

**Consort**

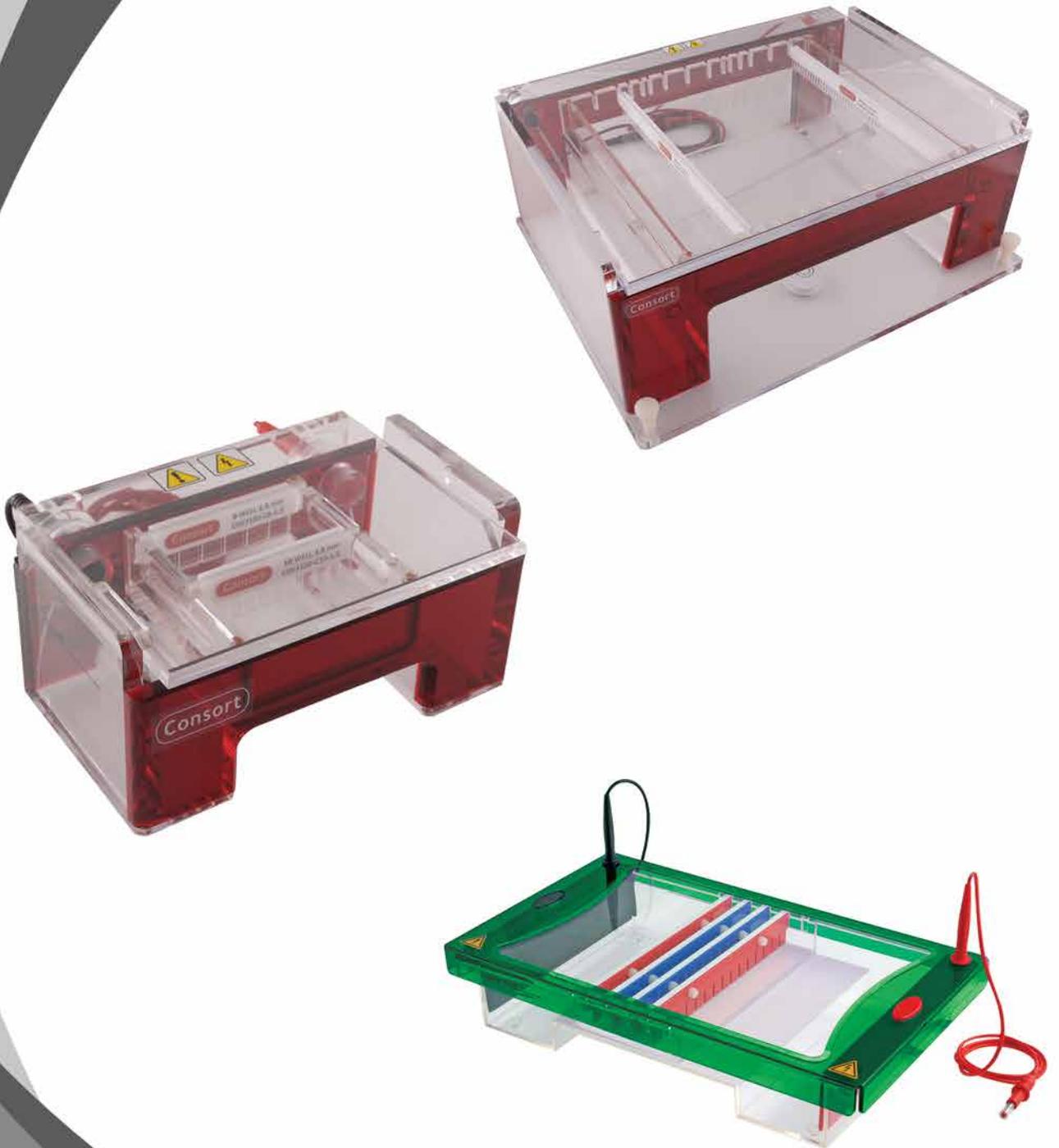
Artistic in science



20-06

Product catalogue

# Horizontal Units



- Finger grooves on the tray sides for easy handling
- Wide range of comb configurations
- Selected units available with buffer recirculation capabilities
- Combs specifications clearly marked on each comb
- Advanced casting systems
- UV transmissible gel trays with
  - Built-in fluorescent rulers
  - Multiple comb slots
- High quality 9mm thick rugged acrylic construction
- Interlocking lid
- Protected sockets with permanently attached power cords
- Epoxy sealed electrode connections, resist corrosion and leaks
- Gold plated banana plugs
- Meets or exceeds IEC1010-1 standards



With the EHS3000 series Consort is introducing a new high quality standard for electrophoresis tanks. Every tank is designed and produced with much care for the customer. The tanks are made completely from cast acrylic ensuring a high material quality.

Various features, innovations and details make this tank easy to use, elegant and very durable.



### Automatic buffer recirculation (available on selected units)

Reduces detrimental ion and pH gradients in your buffer, providing even migration for long running gels. Hydrogen bubbles created at the cathode carry buffer along a canted recirculation tube, providing a gentle, reliable and self-contained recirculation system that is self-regulating and requires no additional tubing or equipment.



### RapidCast™ gel casting technology

Ideal for most small gel units with trays that are approximately equal in width and length. The dimensions of all cast-in-place gel trays are adjusted so that when the tray is placed cross-ways in the gel tank, the gasketed ends of the gel tray fit precisely against the walls of the buffer chamber. This forms a leak-proof seal for quick gel pouring.

Turn tray crossways in the gel base to seal and pour.  
Align with the platform to run. No tape! No Leaks! Fast & Efficient.



### ExpressCast™ gel casting technology

High throughput / high resolution systems require gel trays too long to fit crossways in the gel tank. For easy tapeless casting with these units, the ExpressCast™ system has been developed. ExpressCast trays incorporate removable gasketed end gates. These end gates fit into slots at both ends of the tray, to form a quick leak-proof seal for gel casting. Because the length of ExpressCast trays is not constrained by the width of the gel unit, these trays can accommodate longer run lengths or more sample capacity.

ExpressCast trays are also compatible with gel units from many other manufacturers.

ExpressCast™ trays include end slots into which fit gasketed end gates, for easy in-tray gel casting. Fit end gates into trays for a quick and leak-proof seal. No tape! No Leaks! Fast & Efficient.

Code	Description
EHS3100-SYS	Mini horizontal unit, gasketed UVT gel tray 7x8 cm + 2 combs (6, 10), RapidCast technology.
EHS3200-SYS	Mini horizontal unit, gasketed UVT gel tray 9x11 cm + 2 combs (10, 14), RapidCast technology.
EHS3300-SYS	Mini horizontal unit, gasketed UVT gel tray 12x14 cm + 2 combs (12, 20), RapidCast technology.
EHS3350-SYS	Mini horizontal unit, gasketed UVT gel tray 12x14 cm + 2 combs (12, 20), RapidCast technology. Buffer Recirculation.
EHS3400-SYS	Wide horizontal unit, UVT gel tray 15x15 cm + end gates + 4 combs (2x 17, 2x34). ExpressCast technology.
EHS3410-SYS	Long horizontal unit, UVT gel tray 15x25 cm + end gates + 4 combs (2x 17, 2x34) + leveling screws + bubble level. ExpressCast technology.
EHS3500-SYS	Wide horizontal unit, UVT gel tray 20x25 cm + end gates + 3 combs (16, 24, 36) + leveling screws + bubble level. ExpressCast technology.
EHS3600-SYS	Wide horizontal unit, UVT gel tray 23x14 cm + end gates + 4 combs (4x 50) + leveling screws + bubble level. ExpressCast technology.
EHS3610-SYS	Maxi horizontal unit, UVT gel tray 23x25 cm + end gates + 4 combs (2x 25, 2x50) + leveling screws + bubble level. ExpressCast technology.
EHS3660-SYS	Maxi horizontal unit, UVT gel tray 23x25 cm + end gates + 4 combs (2x 25, 2x50) + leveling screws + bubble level. ExpressCast technology. Buffer Recirculation.
EHS3620-SYS	Ultra horizontal unit, UVT gel tray 23x40 cm + end gates + 4 combs (2x 25, 2x50) + leveling screws + bubble level. ExpressCast technology.



With the EHS3xxx series Consort is introducing a new high quality standard for electrophoresis tanks. Every tank is designed and produced with much care for the customer. The tanks are made completely from cast acrylic ensuring a high material quality.

Various features, innovations and details make this tank easy to use, elegant and very durable.

### Convenient & Versatile

- UV transmissible gel trays with built-in fluorescent rulers.
- Machined finger grooves on the tray sides for easy and sure handling.
- Wide range of comb configurations, including multi-channel capability.
- Selected units available with buffer recirculation capabilities.
- Combs specifications clearly marked on each comb.
- Advanced casting systems for flexibility, convenience and speed.
- All EHS3xxx-series trays feature multiple comb slots, built-in fluorescent rulers and ultra-strong assembly methods for long, reliable service.

### Safe & Reliable

- High quality 9mm thick rugged acrylic construction, resists cracking and warping.
- Your safety ensured with interlocking lid, protected sockets and permanently attached power cords.
- Epoxy sealed electrode connections, resist corrosion and leaks.
- Gold plated banana plugs.
- Meets or exceeds IEC1010-1 standards.

### RapidCast™ gel casting technology

The RapidCast™ system is ideal for most small gel units with trays that are approximately equal in width and length. The dimensions of all cast-in-place gel trays are adjusted so that when the tray is placed cross-ways in the gel tank, the gasketed ends of the gel tray fit precisely against the walls of the buffer chamber. This forms a leak-proof seal for quick gel pouring. This system can also be used with RapidCast casters, for casting outside the buffer tank. A long-lived silicone rubber gasket ensures a reliable seal thru many gel castings and side grooves on all RapidCast trays provide for easy handling.

RapidCast™ Technology uses trays with incorporated end gaskets, to easily cast gels in the gel unit base. Turn tray crossways in the gel base to seal and pour. Align with the platform to run. No tape! No Leaks! Fast & Efficient.

