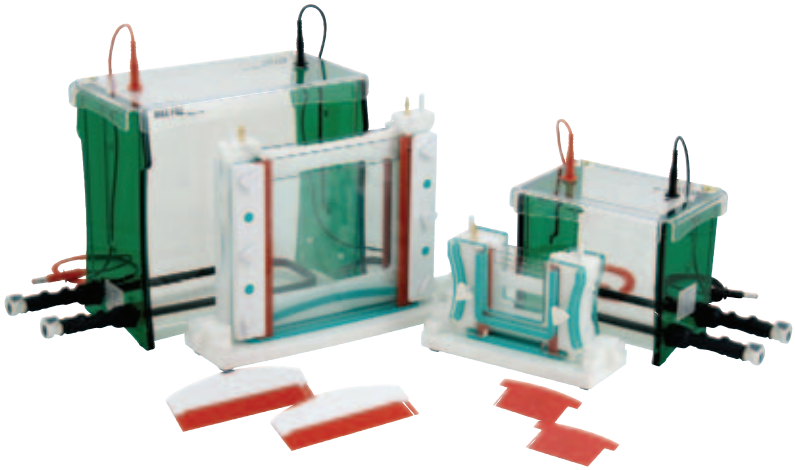
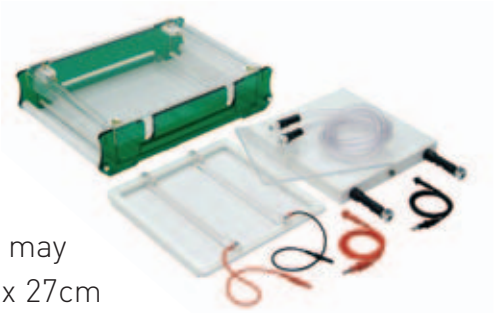


The TV100YK and TV400YK-2D-IEF-SYS Units: Dedicated 2-D Electrophoresis Systems

Scie-Plas now provide the first of a series of innovative solutions for scientists who prefer the latest advances in IPG (immobilised pH gradient) strip technology to more traditional capillary gels as the first step of 2-D electrophoresis. Our recently improved flat-bed isoelectric focusing system (IEF-SYS) allows 1st dimension 2-D electrophoresis to be performed with multiple IPG strips within the same tank, while 2nd dimension SDS-PAGE is carried out in our existing TV100 and 400 Mini- and Maxi-gel formats (TV100YK or TV400YK).

Scie-Plas offer the complete 2-D electrophoresis system with everything you need for running reproducible 2-D gels.

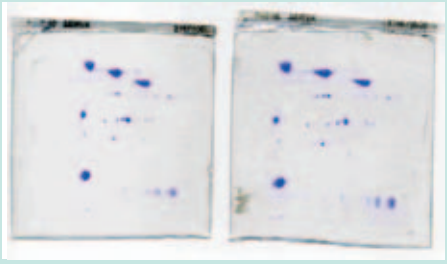
IEF-SYS FOR THE 1ST DIMENSION



A recently redesigned IEF-SYS unit where a maximum of 30 SERVA IPG strips, each 3mm wide and up to 24cm in length, may be run simultaneously on a 27 x 27cm ceramic cooling plate.

FOR THE 2ND DIMENSION

Either the TV100YK twin-plate 10 x 10cm (W x H) mini-gel unit Or the TV400YK twin-plate 20.5 x 20cm (W x H) maxi-gel unit



Separation of SERVA proteome markers (39220.01) by 2-D electrophoresis using 18cm long SERVA IPG Bluestrips, pH 3-10, on the IEF-SYS unit in the first dimension, followed by SDS-PAGE in the TV400Y unit in the second dimension. An overview of 2-D electrophoresis is provided in the Outline Protocol, while further details can be found in our 2-D Technical. Manual available from sales@scie-plas.co.uk.

