper wicks, while the complete version also contains a Cellas tank and new NANO500 power supply.

Each CellasMEM dry cellulose acetate membrane is available in 25x76mm (MEM257650), 60x76mm (MEM607625) and 94x76mm (MEM947625) plate sizes, and is compatible with the manual and automated platforms of many leading and emerging brands within the clinical electrophoresis market, including: Helena Laboratories, Interlab and Seleo.

CellasMEM is supplied either as individual packs of 25 or 50 strips to perform manual assays for Serum Protein (Dysproteinaemia; Incipient Gammopathies) and Haemoglobin Analyses (Haemoglobinopathies such as Thalassaemias and Sickle Cell Disorders).

Ordering Information

CellasMEM DRY MEMBRANE APPLICATORS

CSLMEMAPPM8	CellasMEM 8-sample micro applicator
CSLMEMAPPS6	CellasMEM 6-sample semi-micro applicator

PAPER WICKS

CSLMEMWICK	CellasMEM paper wicks 190x60mm, pack of 100
CSLMEMWICKH	CellasMEM paper wicks 220x40mm, pack of 100; suitable for Helena-type cellulose applications with -, MEM607625, MEM577625, MEM947625, MEM9413525 membranes

CellasMEM PACKAGE DEALS

CSLMEMHKIT	CellasMEM Helena-Type Kit, includes 25x76mm (MEM257650) & 60x76mm (MEM607625) membranes; MEMAPPM8 8-sample micro applicator & MEMWICKH 220x40mm paper wicks
CSLMEMHCOMP	CellasMEM Helena-Type Workstation, includes MEMHKIT, CELLAS tanks & nanoPAC500 (500V, 400mA, 120W) power supply (page 54)

Code	Size (WxL)	Pack Size	Compatible Manual System / Automated Platform
CellasMEM MANUAL ASSAY MEMBRANE			
CSLMEM257650	25x76mm	50/pack	Helena Titan 3 system
CSLMEM607625	60x76mm	25/pack	Helena Titan 3 system
CSLMEM577625	57x76mm	25/pack	Helena Titan 3 system
CSLMEM947625	94x76mm	25/pack	Helena Titan 3 system
CSLMEM9413525	94x135mm	25/pack	Helena Titan 3 system
CSLMEM7660P25	76x60mm, punched	25/pack	SELEO AdaLya 24, Selvet 24, Thera 72, Exprime, Giant

Code	Size (WxL)	Pack Size	Compatible Manual System / Automated Platform
CellasMEM ASSAY MEMBRANE			
CSLMEM307625	30x76mm	25/pack	Genio Interlab - small
CSLMEM607624	60x76mm	24/pack	Genio Interlab - standard
CSLMEM7662P25	76x62mm, punched	25/pack	Interlab 648 ISO, 648 PC
CSLMEM7413625	74x136mm	25/pack	SAE - NT
CSLMEM7822725	78x227mm	25/pack	SAE 500/600
CSLMEM8012525	80x125mm	25/pack	Diafero Standard
CSLMEM2508025	280x80mm	25/pack	Diafero Extra
CSLMEM8022525	80x225mm	25/pack	Cliniphor
CSLMEM762325	76x23mm	25/pack	Saechem
CSLMEM678930	67x89mm	30/pack	Smart
CSLMEM7618025	76x180mm	25/pack	Pragma
CSLMEM7621025	76x210mm	25/pack	Megaphore

CELLAS Clinical

Although CellasGEL cellulose acetate gels have a number of advantages over traditional dry cellulose acetate membranes, many manual systems and modern robotic platforms still use dry cellulose acetate membranes, which are usually supported on a plastic backing. Consequently, CellasMEM, a range of dry cellulose acetate membranes supported on a Mylar film has been developed to address this demand.

Each CellasMEM dry cellulose acetate membrane is available in 25x76mm (MEM257650), 60x76mm (MEM607625) and 94x76mm (MEM947625) plate sizes, and is compatible with the manual and automated platforms of many leading and emerging brands within the clinical electrophoresis market, including: Helena Laboratories, Interlab and Seleo. CellasMEM is supplied either as individual packs of 25 or 50 strips to perform manual assays for Serum Protein (Dysproteinaemia; Incipient Gammopathies) and Haemoglobin Analyses (Haemoglobinopathies such as Thalassaemias and Sickle Cell Disorders).

Applicators

The CellasMEM MEMAPPM8 is an 8-sample micro applicator designed for use with 60x76mm (MEM607625) and 25x76mm (MEM257650) CellasMEM dry plates. The applicator dispenses each sample deposit as a thin band 5mm wide that is equivalent to 0.25 l in volume; and may load either one 60x76mm strip or two 25x76mm strips (4 samples per strip) at a time. By loading each sample as a tighter, but finer, band over a wider front, the sample diffusion and saturation typical of standard syringe loading methods is significantly reduced, resulting in improved band quantitation. A MEMAPPS6 semi-micro applicator is also available to load 6 samples, each sample deposit 7mm wide and corresponding to 0.5 l in volume.

Bridges

Adjustable bridges within the CELLAS tank render specialist bridges unnecessary. Both CELLAS bridges may be positioned either side of the central buffer partition within the tank to produce the 76mm gap necessary to support Helena-type membranes, while the 24cm width of the tank accommodates either three 60x76mm or six 25x76mm CellasMEM membranes per run. A dedicated bridge adaptor (MEMBA) is available for those users of different cellulose acetate electrophoresis tanks that do not have adjustable bridges.

Paper Wicks

Supplied in packs of 100 and available in 190x60mm and 220x40mm (WxL) sizes, CellasMEM disposable paper wicks may be used respectively with standard CellasMEM dry plates and CellasMEM dry plates for Helena applications. To set up the Cellas tank for use with dry plates, simply insert each paper wick lengthwise within the tank pre-filled with buffer, so that the buffer will become absorbed. Once absorbed, fold over the top of each wick to make a support bridge, ensuring the bottom edge of the wick is immersed within buffer and in contact with the bottom of the tank, while the top edge rests along the adjustable bridge. Repeat for the other bridge.

CellasMEM Membranes

CellasMEM membrane plates are available in many different sizes and quantities ranging from the market-leading Helena Titan 3 manual system to punched dry membrane plates compatible with the strip-holders of automated systems from Genio Interlab and SELEO. Also listed are CellasMEM membranes for older systems (some of which are obsolescent) that are still in use today.

CellasMEM Package Deals

Package deals provide a quick and convenient solution for those users wishing to perform the more popular Helena-type applications. The most basic kit includes 25x76 and 60x76mm CellasMEM membranes, 8-sample micro applicator, and paper wicks, while the complete version also contains a Cellas tank and new NANO500 power supply.

Ordering Information

CellasMEM DRY MEMBRANE APPLICATORS

CSLMEMAPPM8	CellasMEM 8-sample micro applicator
CSLMEMAPPS6	CellasMEM 6-sample semi-micro applicator

PAPER WICKS

CSLMEMWICK	CellasMEM paper wicks 190x60mm, pack of 100
CSLMEMWICKH	CellasMEM paper wicks 220x40mm, pack of 100; suitable for Helena-type cellulose applications with CSLMEM257650, CSLMEM607625, CSLMEM577625, CSLMEM947625, CSLMEM9413525 membranes

CellasMEM PACKAGE DEALS

CSLMEMHKIT	CellasMEM Helena-Type Kit, includes 25x76mm (CSLMEM257650) & 60x76mm (CSLMEM607625) membranes; CSLMEMAPPM8 8-sample micro applicator & CSLMEMWICKH 220x40mm paper wicks
CSLMEMHCOMP	CellasMEM Helena-Type Workstation, includes CSLMEMHKIT, CELLAS tanks & NANO500 (500V, 400mA, 120W) power supply (page 53)

CellasMEM MANUAL ASSAY MEMBRANE

Code	Size (WxL)	Pack Size	Compatible Manual System / Automated Platform
CSLMEM257650	25x76mm	50/pack	Helena Titan 3 system
CSLMEM607625	60x76mm	25/pack	Helena Titan 3 system
CSLMEM577625	57x76mm	25/pack	Helena Titan 3 system
CSLMEM947625	94x76mm	25/pack	Helena Titan 3 system
CSLMEM9413525	94x135mm	25/pack	Helena Titan 3 system
CSLMEM7660P25	76x60mm, punched	25/pack	SELEO AdaLya 24, Selvet 24, Thera 72, Exprime, Giant

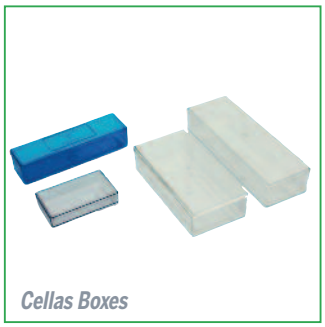
CellasMEM ASSAY MEMBRANE

Code	Size (WxL)	Pack Size	Compatible Manual System / Automated Platform
CSLMEM307625	30x76mm	25/pack	Genio Interlab - small
CSLMEM607624	60x76mm	24/pack	Genio Interlab - standard
CSLMEM7662P25	76x62mm, punched	25/pack	Interlab 648 ISO, 648 PC
CSLMEM7413625	74x136mm	25/pack	SAE - NT
CSLMEM7822725	78x227mm	25/pack	SAE 500/600
CSLMEM8012525	80x125mm	25/pack	Diafero Standard
CSLMEM2508025	280x80mm	25/pack	Diafero Extra
CSLMEM8022525	80x225mm	25/pack	Cliniphor
CSLMEM762325	76x23mm	25/pack	Saechem
CSLMEM678930	67x89mm	30/pack	Smart
CSLMEM7618025	76x180mm	25/pack	Pragma
CSLMEM7621025	76x210mm	25/pack	Megaphore

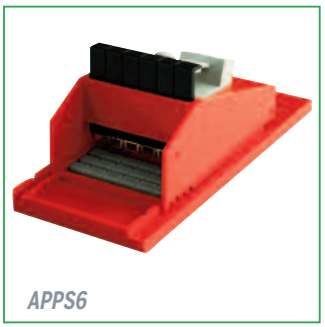
APPS22

APPS4SP

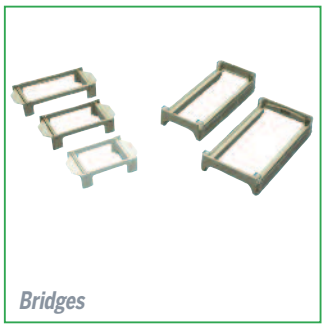
APPSM8


Cellas Boxes

APPS4


APPS6

Paper Wicks

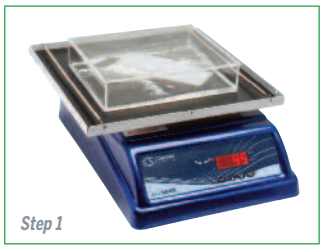

Bridges

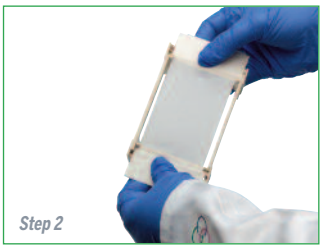
Part Number	Description	Volume applied / sample band width	Compatible Strip Size
CSLAPPS22	1x 2-specimen semi-micro applicator	0.7µl / 7mm	2.5x14cm
CSLAPPS4SP	1x 4-specimen semi-micro applicator	0.9µl / 9mm	5.7x14cm
CSLAPPS4	1x 4-specimen semi-micro applicator	1.2µl / 9mm	5.7x14cm

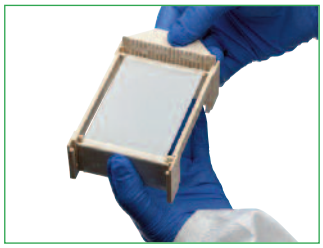
Part Number	Description	Volume applied / sample band width	Compatible Strip Size
CSLAPPS6	1x 6-specimen semi-micro applicator	0.7µl / 7mm	5.7x14cm
CSLAPPM8	1x 8-sample micro applicator	0.3µl / 5mm	5.7x14cm

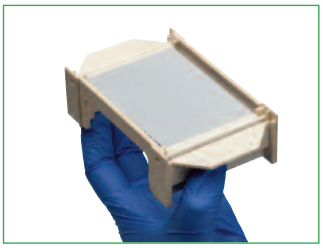
Using CellasGEL

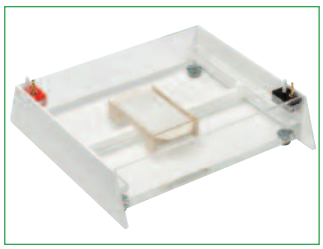
1. *Equilibrate a CellasGEL for 10 minutes in Electrophoresis buffer using an agitating platform (e.g. 3D Shaker, page 68)*
2. *Dry surplus buffer from the CellasGEL before securing it to a Bridge located within a pre-prepared Cellas tank*
3. *Apply samples to the CellasGEL using the appropriate Applicator, and electrophorese at 200V for 30-9 secs (see Power Supplies, Page 58)*
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 minutes at 80°C (e.g. NHYBRIDBASIC, page 70)*
6. *Quantify bands using Scanner and Densitometer Software*

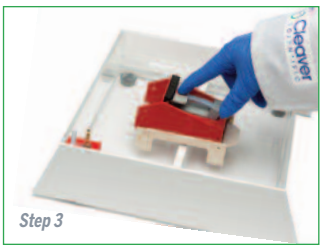

Step 1


Step 2








Step 3

omniPAGE Isoelectric Focusing

Equipped with rehydration and focusing trays, the Cleaver Scientific IEF system has been optimised to perform first-dimension isoelectric focusing (IEF) with IPG (immobilised pH gradient) strips quickly, easily and reproducibly. It can also be used with precast IEF Gels.

An ideal entry-level system for both experienced and occasional IEF users, the unit is versatile enough to meet the needs of laboratories with increased throughput requirements as well as first time users.

HIGH CAPACITY

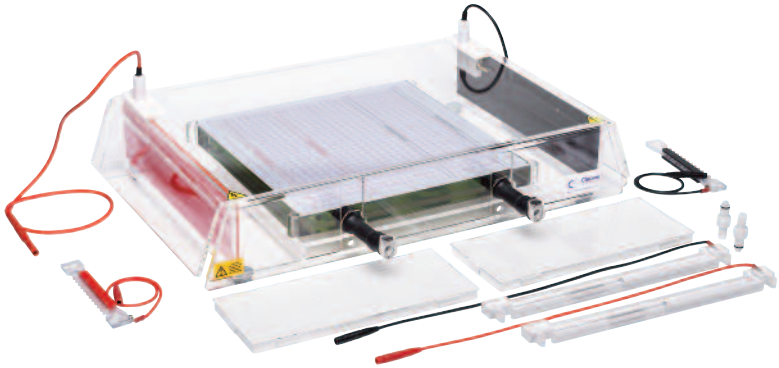
Its high-capacity focusing tray accommodates up to twelve IPG strips. Adjustable 'pick-and-place' electrodes clip conveniently anywhere within the focusing tray to resolve IPG strips 7-24cm in length and are colour-coded to prevent polarity reversal. The Electrode frame clips directly on to the cooling plate and includes adjustable electrodes to run horizontal precast IEF and PAGE gels.

A cooling plate, manufactured from a special grade ceramic in a large 26x26cm surface area, facilitates effective heat dissipation and control, particularly during high voltage IEF techniques. An optional, but recommended, recirculating chiller connects quickly and easily to the cooling plate to maintain optimal operating temperatures for IPG strips and precast gels.

REHYDRATION

The Rehydration tray allows convenient transfer of IPG strips to the focusing tray without time-consuming removal of residual rehydration buffer and also enables the focusing tray to remain permanently in use for IEF to maximise throughput and provides useful storage at -20°C for focused strips before second-dimension runs.

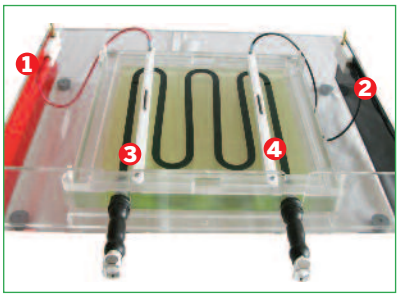
For those requiring a power supply, the Consort EV2320, 3000V, 150mA, 150W enables desired Volt-hours for focusing to be attained faster at maximum voltage.