### ExpressCast™ gel casting technology

High throughput / high resolution systems require gel trays too long to fit crossways in the gel tank. For easy tapeless casting with these units, the ExpressCast™ system has been developed. ExpressCast trays incorporate removable gasketed end gates. These end gates fit into slots at both ends of the tray, to form a quick leak-proof seal for gel casting. Because the length of ExpressCast trays is not constrained by the width of the gel unit, these trays can accommodate longer run lengths or more sample capacity.

ExpressCast trays are also compatible with gel units from many other manufacturers.

ExpressCast™ trays include end slots into which fit gasketed end gates, for easy in-tray gel casting. Fit end gates into trays for a quick and leak-proof seal. No tape! No Leaks! Fast & Efficient.

### Integrated buffer recirculation (available on selected units)

Automatic buffer recirculation reduces detrimental ion and pH gradients in your buffer, providing even migration for long running gels. Hydrogen bubbles created at the cathode carry buffer along a canted recirculation tube, providing a gentle, reliable and self-contained recirculation system that is self-regulating and requires no additional tubing or equipment.



<b>Gel dimensions</b>	7x8 cm
<b>Buffer volume</b>	400ml
<b>Gel volume (at 0.5cm)</b>	28ml
<b>Sample Capacity</b>	24
<b>Comb Slots</b>	2
<b>Sample runs</b>	1 or 2
<b>Unit Dimensions</b>	12x17.6x9.5 cm
<b>Running condition</b>	60V at 5V/cm
<b>UV transmissible gel tray</b>	
<b>RapidCast</b>	
<b>Warranty</b>	36 months
<b>Recommended power supply</b>	
<b>EV2450</b>	



## ● Description

The EHS3100 mini gel systems are ideal for quick resolution of analytes from PCR, RE digestion, ligation and other common laboratory reactions.

### Features

RapidCast™ gel casting technology.

Heavy duty lower buffer chamber and Interlock safety lid with attached leads.

Buffer chamber with color coded, sealed platinum electrodes and non-slip rubber feet.

UV transmissible gel tray with long-life silicone gaskets, built-in fluorescent ruler and 2 comb slots.

Safety cover with attached retractable-sheathed power cords.

Wide range of combs and accessories available.

## ● Ordering codes

Code	Description
<b>EHS3100-SYS</b>	Mini horizontal unit gasketed UVT gel tray 7x8 cm 1 comb: 6 sample, 1.5mm 1 comb: 10 sample, 1.5mm

### Combs

Code	Description	Sample volume
<b>EHS3100-C5-1.0</b>	1 mm thick, 5 sample	25 µl
<b>EHS3100-C6-1.0</b>	1 mm thick, 6 sample	20 µl
<b>EHS3100-C8-1.0</b>	1 mm thick, 8 sample	14 µl
<b>EHS3100-C10-1.0</b>	1 mm thick, 10 sample	11 µl
<b>EHS3100-C12-1.0</b>	1 mm thick, 12 sample	8 µl
<b>EHS3100-C5-1.5</b>	1.5 mm thick, 5 sample	38 µl
<b>EHS3100-C6-1.5</b>	1.5 mm thick, 6 sample	31 µl
<b>EHS3100-C8-1.5</b>	1.5 mm thick, 8 sample	22 µl
<b>EHS3100-C10-1.5</b>	1.5 mm thick, 10 sample	16 µl
<b>EHS3100-C12-1.5</b>	1.5 mm thick, 12 sample	12 µl

### Preparative Combs

Code	Description	Sample volume
<b>EHS1100-PREP</b>	1.5mm, preparative	193 µl

### Replacement parts & Accessories

Code	Description
<b>EHS3100-TRAY</b>	Gasketed UVT gel tray 7x8 cm
<b>EHS3100-GASKET</b>	Replacement gasket (set of 2)
<b>EHS3100-CAST</b>	Multiple Casting Chamber (holds 3 UVT trays)
<b>EHS3100-CAST3T</b>	Multiple Casting Chamber including 3 UVT trays 7x8 cm

<b>Gel dimensions</b>	9x11 cm
<b>Buffer volume</b>	600ml
<b>Gel volume (at 0.5cm)</b>	50ml
<b>Sample Capacity</b>	36
<b>Comb Slots</b>	2
<b>Equidistant sample runs</b>	1 or 2
<b>Unit Dimensions</b>	15x22x9.5 cm
<b>Running condition</b>	90V at 5V/cm
<b>UV transmissible gel tray</b>	
<b>RapidCast</b>	
<b>Warranty</b>	36 months

**Recommended power supply**  
**EV2450**  
**EV2310**



## ● Description

The EHS3200 is a versatile mini-gel unit that offers a little more run length and capacity for restriction fragment and PCR amplicon analysis.

### Features

- RapidCast™ gel casting technology.
- Heavy duty lower buffer chamber and Interlock safety lid with attached leads.
- Buffer chamber with color coded, sealed platinum electrodes and non-slip rubber feet.
- UV transmissible gel tray with long-life silicone gaskets, built-in fluorescent ruler and 2 comb slots.
- Safety cover with attached retractable-sheathed power cords.
- Wide range of combs and accessories available.

## ● Ordering codes

### Complete System

Code	Description
<b>EHS3200-SYS</b>	Mini horizontal unit gasketed UVT gel tray 9x11 cm 1 comb: 10 sample, 1.5mm 1 comb: 14 sample, 1.5mm

### Combs

Code	Description	Sample volume
<b>EHS3200-C5-1.0</b>	1 mm thick, 5 sample	25 µl
<b>EHS3200-C8-1.0</b>	1 mm thick, 8 sample	20 µl
<b>EHS3200-C10-1.0</b>	1 mm thick, 10 sample	14 µl
<b>EHS3200-C12-1.0</b>	1 mm thick, 12 sample	11 µl
<b>EHS3200-C14-1.0</b>	1 mm thick, 14 sample	8 µl
<b>EHS3200-C5-1.5</b>	1.5 mm thick, 5 sample	38 µl
<b>EHS3200-C8-1.5</b>	1.5 mm thick, 8 sample	31 µl
<b>EHS3200-C10-1.5</b>	1.5 mm thick, 10 sample	22 µl
<b>EHS3200-C12-1.5</b>	1.5 mm thick, 12 sample	16 µl
<b>EHS3200-C14-1.5</b>	1.5 mm thick, 14 sample	12 µl

### Microtiter Combs

Code	Description	Sample volume
<b>EHS3200-CMT9-1.0</b>	1 mm thick, 9 sample MC	16 µl
<b>EHS3200-CMT18-1.0</b>	1 mm thick, 18 sample MC	6 µl
<b>EHS3200-CMT9-1.5</b>	1.5 mm thick, 9 sample MC	24 µl
<b>EHS3200-CMT18-1.5</b>	1.5 mm thick, 18 sample MC	9 µl

### Preparative Combs

Code	Description	Sample volume
<b>EHS3200-PREP</b>	1.5mm, preparative	142 µl

### Replacement parts & Accessories

Code	Description
<b>EHS3200-TRAY</b>	Gasketed UVT gel tray 9x11 cm
<b>EHS3200-GASKET</b>	Replacement gasket (set of 2)
<b>EHS3200-CAST</b>	Multiple Casting Chamber (holds 3 UVT trays)
<b>EHS3200-CAST3T</b>	Multiple Casting Chamber including 3 UVT trays 7x8 cm

<b>Gel dimensions</b>	12x14cm
<b>Buffer volume</b>	800ml
<b>Gel volume (at 0.5cm)</b>	84ml
<b>Sample Capacity</b>	100
<b>Comb Slots</b>	4
<b>Equidistant sample runs</b>	1 or 2
<b>Unit Dimensions</b>	18x24.5x9.5 cm
<b>Running condition</b>	115V at 5V/cm
<b>RapidCast</b>	
<b>UV transmissible gel tray</b>	
<b>Automatic Buffer Recirculation (EHS3350 only)</b>	
<b>Warranty</b>	36 months

**Recommended power supply**  
**EV2450**  
**EV2310**



**EHS3350-SYS**

### ● Description

The EHS3300 is our most popular mini-gel unit. A combination of outstanding versatility and value make it an ideal personal gel device. Two unit configurations are available including the new EHS3350 which includes integrated automatic buffer recirculation for improved performance. All systems feature RapidCast™ casting system for tapeless casting in the buffer chamber base or in optional casting frame.

#### Features

- RapidCast™ gel casting technology.
- Heavy duty lower buffer chamber and Interlock safety lid with attached leads.
- Buffer chamber with color coded, sealed platinum electrodes and non-slip rubber feet.
- UV transmissible gel tray with long-life silicone gaskets, built-in fluorescent ruler and 2 comb slots.
- Safety cover with attached retractable-sheathed power cords.
- Wide range of combs and accessories available.



**EHS3350-SYS**

### ● Ordering codes

#### Complete System

Code	Description
<b>EHS3300-SYS</b>	Mini horizontal unit gasketed UVT gel tray 12x14 cm 1 comb: 12 sample, 1.5mm 1 comb: 20 sample, 1.5mm
<b>EHS3350-SYS</b>	Mini horizontal unit with automatic buffer recirculation gasketed UVT gel tray 12x14 cm 1 comb: 12 sample, 1.5mm 1 comb: 20 sample, 1.5mm



**EHS3300-SYS**

#### Combs

Code	Description	Sample volume
<b>EHS3300-C8-1.0</b>	1 mm thick, 8 sample	25 µl
<b>EHS3300-C16-1.0</b>	1 mm thick, 16 sample	20 µl
<b>EHS3300-C20-1.0</b>	1 mm thick, 20 sample	14 µl
<b>EHS3300-C24-1.0</b>	1 mm thick, 24 sample	11 µl
<b>EHS3300-C8-1.5</b>	1.5 mm thick, 8 sample	38 µl
<b>EHS3300-C16-1.5</b>	1.5 mm thick, 16 sample	31 µl
<b>EHS3300-C20-1.5</b>	1.5 mm thick, 20 sample	22 µl
<b>EHS3300-C24-1.5</b>	1.5 mm thick, 24 sample	16 µl

