

## Vertical Gel Units

### BENEFITS INCLUDE

- **Twin-plate 10 x 10cm mini-gel unit** - a simple cost-effective solution for PAGE techniques using either self-cast or precast gels

- **Two versions available:** -

Standard TV100 - non-cooled

Cooled TV100K - a cooling coil in the bottom of the gel tank for faster higher voltage electrophoretic separations

- **Enhanced cooling** - in the TV100K - snap-lock connectors allow the TV100K to be connected to the JULABO chiller unit

- **Compatible** - with commercially available 10 x 10cm precast gels



- **SERVA precast gels** - available especially for the TV100-GRM (see page 141)

- **Optional TV100-SGB silicone gasket** - allows the GRM to be adapted for the 'non-eared' or short glass plates of major alternative brands

- **Gel casting** - either with tape or the optional TV100-CB casting base or TV100-MC2 and TV100-MC10 2 and 10 gel multicasters

- **Float glass plates - 2mm thick** - guarantee uniform gel thickness and even sample migration, and with ground edges to inhibit sample leakage during casting

- **Single screws** - at either side each gel-clamping plate - act in conjunction with a counterbalanced, dovetailed silicone gasket to disperse pressure evenly along the height and breadth of the gel as the screws are tightened

- **Low buffer volumes** - within the inner chamber of the GRM and gel tank economises buffer consumption

- **Colour-coded combs and spacers** - available in 0.75, 1, 1.5 and 2mm thicknesses

- **Smaller footprint area** - occupies minimal bench space



TV100 - non-cooled

TV100K - cooled

## TV100 Standard & TV100K Cooled Twin-Plate Mini-Gel Electrophoresis Units

The TV100 and TV100K twin-plate 10 x 10cm (W x H) mini-gel units are ideal cost-effective solutions for standard PAGE applications, using self-cast or commercially available precast gels.

### TECHNICAL SPECIFICATION

	TV100		TV100K	
Unit Dimensions (W x D x H)	20 x 15 x 14cm		28 x 15 x 18cm	
Inner Tank Dimensions (W x D x H)	16.5 x 11 x 11.5cm		16.5 x 11 x 15cm	
Plate Dimensions (W x H x T)	10 x 10 x 0.2cm		10 x 10 x 0.2cm	
Standard Spacer Dimensions (W x H x T)	1 x 10 x 0.1cm		1 x 10 x 0.1cm	
Active Gel Dimensions (W x H)	8 x 8.5cm		8 x 8.5cm	
Maximum Sample Capacity	2 x 20		2 x 20	
Recommended Buffer Volume	Inner Buffer Chamber	90ml	Inner Buffer Chamber	90ml
	Gel Tank	1200ml	Gel Tank	1600ml
Recommended Running Conditions for Denaturing/Native PAGE Gel	Voltage	50 - 100V (5 - 10V/cm)	Voltage	100 - 150V (10 - 15V/cm)
	Current	5 - 10mA	Current	10 - 15mA
	Time	1.5 - 2.5h	Time	1 - 1.75h
Snap-lock Connectors for Cooling Coil	Inner Diameter	n/a	Inner Diameter	10mm
	Outer Diameter	n/a	Outer Diameter	12mm
Quick-fit Tubing	Inner Diameter	n/a	Inner Diameter	10mm
	Outer Diameter	n/a	Outer Diameter	12mm
Power Output Connectors (diameter)	Shrouded, 4mm		Shrouded, 4mm	
Recommended Power Supplies	Consort EV243		Consort EV243	



TV100YK - cooled + casting

TV100Y - non-cooled + casting

# TV100Y Standard & TV100YK Cooled Twin-Plate Mini-Gel Electrophoresis Units

The TV100Y and TV100YK twin-plate 10 x 10cm (W x H) mini-gel units are ideal for standard PAGE applications requiring self-cast gels. Soft silicone gaskets in a precision engineered casting base, included as standard with each unit, act in tandem with our newly modified GRM to provide simple, leak-free gel casting and assembly.