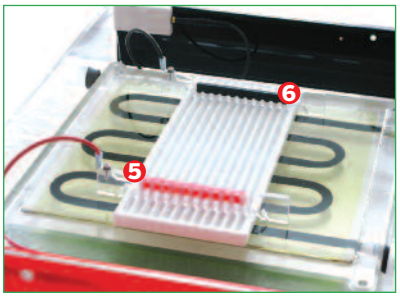
KEY FEATURES

- For IPG strips and IEF gels
- Large cooling platform area
- 'Pick-and-Place' adjustable electrodes
- Focusing tray for a maximum twelve IPG strips
- Rehydration tray also included

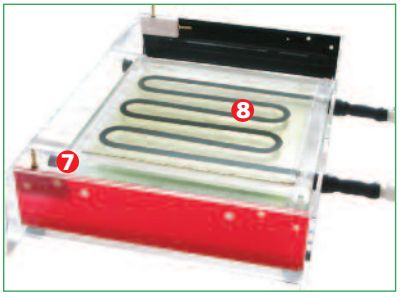
IEF Components



1. Positive Electrode, CSL-IEFPOS
2. Negative Electrode, CSL-IEFNEG
3. Spring Positive Electrode, CSL-SGELEPOS
4. Spring Negative Electrode, CSL-SGELENEG



5. Focusing Tray Adjustable Electrode Negative, CSL-FTELECNEG
6. Focusing Tray Adjustable Electrode Positive, CSL-FTELECPOS



7. Replacement IEF Tank, CSL-IEFTANK (Tank/Electrode Only, No Cooling Platform)
8. Cooling Platform for IEF system, CSL-IEFCP

Tray Specifications	IPG Strip Length 7cm	11cm*	18cm	24cm
Focusing Tray				
Electrode Distance	6.5cm	10.2cm	17.1cm	22.7cm
Maximum Strip Length Accommodated	25.3cm	25.3cm	25.3cm	25.3cm
IPG Strip Length	7cm	N/A*	18cm	24cm
Rehydration Tray				
Maximum Strip Length Accommodated	24cm	24cm	24cm	24cm
Recommended Volume for Strip Rehydration	3.5ml	6ml	8.0ml	12.0ml

Ordering Information

CSL-IEF	**Flatbed IEF system** for IPG strips and gels, with focusing and rehydration trays
CSL-CHILLER	Chiller system, -20 to 100°C, See page 42 for full technical specification
IEF-KIT	**1-D Combination Package**, includes CSL-IEF, CSL-CHILLER and EV2320
CSL-IEFPOS	Replacement positive electrode (Fits to Tank side)
CSL-IEFNEG	Replacement negative electrode (Fits to Tank side)
CSL-SGELEPOS	Replacement Spring Positive Electrode
CSL-SGELENEG	Replacement Spring Negative Electrode
CSL-FTELECPOS	Focusing Tray Adjustable Electrode Positive
CSL-FTELECNEG	ocusing Tray Adjustable Electrode Negative
CSL-IEFCP	Cooling Platform for IEF system
CSL-IEFTANK	Replacement IEF Tank (Tank/Electrode Only, No Cooling Platform)
IEF-LID	Lid for CSL-IEF (no cables)
CSL-IEFPLT	Replacement Glass platform
CSL-IEFFRME	Replacement electrode frame
CSL-RHYDTRY	Rehydration Tray
CSL-FOCUSTRAY	Focusing Tray with adjustable electrodes
EV2320	Consort 3000V, 300mA, 300W power supply

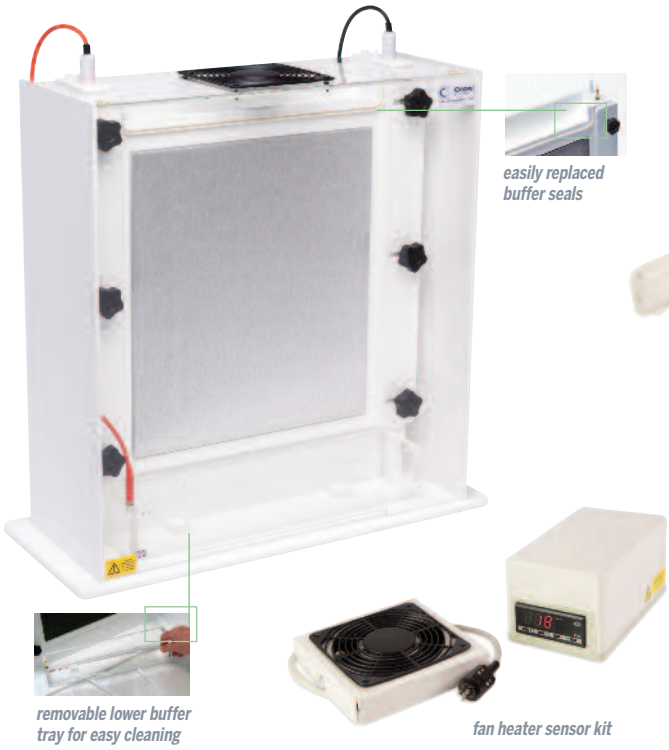
omniPAGE Large Format

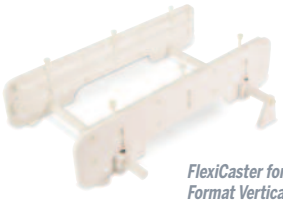
Ideal for a variety of large format vertical gel applications, these Large Format vertical gel systems offer advanced features for enhancing gel resolution and ease of use, essential when handling gels of this size

Each unit contains ultra-soft silicone seals for easy plate sealing and trouble-free runs, even over extended run times. Resolution is enhanced by using an aluminium heat sink plate, essential for even sample migration. Added convenience is provided by a removable lower buffer tank and upper buffer drainage tap.
Special buffer chambers allow either low buffer volumes to be used for economy or high buffer volumes to be used for extended runs.
A wide range of interchangeable comb and spacer options allows many techniques to be easily accomplished including; DNA Sequencing, 2-D analysis, Microsatellite analysis, DNA fingerprinting, Gel shift assays, Single-Strand Conformation Polymorphism (SSCP), Heteroduplex and Oligonucleotide analysis.

KEY FEATURES

- Run up to 96 samples
- Enhanced gel heat homogenisation
- Variable low or high buffer volumes
- 20 x 50cm or 33 x 45cm formats



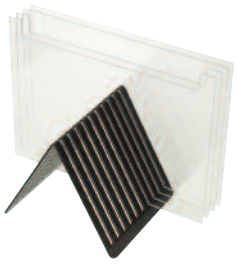


FlexiCaster for Large Format Vertical

Technical Specifications

Plate dimensions (w x l)	CSQ20 20 x 50cm CSQ33 33 x 45cm
Max sample capacity	CSQ20 48 samples CSQ33 96 samples
Buffer volume	CSQ20 Min 500ml, Max 1000ml CSQ33 Min 800ml, Max 2000ml
Combs available No. of teeth Thicknesses	 24, 48, 80, 96 0.25, 0.35, 1, 1.5mm

PLATE RACKS



These sturdy racks are designed for safe drying and storage of glass plates. The small rack can hold up to 20x 2mm thick plates while the larger rack can accommodate up to 10x 5mm thick glass plates.

Ordering Information

CSQ20	**Large Format Vertical,** 20cm wide, glass plates, 0.35mm spaces, 48 sample comb		
CSQ20-NG	Glass plates, Notched, pk/2	CSQ20-S0.35	Spacer set 0.35mm
CSQ20-PG	Glass plates, pk/2	CSQ20-S1	Spacer set 1mm
CSQ20-S0.25	Spacer set 0.25mm	CSQ20-S1.5	Spacer set 1.5mm
CSQ33	**Large Format Vertical**, 33cm wide, glass plates, 0.35mm spaces, 48 sample comb		
CSQ33-NG	Glass plates, Notched, pk/2	CSQ33-S1	Spacer set 1mm
CSQ33-PG	Glass plates, pk/2	CSQ33-S1.5	Spacer set 1.5mm
CSQ33-S0.25	Spacer set 0.25mm	CSL-FHS	Fan heater sensor kit for large format vertical units RRCSQ20 and RRCSQ33
CSQ33-S0.35	Spacer set 0.35mm		
CSL-MGPR	Mini Glass Plate Rack for 20x 2mm Plates	CSL-LGPR	Large Glass Plate Rack for 10x 5mm Plates

Code	Description	Sample Volume per well	Code	Description	Sample Volume per well
CSQ20-0.25-24	Comb 24 sample, 0.25mm thick, Sharks tooth	7µl	CSQ20-1-24SQT	Comb 24 sample, 1mm thick, Square tooth	40µl
CSQ20-0.25-48	Comb 48 sample, 0.25mm thick, Sharks tooth	3µl	CSQ20-1-48SQT	Comb 48 sample, 1mm thick, Square tooth	20µl
CSQ33-0.25-48	Comb 48 sample, 0.25mm thick, Sharks tooth	7µl	CSQ33-1-48SQT	Comb 48 sample, 1mm thick, Square tooth	35µl
CSQ33-0.25-96	Comb 96 sample, 0.25mm thick, Sharks tooth	3µl	CSQ33-1-80SQT	Comb 80 sample, 1mm thick, Square tooth	20µl
CSQ20-0.35-24	Comb 24 sample, 0.35mm thick, Sharks tooth	9µl	CSQ20-1.5-24SQT	Comb 24 sample, 1.5mm thick, Square tooth	60µl
CSQ20-0.35-48	Comb 48 sample, 0.35mm thick, Sharks tooth	5µl	CSQ20-1.5-48SQT	Comb 48 sample, 1.5mm thick, Square tooth	30µl
CSQ33-0.35-48	Comb 48 sample, 0.35mm thick, Sharks tooth	9µl	CSQ33-1.5-48SQT	Comb 48 sample, 1.5mm thick, Square tooth	50µl
CSQ33-0.35-96	Comb 96 sample, 0.35mm thick, Sharks tooth	5µl	CSQ33-1.5-80SQT	Comb 80 sample, 1.5mm thick, Square tooth	30µl

omniPAGE Denaturing Gradient

The VS20WAVE-DGGE is a complete system for DNA mutation analysis. Using the innovative vertical screw-clamp technology of the new VS20-WAVE system, the VS20WAVE-DGGE is fully equipped – with temperature control unit, stirrer, gradient mixer and casting accessories – to perform specific mutation analysis applications.

The powerful microprocessor-controlled PID temperature control unit enables various mutation detection techniques to be undertaken between ambient temperature and 70°C, while the simple four-screw design of the WAVE insert accelerates set up of denaturing PAGE gels.

The VS20-DGGE can be used to screen single-base pair changes in the following applications:

- Parallel Denaturing Gradient Gel Electrophoresis (DGGE)
- Constant Denaturing Gradient Gel Electrophoresis (CDGE)

A maximum 96-sample throughput allows detection of as many mutations within a couple hours, alleviating many of the bottlenecks associated with screening for DNA mutations. The GM100 gradient mixer is supplied as standard to ensure efficient gradient formation by mixing and delivering high- and low-density denaturant solutions. The MU-D01 peristaltic pump is also recommended for delivery of linear and reproducible gradient gels.

KEY FEATURES

- Maximum 96-sample throughput
- Four-screw vertical clamping technology accelerates set up
- Large format - 20x20cm glass plates for improved resolution
- 100ml gradient mixer, with valve-controlled 50ml reservoir and mixing chambers, makes two 1mm parallel denaturing gradient gels
- Microprocessor-controlled temperature control unit accurate to ffl0.02°C

Casting process for DGGE gels

Innovative Casting and Set-up Mechanism

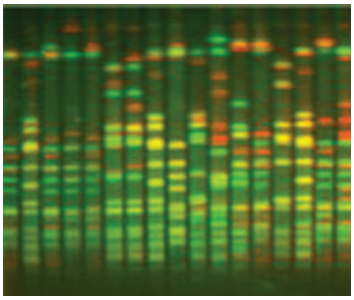
The VS20WAVE-DGGE utilises novel vertical screw clamp technology to assemble two vertical gels. This reduces the number of screws required for set up making casting assembly faster, while a built-in inner buffer chamber within the PAGE insert allows set-up to be completed without the inclusion of heavy top tanks or buffer chambers. A dual purpose PAGE insert eliminates the need for plate transfer, and is used with a cam casting base to guarantee efficient leak free casting.

Precise thermal control

The redesigned VS20DGGE-TC temperature control unit combines buffer recirculation with a heat sensor and 1.4kW heating element to facilitate precise temperature control to within ±0.02°C, allowing the gel temperature to be set to the melting temperature (Tm) of the amplified DNA polymorphism or mutation of interest. Other benefits include: a conspicuous 4-digit 16mm LED panel to aid set-up; precise tuning to within 0.1°C resolution; an operating set point, plus three adjustable pre-set temperature values; and stirred buffer circulation for temperature stability and uniformity.

Programmable power supply option

At 500V, 800mA and 300W outputs, the optional powerPRO500 power supply provides full flexibility for different mutation detection techniques.



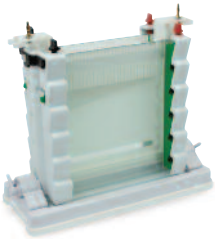
TotalLab 1D / CLIQS – Multiplex Analysis

CLIQS 1D Pro is more advanced analysis software used primarily for band-pattern matching within individual DGGE, SSCP and RFLP gels that are important for cultivar experiments, evolutionary biology and population genetics. CLIQS 1D Pro has a powerful band matching feature, which is flexible and easy to use, while visual tools show the results of matching and identify similarities within an individual gel, including lane clustering via dendrograms. More info on our software range can be found on our website.

powerPRO500 power supply

CSL-DSTIR Magnetic Stirrer

MU-D01 Peristaltic Pump



WAVE electrophoresis insert and cam casting base

Technical Specifications

WAVE electrophoresis insert and tank		Temperature Control Unit	
Max. Number of Gels	2 per run	Temperature Control	PID
Plate Dimensions (W x H)	20x20cm	Operating Temperature Range	Ambient – 100°C
Active Gel Dimensions (W x H)	16 x 17.5cm	Working Temperature Range (DGGE)	45-70°C
Spacer Thicknesses Buffer	0.75, 1, 1.5 and 2mm	Buffer Recirculation Mechanism	Stirring
Max. Sample Capacity	96 samples; 48 per gel	Temperature Uniformity/Stability at 37°C	±0.05/0.02°C
Standard Combs	2x 1mm 24-sample	Setting/Display Resolution	0.1°C
Available Combs	1, 5, 10, 18MC, 24, 36MC, 48; as per VS20WAVE and MAXI units	Safety	Fluid-level float switch; isolated; IEC 1010 /CE
Max. Buffer Volume	8.5L		4
Unit Dimensions (W x D x H)	40.5 x 17 x 44cm	Stored Temperature Values	1.4/1.3kW
Weight	8kg	Heater Power at 230V/110VAC	1.5/1.4kW
Recommended Power Supply		**Gradient Mixer**	
Voltage	500V Total	Total Volume 100ml	100ml
Current	800mA	Volume of Reservoir & Mixing Chambers	50ml
Power	300W	Internal Diameter of Outlet Port	2mm

Ordering Information

VS20WAVE-DGGE*	**Complete Denaturing Gradient Gel Electrophoresis System**, 20x20cm; includes: temperature control unit, cam casting base, glass plates with 1mm bonded spacers, 2x 24-sample combs and gradient mixer – 240 VAC version
VS20WAVE-DGGETC	Temperature Control Unit
GM100	Gradient Mixer, 100ml
VS20WAVE-DGGEKIT	**VS20-WAVE Package**; includes VS20-DGGE, STIR, MU-D01, MU-S16, powerPRO500

CSL-DSTIR*	**Magnetic Stirrer**, 19 x 19cm	**CLIQS**	**1D image analysis** with band pattern matching
MU-D01	**Single Channel Peristaltic Pump**	**CLIQS 1D Pro**	**1D image analysis** with band pattern matching between different gels
MU-S16	Silicon tube I.D. 1/8", 25 ft (for peristaltic pump		
powerPRO500	**powerPRO 500 Power Supply**, 500V, 800mA, 300W		* For 110V units add $ to the order code

omniPAGE Power Supplies

	MINI		MIDI	MAXI	MAXI
	nanoPAC-300P	nanoPAC-500	powerPRO-300	powerPRO-500	powerPRO-3AMP
Output range					
Volts	10-300V	10-500V	2-300V	5-500V	5-300V
Current	10-400mA	10-400mA	1-700mA	1-800mA	10-3000mA
Power	60W max.	120W max.	150W	300W	300W
Resolution	1V / 1mA	1V / 1mA	1V / 1mA	1V / 1mA / 1W	1V / 1mA / 1W
Type of output	Constant voltage or constant current		Constant voltage or constant current, programmable		
Automatic crossover	–	–	✓	✓	✓
Timer	1-999 min. with alarm; Intensity Continuous		Constant mode: 1-9999 min. with alarm; continuous. Programmable mode: 1-999 min. with alarm; continuous.		
Pause/resume function	✓	✓	✓	✓	✓
Display	3-digit LED	3-digit LED	2.4" LCD display	2.4" LCD display	2.4" LCD display
Programmable Methods	2 Step-program	2 Step-program	–	Up to 30 programmable files, each with 6 steps. Preset options for Cleaver gel tanks.	
Safety features	No load detection; shrouded plugs and sockets; Over temperature protection; Over load detection		No Load detect; No Load detect; Leakage detect; Over temperature protection; Over load detection; Sudden load change detection (could be disabled by proper setting); Shrouded plugs and sockets		
Operating conditions	Ambient-40°C; ±95% humidity	Ambient-40°C; ±95% humidity	Ambient-40°C; ±95% humidity	Ambient-40°C; ±95% humidity	Ambient-40°C; ±95% humidity
Stackable	X	X	✓	✓	✓
Number of output jacks	2 sets in parallel	2 sets in parallel	5 sets in parallel	5 sets in parallel	5 sets in parallel
Regulatory conformity	ETL, CE, FCC	ETL, CE, FCC	ETL, CE, FCC	ETL, CE, FCC	ETL, CE, FCC
Rated voltage	100-240 VAC	100-240 VAC	100-240 VAC	100-240 VAC	100-240 VAC
Construction	Polycarbonate housing with aluminium base		Flame retardant ABS-plate design		
Dimensions (WxDxH)	140 x 191 x 84mm	140 x 191 x 84mm	215 x 335 x 104mm	215 x 335 x 104mm	215 x 335 x 104mm
Weight	1kg	1kg	2.1kg	2.1kg	2.1kg

EZEE POWERsupplies

Whether you require a power supply for routine horizontal DNA agarose gel electrophoresis or techniques as technically demanding as SSCP analysis within a large format vertical, or first dimension IEF using IPG strips, Cleaver Scientific can meet your requirements with its comprehensive range of power supplies. Each power supply benefits from a small footprint area and compact design, while explanatory self- prompting menus facilitate easy set-up. Furthermore, these power supplies adhere to IEC 61010 – one of the world's most stringent electrical safety standards.