#### Microtiter Combs

Code	Description	Sample volume
<b>EHS3300-CMT9-1.0</b>	1 mm thick, 9 sample MC	16 µl
<b>EHS3300-CMT12-1.0</b>	1 mm thick, 12 sample MC	6 µl
<b>EHS3300-CMT25-1.0</b>	1 mm thick, 25 sample MC	6 µl
<b>EHS3300-CMT9-1.5</b>	1.5 mm thick, 9 sample MC	24 µl
<b>EHS3300-CMT12-1.5</b>	1.5 mm thick, 12 sample MC	9 µl
<b>EHS3300-CMT25-1.5</b>	1.5 mm thick, 25 sample MC	6 µl

#### Replacement parts & Accessories

Code	Description
<b>EHS3300-TRAY</b>	Gasketed UVT gel tray 12x14 cm
<b>EHS3300-GASKET</b>	Replacement gasket (set of 2)
<b>EHS3300-CAST</b>	Multiple Casting Chamber (holds 3 UVT trays)
<b>EHS3300-CAST3T</b>	Multiple Casting Chamber including 3 UVT trays 7x8 cm

#### Preparative Combs

Code	Description	Sample volume
<b>EHS3300-PREP</b>	1.5mm, preparative	142 µl

<b>Gel dimensions</b>	15x15cm
<b>Buffer volume</b>	1020ml
<b>Gel volume (at 0.5cm)</b>	112ml
<b>Sample Capacity</b>	160
<b>Comb Slots</b>	6
<b>Equidistant sample runs</b>	1, 2, 3 or 4
<b>Unit Dimensions</b>	21x26x9.5 cm
<b>Running condition</b>	120V at 5V/cm
<b>UV transmissible gel tray</b>	
<b>ExpressCast</b>	
<b>Warranty</b>	36 months
<b>Recommended power supply</b>	
<b>EV2450</b>	
<b>EV2310</b>	



## ● Description

The EHS3400 ExpressCast™ system is an ideal midi-gel unit for moderate thru-put sample analysis. This system features the ExpressCast gel casting system for quick, tape-free gel casting.

### Features

ExpressCast™ gel casting technology.

Heavy duty lower buffer chamber and Interlock safety lid with attached leads.

Buffer chamber with color coded, sealed platinum electrodes and non-slip rubber feet.

UV transmissible gel tray built-in fluorescent ruler and 6 comb slots.

Safety cover with attached retractable-sheathed power cords.

Wide range of combs and accessories available.

## ● Ordering codes

### Complete System

Code	Description
<b>EHS3400-SYS</b>	Wide horizontal unit UVT gel tray 15x15 cm , end gates 2 combs: 17 sample, 1.5mm 2 combs: 34 sample, 1.5mm

### Combs

Code	Description	Sample volume
<b>EHS3400-C10-1.0</b>	1 mm thick, 10 sample	25 µl
<b>EHS3400-C20-1.0</b>	1 mm thick, 20 sample	20 µl
<b>EHS3400-C40-1.0</b>	1 mm thick, 40 sample	14 µl
<b>EHS3400-C10-1.5</b>	1.5 mm thick, 10 sample	38 µl
<b>EHS3400-C20-1.5</b>	1.5 mm thick, 20 sample	31 µl
<b>EHS3400-C40-1.5</b>	1.5 mm thick, 40 sample	22 µl

### Microtiter Combs

Code	Description	Sample volume
<b>EHS3400-CMT17-1.0</b>	1 mm thick, 17 sample MC	16 µl
<b>EHS3400-CMT34-1.0</b>	1 mm thick, 34 sample MC	6 µl
<b>EHS3400-CMT17-1.5</b>	1.5 mm thick, 17 sample MC	24 µl
<b>EHS3400-CMT34-1.5</b>	1.5 mm thick, 34 sample MC	9 µl

### Replacement parts & Accessories

Code	Description
<b>EHS3400-TRAY</b>	UVT gel tray, 15x15 cm, with gasketed end gates
<b>EHS3400-DAM</b>	Casting Dam for 15cm Wide Gel Trays
<b>EHS3400-GATE</b>	End Gates, includes gasket (set of 2)
<b>EHS3400-GASKET</b>	Replacement Gasket (set of 2)

<b>Gel dimensions</b>	15x25cm
<b>Buffer volume</b>	1850ml
<b>Gel volume (at 0.5cm)</b>	188ml
<b>Sample Capacity</b>	112
<b>Comb Slots</b>	6
<b>Equidistant sample runs</b>	1, 2, 3 or 4
<b>Run lengths</b>	5.5, 7.5, 11.4 and 23,2 cm
<b>Unit Dimensions</b>	23.5x37.5x10.5 cm
<b>Running condition</b>	170V at 5V/cm
<b>UV transmissible gel tray</b>	
<b>ExpressCast</b>	
<b>Warranty</b>	36 months

**Recommended power supply**  
**EV2650**  
**EV2310**



## ● Description

The EHS3410 is a long run length mini-gel system. With a maximum run length of 25cm, the unit can provide high resolution of complex analytes. The EHS3410 features the ExpressCast gel casting system for quick, tape-free gel casting. The unit is manufactured with a levelling base that includes a built-in level and 3-point levelling using nylon screws for convenient level adjustment.

### Features:

ExpressCast™ gel casting technology.

Heavy duty lower buffer chamber and Interlock safety lid with attached leads.

Buffer chamber with color coded, sealed platinum electrodes and non-slip rubber feet.

UV transmissible gel tray with 6 comb slots.

Safety cover with attached retractable-sheathed power cords.

Wide range of combs and accessories available.

## ● Ordering codes

### Complete System

Code	Description
<b>EHS3410-SYS</b>	Long horizontal unit UVT gel tray 15x25 cm , end gates 2 combs: 17 sample, 1.5mm 2 combs: 34 sample, 1.5mm

### Combs

Code	Description	Sample volume
<b>EHS3400-C10-1.0</b>	1 mm thick, 10 sample	25 µl
<b>EHS3400-C20-1.0</b>	1 mm thick, 20 sample	20 µl
<b>EHS3400-C40-1.0</b>	1 mm thick, 40 sample	14 µl
<b>EHS3400-C10-1.5</b>	1.5 mm thick, 10 sample	38 µl
<b>EHS3400-C20-1.5</b>	1.5 mm thick, 20 sample	31 µl
<b>EHS3400-C40-1.5</b>	1.5 mm thick, 40 sample	22 µl

### Microtiter Combs

Code	Description	Sample volume
<b>EHS3400-CMT17-1.0</b>	1 mm thick, 17 sample MC	16 µl
<b>EHS3400-CMT34-1.0</b>	1 mm thick, 34 sample MC	6 µl
<b>EHS3400-CMT17-1.5</b>	1.5 mm thick, 17 sample MC	24 µl
<b>EHS3400-CMT34-1.5</b>	1.5 mm thick, 34 sample MC	9 µl

### Replacement parts & Accessories

Code	Description
<b>EHS3400-TRAY</b>	UVT gel tray, 15x15 cm, with gasketed end gates
<b>EHS3410-TRAY20</b>	UVT gel tray, 15x20 cm, with gasketed end gates
<b>EHS3410-TRAY25</b>	UVT gel tray, 15x25 cm , with gasketed end gates
<b>EHS3400-DAM</b>	Casting Dam for 15cm Wide Gel Trays
<b>EHS3400-GATE</b>	End Gates, includes gasket (set of 2)
<b>EHS3400-GASKET</b>	Replacement Gasket (set of 2)

<b>Gel dimensions</b>	20x25cm
<b>Buffer volume</b>	1850ml
<b>Gel volume (at 0.5cm)</b>	250ml
<b>Sample Capacity</b>	168
<b>Comb Slots</b>	6
<b>Equidistant sample runs</b>	1, 2, 3 or 4
<b>Run lengths</b>	5.5, 7.5, 11.4 and 23,2 cm
<b>Unit Dimensions</b>	29x37.5x10.5 cm
<b>Running condition</b>	170V at 5V/cm
<b>UV transmissible gel tray</b>	
<b>ExpressCast</b>	
<b>Warranty</b>	36 months
<b>Recommended power supply</b>	
<b>EV2650</b>	
<b>EV3150</b>	



## ● Description

The EHS3500 can accommodate a large range of sample and run length combinations for the ultimate in versatility. The unit is manufactured with a levelling base that includes a built-in level and 3-point levelling using nylon screws for convenient level adjustment.

### Features

- ExpressCast™ gel casting technology.
- Heavy duty lower buffer chamber and Interlock safety lid with attached leads.
- Buffer chamber with color coded, sealed platinum electrodes and non-slip rubber feet.
- UV transmissible gel tray with 6 comb slots.
- Safety cover with attached retractable-sheathed power cords.

## ● Ordering codes

### Complete System

Code	Description
<b>EHS3500-SYS</b>	Wide long horizontal unit UVT gel tray 20x25 cm, end gates levelling screws, bubble level 1 comb: 16 sample, 1.5mm 1 comb: 24 sample, 1.5mm 1 comb: 36 sample, 1.5mm

### Combs

Code	Description	Sample volume
<b>EHS3500-C8-1.0</b>	1 mm thick, 8 sample	25 µl
<b>EHS3500-C12-1.0</b>	1 mm thick, 12 sample	20 µl
<b>EHS3500-C16-1.0</b>	1 mm thick, 16 sample	14 µl
<b>EHS3500-C20-1.0</b>	1 mm thick, 20 sample	38 µl
<b>EHS3500-C24-1.0</b>	1 mm thick, 24 sample	31 µl
<b>EHS3500-C28-1.0</b>	1 mm thick, 28 sample	22 µl
<b>EHS3500-C32-1.0</b>	1 mm thick, 32 sample	22 µl
<b>EHS3500-C36-1.0</b>	1 mm thick, 36 sample	22 µl
<b>EHS3500-C8-1.5</b>	1.5 mm thick, 8 sample	25 µl
<b>EHS3500-C12-1.5</b>	1.5 mm thick, 12 sample	20 µl
<b>EHS3500-C16-1.5</b>	1.5 mm thick, 16 sample	14 µl
<b>EHS3500-C20-1.5</b>	1.5 mm thick, 20 sample	38 µl
<b>EHS3500-C24-1.5</b>	1.5 mm thick, 24 sample	31 µl
<b>EHS3500-C28-1.5</b>	1.5 mm thick, 28 sample	22 µl
<b>EHS3500-C32-1.5</b>	1.5 mm thick, 32 sample	22 µl
<b>EHS3500-C36-1.5</b>	1.5 mm thick, 36 sample	22 µl