## TECHNICAL SPECIFICATION

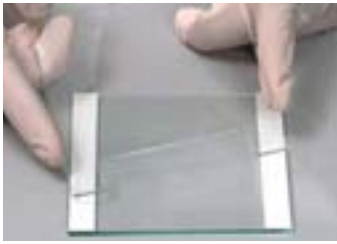
	TV100Y	TV100YK
Unit Dimensions (W x D x H)	20 x 15 x 14cm	28 x 15 x 18cm
Inner Tank Dimensions (W x D x H)	16.5 x 11 x 11.5cm	16.5 x 11 x 15cm
Plate Dimensions (W x H x T)	10 x 10 x 0.2cm	10 x 10 x 0.2cm
Standard Spacer Dimensions (W x H x T)	1 x 10 x 0.1cm	1 x 10 x 0.1cm
Active Gel Dimensions (W x H)	8 x 8.5cm	8 x 8.5cm
Maximum Sample Capacity	2 x 20	2 x 20
Recommended Buffer Volume	Inner Buffer Chamber	90ml
	Gel Tank	1200ml
Recommended Running Conditions for Denaturing/Native PAGE Gel	Voltage	50 - 100V (5 - 10V/cm)
	Current	5 - 10mA
Snap-lock Connectors for Cooling Coil	Inner Diameter	n/a
	Outer Diameter	n/a
Quick-fit Tubing	Inner Diameter	n/a
	Outer Diameter	n/a
Casting Base Silicone Seal Dimensions (W x L x H)	1.5 x 11 x 0.8cm	1.5 x 11 x 0.8cm
Power Output Connectors (diameter)	Shrouded, 4mm	Shrouded, 4mm
Recommended Power Supplies	Consort EV243	Consort EV243

## BENEFITS INCLUDE

- **Twin-plate 10 x 10cm mini-gel unit** - designed specifically for PAGE techniques requiring self-cast gels, although precast gels may also be used
- **Casting base** - included as standard with both units
- **Two versions available:** -  
Standard TV100Y - non-cooled + casting  
Cooled TV100YK - cooled + casting
- **Glass plate stops** - within the newly modified GRM - lock the glass plates firmly into position onto soft silicone gaskets in the casting base to ensure leak-free gel-casting
- **Enhanced cooling** - in the TV100YK - snap-lock connectors allow the cooling coil to be connected to the JULABO chiller unit for faster, higher voltage separations
- **Compatible** - with commercially available 10 x 10cm precast gels, with SERVA precast gels available through Scie-Plas for the TV100-GRM (see page 141)
- **Additional gel casting** - with the optional TV100-MC2 and TV100-MC10 2 and 10 gel multicasters
- **Float glass plates** - 2mm thick - guarantee uniform gel thickness and even sample migration, and with ground edges to inhibit sample leakage during casting
- **Single screws** - at either side each gel-clamping plate - act in conjunction with a counterbalanced, dovetailed silicone gasket to disperse pressure evenly along the height and breadth of the gel as the screws are tightened
- **Low buffer volumes** - within the inner chamber of the GRM and gel tank economises buffer consumption
- **Colour-coded combs and spacers** - available in 0.75, 1, 1.5 and 2mm thicknesses
- **Smaller footprint area** - occupies minimal bench space



## CASTING WITH NEW-STYLE GRM



1. Place each plain glass plate on a level bench surface, followed by the spacers and then the notched glass plate



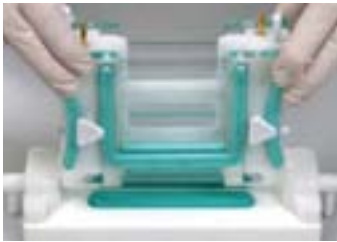
2. Insert the glass plate cassette into the gel-running module (GRM), placed on its side on the bench, and lightly tighten the screws - repeat for the other cassette by turning the GRM on its other side



3. If not using plain glass plates with bonded spacers, get a spacer aligner to align the spacers flush with the vertical edges of the plain glass plates before tightening the screws within the GRM



4. Run your forefinger along the bottom edge of the glass plates to ensure that they are flush with bottom edge of each spacer - if not, repeat step 3



5. Lower the assembled GRM onto the casting base with the cam pins pointing downwards into the bench surface



6. Turn the cam pins through 120° to secure the GRM onto the casting base - as you turn the cam pins you will experience increased resistance



7. Carefully insert the appropriate comb allowing the gel to set for at least 30 minutes



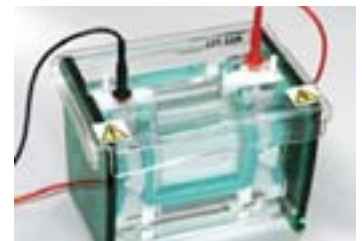
8. After carefully removing the combs, release the GRM by turning the cam pins in the opposite direction on the casting base



9. Place the GRM into the gel tank, ensuring that there is sufficient buffer to cover the bottom of the glass plates



10. Fill the inner buffer chamber within the GRM so that it just covers the top of the gel - the gel is now ready to be loaded