EZEE POWERpro

The PowerPro series of power supplies is a versatile range designed to power both multiSUB horizontal and omniPAGE vertical electrophoresis tanks.

Each power supply has a 2.4" LCD display showing the available options as well as current running conditions. Constant voltage, current and power options are available as well as pre-programmed or customer programmed conditions allowing users to save and repeat their experiments for exceptional reproducibility. The 5 power outlet pairs mean less power supplies are needed for the same number of tanks, saving cost and time when running multiple tanks simultaneously.

PowerPro 300 is perfect for our smaller tanks and can run up to 5 multiSUB MIDI units or omniPAGE Mini's. For Higher voltage runs the PowerPro500 offers a maximum 500V output, perfect for the larger horizontal and vertical units. For blotting, where high current can be required, the PowerPro3AMP supplies a maximum 3000mA to allow multiple blots to process simultaneously.

KEY FEATURES

- Routine horizontal electrophoresis using multiSUB Mini, Midi and Choice.
- Vertical Electrophoresis using omniPAGE Mini.

Technical Specifications

Cat. No.	powerPRO300	powerPRO500	powerPRO3AMP
Max. Voltage	5 - 300V / 1V	5 - 500V / 1V	5 - 300V / 1V
Max. Current	1-700mA / 1mA	1-800mA / 1mA	10-3000mA / 10mA
Max. Watt	150W / 1W	300W / 1W	300W / 1W
Output Type	––– Constant voltage / Current / Power –––		
Program	–– Pre setting; Up to 6-step, 30 programmed files ––		
Timer	––– Constant mode: 9999 (min) with alarm –––		
Programmable mode: ––– 999 (min) with alarm –––			
Rated voltage	––––- 100 - 240V ––––-		

Ordering Information

powerPRO300	**Midi Power Supply**, 300V, 700mA, 150W	CSL-4-4	Power supply adapters, 4mm to 4mm
powerPRO500	**Midi Power Supply**, 500V, 400mA, 3000W	CSL-4-2	Power supply adapters, 4mm to 2mm
powerPRO3AMP	**Maxi Power Supply**, 300V, 3000mA, 300W	CSL-2-4	Power supply adapters, 2mm to 4mm

EZE POWERSupplies

nanoPAC Mini

The new and improved nanoPAC Mini Power supply series comprises ultra-compact and economical units ideal for use with DNA/RNA (Horizontal) and protein (vertical) electrophoresis systems.

A simple two step feature which allows users to set a programmable change in voltage/current/time during the run provides increased versatility. Simply press MODE and program STEP 1 and STEP2 to the desired setting and then start and the nanoPAC will automatically run the steps in sequence.
With enhanced features, such as a maximum constant voltage up to 300 or 500V and maximum constant current output of 400mA they are capable of running all horizontal multiSUB™ systems and vertical omniPAGE™ mini. The nanoPAC-500 is also capable of running the VS10W & VS20WAVE vertical units, as well as horizontal and vertical gel tanks from other manufacturers, These can be set on a continuous run or timed setting up to 999 minutes. The nanoPAC's user-friendly interface is easily adjustable in 1V and 1mA increments, making it perfect for separations where precise settings are required. Two pairs of parallel power terminals, allows two electrophoresis units to be run simultaneously, saving time.

KEY FEATURES

- Ultra compact size saves bench space
- Enhanced in-built safety features
- Conspicuous 3-digit LED
- Alarm function
- Wipe-clean polycarbonate housing

Consort

All Consort Maxi Series (EV2xxx/EV3xxx) power supplies have four output terminals for up to four simultaneous runs. Powerful microprocessor control allows complex programming, while manual mode permits the setting of voltage, current, power and time for routine electrophoretic runs. The parameters may also be changed temporarily without interrupting the run.

EV2000 series -

is a high-end mid-power range suitable for most applications such as larger tanks or multiple smaller tanks. A robust 150W power supply in a small housing and designed to be easy to use.

EV3000 series -

This high-power, high-end power supply series has five versions. The 3000V and 6000V version have a special low current mode for IEF applications.
small housing and designed to be easy to use.

EV3xxx Series

KEY FEATURES

- Constant voltage, current or power
- Automatic crossover
- Overload Protection
- Short Circuit Protection

Ordering Information

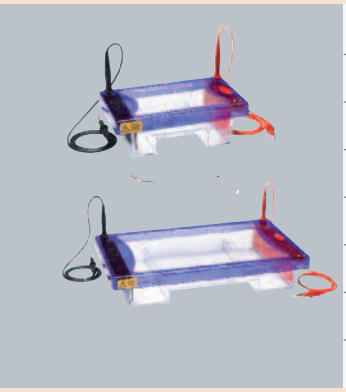
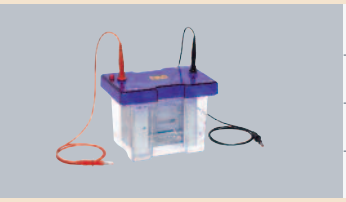
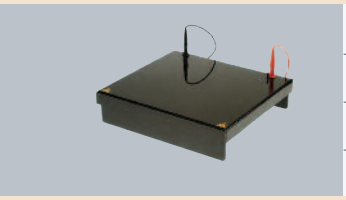
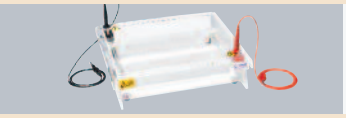
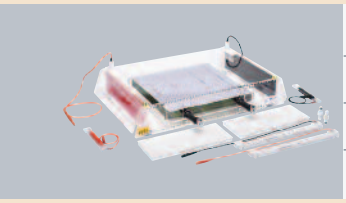
nanoPAC-300P	Mini Power Supply	300V	400mA	60W
nanoPAC-500	Mini Power Supply	500V	400mA	120W

CSL-4-4	Power supply adapters, 4mm to 4mm
CSL-4-2	Power supply adapters, 4mm to 2mm
CSL-2-4	Power supply adapters, 2mm to 4mm

EV2310	Consort Power Supply	300 V	1000 mA	150 watts
EV2650	Consort Power Supply	600 V	500 mA	150 watts
EV2230	Consort Power Supply	1500 V	300 mA	150 watts
EV2320	Consort Power Supply	3000 V	150 mA	150 watts
EV3020	Consort Power Supply	300 V	2000 mA	300 watts

EV3610	Consort Power Supply	600 V	1000 mA	300 watts
EV3150	Consort Power Supply	1200 V	5000 mA	300 watts
EV3330	Consort Power Supply	3000 V	300 mA	300 watts
EV3620	Consort Power Supply	6000 V	150 mA	300 watts

Power Supply
SELECTION GUIDE

	Apparatus	Sample Quantity	Recommended Power Supply
Horizontal Agarose Electrophoresis			
	multiSUB Midi	100 x 100 x 5mm, max.	nanoPAC300, nanoPAC500 or powerPRO300
	multiSUB Choice	150 x 150 x 5mm, max.	
	multiSUB Choice ST	150 x 250 x 5mm, max.	
	multiSUB Maxi	200 x 200 x 5mm, max.	
	multiSUB Screen	260 x 320 x 5mm, max.	
	mini Rapide	100 x 80 x 5mm max.	
	multiSUB Midi 96	100 x 120 x 5mm max.	
	multiSUB Mid 96 ST	101 x 240 x 5mm max.	
Polyacrylamide Vertical Gel Electrophoresis			
	omniPAGE Mini	80 x 85 x 1mm, 4 gels	nanoPAC300, nanoPAC500 or powerPRO300
	omniPAGE Mini Wide	160 x 85 x 1mm, 2 gels	
	omniPAGE WAVE Maxi	160 x 175 x 1mm, 2-4 gels	powerPRO500 or nanoPAC500
	omniPAGE Maxi Wide	280 x 200 x 1mm, 2 gels	powerPRO500
Western Blotting			
	omniBLOT Mini/Blotting Insert	80 x 85 x 1mm, 4 gels	powerPRO300 or powerPRO3AMP
	omniBLOT Mini Wide/Blotting Insert	160 x 85 x 1mm, 4 gels	
	omniBLOT Maxi/Blotting Insert	160 x 175 x 1mm, 4 gels	powerPRO300, powerPRO500 or powerPRO3AMP
	SD10 Mini	100 x 100 x 2/5mm, 1 gel	powerPRO3AMP
	SD20 Maxi	200 x 200 x 2/5mm, 1 gel	
Comet Assay, SCGE			
	COM10	25 x 75mm, 10 slides	nanoPAC300, nanoPAC500 or powerPRO300
	COM20	25 x 75mm, 20 slides	
	COM40	25 x 75mm, 40 slides	powerPRO300
	COMPAC-50	25 x 75mm, 50 slides	
Cellulose Acetate Electrophoresis			
	CSL-CELLAS	25 x 140mm–170 x 170mm, Cellasgel strips max. 250 M thickness; or CellasMEM membranes (all types)	nanoPAC300, nanoPAC500 or powerPRO300
IEF, first-dimension 2-D			
	CSL_IEF	3 x 240 x 1mm, max. 12 strips	EV2320
	Maxi Tube Gel	180 x 1/1.5mm tubes, 10 max.	EV3150
	Mini-Wide Tube Gel	80 x 1/1.5mm tubes	
	Mini Tube Gel	80 x 1/1.5mm tubes	
Large Format (Sequencing)			
	CSQ20	160 x 500 x 0.35mm	EV2230 or EV2320
	CSQ33	290 x 410 x 0.35mm	

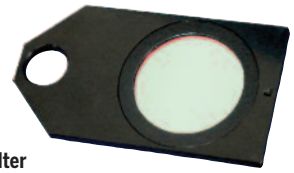
omniDOC Gel Documentation

The omniDOC systems offer high performance gel documentation and analysis at affordable costs.

By providing many of the features incorporated within the highest specification systems, but without the added price premium, the omniDOC system presents a simple but sophisticated imaging solution. A high resolution 5 mega pixel CMOS sensor with slide-out UV transilluminator, and optional blue epiillumination module and white light table, makes the omniDOC suitable for imaging most fluorescent and colorimetric gels. Imaging applications are made easy by a pre-focused camera that requires little or no manual adjustment, while simple image acquisition and analysis software guides the user through every step of the gel documentation process. A front filter and spring-loaded cover facilitates safe and convenient gel inspection. omniDOCs are constructed from corrosion resistant ABS for superior durability.

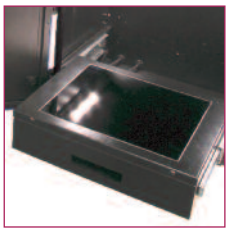
KEY FEATURES

- Pre-focused 5 mega pixel camera with auto-exposure for almost instantaneous high resolution gel imaging
- 6mm lens, F1.2 aperture size, with manual adjustment
- Interchangeable filter – 620nm ethidium bromide filter as standard; 520, 560 and 580nm filter options for runSAFE, SYBR stain and other fluorescence applications
- Internal white LED – helps gel positioning and focusing
- Slide-out 312nm transilluminator
- Large 21x26cm imaging area



Filter

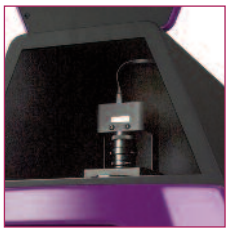
- 620nm filter (standard) – EtBr, Gel Red & SafeView Classic
- 520nm filter (SYBR) – Gel Green, Midori Green, run- SAFE, SYBR Green I & II, SYBR Gold & SYBR Safe
- 560nm filter (yellow) – as per 520nm filter but also including SYPRO Orange
- 580nm filter (orange) – EtBr, Gel Green & Red, Safe- View Classic; SYBR Green I & II, SYBR Gold & Safe; SYPRO Orange & Ruby



DNA – use the slide-out UV transilluminator to capture images of DNA gels stained with EtBr and SYBR dyes

Blue light – LED epi-illumination module allows visualisation of some stains with better clarity and without DNA damage – e.g. runSAFE

White light table – use plug- in white light table to view coomassie blue and silver stain protein gels; may also be used to view tissue slides and autoradiographs



Autoradiographs – high resolution 5MP camera captures images in high detail, especially when scrutinising separation between closely located bands or spots

Chemiluminescence Documentation Systems

Cleaver Scientific supplies a range of chemiluminescence documentation systems for both chemi and fluorescence imaging. All systems include intuitive acquisition and analysis software to make capturing and analysing gels as easy as possible. To see the latest range, visit the Cleaver Scientific website here: or contact our sales team at sale@cleaverscientific.com.

omniDOC IMAGE CAPTURE AND ANALYSIS SOFTWARE – USE THE INCLUDED SOFTWARE TO...	
Acquire, store and manipulate images	Analyse, document and quantify gels
Use intuitive touchscreen control for image acquisition in a few simple steps	Following image acquisition use the intuitive touchscreen control software for analysis
Adjust the exposure time, altering the UV intensity or manipulating the iris on the camera if required	Load the newly acquired image, or select one stored previously in TIFF, JPEG, BMP or GIF image format
Select your light source: UV, blue or white light	Select the gel or dot blot type from one of four options
Use Toolbox function to change default settings for excitation source & exposure time, or apply advanced features like saturation detection & date stamp	'Tap and drag' rectangular boxes on your tablet to define the sample lanes to be analysed
Image Freeze – minimise UV damage nucleic acid gels by 'freezing' the gel image and switching off the transilluminator ahead of image capture or printing	Set the level of sensitivity and define the base line for subtraction
Acquire and save image for...	Perform density analysis...
Analysis	And then molecular weight analysis; use software to save as an image file format of your choosing or export into Microsoft Excel as a CSV file for further data analysis

Technical Specifications	
UV Transilluminator	312nm, 21x26cm (WxL); 6x8W tubes
Resolution	5 mega pixels (2592x1944 pixels max)
Sensor	CMOS, 1/2.5". Monochrome
Lens	5mm focal length; aperture F1.2
Image Bit-Depth Sensor	12-bit (0-4095 grey levels)
Filter Camera	620nm EtBr (standard); optional 520, 560, 580nm filters
Image Storage	PC or Laptop
Connection to Operating Device	USB to PC
Operating System Requirements for Software	Windows® 7 (64bit & 32bit) / XP / Vista
Dark Room Assembly Dimensions	410 x 405 x 570mm (W x D x H)
Front Panel Display	LED
Viewing Window	560nm universal orange filter
White Light	6x1W LED (standard) for gel positioning
White Light Table (optional)	21x26cm filter; connects internally to darkroom
Blue LED Epi-illumination Module (optional)	excitation wavelength 470nm; connects internally to dark room
Safety	Safety interlock switch on front door panel; disconnects UV transilluminator on opening; complies with CE, FCC standards
USB Port	For PC
Power Rating	Dual voltage: 110-230 VAC
Weight	25kg

Ordering Information

OMNIDOC	**omniDOC Gel Documentation System** with 620nm (EtBr) emission filter & 312nm UV transilluminator*
OMNIDOCSAFE	**omniDOC plus Blue LED Epi-illumination Module** (OMNIDOC-BL) and 520, 560 & 580 filters (OMNIDOC-EB, -AF560 & -AF580)*
OMNIDOCPROSAFE	**omniDOC plus Blue LED Epi-illumination Module** (OMNIDOC-BL) and 520, 560 & 580 filters (OMNIDOC-EB, -AF560 & -AF580) and white Light table (OMNIDOC-WLT)*

omniDOC Accessoires

OMNIDOC-WLT	Optional White Light Table	OMNIDOC-AF580 Amber Filter, 580nm
OMNIDOC-BL	Optional Blue Light modules	OMNIDOC-AF560 Amber Filter, 560nm
OMNIDOC-SYBR	Optical SYBR Green Filter	OMNIDOC-F1 Viewing window, Amber Filter, 560nm (Supplied as standard)
OMNIDOC-EB	Optical EtBr Filter (Supplied as standard)	

microDOC

KEY FEATURES

- 18 mega pixel digital camera*
- Image visualised within a large 8" TFT colour monitor
- Light weight compact hood with easy access door and built-in inner lights
- Integral microswitch switches off UV Transilluminator and turns on internal light
- Can be used without a computer
- Includes flash card, flash card reader and ethidium bromide filter
- Available on its own with camera and darkroom, or as a complete gel documentation system with transilluminator, either with or without software

shown with UV Transilluminator

microDOC is a simple, inexpensive and ultra compact gel documentation system. It includes a digital camera with CCD sensor and the latest image processor to guarantee superb resolution of 18 mega pixels*. For added convenience, limited space and budget requirements, microDOC can be used computer free.