### Microtiter Combs

Code	Description	Sample volume
<b>EHS3500-CMT18-1.0</b>	1 mm thick, 18 sample MC	16 µl
<b>EHS3500-CMT21-1.0</b>	1 mm thick, 21 sample MC	6 µl
<b>EHS3500-CMT42-1.0</b>	1 mm thick, 42 sample MC	6 µl
<b>EHS3500-CMT18-1.5</b>	1.5 mm thick, 18 sample MC	24 µl
<b>EHS3500-CMT21-1.5</b>	1.5 mm thick, 21 sample MC	9 µl
<b>EHS3500-CMT42-1.5</b>	1.5 mm thick, 42 sample MC	9 µl

### Preparative Combs

Code	Description	Sample volume
<b>EHS3500-PREP</b>	1.5mm, preparative	142 µl

### Replacement parts & Accessories

Code	Description
<b>EHS3500-TRAY</b>	UVT gel tray, 20x25 cm, with gasketed end gates
<b>EHS3500-DAM</b>	Casting Dam for 20cm Wide Gel Trays
<b>EHS3500-GATE</b>	End Gates, includes gasket (set of 2)
<b>EHS3500-GASKET</b>	Replacement Gasket (set of 2)

<b>Gel dimensions</b>	23.5x14cm
<b>Buffer volume</b>	1700
<b>Gel volume (at 0.5cm)</b>	161ml
<b>Sample Capacity</b>	200
<b>Comb Slots</b>	4
<b>Unit Dimensions</b>	32x26x10.5 cm
<b>Running condition</b>	120V at 5V/cm
<b>UV transmissible gel tray</b>	
<b>ExpressCast</b>	
<b>Warranty</b>	36 months

**Recommended power supply**  
**EV2650**  
**EV3150**



## ● Description

The EHS3500 is our “double-wide” midi gel unit. Ideal for quick analysis of larger quantities of samples. The unit is manufactured with a levelling base that includes a built-in level and 3-point levelling using nylon screws for convenient level adjustment.

### Features

ExpressCast™ gel casting technology.

Heavy duty lower buffer chamber and Interlock safety lid with attached leads.

Buffer chamber with color coded, sealed platinum electrodes and non-slip rubber feet.

UV transmissible gel tray and 4 comb slots.

Safety cover with attached retractable-sheathed power cords.

## ● Ordering codes

### Complete System

Code	Description
<b>EHS3600-SYS</b>	Wide horizontal unit UVT gel tray 23.5x14 cm, end gates levelling screws, bubble level 4 combs: 50 sample, 1.5mm

### Microtiter Combs

Code	Description	Sample volume
<b>EHS3600-CMT25-1.0</b>	1 mm thick, 25 sample MC	16 µl
<b>EHS3600-CMT26-1.0</b>	1 mm thick, 26 sample MC	6 µl
<b>EHS3600-CMT40-1.0</b>	1 mm thick, 50 sample MC	6 µl
<b>EHS3600-CMT25-1.5</b>	1.5 mm thick, 25 sample MC	24 µl
<b>EHS3600-CMT26-1.5</b>	1.5 mm thick, 26 sample MC	9 µl
<b>EHS3600-CMT50-1.5</b>	1.5 mm thick, 50 sample MC	9 µl

### Replacement parts & Accessories

Code	Description
<b>EHS3600-TRAY</b>	UVT gel tray, 23.5x14 cm, with gasketed end gates
<b>EHS3600-DAM</b>	Casting Dam for 20cm Wide Gel Trays
<b>EHS3600-GATE</b>	End Gates, includes gasket (set of 2)
<b>EHS3600-GASKET</b>	Replacement Gasket (set of 2)

<b>Gel dimensions</b>	23.5x25cm 23.5x14cm
<b>Buffer volume</b>	1700
<b>Gel volume (at 0.5cm)</b>	161ml
<b>Sample Capacity</b>	500
<b>Comb Slots</b>	14
<b>Equidistant sample runs</b>	1, 2, 3, 4, 5 or 10
<b>Run lengths</b>	2, 4.4, 5.5, 7.5, 11.4 & 23,2 cm
<b>Unit Dimensions</b>	32x26x10.5 cm
<b>Running condition</b>	170V at 5V/cm
<b>UV transmissible gel tray</b>	
<b>ExpressCast</b>	
<b>Automatic Buffer Recirculation (EHS3660 only)</b>	
<b>Warranty</b>	36 months

**Recommended power supply**  
EV2650  
EV3150



EHS3660-SYS

## ● Description

The EHS3610 and EHS3660 system is capable of processing large numbers of samples quickly and efficiently. Two unit configurations are available including the new EHS3660 which includes integrated automatic buffer recirculation for improved performance. The unit is manufactured with a levelling base that includes a built-in level and 3-point levelling using nylon screws for convenient level adjustment.

### Features

ExpressCast™ gel casting technology.  
Heavy duty lower buffer chamber and Interlock safety lid with attached leads.  
Buffer chamber with color coded, sealed platinum electrodes and non-slip rubber feet.  
UV transmissible gel tray with 14 comb slots.  
Safety cover with attached retractable-sheathed power cords.

## ● Ordering codes

### Complete System

Code	Description
<b>EHS3610-SYS</b>	Maxi horizontal unit UVT gel tray 23x25 cm, end gates levelling screws, bubble level 2 combs: 25 sample, 1.5mm 2 combs: 50 sample. 1.5mm
<b>EHS3660-SYS</b>	Maxi horizontal unit UVT gel tray 23x25 cm, end gates levelling screws, bubble level 2 combs: 25 sample, 1.5mm 2 combs: 50 sample. 1.5mm

### Microtiter Combs

Code	Description	Sample volume
<b>EHS3600-CMT25-1.0</b>	1 mm thick, 25 sample MC	16 µl
<b>EHS3600-CMT26-1.0</b>	1 mm thick, 26 sample MC	6 µl
<b>EHS3600-CMT40-1.0</b>	1 mm thick, 50 sample MC	6 µl
<b>EHS3600-CMT25-1.5</b>	1.5 mm thick, 25 sample MC	24 µl
<b>EHS3600-CMT26-1.5</b>	1.5 mm thick, 26 sample MC	9 µl
<b>EHS3600-CMT50-1.5</b>	1.5 mm thick, 50 sample MC	9 µl

### Replacement parts & Accessories

Code	Description
<b>EHS3600-TRAY</b>	UVT gel tray, 23.5x14 cm, with gasketed end gates
<b>EHS3610-TRAY</b>	UVT gel tray, 23.5x25 cm, with gasketed end gates
<b>EHS3600-DAM</b>	Casting Dam for 20cm Wide Gel Trays
<b>EHS3600-GATE</b>	End Gates, includes gasket (set of 2)
<b>EHS3600-GASKET</b>	Replacement Gasket (set of 2)



EHS3610-SYS

<b>Gel dimensions</b>	23.5x40cm 23.5x25cm 23.5x14cm
<b>Buffer volume</b>	1700
<b>Gel volume (at 0.5cm)</b>	161ml
<b>Sample Capacity</b>	600
<b>Comb Slots</b>	12
<b>Equidistant sample runs</b>	1, 2, 3, 4, 6 or 12
<b>Run lengths</b>	3, 6.3, 8.9, 12.9, 19.5 & 35 cm
<b>Unit Dimensions</b>	32x26x10.5 cm
<b>Running condition</b>	120V at 5V/cm
<b>UV transmissible gel tray</b>	
<b>ExpressCast</b>	
<b>Buffer recirculation ports</b>	
<b>Warranty</b>	36 months

**Recommended power supply**  
EV2650, EV3150



## ● Description

The EHS3620 can handle both very large numbers of samples, and long runs as well, providing both high resolution and high through-put. The EHS3620 device includes buffer recirculation ports for connection to external buffer recirculation devices, and features Galileo's ExpressCast™ casting system for in-tray tapeless casting. The unit is manufactured with a levelling base that includes a built-in level and 3-point levelling using nylon screws for convenient level adjustment.

### Features

ExpressCast™ gel casting technology.

Heavy duty lower buffer chamber and Interlock safety lid with attached leads.

Buffer chamber with color coded, sealed platinum electrodes and non-slip rubber feet.

UV transmissible gel tray with 12 comb slots.

Safety cover with attached retractable-sheathed power cords.

Wide range of combs and accessories available.

## ● Ordering codes

### Complete System

Code	Description
<b>EHS3620-SYS</b>	Wide horizontal unit UVT gel tray 23x40 cm, end gates levelling screws, bubble level 2 combs: 25 sample, 1.5mm 2 combs: 50 sample, 1.5mm

### Microtiter Combs

Code	Description	Sample volume
<b>EHS3600-CMT25-1.0</b>	1 mm thick, 25 sample MC	16 µl
<b>EHS3600-CMT26-1.0</b>	1 mm thick, 26 sample MC	6 µl
<b>EHS3600-CMT40-1.0</b>	1 mm thick, 50 sample MC	6 µl
<b>EHS3600-CMT25-1.5</b>	1.5 mm thick, 25 sample MC	24 µl
<b>EHS3600-CMT26-1.5</b>	1.5 mm thick, 26 sample MC	9 µl
<b>EHS3600-CMT50-1.5</b>	1.5 mm thick, 50 sample MC	9 µl

### Replacement parts & Accessories

Code	Description
<b>EHS3600-TRAY</b>	UVT gel tray, 23.5x14 cm, with gasketed end gates
<b>EHS3610-TRAY</b>	UVT gel tray, 23.5x25 cm, with gasketed end gates
<b>EHS3620-TRAY</b>	UVT gel tray, 23.5x40 cm, with gasketed end gates
<b>EHS3600-DAM</b>	Casting Dam for 20cm Wide Gel Trays
<b>EHS3600-GATE</b>	End Gates, includes gasket (set of 2)
<b>EHS3600-GASKET</b>	Replacement Gasket (set of 2)

# About Horizontal Electrophoresis

## Gel concentration

The range of fragment sizes to be separated will determine the choice of agarose concentration for a gel. Typical agarose concentration is 0.5% to 3.0%. For large DNA fragments low-percentage gels are required, while for small DNA fragments, high-percentage gels are recommended. Weak gels (0.5% agarose) should be electrophoresed at low temperatures (e.g.  $-4^{\circ}\text{C}$ ). Agarose gels of 0.75% to 1.0%, for routine electrophoresis, are recommended for a wide range of separations (0.15 to 15 kb). 2...4% agarose gels are usually selected for PCR fragment resolution. If the gel has to be subsequently photographed, thin gels (2 to 3 mm) with low-percentage agarose are better than thick or high-percentage gels. The latter produce increased opacity and autofluorescence.