BENEFITS INCLUDE

- **Glass electrode frame -** sits flush with the ceramic cooling plate for optimal cooling efficiency
- **Positive and negative electrodes -** made from clear acrylic clip neatly within a glass electrode frame that allows the voltage gradient to be fine-tuned along the entire length of each IPG strip
- **Glass electrode support slab -** ensures that the electrodes remain in complete contact with the positive and negative ends of each IPG strip during IEF

BENEFITS INCLUDE

- **Casting & cooling included as standard**
- **New-style GRM for leak-free casting**

Adaptable either for 1mm or 1.5mm thick gels in the 2nd dimension

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Vertical Gel Units

BENEFITS INCLUDE

- **Nine different program settings -** each with 9 different parameters - allow more complex, multi-step techniques to be programmed and stored, while voltage ramping, automatic crossover and recovery after power failure are included as standard
- **High voltage 3kV output -** allows desired Volt-hours to be attained faster at maximum voltage during IEF resulting in shorter overall run time
- **4/2MMA adaptors -** compatible with the 2mm recessed outputs of the power supply - adapt the 4mm shrouded power connectors of the TV100YK and TV400YK units for lower voltage 2nd dimension SDS-PAGE

See page 92 for further details

BENEFITS INCLUDE

- **Temperature range: -20 to +40°C**
- **Can be easily adjusted to +20°C -** the ideal temperature for running IPG strips
- **Flow rate 15L/min / Maximum pressure 350mbar**

See page 82 for further details

EV232 High-Voltage 3kV Power Supply

The Consort EV232 power supply - 3000V, 150mA, 150W

FL300 Chiller Unit

Maintains cooling plate temperature during IEF

2-D ELECTROPHORESIS: OUTLINE PROTOCOL

1. Incubate the IPG strips overnight in a rehydration tray with buffer (e.g. 8M Urea, 1% CHAPS, 13mM DTT and 0.5% SERVALYT™ 3-10, corresponding to the pH gradient of the IPG strip), overlaid with silicone oil, containing the protein of interest.
2. Connect the ceramic cooling plate of the IEF-SYS to the external chiller preset at 20°C, before placing the glass electrode frame directly on the cooling plate. Apply a thin layer of silicone oil over the glass plate before laying out the IPG strips at least 3mm apart.
3. After covering the anode and cathode ends of the IPG strips with electrode wicks saturated with deionised water, clip each electrode into its respective position within the glass electrode frame, before overlaying the glass electrode weight.
4. Cover the IPG strips with silicone oil to protect them from heat desiccation during IEF.
5. After IEF incubate the IPG strips for 10 minutes in Equilibration Buffer 1 (50mM Tris-HCl, pH 8.8, 6M Urea, 30% glycerol, 2% SDS, 0.01% bromophenol blue and 1% (w/v) DTT) by placing the rehydration tray on to an agitating platform. Repeat this for a further 10 minutes with Equilibration Buffer 2 (50mM Tris-HCl, pH 8.8, 6M Urea, 30% glycerol, 2% SDS, 0.01% bromophenol blue and 5% (w/v) iodoacetamide).
6. Dip each strip briefly in 1 x Laemmli Buffer before aligning it by its 1mm thick edge along the top of a pre-made 10% acrylamide gel.
7. Having covered each strip with 0.5% agarose solution, perform second-dimension SDS-PAGE .

ORDERING INFORMATION

Complete System	Part No.
TV100YK + IEF-SYS + EV232 + external chiller unit	TV100YK-2D-IEF-SYS
Twin-plate mini-gel unit with PAGE GRM and cooled gel tank, lid, 2 x (10 x 10cm; W x H) plain glass plates, 2 x (10 x 10cm) notched glass plates, 1 x dummy plate, 4 x 1mm spacers, 4 x 1.5mm spacers, 2 x spacer aligners, 2 x 1mm thick 1-D combs, 2 x 1.5mm thick 1-D combs, casting base, 2 x silicone seals, 1 x dummy plate, 2 x quick-fit tubes, 2 x 4mm power cables and 2 x 4/2mm power output adaptors	TV100YK
Flat-bed isoelectric focusing unit includes running tank, lid, 1 x ceramic cooling plate, 1 x glass plate, electrode frame, 1 x anode electrode, 1 x cathode electrode, 1 x glass electrode weight, 2 x quick-fit tubes and 2 x 2mm power cables	IEF-SYS
Consort EV232 3000V, 150mA, 150W power supply	EV232
Recirculating Chiller	FL300

Complete System	Part No.
TV400YK + IEF-SYS + EV232 + external chiller unit	TV400YK-2D-IEF-SYS
Twin-plate maxi-gel unit with PAGE GRM and cooled gel tank, lid, 2 x (20.5 x 20cm; W x H) plain glass plates, 2 x (20.5 x 20cm) notched glass plates, 1 x dummy plate, 4 x 1mm spacers, 4 x 1.5mm spacers, 2 x spacer aligners, 2 x 1mm thick 1-D combs, 2 x 1.5mm thick 1-D combs, casting base, 2 x silicone seals, 1 x dummy plate, 2 x quick-fit tubes, 2 x 4mm power cables and 2 x 4/2mm power output adaptors	TV400YK
Flat-bed isoelectric focusing unit includes running tank, lid, 1 x ceramic cooling plate, 1 x glass plate, electrode frame, 1 x anode electrode, 1 x cathode electrode, 1 x glass electrode weight, 2 x quick-fit tubes and 2 x 2mm power cables	IEF-SYS
Consort EV232 3000V, 150mA, 150W power supply	EV232
Recirculating Chiller	FL300