The image is viewed from a large 8" TFT colour liquid crystal display. A variety of images can be captured in colour, clearly and easily, from agarose and other fluorescent gels, colorimetric gels, auto radiography film and blotting membranes. The system is fitted with an ethidium bromide filter and has a safety switch to turn off the UV Transilluminator when the door is opened. This also activates internal light for convenient gel manipulation.

convenience

easily lifted on and off transilluminator

separate power and light switches

Technical Specifications

Camera:	
Effective pixels:	18 million
CCD:	Large APS-C CMOS sensor
Zoom:	5 x zoom /4x digital
Max. Aperture:	f/3.5 - f/5.6
Shutter Speed:	30 - 1/4000s. (total range)
File formats:	RAW, TIFF-RGB, JPEG
Storage Media:	4GB memory card; optional Wi-Fi memory card
Computer Interface:	Hi-Speed USB (Mini-B compatible)
Video Out:	NTSC/PAL
8.0" TFT liquid crystal screen	
Display format:	600 x 800 pixels
Brightness	350 cd/mm^2
Constant Ratio	300 : 1
Display Mode	NTSC / PAL / SECAM mode, auto switching
Chamber, microDOC:	
Hood dimension:	290 x 220 x 320mm (WxDxH)
Weight:	6.1 kg
Inner white lamp:	2x 3W LED tubes
Safety door switch:	shuts down UV transilluminator
Voltage Rating	110~220V

BASIC

microDOC

microDOC BASIC is a simple low-cost system comprising a lift-off dark room hood and 18 megapixel digital camera, through which the gel is viewed directly. This system can be supplied with optional CLIQS Analysis Software and any one of the 21x21cm transilluminators

Ordering Information

SYSTEM ONLY	INCLUDING TOTALLAB 1D ANALYSIS SOFTWARE	GEL DOCUMENTATION SYSTEMS
CSL-MICRODOC	CSL-MICRODOC1D	Compact Gel documentation system
CSL-MDOCUV312	CSL-MDOCUV3121D	microDOC System with UV Transilluminator (UVTS312)
CSL-MDOCUV254	CSL-MDOCUV2541D	microDOC System with UV Transilluminator (UVTS254)
CSL-MDOCUV365	CSL-MDOCUV3651D	microDOC System with UV Transilluminator (UVTS365)
CSL-MDOCUV254/312	CSL-MDOCUV254/3121D	microDOC System with UV Transilluminator (UVTS254/312)
CSL-MDOCUV254/365	CSL-MDOCUV254/3651D	microDOC System with UV Transilluminator (UVTS254/365)
CSL-MDOCUV312/365	CSL-MDOCUV312/3651D	microDOC System with UV Transilluminator (UVTS312/365)
CSL-MDOCBASIC	CSL-MDOCBASIC1D	microDOC Basic System with lift-off dark room hood and camera only

Accessories

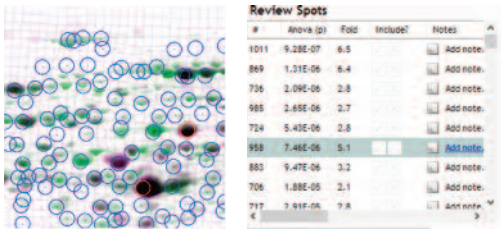
CSL-PRINT	Mitsubishi Thermal Printer for use with Microdoc - 110-240V	CSL-PRTPAP	Replacement printer paper
CSL-MDOCEB	Microdoc ethidium bromide filter	CSL-MDOCWLB	White light box for Micro doc
CSL-MDOCSBRG	Microdoc SYBR filter		

EZ gel analysis

CLIQS gel analysis software options are available for quantitative gel analysis following gel documentation. Each software option offers the highest level of automation currently available and guides the user step by step through the analysis process.

A user-friendly interface is split into four parts allowing the user to view within a single screen every aspect of gel quantitation, including the gel image, lane and band profiles, analysis data and the help menu. CLIQS gel quantitation and is suitable for all users regardless of their experience. More advanced CLIQS 1D PRO software is recommended for researchers performing in-depth lane relationship studies.

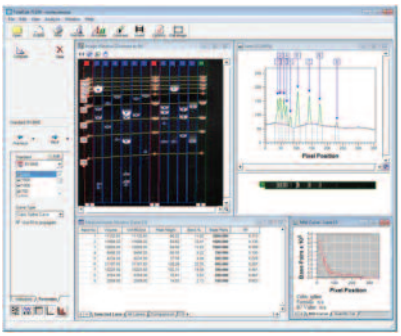
2D gel electrophoresis software



SpotQuest is software with basic functionality and easy to use 10-step workflow. It makes it easy for small laboratories and novice users to apply 2D gel electrophoresis as part of molecular biology or biochemistry research. It gives you a quick, simple, objective way to detect and measure changes in protein samples using 2D gel image analysis.

Technical Specification	CLIQS	CLIQS 1D 21CFR	CLIQS 1D Pro
Automatic detection of lanes and bands	✓	✓	✓
Automatic background subtraction	✓	✓	✓
Image manipulation tools	✓	✓	✓
Molecular Weight Calibration	✓	✓	✓
Quantity calibration and normalisation	✓	✓	✓
Profile deconvolution	✓	✓	✓
Rf calibration	✓	✓	✓
Band pattern matching - single gel	✓	✓	✓
Band pattern matching - lines across multiple gels			✓
Band pattern queries			✓
Dendrogram - single gel	✓	✓	✓
Dendrogram - lanes from multiple gels			✓
Data archive and search facility			✓
Classification and identification tools			✓
Reports	✓	✓	✓
Supports compliance with 21CFR part 11		✓	
Array analysis module	✓		
Colony counting module	✓		
Toolbox for general analysis	✓		

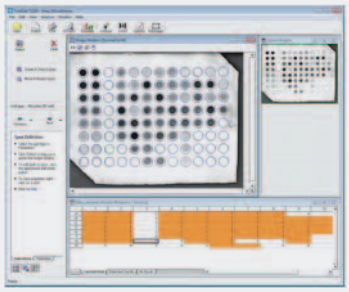
for more information on CLIQS analysis software



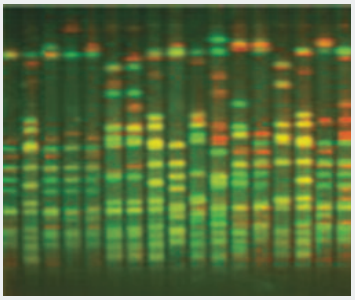
CLIQS is the software supplied exclusively with all microDOC1D models.
CLIQS features a user-friendly interface and help menu that provide a simple, guided workflow for fast and accurate quantitation and calibration of 1D gels and western blots.
Main benefits include:

- The capacity to review each step within the automated workflow analysis, and manually intervene or edit if desired
- Highly developed algorithms which accurately detect lanes and bands even on distorted gel images
- A range of visualisation tools that facilitate further examination of lane and band data to verify results, including band calibration from Molecular Size standard lanes and accurate quantitation derived from known band volumes.

CLIQS includes a 1D module plus three modules for array analysis; colony counting and 2D spot measurement and general feature-based image analysis. The array analysis module can automatically detect up to 1536 wells or arrays spots and may also be used to quantify dot and slot blots. Array analysis and Toolbox modules also include multiplex analysis functionalities.



CLIQS – Array Analysis



TotalLab 1D / CLIQS – Multiplex Analysis

CLIQS 1D Pro is more advanced analysis software used primarily for band-pattern matching within individual DGGE, SSCP and RFLP gels that are important for cultivar experiments, evolutionary biology and population genetics. CLIQS 1D Pro has a powerful band matching feature, which is flexible and easy to use, while visual tools show the results of matching and identify similarities within an individual gel, including lane clustering via dendrograms. More info on our software range can be found on our website.

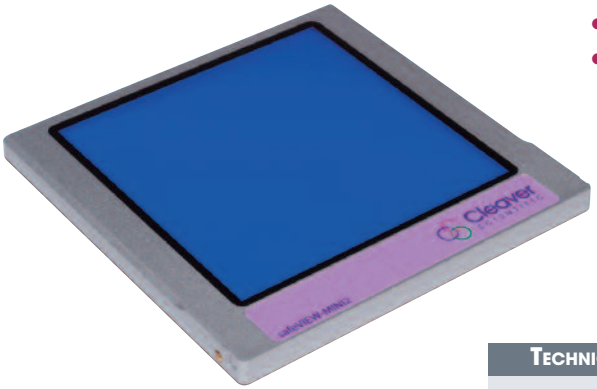
Ordering Information

CLIQS	**Core Laboratory Image Quantification Software** (1D Image Analysis of DNA & protein, Western blotting . Colony counting and basic 2D spot measurement
CLIQS1DPRO	**Core Laboratory Image Quantification PRO Software** (Accurate comparison of banding patterns in samples across multiple gels/experiments)
CLIQS1D21CFR	**Core Laboratory Image Quantification PRO Software** (Accurate comparison of banding patterns in samples across multiple gels/experiments) 21CFR compliance for GLP/GMP laboratories Automated detection algorithms for fast and accurate image analysis
SPOTQUEST	**2D Gel Image Analysis**

safeVIEW MIni-2

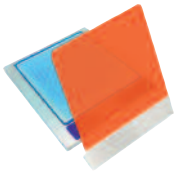
The advanced SafeVIEW-MINI2 offers a safe way to view and document gel samples.

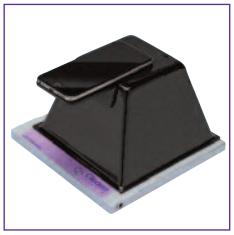
With a compact design, this transilluminator serves as the perfect workstation for viewing and working with fluorescently-stained nucleic acid gels. The blue light source has the added advantage that it does not cause damage to DNA or RNA that would normally be associated with UV light. A separate 580nm amber filter screen and a thinner lightweight casing combined with an imaging size of 153 x 153mm means it can be used to view small to medium sized gels and is compatible with multiSUB mini, midi and choice Horizontal DNA gel tanks. safeVIEW-MINI2 can also be used with our GDH-BASIC imaging hood to reduce background light letting you capture gel images with your mobile phone camera.



KEY FEATURES

- Thinner and more lightweight body
- Easy to carry in between labs
- Aluminium alloy casing design
- Excellent heat dispersion
- Energy saving
- 470nm harmless blue light for direct human contact





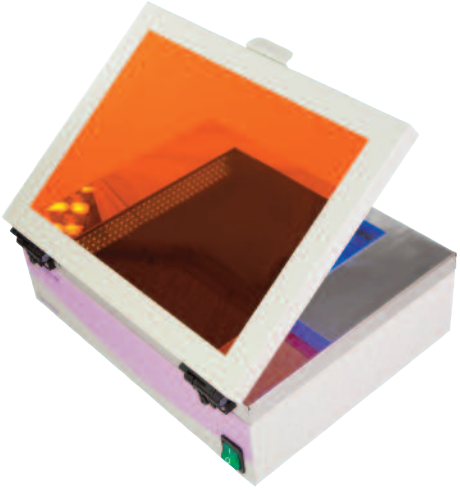
GDH Basic Hood

Technical Specifications

Dimensions (WxLxH)	200x200x13.9 mm
Viewing Area	153 x 153 mm
Blue Light Source	15W
Illuminator Base Design	Flat Bed
Blue Light Wavelength	470nm
Automatic Shutdown	Approx. 6 min
Material	Aluminium alloy
Power Rating	DC 12V, 2A
Weight	Approx. 760g

safeVIEW

The safeVIEW Blue LED transilluminator offers a safe way to view and document samples. This light source also has the added advantage that it does not cause damage to DNA or RNA that would normally be associated with UV light. The system uses Blue LED light to excite both traditional dyes such as Ethidium Bromide as well as safe stains such as runSAFE.



KEY FEATURES

- No DNA damage to samples
- Safer for user - No UV light
- High Purity LED light
- Strong Metal enclosure with stainless steel filter frame
- Fast start up

Technical Specifications

Filter Size	21 x 21cm
Light Source	470nm BLUE LED's
Size	340 x 270 x 130mm
Weight	5Kg
Voltage	110 - 240V (Selectable)

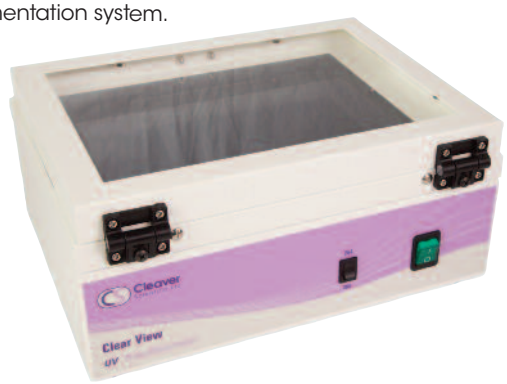
Ordering Information

SAFEVIEW-MINI2	**Blue Light Transilluminator** 15.3 x 15.3cm, with filter and Hood	**SAFEVIEW**	**safeVIEW BLUE** Light Transilluminator, 21 x 21cm
GDH-BASIC	**Gel Documentation Hood - BASIC** - No Camera. (Use with Phone)	CSL-UVPS22	UV Transparent Cutting Platform 22 x 22 cm
GDH-BASICKIT	**GDH-BASIC and SAFEVIEW-MINI2**	CSL-UVPS27	UV Transparent Cutting Platform 22 x 27 cm

EZEE UV Transilluminators

EZEE UV Transilluminators offer an ultra-violet light source for the analysis of fluorescently stained electrophoresis gels.

Available in single and dual wavelength formats, in 21x21cm and 21x26cm sizes, EZEE transilluminators are supplied either as standalone units or with the microDOC, as part of a fully integrated gel documentation system.



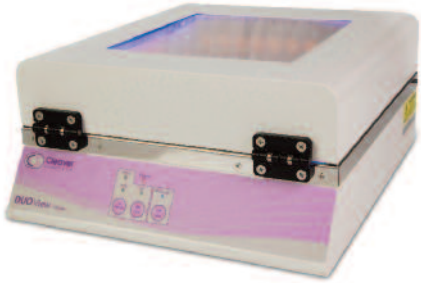
KEY FEATURES

- Three Wavelength options: 254 / 312 / 365 nm
- Two Dual wavelength models
- High efficiency reflector
- Hi / Lo intensity switch

Technical Specifications	
Small	
Filter size:	21 x 21cm; 21 x 26cm
Light source:	8W x 6 tubes
Unit Dimensions (WxLxH):	34 x 29.5 x 10cm
Large	
Filter size:	26 x 21 cm
Light source:	8W x 8 tubes
Unit Dimensions (WxLxH):	34 x 29.5 x 10cm

DuoView

The duoVIEW combines UV and Blue light illumination, allowing a wide range of fluorescent DNA stains to be visualised. 470nm Blue LEDs combined with an orange filter allow the imaging of new generation "Safe" stains such as runSAFE, which UV illumination and filters allow traditional stains such as Ethidium Bromide.



KEY FEATURES

- UV & Blue light technology in one transilluminator
- Single or dual wavelength models available

Technical Specifications	
Filter Size	21 x 21cm
Light Source	470nm BLUE LED's or UV Single Wave (8W x 5 tubes) or UV dual Wave (8W x 9 Tubes)
Intensity Switch	High (100%)/ Low (70%) Single
Size	400 x 190 x 350mm
Weight	10.5Kg
Voltage	110- 240V (Selectable)

Gel Dryer

With a drying area of 21 x 31cm, Midi Gel Dryer can dry six 10 x 10cm gels or a single larger gel. Maxi Gel Dryer with a 35 x 45cm drying area can dry twelve 10 x 10cm mini gels simultaneously.

Midi Gel Dryer

Technical Specifications		
Temperature Increment		0.1°C
Temperature Calibration		Yes
Temp Uniformity		±0.2°C
Timer		1-999 mins
Drying area	Midi	21 x 31cm
	Maxi	35 x 45cm
Operating Temp. Range		Ambient to 90°C
Dimension WxLxH	Midi	30 x 36 x 8cm 44 x 50 x 8cm

Ordering Information

CSLUVTS254	**UV Transilluminator small,** 21 x 21 cm, 254 nm	CSL-UVSCRN	UV to white light Transilluminator screen converter
CSLUVTS312	**UV Transilluminator small**, 21 x 21 cm, 312 nm	CSL-MDOCWLB	White light box
CSLUVTS365	**UV Transilluminator small**, 21 x 21 cm, 365 nm	CSLTxxx	8W UV bulb (xxx = 254 nm, 312 nm or 365 nm)
CSLUVTSDUO	**UV Transilluminator small**, 21 x 21 cm, 254/365 nm	**DUOVIEW254**	**UV254 & Blue Light Transilluminator**, 21 x 21cm (110V-240V)
CSLUVTSDUO312	**UV Transilluminator small**, 21 x 21 cm, 254/312 nm	**DUOVIEW312**	**UV312 & Blue Light Transilluminator**, 21 x 21cm (110V-240V)
CSLUVTSDUO365	**UV Transilluminator small**, 21 x 21 cm, 254/365 nm	**DUOVIEW365**	**UV365 & Blue Light Transilluminator**, 21 x 21cm (110V-240V)
CSLUVTS254L	**UV Transilluminator large**, 26 x 21 cm, 254 nm	**DUOVIEW254/312**	**UV254/312 & Blue Light Transilluminator**, 21 x 21cm (110V-240V)
CSLUVTS312L	**UV Transilluminator large**, 26 x 21 cm, 312 nm	**DUOVIEW254/365**	**UV254/365 & Blue Light Transilluminator**, 21 x 21cm (110V-240V)
CSLUVTS365L	**UV Transilluminator large**, 26 x 21 cm, 365 nm	**CSL-GDVH**	**Midi Gel Dryer,** 21 x 31 cm
CSLUVTLDUO	**UV Transilluminator large**, 26 x 21 cm, 254/365 nm	**CSL-GDVH35**	**Maxi Gel Dryer**, 35 x 45 cm
CSLUVTLDUO312	**UV Transilluminator large**, 26 x 21 cm, 254/312 nm	**MZ2C**	**VacuuBrand Vacuum Pump**, MZ 2C + 2 AK

* For 110V units, add $ to order code

rockers and shakers

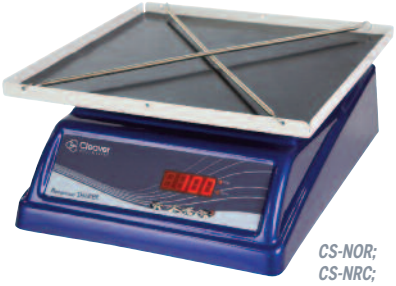
Four different models of rockers and shakers are available, with each offering benefits that include: outstanding uniform motion and low noise; microprocessor based keypads with digital control and display of preset time, continuous time, action scale and speed; and high quality stainless steel platforms with pop-on / pop-off installation holes to secure samples.