## Electrophoresis buffer

TAE buffer provides optimal resolution of fragments  $>4$  kb in length, while for 0.1 to 3 kb fragments, TBE buffer should be selected. TBE has both a higher buffering capacity and lower conductivity than TAE and therefore should be used for high-voltage electrophoresis. Additionally, TBE buffer generates less heat than TAE at an equivalent voltage and does not allow a significant pH drift. Note: because of its lower buffering capacity, TAE should be circulated or mixed from time to time for full-length electrophoresis, especially at higher voltages.

## Temperature influence

Electrophoresis at high voltages produces heat. Additionally, high-conductivity buffers such as TAE generate more heat than low-conductivity buffers. Care should be taken in agarose gel electrophoresis with voltages greater than 175 V, as heat build up can generate gel artifacts such as S-shaped migration fronts, and in extended electrophoresis runs, can even melt the agarose gel. With high voltage electrophoresis, the use of low-melting-point agarose gels should be avoided.

## RNA mobility

Either before or during electrophoresis, RNA should be denatured. For example, RNA fragments which have denatured with glyoxal and dimethyl sulphoxide can be separated on neutral agarose gels, or RNA can be fractionated on agarose gels containing methylmercuric hydroxide or formaldehyde. RNA samples usually require longer runs or buffers that are easily depleted, so it is necessary to circulate the buffer. Northern analyses should not normally be run on a mini gel tank.

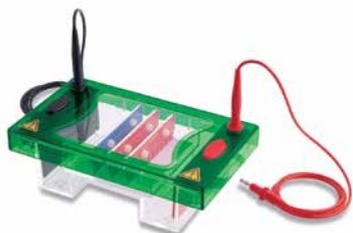
## Separation performance

Gel concentration, running buffer, voltage, temperature, conformation, and the presence of ethidium bromide all affect separation results. To establish progress of double-stranded DNA, ethidium bromide (0.5  $\mu\text{g}/\text{ml}$ ) is often added to running buffer. The dye's fluorescence properties allows the band to be visualised under a UV lamp. However, ethidium bromide may slow the DNA migration rate by approx. 15%. As an alternative, after electrophoresis, the gel may be stained in an ethidium bromide solution (0.5  $\mu\text{g}/\text{ml}$  H<sub>2</sub>O) for 15 to 60 minutes and then viewed or photographed on a UV trans-illuminator.

## Enhancing resolution

2 x TAE buffer can be used in units with low buffer volume to enhance resolution during extended runs.

## EHS1000 series



## Horizontal units



## ● Overview

### Low cost

#### 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.

### Multiple gel trays

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. 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.

### Easy to use

Leak proof "Plug and Go" casting dams allow gels to be rapidly cast externally while the tank remains in use for electrophoresis.

<b>Gel dimensions</b>	10x 8 cm
<b>Buffer volume</b>	50ml
<b>Sample Capacity</b>	40
<b>Unit Dimensions</b>	15x15x4 cm

**Recommended power supply**  
EV1450



## ● Description

The mini rapid horizontal unit is a completely self contained system designed for quick checks of samples. Gel casting, running and analysis are all performed in the same ultra compact unit.

Buffer and gel volumes have been kept to a minimum and the parallel electrode arrangement allows ultra efficient current transfer, enabling resolution to be completed within 30 minutes.

The UV transparent base allows direct viewing on a UV Transilluminator with no need for time consuming transfer and potential gel damage.

Dual comb slots allow the loading of up to 40 samples per gel while multichannel pipette compatible combs further enhance the speed and convenience.

## Complete System

Code	Description
<b>EHS1050-SYS</b>	Mini rapid unit dams 2 combs: 8 sample, 1.5mm

## Combs

Code	Description	Sample volume
<b>EHS1050-C4-1.0</b>	1 mm thick, 4 sample	90 µl
<b>EHS1050-C8-1.0</b>	1 mm thick, 8 sample	40 µl
<b>EHS1050-C12-1.0</b>	1 mm thick, 12 sample	25 µl
<b>EHS1050-C16-1.0</b>	1 mm thick, 16 sample	15 µl
<b>EHS1050-C4-1.5</b>	1.5 mm thick, 4 sample	135 µl
<b>EHS1050-C8-1.5</b>	1.5 mm thick, 8 sample	60 µl
<b>EHS1050-C12-1.5</b>	1.5 mm thick, 12 sample	38 µl
<b>EHS1050-C16-1.5</b>	1.5 mm thick, 16 sample	23 µl

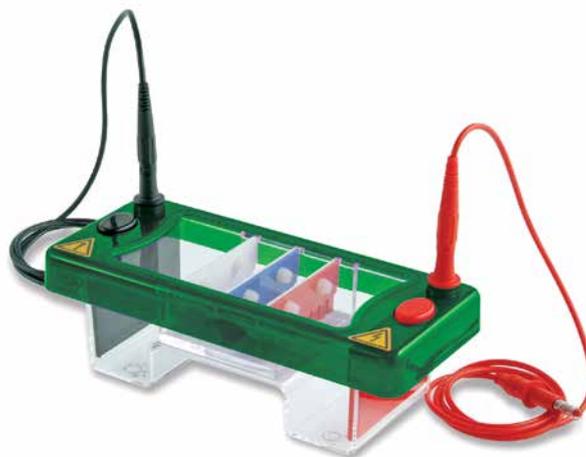
## Replacement parts & Accessories

Code	Description
<b>EHS1050-GATE</b>	Casting dams (pk/2)

<b>Gel dimensions</b>	7x7cm 7x10 cm
<b>Buffer volume</b>	225ml
<b>Sample Capacity</b>	64
<b>Unit Dimensions</b>	21x9x9 cm
<b>Warranty</b>	12 months

**Recommended power supply**  
EV1450  
EV2310

EHS1100 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. This compact unit is capable of resolving up to 64 different samples.



### Complete System

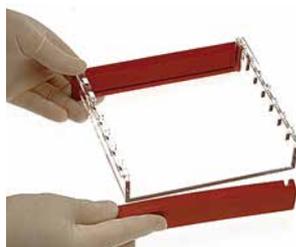
Code	Description
<b>EHS1100-SYS</b>	Mini horizontal unit, 7x7 cm casting tray, 7x10 cm casting tray loading guides, dams 2 combs: 8 sample, 1mm
<b>EHS1101-SYS</b>	Mini horizontal unit, 7x7 cm casting tray loading guides, dams 2 combs: 8 sample, 1 mm
<b>EHS1102-SYS</b>	Mini horizontal unit, 7x10 cm casting tray loading guides, dams 2 combs: 8 sample, 1 mm

### Combs

Code	Description	Sample volume
<b>EHS1100-C8-1.0</b>	1 mm thick, 8 sample	25 µl
<b>EHS1100-C10-1.0</b>	1 mm thick, 10 sample	18 µl
<b>EHS1100-C16-1.0</b>	1 mm thick, 16 sample	10 µl
<b>EHS1100-C8-1.5</b>	1.5 mm thick, 8 sample	37 µl
<b>EHS1100-C10-1.5</b>	1.5 mm thick, 10 sample	27 µl
<b>EHS1100-C16-1.5</b>	1.5 mm thick, 16 sample	14 µl

### Replacement parts & Accessories

Code	Description
<b>EHS1100-TRAY7</b>	Gel casting tray, 7x7 cm
<b>EHS1100-TRAY10</b>	Gel casting tray, 7x10 cm
<b>EHS1100-GATE</b>	Casting dams, pk/2
<b>EHS1100-POS</b>	Positive electrode cassette (red)
<b>EHS1100-NEG</b>	Negative electrode cassette (black)
<b>EHS1100-LG</b>	Adhesive loading guides
<b>EHS1100-BUFSAVE</b>	Buffer saving blocks, pk/2 (saves 100 ml of buffer)
<b>EHS1100-COOL</b>	Cool-pack and platform
<b>EHS1100-SCOOP</b>	Gel scoop, 7 cm



**Casting dams allow gels to be rapidly cast externally while the unit is in use for gel running<sup>1</sup>**

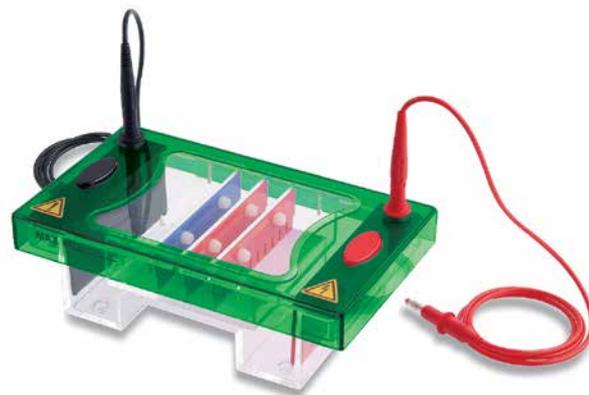
<b>Gel dimensions</b>	10x7cm 10x10 cm
<b>Buffer volume</b>	300ml
<b>Sample Capacity</b>	100
<b>Unit Dimensions</b>	22x12.5x9 cm
<b>Warranty</b>	12 months

**Recommended power supply**

**EV1450**

**EV2310**

EHS1200 allows more samples to be resolved per gel without a significant increase in buffer or gel volumes. 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.