Technical Specification

TV100YK-2D-IEF-SYS / TV400YK-2D-IEF-SYS Units

IEF-SYS (1st dimension IEF)

Maximum Sample Capacity	30 x 7cm IPG strips (dimensions: 70 x 3 x 1mm/L x W x T) - TV100YK-2D-IEF-SYS 30 x 18cm IPG strips (dimensions: 180 x 3 x 1mm/L x W x T) - TV400YK-2D-IEF-SYS						
Unit dimensions (W x D x H)	46 x 41 x 11.5cm						
Inner Tank Dimensions (W x D x H)	37 x 31 x 8.5cm						
Glass Plate Dimensions (W x L x T)	27 x 27 x 0.5cm						
Electrode Frame Dimensions (W x L x T)	27 x 27 x 1cm						
Cooling Plate Dimensions (W x L x T)	27 x 27 x 3cm						
Glass Electrode Weight (W x L x T)	20 x 26.5 x 1cm						
Adjustable Electrodes Active Dimensions (W x L x T)	10 x 265 x 13mm						
Recommended Temperature for Cooling Plate during IEF with IPG strips	20°C						
Power Output Connectors (diameter)	Shrouded, 2mm						
Recommended Running Conditions for IEF of 7cm IPG strips (TV100YK-2D-IEF-SYS)	Voltage Step	1	2	3	4	5	6 end of run
	Voltage (V)	150	300	600	1500	3000	330
	Time (h)	0.5	0.5	0.5	0.5	2.5	<20
	Volt-hours	75	150	300	750	7500	-
Recommended Running Conditions for IEF of 18cm IPG strips (TV400YK-2D-IEF-SYS)	Voltage Step	1	2	3	4	5 end of run	
	Voltage (V)	300	600	1500	3000	330	
	Time (h)	1	1	1	12.5	<20	
	Volt-hours	300	600	1500	37500	-	
Snap-lock Connectors for Cooling Coil	Inner Diameter	10mm		Outer Diameter			12mm
Quick-fit Tubing	Inner Diameter	10mm		Outer Diameter			12mm

	TV100YK (2nd dimension PAGE)		TV400YK (2nd dimension PAGE)	
Maximum Sample Capacity	2 x 7cm IPG strips		2 x 18cm IPG strips (trimmed) / 2 x 11cm IPG strips from other commercial sources	
Unit Dimensions (W x D x H)	20 x 15 x 18cm		38 x 15 x 27.5cm	
Inner Tank Dimensions (W x D x H)	16.5 x 11 x 15cm		27 x 12.5 x 25cm	
Plate Dimensions (W x H x T)	10 x 10 x 0.2cm		20.5 x 20 x 0.4cm	
Spacer Dimensions (W x H x T)	1 x 10 x 0.1/0.15cm		2 x 20 x 0.1/0.15cm	
Active Gel Dimensions (W x H)	8 x 8.5cm		16.5 x 17.5cm	
Casting Base Silicone Seal Dimensions (W x L x H)	1.5 x 11 x 0.8cm		1.7 x 22.5 x 0.8cm	
Power Output Connectors (diameter)	Shrouded, 4mm - use 4/2MMA adaptors for EV232 power supply		Shrouded, 4mm - use 4/2MMA adaptors for EV232 power supply	
Recommended Buffer Volume (PAGE GRM)	Inner Buffer Chamber	90ml	Inner Buffer Chamber	700ml
	Gel Tank	1600ml	Gel Tank	4200ml
Recommended Running Conditions for Denaturing PAGE	Voltage	100 - 150V (10 - 15V/cm)	Voltage	200 - 300V (10 - 15V/cm)
	Current	10 - 15mA	Current	30 - 40mA
	Time	1 - 1.75h	Time	2 - 2.5h
Snap-lock Connectors for Cooling Coil	Inner Diameter	10mm	Inner Diameter	10mm
	Outer Diameter	12mm	Outer Diameter	12mm
Quick-fit Tubing	Inner Diameter	10mm	Inner Diameter	10mm
	Outer Diameter	12mm	Outer Diameter	12mm

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