All models are lightweight and portable for easy transportation from the bench to incubator and cold room alike, while additional platforms may be added for increased capacity.

CW-23

KEY FEATURES

- Orbital, reciprocal & rocking models with 30x30cm shaking-platform & non-slip rubber mat
- 2-D/3-D shaker accommodates optional hybridisation water bath
- Additional platforms double capacity
- Dimpled mat supports 1.5ml, 15ml and 50ml tubes



CS-NOR; CS-NRC; CS-NRK

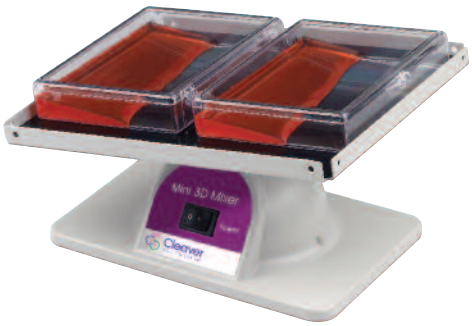
Technical Specifications

Cat. No.	CS-NOR	CS-NRC	CS-NRK	CW-23
Motion	Orbital, single direction or alternating, bi-directional clockwise & anticlockwise shaking	Linear, Reciprocating	Rocking	2-D or 3-D Combi
Application	aeration of samples, 0.5 to 5ml in volume, within multi-well plates, standard dishes and petri dishes	incubation of western blots and initial mixing of reagents	prevents gels and membranes from drying out during staining, blocking and antibody incubations	ideal for gentle, foam-free washing of delicate cell lines within tissue culture
Stroke Length/Tilt Angle	20mm	19mm	12°	8°
Orbits/Shaking Cycle	0.1-10.0	-	-	-
Speed	0-200 rpm	5-100 rpm	5-100 rpm	5-100 rpm
Timer	1-9999 mins, 1 min increment	1-9999 mins, 1 min increment	1-9999 mins, 1 min increment	1-9999 mins, 1 min increment
Controller	Digital microprocessor	Digital microprocessor	Digital microprocessor	Digital microprocessor
Display	4 digital red LED	4 digital red LED	4 digital red LED	4 digital red LED
Operating Temperature	4-40°C	4-40°C	4-40°C	0-50°C
Carry Capacity	10 kg	15 kg	15 kg	15 kg
Optional Stacking Platform	Yes	Yes	Yes	Yes
Special Functions	2 way direction			Angle 0-25°
Platform Dimension	30 x 30cm	30 x 30cm	30 x 30cm	33 x 33cm
Operating Power	110 / 220V	110 / 220V	110 / 220V	110 / 220V
Weight	7 kg	7 kg	8 kg	10 kg

MINIMIX

KEY FEATURES

- The perfect speed and tilt for blotting and gel staining
- Three-dimensional motion
- Designed for use with Blot Boxes



3D Shaker

MiniMix combines the motions of orbital shaking and rocking to produce a gentle, but thorough, 3-D action that is perfect for antibody incubation of western blots and staining gels. This allows users to work with minimal volumes, thus conserving valuable probes and antibodies. The MiniMix's compact and light weight design allows it to be moved around the lab where needed.

Technical Specifications

Speed	18rpm (115V) / 20 rpm (230V)
Motion	3-D, nutating
Tilt Angle	5°
Platform Size (WxD)	20x16.5cm
Ambient Operating Range	4-65°
Dimension (WxDxH)	20.3x17.8x10.5cm
Weight	0.88kg
Electrical	115/230V 50/60Hz

Blot Boxes
These gel staining / blotting boxes are available in 4 sizes and are the ideal accessory for incubating blots or staining gels.

Ordering Information

CS-NOR	**Orbital shaker** with 30 x 30cm platform and non slip rubber mat
CS-NRC	**Reciprocal shaker** with 30 x 30cm platform and flat non slip rubber mat
CS-NRK	**Rocking Shaker** with 30 x 30cm platform and flat non slip rubber mat
CSL3DSHAKER*	**MiniMix 3D Shaker** with 20x16.5cm tray and non-slip rubber mat
CSL-BB9X6	Gel/Blot box, 9.1 x 6.6cm, 3-5ml capacity, 10/pack
CSL-BB11X8	Gel/Blot box, 11.7 x 8.9cm, 6-10ml capacity, 10/pack
CW-23	**Combination 3-D shaker** with 3-D shaking and rocking for maximal fluid movement; includes 33 x 33cm platform and flat non slip rubber mat
CW-WB	**Hybridisation Water Bath** (ambient to 95°C) for use with CW-23
CSL-BB12X12	Gel/Blot box, 12 x 12cm, 1/pack
CSL-BB20X16.5	Gel/Blot box, 20 x 16.5cm, 1/pack

* For 110V units, add $ to order code

vortex mixer

This variable speed Vortex Mixer combines fast, efficient mixing with minimal vibration. Unlike other vortex mixers using elliptical orbits, its true circular orbit facilitates uniform sample-vortexing even at low speed.

The Vortex head accepts many different tube sizes, while optional heads for microplates, microtubes, PCR strip tubes, 15ml and 50ml tubes and blood vials are available. The unit may be used in 'touch' or continuous mode: 'touch' mode being activated by simply depressing the sample head and then stopped by releasing the pressure. An optimised counter balance system minimises vibration and movement of the unit during operation, whereas its lightweight construction and small footprint allows it to be readily transported and used in areas where space is restricted.

KEY FEATURES

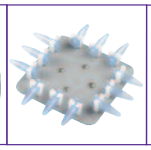
- Powerful, reliable motor with optimised counter balance
- Circular orbit for effective vortexing at any speed
- CombiCup head accepts a variety of tube sizes
- Versatile head attachment accessories for microplates and different tube sizes

S0200-21

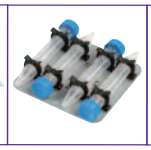
S0200-22

S0200-23

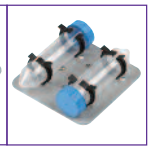
S0200-24



S0200-25



S0200-26



S0200-27

Technical Specifications

Speed Range	115V	0 - 3400 RPM
	230V	0 - 2850 RPM
Operating Modes	Touch or Continuous	
Ambient Operating Range	4 - 65°C	
Dimensions (WxDxH)	14cm x 16cm x 13cm	
Weight	2.2Kg	
Electrical	115V or 230V, 50/60Hz	

heaters and stirrers

With a durable and chemically resistant ceramic surface, Cleaver Scientific's digital hotplate, stirrer and hotplate stirrer are the ideal solution for demanding users in all laboratory environments. The minimal footprint (18 x 26 cm) allows for use in crowded spaces such as fume hoods while the 16.5 cm square plate makes these units compatible with a wide range of commonly used vessels such as beakers, bottle and conical flasks. Fast and precise adjustment of speed and temperature is achieved with advanced microprocessor technology, and a large backlit LCD display offers easy viewing of current parameters. A safety LED indicates temperatures over 50°C. An optional external thermometer and support rod allows temperature control of the sample by direct feedback to the microprocessor, maintaining temperature to within ±0.5°C.

KEY FEATURES

- Large, backlit LCD display
- Ceramic work surface, 6.5 x 6.5 in.
- Safety LED indicates hot surface
- Control actual temperature (with optional probe)
- Three models: heat-stir, heat only or stir only

Technical Specifications

Speed Range:	200-1500 rpm (stirring units only)
Temp. Range:	Ambient +5° to 380°C (heating units only)
Platform:	16.6 x 16.5cm
Control:	Quick Adjustment Knobs
Dimensions:	18(W) x 26(D) x 10.1(H) cm
Electrical Data:	120V, 60 HZ / 230V, 50/60 HZ

Ordering Information

CSLVORTEX*	**Vortex Mixer** with general purpose head	CSL-S0200-23	for 8 x 15ml and 8 x 12/13mm Diam. tubes
Optional Head Attachments		CSL-S0200-24	for 6 x 50ml tubes
CSL-S0200-21	for 24 x 1.5/2.0ml tubes, 24 x 0.5ml tubes and 32 x 0.2ml tubes	CSL-S0200-25	for 12 x 1.5/2.0ml tubes, held horizontally
	(or 4 tube strips)	CSL-S0200-26	for 4 x 15ml tubes, held horizontally
CSL-S0200-22	for 1 microplate or 64 x 0.2ml tubes or 8 x 0.2ml tube strips	CSL-S0200-27	for 2 x 50ml tubes, held horizontally
CSL-DHOTPLATE*	**Digital Hotplate**, 16.5 x 16.5 cm - 230V	**CSL-HOTPLATE***	**Hotplate**, 19 x 19 cm
CSL-DSTIR*	**Digital Magnetic Stirrer,** 16.5 x 16.5 cm- 230V	**CSL-HOTSTIR***	**Hotplate Magnetic Stirrer**, 19 x 19 cm
CSL-DHOTSTIR*	**Digital Hotplate Magnetic Stirrer** 16.5 x 16.5 cm. - 230V	**CSL-STIR***	**Magnetic Stirrer**, 19 x 19 cm
TEMPROBE	Optional Temperature probe	SUPPROD	Optional Support Rod

* For 110V units, add $ to order code

hybridisation shaking incubators

With a compact, space-saving stackable design and temperature uniformity to within ±0.2°C, the hybridPRO hybridisation shaking incubators can be used for numerous temperature-dependent laboratory applications.

In addition to the standard entry level model, the hybridPRO range includes four incubator models, each supplied in one of four shaking platform formats – vortex, orbital, reciprocal or rocking - and customisable for nucleic acid hybridisation techniques with three rotisserie options. A large 3.6" colour-touchscreen control panel simplifies manipulation of speed, temperature and time within an easy to programme 3-line display, while a 32-bit microprocessor provides the temperature uniformity and stability necessary to support the most temperature-sensitive applications.

KEY FEATURES

- Digital Microprocessor Control
- Touch screen & Graphical interface
- Chamber Temperature: Ambient to 85°C
- Temperature Resolution ffI0.1°C
- Chamber Temperature Accuracy at 37°C ffI 0.2°C

Technical Specifications

Display	3.5" 64K colour-TFT display	
Controller	32-bit Microprocessor-control	
Control interface	Touch screen & Graphical interface	
Timer / Resolution	Continuous; Programmable 1-9999 mins with alarm / 1 min.	
Temperature Control Range / Resolution	Ambient +5°C to 85°C / 0.1°C	
Temperature Uniformity/ Accuracy at 37°C	ffI0.2°C	
Temperature Calibration	Yes	
Platform Dimensions	27x20cm (20x30cm for NHYBRIDVX)	
Data-logging capacity	RS-232	
Operating Voltage	110/220V~ 50/60Hz (Dual, selectable)	
Chamber Dimensions (w x d x h)	Inner	34 x 22.5 x 26cm
	Exterior	44 x 46 x 45cm
Weight	29kg	

BASIC

Basic Incubator model with two stainless steel mesh-shelves

3-line colour touchscreen control.

Typical Applications:
- Drying agar plates
- Microbial plating techniques

SHAKING

With Vortex, Reciprocal or orbiatl platform

Three rotisserie options for hybridisation

Typical Applications:
- Enzyme assays
- Nucleic acid hybridisation

NHYBRID is a cost-effective system for homogeneous temperature control during routine incubations. Advanced ventilation design technology controlled by a digital microprocessor maintains temperature uniformity and stability to within ±0.2°C.

A stain-resistant interior protects against spillages, while removable stainless steel mesh-shelves ensure that airflow remains unrestricted. Incubations may be set in precise 0.1°C increments under a continuous or programmable timer function.

Technical Specification for Shaking-platform models only

Incubator Model	NHYBRIDVX	NHYBRIDORB	NHYBRIDREC	NHYBRIDROC
Shaker motion	Vortex	Orbital (clockwise & anticlockwise)	Reciprocal	Rocking
Speed	50-1500rpm	0-200rpm	5-100rpm	5-100rpm
Optional rotisserie speed	5-100rpm	5-100rpm	5-100rpm	5-100rpm
Resolution	1rpm	1rpm	1rpm	1rpm

Ordering Information

CSL-NHYBRIDBASIC	**HybridPro Incubator** only with 2 stainless steel shelves
CSL-HYB-SSMP	Stainless Steel Mesh Plate with 4 holders 32.5 x 34.5 cm
CSL-NHYBRIDVX	**Vortex Incubator** with 200x300mm platform for 4 microplates
CSL-NHYBRIDROC	**Rocking Incubator** with 270x200mm platform
CSL-HYB-SH	Supporting Holders for Stainless Steel Mesh Plate, pack of 4
CSL-HYB-8RT	35 mm tube Rotisserie for 8x40ml glass tubes*
CSL-HYB-16RT	50 ml conical tube Rotisserie for 16 tubes*
CSL-HYB-24RT	15 ml conical tube Rotisserie for 24 tubes*
CSL-HYBBT40X150	1x Glass tube 40x150mm (d x l) for HYB-8RT
CSL-HYBBT40X200	1x Glass tube 40x200mm (d x l) for HYB-8RT
CSL-HYBBT40X300	1x Glass tube 40x300mm (d x l) for HYB-8RT

CSL-HYBRIDORB	**Orbital Incubator** with 270x200mm platform
CSL-HYBRIDREC	**Reciprocal Incubator** with 270x200mm platform
CSL-HYB-8RT	1x Rotisserie for 8x40mm glass tubes*
CSL-HYB-16RT	1x Rotisserie for 16x50ml disposable conical tubes*
CSL-HYB-24RT	1x Rotisserie for 24x15ml disposable conical tubes*
CSL-NHYB-P2720	Additional 27x20cm platform to double capacity of incubators
CSL-NHYBFH-250	1x250ml flask holder for NHYBRIDORB & NHYBRIDREC platforms
CSL-NHYBFH-500	1x500ml flask holder for NHYBRIDORB & NHYBRIDREC platforms
CSL-NHYBFH-250-SET	5x250ml flask holders for NHYBRIDORB & NHYBRIDREC platforms
CSL-NHYBFH-500-SET	4x500ml flask holders for NHYBRIDORB & NHYBRIDREC platforms
CSL-HYBBT40X150	1x Glass tube 40x150mm (d x l) for HYB-8RT
CSL-HYBBT40X200	1x Glass tube 40x200mm (d x l) for HYB-8RT
CSL-HYBBT40X300	1x Glass tube 40x300mm (d x l) for HYB-8RT

mini fixed volume pipettes

The Cleaver Scientific Mini Fixed Volume pipettes offer a simple low cost liquid handing solution.

Ideal for use in teaching and education institutes but can also be used in general laboratories where the application does not require such tight tolerances of the liquid to be dispensed.

Each model of pipette is the optimum size, just 130 mm in length to provide maximum user comfort over extended periods pipetting. The tip cone is unique being designed to accept both regular 200 µl tips or ultra micro tips up to 20 µl. The use of ultra micro tips for volume up to 20 µl enhances the accuracy and precision very significantly.

Completely autoclavable

All models are fully autoclavable at 121°C/0.1 MPa/20 min.

KEY FEATURES

- Easy operation for right- and left-handed users
- Low pipetting forces
- Highly durable shaft
- No adjustment Required
- No calibration Required

Ordering Information

Cat. No.	Description	Accuracy %	Coeff. Variation %	Cat. No.	Description	Accuracy %	Coeff. Variation %
MFVP-5	**Fixed Volume Mini Pipette 5µl**, supplied with 1 tip	±1.5	±1.0	MFVP-50	**Fixed Volume Mini Pipette 50µl**, supplied with 1 tip	±0.4	±0.3
MFVP-10	**Fixed Volume Mini Pipette 10µl**, supplied with 1 tip	±1.0	±1.0	MFVP-100	**Fixed Volume Mini Pipette 100µl**, supplied with 1 tip	±0.3	±0.3
MFVP-20	**Fixed Volume Mini Pipette 20µl**, supplied with 1 tip	±0.5	±0.5	MFVP-200	**Fixed Volume Mini Pipette 200µl**, supplied with 1 tip	±0.5	±0.5
MFVP-40	**Fixed Volume Mini Pipette 40µl**, supplied with 1 tip	±0.5	±0.5				

omniPET

Motorised Pipettor

omniPET-M is a motorised powered pipette filler with LCD display designed for cordless work with 0.5-100ml glass or plastic pipettes. Its lightweight handle, together with smooth pushbuttons and switches ensure effortless pipetting even during extensive use.

Different operational modes may be selected depending on pipetting volume and viscosity of liquid. Liquid aspiration speeds can be adjusted to HIGH or LOW while dispensing can be by gravity (GRAV) or supported by the pump (BLOW) which empties the pipette with blow out. To protect the unit against overfilling, omniPET-M is equipped with both PTFE filters and a safety valve. To protect samples from cross contamination, filters and pipette holders can be easily exchanged and autoclaved.