### ● Ordering codes

Code	Description
<b>EHS1200-SYS</b>	Midi horizontal unit, 10x7 cm casting tray, 10x10 cm casting tray loading guides, dams 2 combs: 16 sample, 1 mm
<b>EHS1201-SYS</b>	Midi horizontal unit, 10x7 cm casting tray loading guides, dams 2 combs: 16 sample, 1 mm
<b>EHS1202-SYS</b>	Midi horizontal unit, 10x10 cm casting tray loading guides, dams 2 combs: 16 sample, 1 mm

### Combs

Code	Description	Sample volume
<b>EHS1200-C8-1.0</b>	1 mm thick, 8 sample	41 µl
<b>EHS1200-C12-1.0</b>	1 mm thick, 12 sample	23 µl
<b>EHS1200-C16-1.0</b>	1 mm thick, 16 sample	16 µl
<b>EHS1200-C25-1.0</b>	1 mm thick, 25 sample	10 µl
<b>EHS1200-C8-1.5</b>	1.5 mm thick, 8 sample	61 µl
<b>EHS1200-C12-1.5</b>	1.5 mm thick, 12 sample	34 µl
<b>EHS1200-C16-1.5</b>	1.5 mm thick, 16 sample	24 µl
<b>EHS1200-C25-1.5</b>	1.5 mm thick, 25 sample	15 µl

### Replacement parts & Accessories

Code	Description
<b>EHS1200-TRAY7</b>	Gel casting tray, 10x7 cm
<b>EHS1200-TRAY10</b>	Gel casting tray, 10x10 cm
<b>EHS1200-GATE</b>	Casting dams, pk/2
<b>EHS1200-POS</b>	Positive electrode cassette (red)
<b>EHS1200-NEG</b>	Negative electrode cassette (black)
<b>EHS1200-LG</b>	Adhesive loading guides
<b>EHS1200-BUFSAVE</b>	Buffer saving blocks, pk/2 (saves 100 ml of buffer)
<b>EHS1200-COOL</b>	Cool-pack and platform
<b>EHS1200-SCOOP</b>	Gel scoop, 10 cm



**Loading guides allow easy well identification and sample loading**

<b>Gel dimensions</b>	15x7cm 15x10 cm 15x15 cm
<b>Buffer volume</b>	500ml
<b>Sample Capacity</b>	210
<b>Unit Dimensions</b>	26.5x17.5x9 cm
<b>Warranty</b>	12 months

**Recommended power supply**

**EV1450**

**EV2310**

EHS1300 offers a wide degree of versatility with three tray options. Up to 210 samples to be resolved per gel. The 15 cm total run length allows restriction fragment or other close MW sample bands to be easily separated and identified.



## ● Ordering codes

Code	Description
<b>EHS1300-SYS</b>	Midi-plus horizontal unit, 15x7 casting trays, 15x10 casting trays, 15x15 cm gel casting trays loading guides, dams, 2 combs: 20 sample, 1 mm thick
<b>EHS1301-SYS</b>	Midi-plus horizontal unit, 15x7 cm casting tray loading guides, dams, 2 combs: 20 sample, 1 mm thick
<b>EHS1302-SYS</b>	Midi-plus horizontal unit, 15x10 cm casting tray loading guides, dams, 2 combs: 20 sample, 1 mm thick
<b>EHS1303-SYS</b>	Midi-plus horizontal unit, 15x15 cm casting tray loading guides, dams, 2 combs: 20 sample, 1 mm thick

## Combs

Code	Description	Sample volume
<b>EHS1300-C10-1.0</b>	1 mm thick, 10 sample	45 µl
<b>EHS1300-C12-1.0</b>	1 mm thick, 12 sample	41 µl
<b>EHS1300-C20-1.0</b>	1 mm thick, 20 sample	21 µl
<b>EHS1300-C35-1.0</b>	1 mm thick, 35 sample	10 µl
<b>EHS1300-C10-1.5</b>	1.5 mm thick, 10 sample	68 µl
<b>EHS1300-C12-1.5</b>	1.5 mm thick, 12 sample	61 µl
<b>EHS1300-C20-1.5</b>	1.5 mm thick, 20 sample	32 µl
<b>EHS1300-C35-1.5</b>	1.5 mm thick, 35 sample	15 µl

## Replacement parts & Accessories

Code	Description
<b>EHS1300-TRAY7</b>	Gel casting tray, 15x7 cm
<b>EHS1300-TRAY10</b>	Gel casting tray, 15x10 cm
<b>EHS1300-TRAY15</b>	Gel casting tray, 15x15 cm
<b>EHS1300-GATE</b>	Casting dams, pk/2
<b>EHS1300-POS</b>	Positive electrode cassette (red)
<b>EHS1300-NEG</b>	Negative electrode cassette (black)
<b>EHS1300-LG</b>	Adhesive loading guides
<b>EHS1300-BUFSAVE</b>	Buffer saving blocks, pk/2 (saves 190 ml of buffer)
<b>EHS1300-COOL</b>	Cool-pack and platform
<b>EHS1300-SCOOP</b>	Gel scoop, 15 cm

<b>Gel dimensions</b>	20x10cm 20x20 cm 20x25 cm
<b>Buffer volume</b>	1200ml
<b>Sample Capacity</b>	550
<b>Unit Dimensions</b>	39.5x23x9 cm
<b>Warranty</b>	12 months

**Recommended power supply**

**EV2310**

**EV2650**

EHS1400 is primarily designed for resolution of high numbers of samples such as from cloning or PCR. It allows ultra high-resolution separations over extended runs. Tray sizes correspond to standard blotter sizes. Multichannel pipette compatible combs facilitate speed loading of up to 550 samples per gel.



## ● Ordering codes

Code	Description
<b>EHS1400-SYS</b>	Maxi horizontal unit, 20x10 gel casting tray, 20x20 cm casting trays loading guides, dams, 2 combs: 20 sample, 1 mm thick
<b>EHS1401-SYS</b>	Maxi horizontal unit + 20x10 cm casting tray loading guides, dams, 2 combs: 20 sample, 1 mm thick
<b>EHS1402-SYS</b>	Maxi horizontal unit + 20x20 cm casting tray loading guides, dams, 2 combs: 20 sample, 1 mm thick
<b>EHS1403-SYS</b>	Maxi Horizontal unit + 20x25 cm casting tray loading guides, dams, 2 combs: 20 sample, 1 mm thick

## Combs

Code	Description	Sample volume
<b>EHS1400-C10-1.0</b>	1 mm thick, 10 sample	72 µl
<b>EHS1400-C16-1.0</b>	1 mm thick, 16 sample	41 µl
<b>EHS1400-C25-1.0</b>	1 mm thick, 25 sample	21 µl
<b>EHS1400-C30-1.0</b>	1 mm thick, 30 sample	17 µl
<b>EHS1400-C36-1.0</b>	1 mm thick, 36 sample	14 µl
<b>EHS1400-C50-1.0</b>	1 mm thick, 50 sample	10 µl
<b>EHS1400-C10-1.5</b>	1.5 mm thick, 10 sample	108 µl
<b>EHS1400-C16-1.5</b>	1.5 mm thick, 16 sample	61 µl
<b>EHS1400-C25-1.5</b>	1.5 mm thick, 25 sample	32 µl
<b>EHS1400-C30-1.5</b>	1.5 mm thick, 30 sample	26 µl
<b>EHS1400-C36-1.5</b>	1.5 mm thick, 36 sample	22 µl
<b>EHS1400-C50-1.5</b>	1.5 mm thick, 50 sample	16 µl

## Replacement parts & Accessories

Code	Description
<b>EHS1400-TRAY10</b>	Gel casting tray, 20x10 cm
<b>EHS1400-TRAY20</b>	Gel casting tray, 20x20 cm
<b>EHS1400-TRAY25</b>	Gel casting tray, 20x25 cm
<b>EHS1400-GATE</b>	Casting dams, pk/2
<b>EHS1400-POS</b>	Positive electrode cassette (red)
<b>EHS1400-NEG</b>	Negative electrode cassette (black)
<b>EHS1400-LG</b>	Adhesive loading guides
<b>EHS1400-BUFSAVE</b>	Buffer saving blocks, pk/2 (saves 450 ml of buffer)
<b>EHS1400-COOL</b>	Cool-pack and platform
<b>EHS1400-SCOOP</b>	Gel scoop, 20 cm

<b>Gel dimensions</b>	26x16 cm 26x24 cm 26x32 cm
<b>Buffer volume</b>	1400 ml
<b>Sample Capacity</b>	672
<b>Unit Dimensions</b>	50x28x9 cm
<b>Warranty</b>	12 months

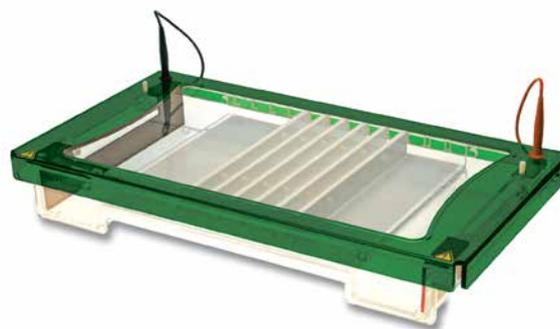
**Recommended power supply**

EV2650

EV3150

Designed for rapid screening of very large numbers of clonal or PCR samples, EHS1500 has a 672 maximum sample capacity per gel. This allows loading and analysis of seven 96 well format micro titre plates.

The large gel run length allows resolution of samples over a long distance for separation of complex sample bands. Buffer recirculation ports are included as standard to allow enhanced resolution over extended runs.



