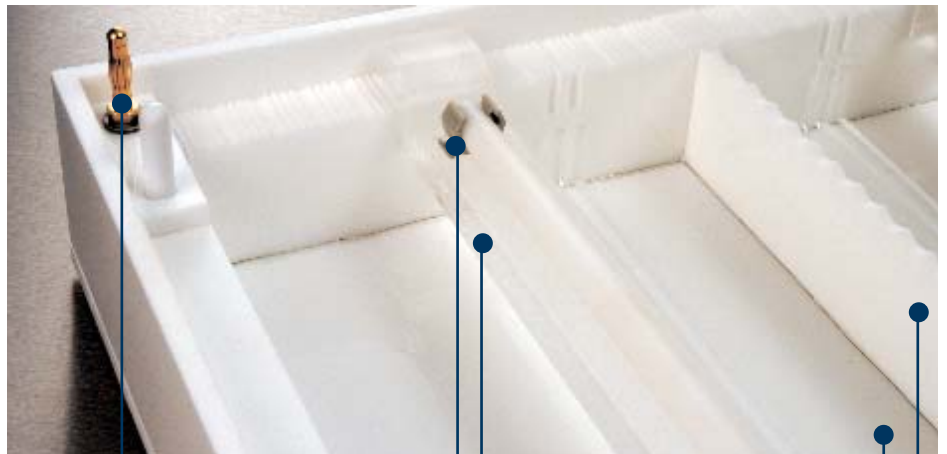


BENEFITS INCLUDE

- **Developed in collaboration with end-users** - as with all our gel electrophoresis units, the CA-SYS and CA-SYS-MINI units have been designed in close consultation with end-users: in this case NHS biomedical scientists who routinely use cellulose acetate electrophoresis to screen for mucopolysaccharide (MPS) disorders in children
- **Active tank area:** -
 - CA-SYS** - 24.5 x 26cm (W x L) easily accommodates larger 145 x 192mm membranes, or up to three standard 78 x 75/150mm membranes simultaneously
 - CA-SYS-MINI** - 11.5 x 24cm (W x L) - designed specifically for one standard 78 x 75/150mm membrane
- **Adjustable bridge prices** - can be located anywhere within the tank to support cellulose acetate membranes or horizontal precast gels up to...
- **230mm in length for the CA-SYS**
215mm in length for the CA-SYS-MINI
- **Clamping bars within clip holders** - hold the cellulose acetate membrane or paper wick gently in position
- **Asymmetric offset electrodes** - ensure that the membrane is run in the correct polar orientation
- **Transparent lid** - allows electrophoresis to be monitored as it happens as well as maintaining uniform atmospheric conditions
- **A central partition** - separates the buffer and lends additional support to longer membranes and precast gels
- **Membranes available** - in small, standard and large formats

CA-SYS and CA-SYS-MINI Cellulose Acetate Systems

The CA-SYS and CA-SYS-MINI cellulose acetate systems have been designed in close collaboration with the UK National Health Service (NHS) to run cellulose acetate membranes and wick-based electrophoresis applications, particularly in the two-dimensional screening of inherited metabolic disorders in children.



Asymmetric offset electrodes - ensure that the membrane is run in the correct polar orientation

Clamping bars within clip holders - hold the cellulose acetate membrane or paper wick gently in position

Adjustable bridge prices - can be located anywhere within the tank to support cellulose acetate membranes or horizontal precast gels

Active tank area -

- CA-SYS** - accommodates up to **three small/standard** 78 x 75/150mm membranes or **one large** 145 x 192mm membrane
- CA-SYS-MINI** - designed specifically for **one small/standard** 78 x 75/150mm membrane

Central partition - separates the buffer and lends additional support to longer membranes and precast gels

Applications Include:

- Serum Proteins
- Lipoproteins
- Haemoglobin
- Metabolites in Urine and Spinal Fluids

TECHNICAL SPECIFICATION

	CA-SYS	CA-SYS-MINI
Unit Dimensions (W x L x H)	30 x 32 x 6.5cm	18 x 30.5 x 6.5cm
Active Tank Dimensions (W x L x H)	24.5 x 26 x 3.5cm	11.5 x 24 x 3.5cm
Recommended Buffer Volume (ml)	1200ml	550ml
Maximum Membrane Length (mm)	230mm	215mm
Recommended Running Voltage	55V (10mA)	55V (10mA)
Power Output Connectors (diameter)	Shrouded, 4cm	Shrouded, 4cm
Recommended Power Supplies	Consort EV243	Consort EV243

ORDERING INFORMATION

CA-SYS

Complete System

Cellulose acetate system, including 30 x 32cm tank with central partition, 2 x adjustable bridge pieces with clamping bars, transparent lid and 4mm power output connectors

Part No.

CA-SYS

Replacement Parts & Accessories

2 x adjustable bridge pieces with clamping bars, 27cm in length

CA-ABS

2 x 1 metre power leads with shrouded 4mm power output connectors

CABLE-4

CA-SYS-MINI

Complete System

Cellulose acetate system, including 18 x 30.5cm tank with central partition, 2 x adjustable bridge pieces with clamping bars, transparent lid and 4mm power output connectors

Part No.

CA-SYS-MINI

Replacement Parts & Accessories

2 x adjustable bridge pieces with clamping bars, 14.5cm in length

CA-ABS-MINI

2 x 1 metre power leads with shrouded 4mm power output connectors

CABLE-4

Membranes

100 x ATX-micro solid standard, small-format cellulose acetate membranes, 78 x 75mm

Part No.

CA-MEM-S

50 x ATX-micro solid standard, medium-format cellulose acetate membranes, 78 x 150mm

CA-MEM-M

50 x ATX-micro solid large-format cellulose acetate membranes, 145 x 192mm

CA-MEM-L

Outline Protocol for Two-dimensional (2-D) Electrophoresis of Urinary Glycosaminoglycans - a Diagnostic Indicator of Mucopolysaccharide Disorders

Buffer 1: Pyridine: Acetic Acid: Distilled Water (10:1:89 v/v)

Buffer 2: 0.1M Barium Acetate, pH 6.0

Stain: Alcian Blue

Destain: 5% Acetic Acid (v/v)

- Spot 2 x 1µl aliquots of extracted urine sample, stained with Alcian Blue, onto a 78 x 75mm cellulose acetate membrane, previously soaked and electrophoresed in Buffer 1 for 10 minutes at 55V (7.5V/cm) using either the CA-SYS or CA-SYS-MINI system.
- Run the membrane at 55V for a further 75 minutes in Buffer 1.
- Remove the cellulose acetate membrane from the CA-SYS or CA-SYS-MINI system, allowing it to dry in a fume cupboard for 1 hour.
- Float the cellulose acetate membrane face down for 5 seconds in Buffer 2, before rotating it at 90° to its original orientation and then spotting a 0.5µl aliquot of MPS Type III urine as a positive control.
- Dry and then electrophorese the cellulose acetate membrane at 55V for 3½ hours.
- Stain the cellulose acetate membrane face down for 15 minutes, before rinsing it in water and standing it overnight in Destain.
- After destaining, rinse the cellulose acetate membrane with water and dry it flat between two sheets of filter paper.



Diagnostic Analysis of Mucopolysaccharide Disorders with the CA-SYS unit. Extracted urine sample was applied to a 78 x 75mm cellulose acetate membrane, electrophoresed at 55V for 75 minutes in the first dimension, and then electrophoresed in the second dimension for a further 3½ hours at same voltage as described in the Outline Protocol. (Courtesy of the NHS)