The powerful re-chareable Ni-MH battery allows many hours of continuous work with the LCD display indicating when unit should be recharged. The battery is protected against overcharging by timing and thermal systems. omniPET-M is supplied with a charging stand.

KEY FEATURES

- Suitable for 0.5ml to 100ml pipettes
- Ergonomically shaped handle
- Sensitive valves for precise work with low volume pipettes low battery light indicator
- Protected by filter and safety valve
- Autoclavable nosepiece and pipette holder charging stand

Technical Specifications

Autoclavability	Nosepiece, pipette holder, filter
Filter	Hydrophobic PTFE 0.2µm
Pipette types	Glass or Plastic 0.5-100ml

Ordering Information

Omnipet	**Omnipet Pipette filler** (Without Charging Stand)	Omnipet-CS	Charging stand for the omnipet

omniPETTE

single and multi-channel pipettes

Ergonomically designed OMNIPETTE pipettes combine a slim handle, high accuracy and precision rates and robust structure, at very competitive prices.

Constructed from durable PP/PVDF they are noticeably lighter in weight than many competitive models and so are more comfortable to hold and operate for extended periods - even in the smallest hand. This feature will also reduce the incidence of operator fatigue and Repetitive Strain Injury.

A continuously adjustable volumeter with digital readout allows simple and accurate dispensing. The robust construction along with the low thermal coefficient of the body of each pipette will prevent hand heat affecting sample measurements and reproducibility, even in prolonged usage.

Completely autoclavable

For sensitive laboratory applications, all omniPETTE models are fully autoclavable at 121°C/0.1 MPa/20 min. Unlike many other "autoclavable" pipettes, omniPETTE require minimal accuracy checks and/or recalibration

Using a series of height adapters, the tip ejector position on the shaft is adjustable to allow the pipette's use with virtually all brands of tips.

Eight models of single channel omniPETTE cover all volumes from 0.1µl up to 10ml. omniPETTE requires minimal maintenance. Its precise, self-locking stainless steel micrometer accurately adjusts the stroke of the polished, acid-resistant piston*.

Each pipette has its own unique serial number etched into the body and is supplied with its own individual certificate of calibration, as a guarantee of the unit's quality.

Single channel

omniPETTE's pipetting mechanism allows precise and effortless setting of pipette volume. Winding the counter from min to max volume can be performed rapidly with one hand.

Height adapters

Using a series of height adapters, the tip ejector position on the shaft is adjustable to allow the pipette's use with virtually all brands of tips.

Eight models of single channel omniPETTE cover all volumes from 0.1µl up to 10ml.

Multi channel

omniPETTE Multi-Channel Pipettes are available in 8 and 12 channel models. Four overlapping volume ranges are provided to precisely meet liquid handling requirements from 0.5 to 300µl. The performance of every pipette is checked by gravimetric method and the results of test are printed in pipette Quality Control Certificate.

For comfortable pipetting in any direction, the tip manifold rotates 360°.

Suspension system

Each model features a revolutionary suspension system which allows the shafts to move independently and so retract slightly when they are pressed against a row of pipette tips.This ensures that all tips are secured on their individual shaft with the minimum of effort - and never fall off! In addition, an innovative ejector bar is curved, allowing the tips to be pushed off in steps, therefore reducing the amount of force required for ejection.

Individual piston assembly

Each channel of the pipette has an individual, precision piston assembly to ensure accuracy and reproducibility from one pipetting series to the next, as well as between channels. The micrometer is continuously adjustable for selection of whole or fractional volumes.

Single Channel Pipettes

Cat. No.	Volume Range	Accuracy %	Coeff. Variation %	Cat. No.	Volume Range	Accuracy %	Coeff. Variation %
CV2	0.2 to 2µl	±12 to 1.5	±6.0 to 0.7	CV200	20 to 200µl	±1.2 to 0.6	±0.6 to 0.2
CV10	0.5 to 10µl	±4.0 to 0.5	±2.8 to 0.4	CV1000	100 to 1000µl	±1.6 to 0.6	±0.4 to 0.15
CV20	2 to 20µl	±3.0 to 0.8	±1.5 to 0.3	CV5000	1 to 5ml	±0.6 to 0.5	v0.25 to 0.15
CV50	5 to 50µl	±2.5 to 0.8	±2.0 to 0.4	CV10000	1 to 10ml	±2.5 to 0.5	±0.6 to 0.2
CV100	10 to 100µl	±1.6 to 0.8	±0.8 to 0.2				

Multi Channel Pipettes

Cat. No.	Channels	Volume Range	Accuracy %	Coeff. Variation %	Cat. No.	Channels	Volume Range	Accuracy %	Coeff. Variation %
CV8-10	8	0.5 to 10µl	±10.0 to 2.0	±8.0 to 1.2	CV12-10	12	0.5 to 10µl	±10.0 to 2.0	±8.0 to 1.2
CV8-50	8	5 to 50µl	±4.0 to 1.6	±2.5 to 0.6	CV12-50	12	5 to 50µl	±4.0 to 1.6	±2.5 to 0.6
CV8-200	8	20 to 200µl	±3.0 to 1.0	±1.5 to 0.6	CV12-200	12	20 to 200µl	±3.0 to 1.0	±1.5 to 0.6
CV8-300	8	50 to 300µl	±1.6 to 1.0	±1.5 to 0.6	CV12-300	12	50 to 300µl	±1.6 to 1.0	±1.5 to 0.6

Cat. No.	Description	Cat. No.	Description
CV-MS	Pipette Stand, 3-position	CV-1POS	Pipette Stand, 1 Position for Single or Multi Channel Pipettes
CV-RS	Rotating Pipette Stand, 6-position	CV-4POS	Pipette Stand, 4 Position for Single Channel Pipettes

***Piston material**

Stainless steel: Single Channel - CV2, CV10 & CV20 ; Multi Channel - CV8/12-10
PPS: all other models

FINGER-HOOK

TAKES THE WEIGHT, FOR A MORE RELAXED GRIP

PIPETTING BUTTON

LARGE, ROUNDED AND EASY ON THE THUMB; FREE ROTATION PREVENTS ACCIDENTAL VOLUME CHANGE

EJECTOR BUTTON

LARGE SURFACE AREA OFFERS TWO COMFORTABLE HOLDING STYLES DEFINED BY USER PREFERENCE

Conventional holding style

Side holding style - pipette turned 90°

EASY-TURN

VOLUME ADJUSTMENT WHEEL

UV RESISTANT

CAN BE SAFELY STERILISED WITH UV RADIATION - EVEN PROLONGED EXPOSURE

LIGHT WEIGHT

LIGHTER THAN MANY SIMILAR MODELS

DIGITAL VOLUME DISPLAY

WITH LARGE EASY-TO-READ NUMBERS

CONTOURED SHAPE

IS COMFORTABLE IN EITHER SMALL OR LARGE HANDS

HEIGHT ADJUSTABLE EJECTOR

TO ACCOMMODATE VIRTUALLY ALL BRANDS OF TIPS

ROTATING MANIFOLD

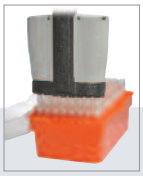
PIPETTE AND EJECT IN ANY DIRECTION

PDVF SHAFT

ENSURES INCREASED CHEMICAL & MECHANICAL DURABILITY

CURVED EJECTOR BAR

REDUCES THE FORCE RE
FOR EJECTION



optimised tip loading

- shafts withdraw when pressed against a row of tips
- each shaft moves independently
- even sealing force applied to all tips
- no jamming of side tips
- safely sealed with lowest possible force
- tips can be ejected with minimum effort

quickspin microcentrifuge

Quickspin is perfect for microfiltration and rapid spin-down of sample from the walls and caps of microcentrifuge tubes.

Occupying less than 6 inches square of bench space, the Quickspin has a very small footprint, making it easy to use in the lab. Rotors and adaptors, are supplied as standard to accommodate 1.5 ml, 0.5 ml and 0.4 ml tubes, as well as 0.2 ml strips and tubes. A highly durable stainless steel hinge pin facilitates easy opening of the translucent lid, while an on/off switch is located on the side of the centrifuge to start and stop operation. Alternatively, with the switch in the 'on' position, the centrifuge can be started and stopped by closing and opening the lid.

KEY FEATURES

- COMBI-Rotor for tubes and strips
- Twice the capacity of traditional mini centrifuges
- Nearly silent operation
- Starts and stops with opening/closing of the lid

Technical Specifications	
Maximum speed	6000rpm
Maximum G Force	2,000 x g
Capacity	6 x 1.5/2.0 ml 2 x 0.2ml Strips
Dimensions (W x D x H)	15 x 15 x 11.7 cm
Weight	0.45 kg

multifuge minicentrifuge

Unlike traditional mini centrifuges, the multiFuge eliminates the need to change rotors when switching between microtubes and PCR strips.

The included, unique COMBI-Rotor is all that is required for running 12 microtubes and 4 PCR strips simultaneously.
With a fixed speed that produces 2,000 x g, this centrifuge is perfect for quick spin downs. Simply close the lid and the unit quickly ramps up to 5500 rpm. Open the lid, and the rotor quickly decelerates for removal of samples.
At just 14cm wide and less than 11cm high, the multiFuge truly is a personal centrifuge with unmatched capacity and flexibility.

KEY FEATURES

- COMBI-Rotor for tubes and strips
- Twice the capacity of traditional mini centrifuges
- Nearly silent operation
- Starts and stops with opening/closing of the lid

Unique COMBI-Rotor

Compact, low profile design

Technical Specifications	
Speed:	5,500 rpm / 2,000 x g
Capacity:	12 x 1.5 / 2.0 ml tubes, 32 x 0.2 ml PCR tubes, 4 x PCR strips (8x0.2 ml)
Dimensions:	14 x 20 x 11.2 cm
Weight:	5 kg

Ordering Information

CSLQSPIN*	**Mini Centrifuge** complete with 1.5/2.0 ml rotor, strip tube rotor, 0.5 and 0.4 ml adapters, 230V		
CSL-MultiFUGE*	**MultiFUGE** with DuoROTOR for microtubes, 110-240V	MF-A0.6-6	Adapters, 0.5 ml, pack of 6
* For 110V units, add $ to order code		MF-A0.2-6	Adapters, 0.2 ml, pack of 6

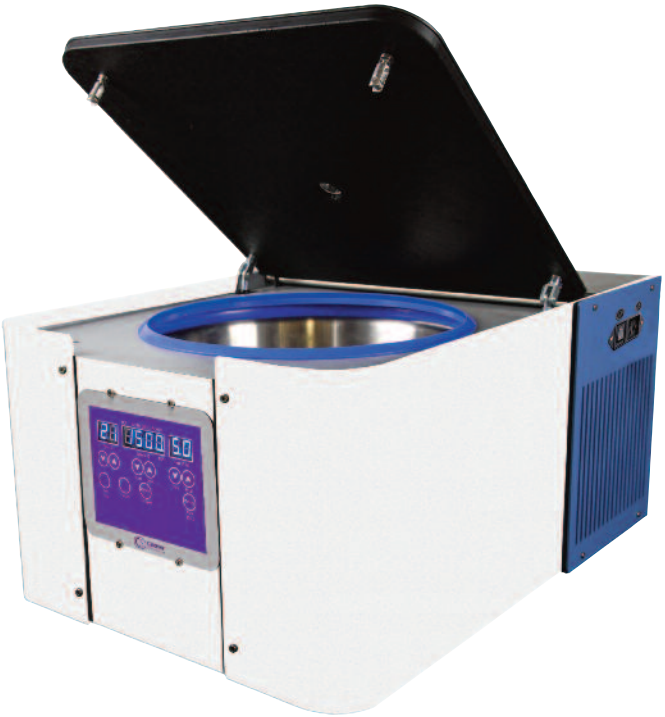
multispin refrigerated centrifuge

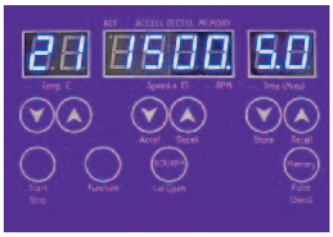
Built for long life, multiSPIN benchtop centrifuges have strong construction yet, offer a sleek contemporary design that will fit into any modern laboratory.

multiSPIN is packed full of features to make researchers' centrifugation procedures that little bit simpler. Its bright blue LED display ensures that run parameters are easily read from anywhere in the lab. Four different rotors provide exceptional flexibility, allowing its use with PCR/microcentrifuge tubes of 0.2ml, 0.4ml, 0.5ml, 1.5ml, 2.0ml, 2.2ml capacity; Haematocrit Capillary as well as popular 15ml and 50ml centrifuge tubes. The unit's rotor recognition provides safe selection of rotors.
Utilising a high quality brushless motor and its proprietory air-flow design, multiSPIN is quiet (<60db), cool & reliable. Its rust-free stainless steel bowl is extra thick and easy to clean. The unit features flexible programming including 10 acceleration rates & 10 deceleration rates plus a Timer 0-99 minutes & Hold in 30 second increments. Its 10 program memory allows multiple users to set up and easily access their individual run parameters. Speed can be accurately set in rpm or rcf (G) in 10 rpm increments, while a Pulse feature enables short runs for fast pelleting.

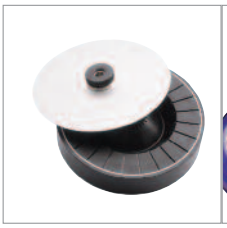
KEY FEATURES

- Multiple rotors offers greater flexibility - one centrifuge for multiple tube sizes
- 0.2, 0.4, 0.5, 1.5, 2.0, 2.2ml & PCR strips
- Haematocrit - capillary and 2.0ml tubes
- Fixed angle - 15 & 50ml tubes
- Swing out - 8 to 15ml tubes
- Extremely quiet - <60db (rotor dependent)
- Proprietory air-flow design for cooler running
- Rotor recognition for safe selection
- Multi point lid locking for complete lid safety
- 3 year warranty as standard
  - no compromise on component quality, reliability is guaranteed





Hi-visibility display and intuitive parameter entry



Technical Specifications

Speed	500-15,000 Rpm (10 Rpm steps)
Rcf Max	22,000 G
Timer	0-99 Mins & Hold (30 sec steps)
Dimensions	315 x 450 x 635mm (HxWxD)
Weight	62 Kg (without rotor)
Power	690 Watts
Memory	10 programs
Accel rates	10 programs
Decel rates	10 programs
Temp	-9°C to + 40°C PID Controlled to 121°C

Ordering Information

CR2000R	**multiSPIN Refrigerated Bench-Top Centrifuge** (230V 50Hz), without rotor	BRK5424	24 x 2ml Rotor
CR2000R$	**multiSPIN Refrigerated Bench-Top Centrifuge** (110V 60Hz), without rotor	BRK5436	36 x 0.5ml Rotor
CR2000R-24	**multiSPIN Refrigerated Bench-Top Centrifuge** (230V 50Hz) with 24 place rotor	BRK5448	4 x PCR strips
CR2000R-24$	**multiSPIN Refrigerated Bench-Top Centrifuge** (110V 60Hz) with 24 place rotor	BRK5494	24 x 2ml Rotor
Other variations available - just select the centrifuge and required rotor		BRK5508M	8 x 10ml swing out rotor
		RS04	0.2-0.4ml Reducer, Pack of 24
		RS05	0.5ml Reducer, Pack of 24

CUBE digital dry baths

CUBE digital dry baths are available in single and dual block models, and have a comprehensive range of interchangeable blocks.

Each digital dry bath is compact and easy-to-use. The quick-change blocks have rapid heat-up times and reproducible temperature uniformity and accuracy, and may be used in a variety of applications, which include: restriction digestion, coagulation studies, hybridisation, Hot Start PCR® reactions and DNA denaturation. Due to the Solid Aluminium block holder, each Cube dry bath may also be adapted as a mini water bath incubator if desired. Both dry baths incorporate a digital microprocessor controller for accurate temperature control in 0.1°C increments from ambient +5°C to 150°C. Rapid and easy programming is facilitated by the easy to use arrow keys on the sloped front panel, while both the temperature and running time are shown simultaneously on the dual digital LCD display.