## ● Ordering codes

Code	Description
<b>EHS1500-SYS</b>	Maxi-plus horizontal unit, 26x16 casting trays, 26x24 casting trays, 26x32 cm casting trays loading guides, dams, 6 combs: 28 sample, 1 mm thick
<b>EHS1501-SYS</b>	Maxi-plus horizontal unit, 26x16 cm gel casting tray loading guides, dams, 6 combs: 28 sample, 1 mm thick
<b>EHS1502-SYS</b>	Maxi-plus horizontal unit + 26x24 cm gel casting tray loading guides, dams, 6 combs: 28 sample, 1 mm thick
<b>EHS1503-SYS</b>	Maxi-plus horizontal unit + 26x32 cm gel casting tray loading guides, dams, 6 combs: 28 sample, 1 mm thick

## Microtiter Combs

Code	Description	
<b>EHS1500-CMT28-1.0</b>	1 mm thick, 28 sample MC	34 µl
<b>EHS1500-CMT56-1.0</b>	1 mm thick, 56 sample MC	14 µl
<b>EHS1500-CMT28-1.5</b>	1.5 mm thick, 28 sample MC	51 µl
<b>EHS1500-CMT56-1.5</b>	1.5 mm thick, 56 sample MC	20 µl

## Replacement parts & Accessories

Code	Description
<b>EHS1500-TRAY16</b>	Gel casting tray, 26x16 cm
<b>EHS1500-TRAY24</b>	Gel casting tray, 26x24 cm
<b>EHS1500-TRAY32</b>	Gel casting tray, 26x32 cm
<b>EHS1500-TAPE</b>	Gel tray sealing tape, 65 m x 25.4 mm
<b>EHS1500-POS</b>	Positive electrode cassette (red)
<b>EHS1500-NEG</b>	Negative electrode cassette (black)
<b>EHS1500-LG</b>	Adhesive loading guides
<b>EHS1500-BUFSAVE</b>	Buffer saving blocks, pk/2 (saves 625 ml of buffer)
<b>EHS1500-COOL</b>	Cool-pack and platform
<b>EHS1500-SCOOP</b>	Gel scoop, 26 cm



The IEF mode is for low current applications. The power supply can measure currents as low as 10 microAmps. All Consort power supplies can keep voltage constant at 0 current.

**EV3330 (3000V, 300mA):**  
high voltage with special low current mode (IEF-mode)

**EV3620 (6000V, 150mA):**  
ultra high voltage with special low current mode (IEF-mode)

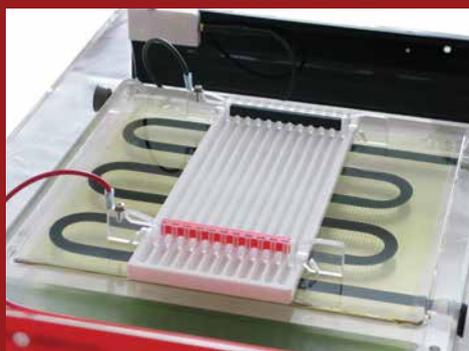
EV3000 series has a firmware upgrade capability and continuous logging with a real time clock.

Consort Power Supplies are the most robust, long lasting and durable electrophoresis power supplies in the market.

This IEF system has been designed to perform all flat bed IEF techniques, including wick-based electrophoresis with horizontal and hand-cast IEF gels, and focusing with IPG strips.

The unit includes a large cooling platform which offers increased strip capacity and active gel area. Uniform cooling of the platform is achieved using a large ceramic plate that may be connected to any standard chiller via quick-fit connectors for enhanced gel or strip cooling. An optional rehydration tray is also available for overnight rehydration of up to twelve IPG strips before use.

Unit dimensions (WxDxH): 55x35x10 cm  
Recommended power supply: EV3330, EV3620

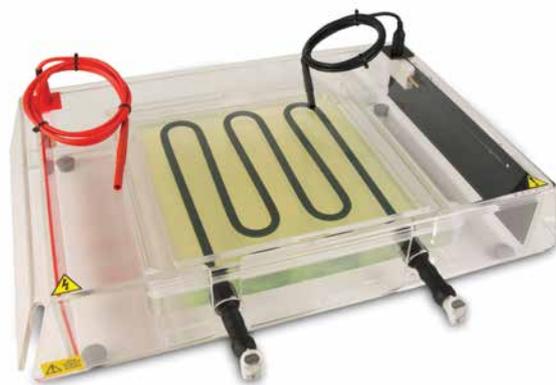


Code	Description
EIEF1100-SYS	Isoelectric focusing system, 26x26 cm
EIEF1100-POS	Replacement positive electrode cassette (red)
EIEF1100-NEG	Replacement negative electrode cassette (black)
EIEF1100-GLASS	Replacement glass platform
EIEF1100-FRAME	Replacement electrode frame
EIEF1100-REHYD	Rehydration tray
EV3330	Power supply, 3000 V, 300 mA, 300 W
EV3620	Power supply, 6000 V, 150 mA, 300 W

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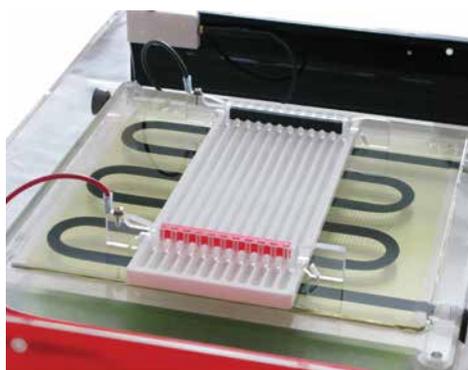
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<b>EIEF1100-REHYD</b>	Rehydration tray



## ● Relation between Voltage, Current, Power and Resistance

Ohms law: Resistance (Ohm) = Voltage (V) / Current (A)

Resistance is, in a certain environment (temperature, humidity,...) constant. This means that current follows voltage variations and visa versa. It is impossible to force a power supply to deliver a certain current AND a certain voltage.

The resistance of an electrophoresis unit depends on its size, gel thickness, amount of buffer, buffer conductivity and temperature. This resistance will normally decrease in time due to a slowly increasing temperature. Electrophoresis units which have a resistance below the minimum load resistance of a power supply will trigger an alarm! Read the output voltage and current during a run to measure the resistance and use above formula to calculate the value.

Power (W) = Voltage (V) x Current (A)

This means that the total power depends on both voltage and current. But since current depends on resistance it's impossible to force to generate a certain power. The only thing that can be done is limit the power supply to generate a certain power.

## ● Behaviour of a power supply

When RUN is pressed, the internal generator will start building up the high voltage at the output terminals while voltage and current are constantly measured and power is calculated. When one of the pre-set parameters is exceeded, the generator stops rising the Voltage and will keep that parameter constant.

### Constant voltage

To keep the voltage constant, program the desired voltage and a higher current and power than the maximum expected values:

Current > Voltage / Resistance

Power > Voltage x Current

### Constant current

To keep the current constant, program the desired current and a higher voltage and power than the maximum expected values:

Voltage > Current x Resistance

Power > Voltage x Current

### Constant power

To keep the power constant, program the desired power and a higher voltage and current than the maximum expected values:

Voltage > Current x Resistance

Current > Voltage / Resistance

### FAQ

#### Why are my output values different from those of a similar experiment?

Either your programmed parameters are not equal to those described or the resistance of your electrophoresis unit is different (see above). It cannot be due to e.g. an other model of power supply as the relations between Voltage, Current, Power and Resistance are monitored in the same way by any instrument (the electrical laws cannot be disregarded!).

#### What about connecting more than one unit to the same power supply?

The outlets being in parallel each electrophoresis unit will be supplied with exactly the same voltage. However, current and power may differ due to differences between them even when exactly the same model, gel, buffers, etc... are used. Therefore, it is recommended to run several electrophoresis units only in the constant voltage mode on the same power supply.

## ABSOLUTE READINGS

The instrument shows the actual value without compensating to a reference temperature.

## AC-ADAPTOR

An internationally approved mains-plug with built-in low voltage transformer for a safe supply of energy to instruments.

## ACCURACY

Maximum electronic error of the measured unit. The accuracy of an electrochemical determination such as pH, conductivity, dissolved oxygen & ion-selective measurements is mainly limited by the electrodes and calibration solutions.

## ALARM

An alert sounds or a relay is closed when readings stray outside pre-set limits.

## ALTERNATING DISPLAY

The meter can automatically scan all selected inputs for display or transmission to a computer or printer.

## AUTOMATIC CROSS-OVER

When the resistance of an electrophoresis apparatus changes during a run, the power supply is able to switch automatically between constant voltage, constant current and constant power.

## BATTERY CAPACITY

Percentage of remaining battery capacity.

## BAUD RATE

Communication speed, in bits/second (b/s), of the digital interface (RS232).

## BUFFER

A solution of buffered species where the pH tends to remain constant if diluted or concentrated.

Pre-programmed pH buffers: 1.68/ 2.00/ 4.00/ 4.01/ 6.87/ 7.00/ 9.18/ 9.21/ 10.01/ 12.00/ 12.45.

User specified pH buffers: special tables can be stored for future calibrations.

## CALIBRATION REMINDER

A timed calibration procedure facilitates considerably GLP management by prompting the user when his instrument needs to be recalibrated.

## CAPACITIVE COMPENSATION

The capacity of the electrode and its cable falsifies the measurement at very low conductivities. A capacity compensation allows to compensate for these errors.

## CELL

The 2-pole design is the most commonly used conductivity cell. The electrodes are made of platinised platinum. The cell must be replaced or re-platinised if the plates become fouled.

The 4-pole design reduces considerably the problems of polarisation and fouling. By utilising four electrodes, no current flows through the measuring circuit. The AC-current is only applied to the outer pair of rings allowing the inner pair of electrodes to measure the voltage without any polarisation effects.

## CELL CONSTANT

The cell constant (cm<sup>-1</sup>) of a conductivity electrode is determined by the length (cm) of the column of liquid between the plates divided by the area (cm<sup>2</sup>) of the plates.

## CONCENTRATION

Concentration measurement with an ion selective electrode requires a minimum of chemical know-how to make successful ion selective determinations.

## CONDUCTIVITY

The conductivity is a measure of the solution's ability to conduct electric current. The basic unit is Siemens/cm (S/cm). It is measured by an electrode consisting of two platinum plates to which an alternating potential is applied. The corresponding current is proportional to the conductivity of the ionic solution in which the electrode is dipped.

## DATA-ACQUISITION

Connect the instrument to a computer via an USB, RS232, RS485 interface for bi-directional communication capabilities. Most instruments require no special software and feature an advanced easy to use data acquisition fully compatible with spread-sheet.

## DATA-LOGGING

Stores automatically or manually the measured values (+ °C & time/date) in a built-in non-volatile memory.

## GLP

Good Laboratory Practices procedures help to increase accuracy through calibration reports.

## GROUND LEAKAGE

Leaking or dirty electrophoresis apparatus are dangerous, since the applied high voltage may result in an electric current flowing through the operator to the ground.

## IDENTIFICATION NUMBER

Several instruments connected to the same computer can easily be identified when specific numbers are allocated to them.

## INPUT

Several types of connectors are used according to the application. Check the specifications of meter-input and electrode-plug on their compatibility.