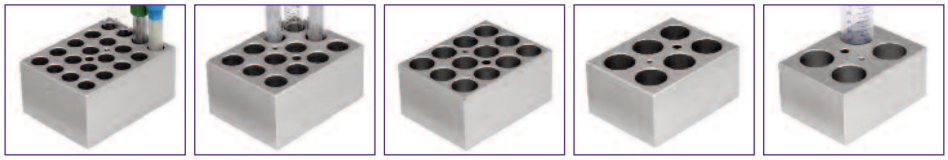
KEY FEATURES

- Microprocessor control with digital performance for precise, accurate control
- Wide temperature control range with excellent uniformity
- Rapid temperature increase rate
- LCD screen showing timer and temperature simultaneously
- User temperature calibration

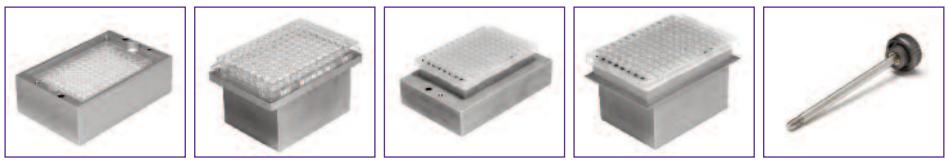
Technical Specifications

Cat. No.	TCDB-01	TCDB-02
Number of blocks	1	2
Display	LCD Display	
Heating Power	125W	200W
Dimensions, mm (W x L x H)	15x15x13.5 mm	15x23x13.5
Controller	Digital Microprocessor	
Heating Chamber	Molded aluminium alloy chamber	
Temperature Range	5°C above ambient to 150°C	
Temperature Increment	0.1°C	
Temp. Uniformity at 37°C	within 0.2°C	
Temp. Accuracy at 37°C	within 0.2°C	
Temp. Calibration	Yes	
Timer	Up to 99(hr) : 59(min), continuous	
Safety	Leak proof heating chamber Over temperature protection SSR failure detection	
Operating Temp.	Ambient to 40°C	

MD-B0.5: 0.2ml tubes | MD-B0.5: 0.5ml tubes | MD-B0.5+1.5: 0.5/1.5ml tubes | MD-B0.5/1.5: 0.5/1.5ml tubes | MD-B1.5: 1.5ml tubes



MD-B13: 13mm Ø tubes | MD-B17: 17mm Ø tubes | MD-B20: 20mm Ø tubes | MD-B25: 25mm Ø tubes | MD-B29: 50ml cent. tube



MD-MP01-S: Microplate | MD-MP02-S: Micro / PCR plate | MD-MP01-D: Micro / Titerplate | MD-MP02-D: Micro / PCR plate | MS-BL95: Block Lifter

Ordering Information

SINGLE BLOCK

TCDB-01* **The Cube Dry Bath Incubator** (one block unit); without block 220V

Accessories

MD-MP01-S	Block for Microplate; Titerplate Plain Block for Single Block Unit Only
MD-MP02-S	Block for 96 wells deep Microplate or PCR plate for Single Block Unit Only
MD-MP01-D	Block for Microplate; Titerplate Plain Block for Dual Block Unit Only
MD-MP02-D	Block for 96 wells deep Microplate or PCR plate for Dual Block Unit Only
MD-B0.5/1.5	Double side block: one side for 1.5 or 2.0 ml tube, 20 wells; Opposite side for 0.5 ml tube, 30 wells
MD-B0.5PLUS1.5	Combination block : for 0.5 ml tube, 12 wells and for 1.5 or 2.0 ml tube, 12 wells (on the same side)
MD-B0.2	Block for 0.2 ml tube, 64 wells or for 0.2 ml PCR strip tubes for 8 wells x 8

DUAL BLOCK

TCDB-02* **The Cube Dry Bath Incubator** (dual block unit); without block 220V

MD-B0.5	Block for 0.5 ml tube, 20 wells
MD-B1.5	Block for 1.5 ml tube, 20 wells
MD-B13	Block well size 13 mm, 20 wells
MD-B17	Block for 15 ml centrifuge tube, 12 wells
MD-B20	Block well size 20 mm, 12 wells
MD-B25	Block well size 25 mm, 6 wells
MD-B29	Block for 50 ml centrifuge tube, 4 wells

* For 110V units, add $ to order code

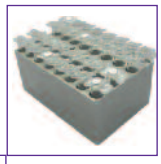
microBLOCK

Benchtop control of sample temperature has never been this easy or economical.

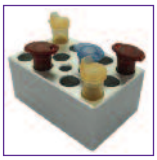
The microBlock fits almost anywhere and can even be used "on-the-go" in cars, boats or wherever a 12 volt power source is available. Its simple touch pad control with digital display is designed for "set and walk away" temperature selection and unrivaled accuracy. At less than 10.5cm. wide, microBlock is truly the first personal block incubator.

KEY FEATURES

- Compact, fits in the palm of your hand
- Exchangeable blocks, for 0.2 to 50 ml tubes
- Digital temperature control
- Clear cover improves temperature uniformity
- Portable (with optional 12V car adapter)



MD-MINI-B01



MD-MINI-B02

MD-MINI-B03

MD-MINI-B04

MD-MINI-B05

MD-MINI-B07

TECHNICAL SPECIFICATIONS

Temperature Range:	Ambient +5 to 100˚C
Temperature Accuracy:	ffl 0.25˚C
Temperature Increments:	0.1˚C
Temperature Uniformity:	ffl 0.2˚C
Dimensions:	13 x 15 x 10 cm
Weight	600 g

stirring water baths

A powerful magnetic stirring mechanism combined with high wattage heating allows each stirring water bath to maintain temperatures to a maximum 99°C

Available in 10 and 20 litre bath capacities, these water baths comprise as many as 3 stirrers for a maximum stirring speed of 1500rpm. Each bath includes a highly visible front-panel LCD, reproducible microprocessor control of temperature within 0.1°C increments, a corrosion resistant stainless steel interior and automatic alarm and safety shutdown mechanism.

KEY FEATURES

- Powerful magnetic stirring mechanism
- Stirring speed up to 1500rpm
- Available in 10 and 20 litre
- Reproducible temperature control within 0.1°C

TECHNICAL SPECIFICATIONS

SWB-	10L-1	10L-2	20L-1	20L-3
Stirrers	1	2	1	3
Capacity (approx.)	10 L	10 L	20 L	20 L
Internal Dimensions	24x30x15cm		30x50x15cm	
Temperature	5°C above ambient to 99°C			
Heating Power	600 W		800 W	
Stirring Speed	400 - 1500 rpm			
Timer	up to 99 hr 59min, continuous			
Temperature	0.1°C			
Safety	warning indicator on screen, with alarm and automatic shut down			

ORDERING INFORMATION

MBDB-01*	**microBlock Digital Dry Bath** with block lifter (Blocks sold separately)	MD-MINI-B04	Block, for 50ml tubes, 2 wells, 29.2mm, depth 72mm
MD-MINI-B01	Block, for 0.2ml tubes (PCR Strip Tube), 32 wells, 6.35mm, depth 19mm	MD-MINI-B05	Block, for 0.5ml tubes, 12 wells, 8.0mm, depth 25mm
MD-MINI-B02	Block, for 1.5ml tubes, 12 wells, 10.8mm, depth 28.5mm	MD-MINI-B06	Block, for 2.0ml or 1.5ml tubes, 12 wells, 11.0mm, depth 30mm
MD-MINI-B03	Block, for 15ml tubes, 6 wells, 17.3mm, depth 70mm	MD-MINI-B07	Block, for 1.5ml tubes, 12 wells, 10.9mm, depth 30mm
SWB-10L-1*	**Stirring Water Bath 10L** with 1 built-in stirrer, includes lid	**SWB-20L-1***	**Stirring Water Bath 20L** with 1 built-in stirrer, includes lid
SWB-10L-2*	**Stirring Water Bath 10L** with 2 built-in stirrers, includes lid	**SWB-20L-3***	**Stirring Water Bath 20L** with 3 built-in stirrers, includes lid
SWB-LID10	Transparent lid for 10L stirring water bath	SWB-LID20	Transparent lid for 20L stirring water bath

* For 110V units, add $ to order code

Peristaltic Pumps

This versatile peristaltic pump is an ideal accessory for gradient gel formation with the VS20-DGGE.

The easy-to-use pump head design accomadates several different silicon tubing sizes. This provides a great flexibility for a wide range of flow rates to be utilised when connecting with different sizes of tubings. Pump speed is adjustable up to maximum of 300 RPM, making it ideal for a wide range of applications, which include filtration, circulation, sampling, chemical spraying, dispensing, transferring, feeding and filling.

Ordering Information

MU-D01	**Single Peristaltic Pump**	MU-S17	Silicon tube I.D. 1/4", 25 ft
MU-S13	Silicon tube I.D. 1/32", 25 ft	MU-S18	Silicon tube I.D. 3/8", 25 ft
MU-S14	Silicon tube I.D. 1/16", 25 ft	MU-S25	Silicon tube I.D. 3/16", 25 ft
MU-S16	Silicon tube I.D. 1/8", 25 ft		

Technical Specifications

No. of Heads	1
Max. RPM:	300
Flow Rate, : ml/min	1.2-1140
Dimensions: (h x l x w)	20x34x13
Weight, kg:	5.7

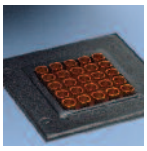
Personal thermal cycler

The PTC25 is designed with Hot Start PCR reactions hot start PCR reactions in mind, with a wide range of programming features.

Flexible program editing, which allows researchers to set up an amplification program containing different temperature ramping conditions within individual loops allows efficient protocol development. The PTC25 also offers the flexibility to create an advanced amplification program which can increase/decrease temperatures and hold times for an assigned step from cycle to cycle. The cycler even features a RT program function, it's simple and convenient to run one-step RT by combining the RT program with a stored amplification reaction.

KEY FEATURES

- Microprocessor control with digital performance
- Wide temperature control range and great temperature controlled performance
- LCD display
- Self pressure adjusting heating lid
- User friendly and powerful program performance
- RT program
- Link up to 5 loops for one program
- Up to 9 steps for each loop
- Up to 99 cycles for each program



Sample Capacity	25 (5 x 5) x 0.2ml tube
Temperature Control Range	4°C to 110°C
Lid Temperature Control Range	ambient +5°C to 110°C
Block Homogeneity	20°C to 72°C < + 0.3°C
Control Accuracy	+0.2°C
Heating Rate	approx. 3°C / s
Cooling Rate	approx. 2°C / s
Display	2.6" LCD
Program	Reverse transcription program
	Link program: multi-loop available; up to 5
	Step per Loop: up to 9
	Cycle number: up to 99
	Program storage: up to 100
	Increment and decrement temperature per step on each cycle
Increment And Decrement Time Per Step On Each Cycle	Yes
Rated Voltages	110 V / 220 V selectable
Unit Dimension (W x L x H)	7.87" x 12.62" x 7.48" (200 x 320.5 x 190 mm)
Unit Weight	Approx. 18.9 lb (8.6 kg)
Stackable	Yes

Ordering Information

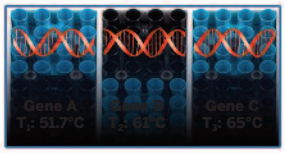
PTC25	**Personal thermal cycler** that can run 25 samples

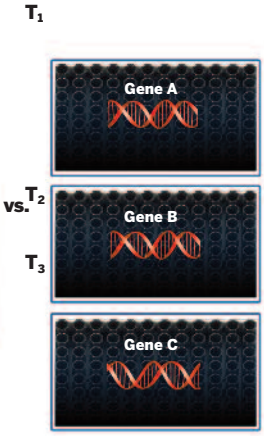
GTC96S thermal cycler

The GTC96S advanced thermal cycler delivers exceptional performance at an affordable price. A unique protocol optimisation process utilises Flexible Temperature technology to segregate the 96-well plate into six discrete (4x4-well) temperature zones, made easily distinguishable by blue and black squares.

Temperature selection is no longer automated and is entirely in the hands of the operator over a 24°C range, anywhere between 4 and 96°C. This enables the operator to optimise PCR by testing 6 different temperatures simultaneously in just one thermal cycler run. With heating and cooling rates of 5°C/s and 3.5°C/s respectively, the precision temperature control of the GTC96S minimises temperature overshooting and undershooting between individual stages within each PCR cycle, resulting in faster run times and greater efficiency.

Programming is both quick and simple through a large user-friendly interface, while pre-programmed methods make set-up obvious even to first time users. A heated lid, which is fully adjustable to apply optimal pressure to 0.2ml tubes and microplates, may be programmed to hold different temperatures between 60 to 65°C or 100 to 115°C.





Simplified Workflow – Improved Throughput GTC96 may be programmed to operate between one and six different annealing temperatures of user choice, across the block.

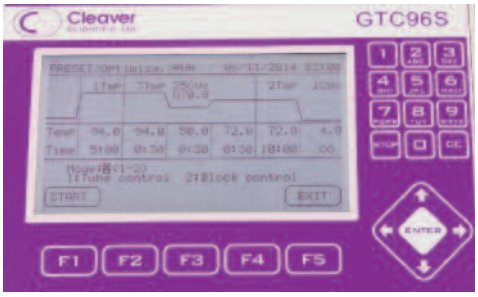
- Improved Throughput by reducing time
- Simplified Workflow by reducing steps

Figure 1. Primers designed to anneal to various genes (e.g. Gene A, B, and C) typically have different annealing temperatures (T_1,T_2 and T_3). To simplify workflow and increase throughput the GTC96 can perform up to six different reactions, significantly reducing steps and time.

KEY FEATURES

- Compatible with 96-well plates, 0.2ml tubes and tube strips
- Protocol optimization selectable from 1 to 24°C across the entire temperature control range from 4-99°C
- Precision temperature control increases both speed and efficiency

Intuitive User Interface
GTC96 utilises an intuitive user interface. This user interface is friendly to the laboratory environment. It can be used with lab gloves even if wet. The ramping speed and eliminated overshooting and undershooting which contributes to longer run times, have been improved.



Technical Specifications	
Sample Capacity	1x 96-well plate; 12x 8x0.2ml strip tubes; 96 x 0.2ml tubes
Programmable Temperature Range	4-99.9°C
Temperature Control	Calculated or block
Temperature Accuracy / Uniformity	±0.5°C / ±0.5°C
Heating / Cooling Method	Peltier
Maximum Heating / Cooling Rate	5°C / 3.5°C per second
Temperature Range of 6-Segment Blocks	30-99°C; temperature of each segment may be set independently
Maximum Temperature Difference Between 6-Segment Blocks	24°C
6-Segment Temperature Block Format	6 segments, each 4x4-well
Programmable Lid Temperature	60-65°C, 90-94°C
Memory	200 complete programmes
Temperature Increments / Decrements	Yes
Time Increments / Decrements	Yes

Ordering Information

GTC96S	**GTC96S thermal cycler** with 96-well block, 240VAC	**CSL-CLEANCAB**	**Complete PCR package** with low cost clean room. Includes CSL-GTC96S, CSL-UVCAB, CV2, CV20, CV200, CV1000 and CV8-200 pipettes, MSMIDI96 and nanoPAC-500
GTC96S$	**GTC96S thermal cycler** with 96-well block, 120VAC	**CSL-CLEANCAB$**	**As CSL-CLEANCAB** but 120VAC version
CSL-PCRKIT	**PCR package** includes GTC96S thermal cycler, MSMIDI96 96-well electrophoresis unit and nanoPAC-500 power supply		
CSL-PCRKIT$	**As CSL-PCRKIT** but 120VAC version		

PCR cabinets

These UV Sterilisation Cabinets provide a convenient area for setting up PCR reactions in a nucleic acid free environment thus limiting PCR reaction contamination.

Acting effectively as a low-cost alternative to a clean room, the powerful UV lights on each cabinet denature nucleic acids in 5 to 30 minutes making them unsuitable for amplification. The cabinets incorporate safety features to prevent user-exposure to UV light. The UV lights are timer controlled and there are safety switches on the cabinet doors which power off the UV lights when opened. The units' white light provides excellent visibility when working within the cabinet. Constructed from 10mm acrylic, the cabinets also act as efficient shields from beta radiation emissions and can therefore be safely used with isotopes such as ^{32}P.

Shown with SpillTray

KEY FEATURES

- Inactivates nucleic acids in 5 to 30 minutes
- Doors fitted with safety switches
- Complete with four powerful, timer controlled UV bulbs
- Efficient decontamination of the complete work surface
- Suitable for work with ^{32}P

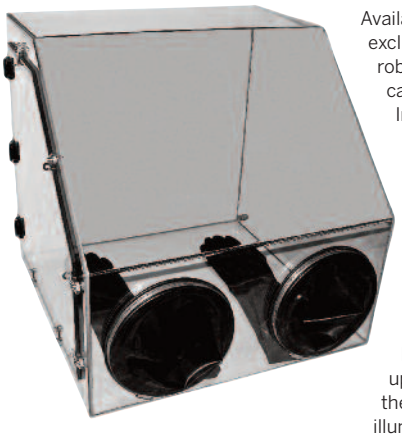
Mini Cabinet

Shown without SpillTray

Two models are available, Maxi as shown above, and a new Mini Cabinet for limited budget and bench space. Safety SpillTrays and Liners of size 68 x 54cm, provide convenient containment of spillage (not included with cabinet).

Technical Specifications		
UV Lights	Maxi	Four x 15 Watt
	Mini	Four x 15 Watt
White Light	Maxi	15 Watt
	Mini	15 Watt
Dimensions (HxWxD)	Maxi	770 x 560 x 420mm
	Mini	510 x 560 x 350mm
Weight	Maxi	19 Kg
	Mini	12 Kg

GloveBoxes



Available in four sizes, these glove boxes are for procedures requiring exclusion of atmospheric oxygen and moisture. Manufactured in robust non-reactive polycarbonate, Cleaver Scientific GloveBoxes can be used with inert gases such as helium, nitrogen and argon. Including hermetically-sealed gloves, for optimum user manoeuvrability and dexterity when handling equipment, samples and packages, and a side panel as standard, each box provides a safe barrier between the worker and any potential contaminant. GloveBoxes may also be supplied with airlocks, and are customisable in various shapes and sizes to suit different work environments, applications and spaces. Shelving and pipette holder options are also available. A CombiBox option combines the benefit of UV sterilisation with the fully sealed and enclosed area of a glove box. Four 15W UV-C bulbs with safety interlock switching may be timer controlled for up to 30 minutes, or indefinitely, to decontaminate equipment and the work surface, before and after use. A 15W white light bulb illuminates the entire work surface to provide excellent visibility.

KEY FEATURES

- Available in 4 sizes, with or without air locks
- Provides a barrier between the user and potential contaminants
- Hermetically sealed gloves allow safe handling within a fully enclosed containment area
- Side panel allows samples and packages to be placed in and removed from the work area safely and easily

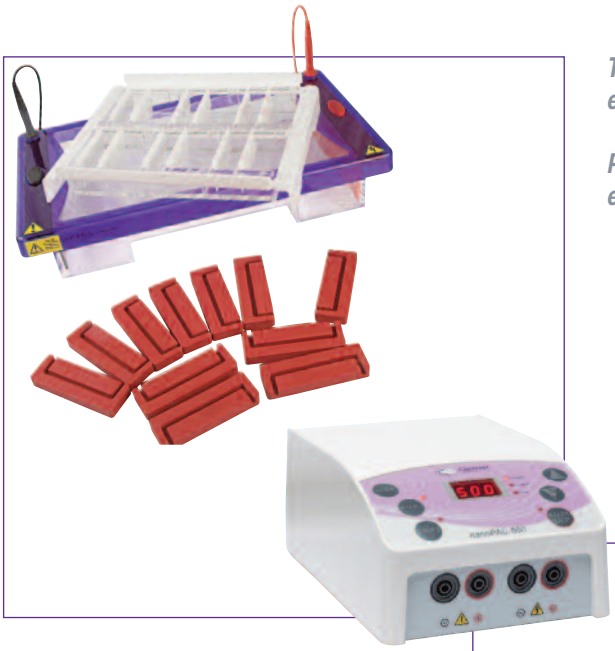
Ordering Information

CSL-UVCAB	**UV PCR Cabinet, Maxi** (without Safety SpillTray)	CSR-TW4	Safety SpillTray, White
CSL-UVCABMINI	**UV PCR Cabinet, Mini** (without Safety SpillTray)	CSR-TY4	Safety SpillTray, Yellow
CSL-UVTUBE	Replacement UV Fluorescent Tube	CSR-TL4	Safety Tray Liners, APET, pk/25
CSL-WHTUBE	Replacement White Fluorescent Tube		
CSL-GB24	**Glove Box, Standard 2 port**, 60 x 60 x 60cm	**CSL-GB48**	**Glove Box, Standard 2 port**, 120 x 60 x 60cm
CSL-GB24A	GB24 with Air-Lock	CSL-GB48A	GB48 with Air-Lock
CSL-GB36	**Glove Box, standard 2 port**, 90 x 60 x 60cm	**CSL-GB60**	**Glove Box, standard 2 port**, 150 x 60 x 60cm
CSL-GB36A	GB36 with Air-Lock	CSL-GB60A	GB60 with Air-Lock

For 110 V AC, please add '-$' as a suffix to the appropriate product code

Teaching Products

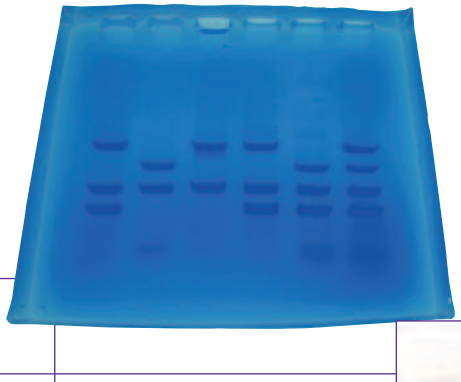
Cleaver Scientific offers a wide range of teaching equipment and kits, available in convenient packages as well as individually. We offer complete experimental set ups for classrooms to introduce our future young scientists to genotyping, genetics diseases, inherited traits and electrophoresis. Our teaching range includes:



Teaching specific gel tanks with enhanced safety features

Power supplies for running multiple experiments with simple interfaces

Story based DNA and Dye Electrophoresis kits for teaching the principles of electrophoresis and genetics

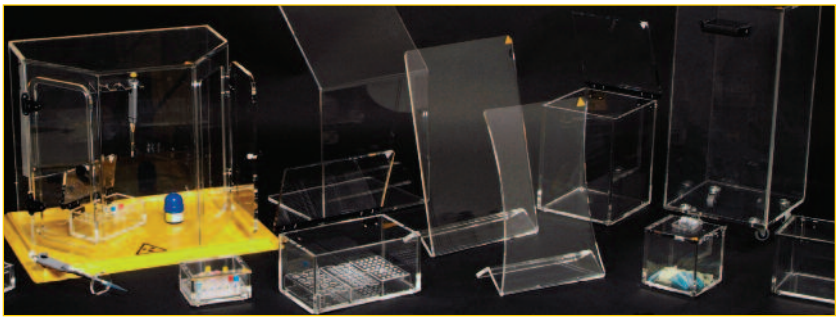


General laboratory equipment and reagents, everything you need to get a teaching lab running

For more information on the complete range of Cleaver Scientific teaching products, please refer to the website

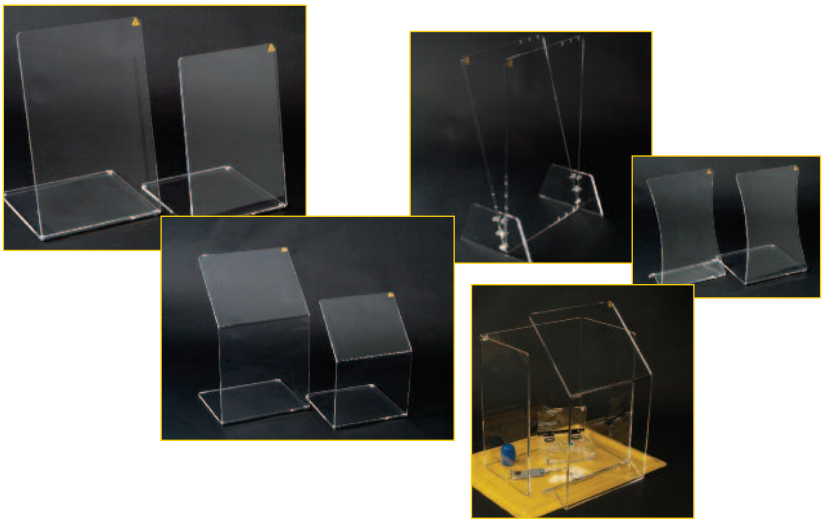
radiation safety

Available in standard 10mm beta-protecting acrylic, 12mm gamma-attenuating lead acrylic and also as duo shielding for protection against both types of emission, this comprehensive range of Radiation Safety Products comprises a large selection of shields, boxes, waste bins, trays, plus assorted accessories and cabinets.

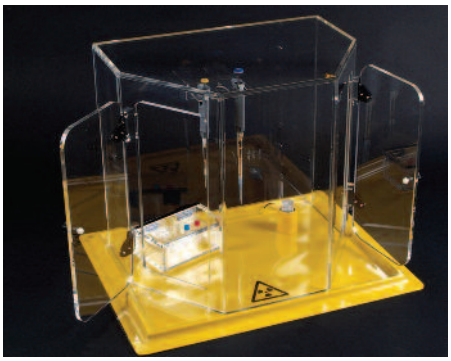


Shields

Supplied in small, medium and large sizes and with curved base 15cm-deep for use with safety trays or flat 30x30cm base for under-the-bench protection. A range of angles offers increased manoeuvrability, while clear optical acrylic aids visualisation.



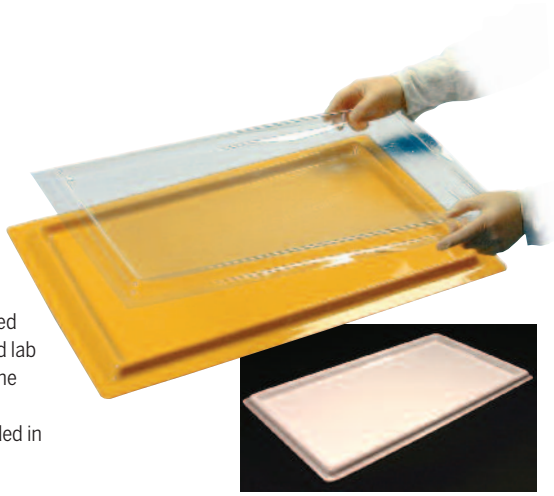
Cabinets



Cleaver Scientific cabinets provide a convenient area to carry out work with beta and gamma emitting isotopes with complete all round protection. Each cabinet's 49 x 55 x 37cm dimensions offer a large working area without impeding vision, either in a standing or seated position.

Spilltrays and Liners

Available in general purpose, biohazard and radiation safety formats, spilltrays provide a re-usable work area with the added benefit of safe containment of spillages and lab bench protection. All trays supplied with one free liner when purchased. Additional environmentally friendly APET liners provided in packs of 25.



Ordering Information

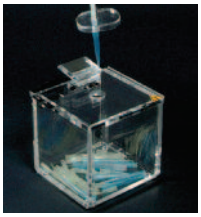
BETA	GAMMA	
CSR-CSR-S1	CSR-S1G	**Small Fixed 15° Angle**, Flat Base 30 x 45cm, Base 30 x 30cm
CSR-S1T	CSR-S1TG	**Small Fixed 15° Angle**, Curved Base 30 x 45cm
CSR-S2	CSR-S2G	**Large Fixed 15° Angle**, Flat Base 35 x 53cm, Base 35 x 30cm
CSR-S2T	CSR-S2TG	**Large Fixed 15° Angle**, Curved Base 35 x 53cm
CSR-S1O	CSR-S1OG	**Small Fixed 45° Angle**, Flat Base 30 x 45cm, Base 30 x 30cm
CSR-S1OT	CSR-S1OTG	**Small Fixed 45° Angle**, Curved Base 30 x 45cm
CSR-S2O	CSR-S2OG	**Large Fixed 45° Angle**, Flat Base 35 x 60cm, Base 30 x 30cm
CSR-S2OT	CSR-S2OTG	**Large Fixed 45° Angle**, Curved Base 35 x 60cm

BETA	GAMMA	
CSR-S3	CSR-S3G	**3-Sided Shield**, Front 46 x 50cm, Sides 30 x 50cm
CSR-S4	CSR-S4G	**Hourglass Shield**, Flat Base 30 x 45cm, Base 30 x 30cm
CSR-S4T	CSR-S4TG	**Hourglass Shield**, Curved Base 30 x 45cm
CSR-SFLEXI	CSR-SFLEXIG	**Shield, Adjustable**, 35 x 54 or 54 x 35cm
CSR-SF	CSR-SFG	**Base Plate**, 45 x 41cm
-	CSR-SDUO	**DuoShield**, Curved Base, Beta/Gamma 30 x 45cm
-	CSR-SFLEXITG	**Shield, Adjustable**, 35 x 54 or 54 x 35cm, 35mm thick
CAB	CABG	**Beta Work Cabinet**, 49 x 55 x 37cm

Tray Size	Radiation Hazard Tray, Yellow	BioHazard Tray, White	General Purpose Tray, White	APET liners, pk 25
46 x 26cm	CSR-TY1	CSR-TO1	CSR-TW1	CSR-TL1
54 x 34cm	CSR-TY2	CSR-TO2	CSR-TW2	CSR-TL2
57 x 54cm	CSR-TY3	CSR-TO3	CSR-TW3	CSR-TL3
68 x 54cm	CSR-TY4	CSR-TO4	CSR-TW4	CSR-TL4
70 x 46cm	CSR-TY5	CSR-TO5	CSR-TW5	CSR-TL5
113 x 54cm	CSR-TY6	CSR-TO6	CSR-TW6	CSR-TL6

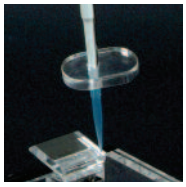
Storage Boxes, Racks and Waste Bins

Biocom storage boxes are manufactured with hinged lids and accommodate interchangeable inserts that hold microtubes, centrifuge tubes, scintillation vials, universals, cryotubes and falcon tubes. Also supplied is our range of floor-standing and benchtop bins with anti-slip feet and hinged lids. These serve as an ideal solution for short-term storage of radioactive waste or radioisotopes. Both the Beta and Gamma storage bins are available in five sizes, while the two largest bin models have wheels for easy transportation. Optional heavy duty drawstring bags may also be purchased.



Accessories

Other accessories available include pipette guards, radiation tape and warning signs and labels.



Ordering Information

BETA	GAMMA		BETA	GAMMA	
CSR-B0.4	**CSR-B0.4G**	**MiniBox**, 5.5 x 8.5 x 8.5cm	**CSR-BDUO**	**CSR-BDUOG**	**Duo Box**, 7 x 10 x6cm
CSR-B0.8	**CSR-B0.8G**	**MidiBox**, 6 x 16.5 x 8.5cm	**CSR-BLOCK**	**CSR-BLOCKG**	**Block for 4 x 1.5ml Eppendorf tube**s, 5 x 3.5 x 14cm
CSR-B6.5	**CSR-B6.5G**	**MaxiBox**, 14 x 28 x 16.5cm	**CSR-BLOCKL**	**CSR-BLOCKLG**	**Cover for B4**, 1 x 3.5 x 14cm
CSR-B3.5	**CSR-B3.5G**	**Box for four way racks**, 14 x 17.5 x 15cm	**CSR-STORE**	**CSR-STOREG**	**Beta-Storage/Transport Block**, 7 x 15 x 12cm
CSR-B8	**CSR-B8G**	**Transport Box**, 7.5 x 29.5 x 38cm	**CSR-COV**	**CSR-COVG**	**Carboy Cover**, 59 x 38 x 38cm
CSR-R1.5		Mini Box Insert, 16 x 1.5ml tubes	CSR-R20		Maxi Box Insert, 8 x 20ml Scintillation vials
CSR-R50		Maxi Box Insert, 8 x 50ml Centrifuge tubes	CSR-RDUO		Midi Box Insert, 16 x 1.5 and 16 x 0.5ml tubes
CSR-R0.5		Mini Box Insert, 20 x 0.5ml tubes	CSR-R5		Maxi Box Insert, 15 x 5ml Scintillation vials
CSR-R3F		Maxi Box Insert, 3 x Falcon tubes, 8 x 1.5ml tubes	CSR-R2		Midi Box Insert, 32 x 2ml Cryotubes
CSR-R1.5L		Midi Box Insert, 32 x 1.5ml Eppendorf tubes	CSR-RU		Maxi Box Insert, 8 x Universals
CSR-R2F		Maxi Box Insert, 2 x Falcon tubes, 8 x 1.5ml tubes	CSR-R15		Maxi Box Insert, 15 x 15ml Centrifuge tubes
CSR-R0.5L		Midi Box Insert, 40 x 0.5ml Eppendorf tubes			
BETA	GAMMA		BETA	GAMMA	
CSR-B1	**CSR-B1G**	**1L**, use with Bag BAG1, 13 x 10 x 8cm	**CSR-B5TIP**	**-**	**Large 5L**, use with Bag BAG2, 33 x 13 x 13cm
CSR-B2TIP	**CSR-B2TIPG**	**2L**, use with Bag BAG1, 13 x 13x 13cm	**CSR-B20**	**CSR-B20G**	**20L**, use with Bag BAG5, 38 x 21.5 x 23.5cm
CSR-B2MCTIP	**CSR-B2MCTIPG**	**2L**, use with Bag BAG1, 13 x 13x 13cm	**CSR-B53**	**CSR-B53G**	**53L**, use with Bag BAG,5 40 x 49 x 27cm
CSR-B3	**CSR-B3G**	**3.3L**, use with Bag BAG1, 15 x 15 x 15cm	**CSR-B47**	**-**	**47L**, with Wheels, use with bag BAG6 58 x 28.5 x 27cm
CSR-B10	**CSR-B10G**	**10L**, use with Bag BAG2, 25 x 20 x 20cm	**CSR-B122**	**-**	**122L**, with Wheels, use with bag BAG6 74 x 41 x 41cm
CSR-B15	**CSR-B15G**	**15L**, use with Bag BAG2, 29.5 x 21.5 x 23.5cm			
BETA	GAMMA				
CSR-PB2	CSR-PB2G	Pipette Shield, Biohit PS1000 Beta	CSR-LABS		Radiation Labels, pk/25 25x25mm
CSR-PB1	CSR-PB1G	Pipette Shield, Biohit PS200 Beta	CSR-LABL		Radiation Labels, pk/25 50x50mm
CSR-PB3	CSR-PB3G	Pipette Shield, Biohit PS5000 Beta	CSR-RADTAPE		Radiation Tape, pk/25 25mm x 66m
CSR-PG3	CSR-PG3G	Pipette Shield, Gilson P1000 Beta	Various sizes of radiation bags available. Please check the web site for more details.		
CSR-PG1	CSR-PG1G	Pipette Shield, Gilson P20/100 Beta			
CSR-PG2	vPG2G	Pipette Shield, Gilson P200 Beta			

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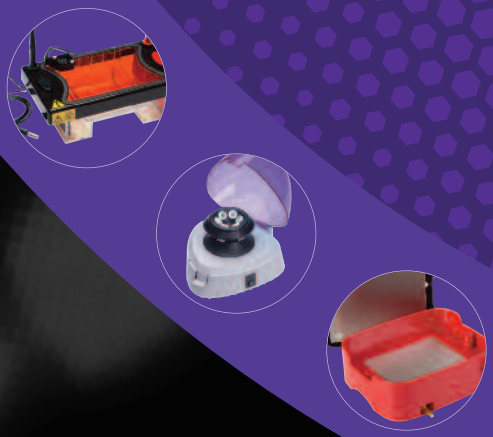

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