## ISO-pH

Zero-point of a pH electrode. A new pH electrode has an ISO-pH between 6.5

and 7.5 pH.

## MINIMUM/MAXIMUM MEMORY

Recalls the lowest/highest values ever measured since the last calibration.

## mV

Electrode potential is read in mV.

## ON/OFF CONTROL

Simple control system in which the relays are continuously closed when a pre-set level is exceeded.

## ORP

Oxido-Reduction-Potential (the reducing or oxidising capability of a solution).

## PASSWORD PROTECTION

For tamper-proof storage of parameters and data, a secret personal code protects the instrument against any undesired access.

## pH

The pH is a measurement for the acidity or alkalinity of a solution. In pure water the hydrogen ion (H<sup>+</sup>) and hydroxyl ion (OH<sup>-</sup>) concentrations are equal at 10<sup>-7</sup> M (25°C). To provide a convenient and effective means of defining acidity and alkalinity, the negative logarithm of hydrogen ion activity is used. The pH is calculated from the potential between a glass and a reference electrode (Nernst equation).

## PROPORTIONAL CONTROL

The control relay will pulse at a rate proportional to the regulation difference. When the difference is superior to a pre-set maximum value, the relay is continuously activated. However, when reaching a pre-set level the wait-time between the pulses will increase gradually in order to perform very accurate regulations.

## Pt100

Platinum resistance thermometer (100 Ω at 0°C). It requires a low resistance cable for highest accuracy.

## Pt1000

Platinum resistance thermometer (1000 Ω at 0°C). Less errors when using longer cables.

## QUALITY MANAGEMENT

Measuring equipment should be calibrated on a regular basis (GLP). The accuracy of measurements is only limited by the electrodes and calibration solutions. At any moment, a complete documentation about the electrodes and calibration solutions can be printed or sent to a computer. This includes meter settings, data about the last calibration and a comparison with the previous calibration. The use of certified calibration solutions is strongly recommended. For very accurate quality measurements fresh standard solutions should be used for each calibration.

## QUANTIFICATION OF VINCENT

The quantification of Vincent is a measurement for the energy stored in an organism. It expresses the maximum dissipation of energy by a chemical or biochemical reaction. The basic unit is Watt (W) but it is more convenient to use  $\mu\text{W}$  (micro-watt). It is calculated from the ORP, referenced against a hydrogen electrode, and the resistance.

## RANGE LOCK

Allows to lock the initial conductivity measuring range when titrating in order to avoid cross-over errors due to varying measuring frequencies and linearity errors of the conductivity cell.

## REAL TIME CLOCK

Shows time and date on the display.

## REDOX POTENTIAL

The potential developed by a metallic electrode when placed in a solution containing a species in two different oxidation states. It is usually measured by a combination platinum electrode.

## REFERENCE TEMPERATURE

Conductivity measurements are temperature dependent. Therefore, the readings should be referenced to a standard temperature.

## RESISTIVITY

Electrical resistivity is the reciprocal of Conductivity. The basic unit is Ohm.cm ( $\Omega\cdot\text{cm}$ ). While the ion concentration of a solution decreases, the resistivity rises up to a maximum of  $18.3\text{ M}\Omega\cdot\text{cm}$  (absolute pure water at  $25^\circ\text{C}$ ).

## RESOLUTION

Smallest possible reading of the measured unit. More sophisticated meters allow to select the desired resolution. Unlike other meters, the CONSORT models round off the last digit rather than simply truncating digits outside the display range.

## rH2

The rH2 is a measurement for the level of electronic exchanges between water and dissolved ions. It enables to study incomplete, indeterminate and very diluted aqueous redox solutions. It is defined as the negative logarithm of molecular hydrogen ion activity, calculated from the pH and the ORP referenced against a hydrogen electrode.

## RS232

Digital interface, transmits the displayed values and calibration data to a printer or computer.

## RS485

Allows to connect several process controllers for bi-directional communication with a computer. It allows multiple devices (up to 32) to communicate at half-duplex on a single

pair of wires, plus a ground wire, at distances up to 1200 meters.

## SALINITY

Salinity gives an indication of the salt content of sea water. It is calculated from the conductivity referred to  $15^\circ\text{C}$ . The salinity is the ratio between the total salt content (g) and the total weight of the sea water (kg). Hence salinity can be expressed in ppt (parts per thousand).

## SLOPE

Percentage which relates the actual behaviour of a pH electrode to the Nernst's law. A new electrode has a slope between 95 and 100 %.

## S/S RELAY

A solid-state relay contains no mechanical contacts. Long life, compact design and spark-free switching are its main advantages. It should not be used for controlling very low power loads, as the small leakage current can cause unwanted switching-on.

## STABILITY INDICATION

A decimal point flashes until the electrode output remains constant, then readings can be recorded.

## TDS

Total Dissolved Salts of a solution gives an indication of the total ion concentration. Due to ionic interactions within a solution, the salt concentration cannot easily be related to conductivity. As the dissolved solids are generally unknown, a TDS measurement is always referred to a solution of pure Sodium Chloride.

## TEMPERATURE COEFFICIENT

Each solution has its own temperature coefficient ( $\%/K$ ). As this coefficient also varies with temperature, a standard conductometer cannot achieve a precise temperature compensation over a wide span of temperatures. However, a research grade meter is able to plot special temperature curves for each individual type of solutions in its non-volatile memory. Specific temperature coefficients can also be entered for special applications. For standard applications, the non-linear function for natural waters (EN27888) is used.

## TEMPERATURE COMPENSATION

Corrects readings for variations in electrode response due to temperature effects.

## THERMOCOUPLE

Thermocouples basically consist of two dissimilar wires (each made of a different alloy). One end is twisted or soldered to form a measuring junction. The other end is connected to a thermometer and forms the reference junction. The signal is a small voltage ( $\mu\text{V}$ ) proportional to the temperature

gradient between the measuring and reference junctions. Thermocouple probes are ideal to cover greater lengths. They also have a great temperature range and can easily pass through e.g. oven doors. Response time is faster than with Pt100 probes. Accuracy, stability and repeatability are less than with Pt100 probes.

## USB

Universal Serial Bus is a standard designed to eliminate the guesswork in connecting peripherals to a computer.

## VOLT-HOUR INTEGRATOR

The distance at which molecules migrate in an electrophoresis apparatus depends on the applied voltage and run-time ( $\int V\cdot dt$ ). In order to achieve reproducible experiments, it is recommended to use a volt-hour integrator rather than a simple timer.

## ZERO POINT ( $E_0$ )

Standard pH meters assume a pH electrode to supply a zero potential at 7 pH. Electrodes for special applications (e.g. stomach pH measurements) may have a different zero point. An adjustable zero point correction feature will allow users to measure with these electrodes.

## **Art. 1**

Unless otherwise agreed in writing, the legal relationship between the parties is governed by the present general terms, of which the customer declares to have taken cognisance, and which prevail over the customer's possible terms of purchase.

## **Art. 2**

All quotations are without engagement. Prices do not include taxes. Any price stated is based at all times on the salaries, social charges and prices of materials obtaining on the date of the quotation. Official price modifications as arranged by legal dispositions automatically entail equivalent modifications of the prices stated in the contract. This proportional increase can also apply to part of the order or work.

## **Art. 3**

Transport or dispatch of our goods by any means of transport is at the consignee's risk, even with carriage paid.

## **Art. 4**

If our firm acts as an intermediary, the guarantee on the goods supplied by us is restricted to the guarantee given to us by the supplier or manufacturer. If the goods are subject to formal guarantee, defective, material will be repaired or replaced, but no claims for any other damage will be accepted.

## **Art. 5**

All invoices are payable cash on the address of the invoice unless otherwise stipulated in the documents committing the parties or unless an expiry date is stated on the Invoice.

## **Art. 6**

Contrary to art. 1583 of the Civil Code, any goods that are not paid in full remain our full property; in such case possible advance payments will serve as a compensation for costs and loss of profit.

## **Art. 7**

Bills in arrears entitle us to suspend any further deliveries or services without prior notice, such to prevent debts from further increasing.

## **Art. 8**

The supply of goods or services on a later date than the date stipulated for supply or service, if such is not caused by bad faith or a serious shortcoming of the supplier, shall never form a motive for suspending the order or the agreement, nor entitle the customer to claim any damages.

## **Art. 9**

If default is made in cash payment or if payment is not carried out on the expiry date stated, the amount of the invoice shall bear a conventional interest of 1.5% per month as from the day on which the invoice is remitted or as from the expiry date stated, such by right and without any formal notice. Each month started shall be charged as a full month.

## **Art. 10**

Moreover, by way of a fixed and irrevocable condition, the amount of the invoice shall be increased by 15% with a minimum of 200 EUR, by right and without formal notice, as a compensation for recovery costs of the claim (both staff and administration costs, management and follow-up of the file, influences on financial management, etc.), in application of art. 1147 C.C. and 1152 C.C. This compensation is due apart from the moratory interests, the recoverable procedure costs and the possible compensation for material damages and loss of profit. The parties thus agree that this compensation is fixed and that, contrary to art. 1231 C.C. It cannot be modified, even when the shortcoming is only partial.

## **Art. 11**

Cheques and bills of exchange are only accepted as payment after their repayment. Possible costs are at the expense of the purchaser or commissioner.

## **Art. 12**

The drawing and/or accepting bills of exchange or other transferable documents does not imply a novation or deviation from the general terms. The acceptance costs of bills of exchange are at the expense of the purchaser or commissioner.

## **Art. 13**

If one invoice remains unpaid on its expiry date, the balance due of any other invoices, even when not expired, are immediately recoverable by right.

## **Art. 14**

In the event of a dispute, only the courts of Turnhout, Belgium, shall have competence.

## **Art. 15**

Any complaints regarding the supply of the goods and services shall be made on termination and be confirmed by a motivated registered letter within 8 days of the date of supply. These complaints do not suspend the obligation of payment.

## **Art. 16**

Remarks and restrictions concerning the invoice and/or the general terms therein stated shall be transmitted to us by motivated registered letter within 8 days of date of invoice; for the settlement of disputes this period amounts to 30 days. If an order form is signed by a purchaser or commissioner, the regulations of the general terms stated on the order form shall apply.