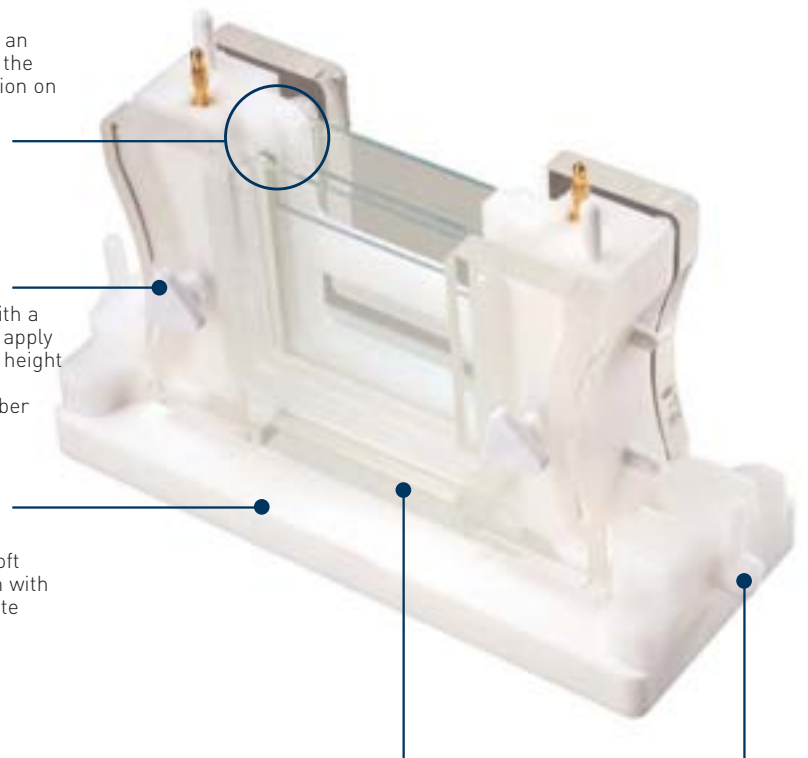


11. Replace the lid and insert the power cables into the power supply, making sure that it is first switched off - the unit is now ready for electrophoresis

**Glass plate stops** - serve as an immovable barrier, locking the glass plates firmly into position on the casting base

**Single screws** - act, as they are tightened, with a silicone dovetailed gasket to apply an even pressure across the height and breadth of the gel that prevents the inner gel chamber from leaking

**Casting base** - re-engineered with deeper recesses to accommodate soft silicone seals which sit flush with the bottom of each glass plate



**Silicone seals** - form a leak-free seal as the glass plates are dragged onto the casting base

**Cam pins** - turned clockwise to drag the glass plates firmly onto the silicone seals within the casting base

**Complete System**

Twin-plate mini-gel unit with GRM and gel tank, lid, 2 x (10 x 10cm; W x H) plain glass plates, 4 x 1mm spacers, 2 x spacer aligners, 2 x (10 x 10cm) notched glass plates, 1 x dummy plate and 2 x 1mm thick 12-sample combs

**Part No.**



TV100

Twin-plate mini-gel unit with GRM and cooled gel tank, with built-in cooling coil and quick-fit tubing, plus lid, 2 x (10 x 10cm; W x H) plain glass plates, 4 x 1mm spacers, 2 x spacer aligners, 2 x (10 x 10cm) notched glass plates, 1 x dummy plate and 2 x 1mm thick 12-sample combs



TV100K

Twin-plate mini-gel unit with GRM and gel tank, lid, 2 x (10 x 10cm; W x H) plain glass plates, 4 x 1mm spacers, 2 x spacer aligners, 2 x (10 x 10cm) notched glass plates, 1 x dummy plate and 2 x 1mm thick 12-sample combs plus casting base and 2 x silicone seals



TV100Y

Twin-plate mini-gel unit with GRM and cooled gel tank, with built-in cooling coil and quick-fit tubing, plus lid, 2 x (10 x 10cm; W x H) plain glass plates, 4 x 1mm spacers, 2 x spacer aligners, 2 x (10 x 10cm) notched glass plates, 1 x dummy plate, 2 x 1mm thick 12-sample combs, casting base and 2 x silicone seals



TV100YK

**Replacement Parts & Accessories**

1 x TV100 gel-running module	TV100-GRM
2 x quick-fit tubes for cooling coil	TCS-CC
2 x (10 x 10cm) plain glass plates with 0.75mm bonded spacers for TV100	TV100-PGS0.75
2 x (10 x 10cm) plain glass plates with 1mm bonded spacers for TV100	TV100-PGS1
2 x (10 x 10cm) plain glass plates with 1.5mm bonded spacers for TV100	TV100-PGS1.5
2 x (10 x 10cm) plain glass plates with 2mm bonded spacers for TV100	TV100-PGS2
2 x (10 x 10cm) plain glass plates for TV100	TV100-PG
2 x (10 x 10cm) notched glass plates for TV100	TV100-NG
1 x (10 x 10 cm) dummy plate	TV100-DP
2 x 0.75mm thick spacers for TV100	TV100-S0.75
2 x 1mm thick spacers for TV100	TV100-S1
2 x 1.5mm thick spacers for TV100	TV100-S1.5
2 x 2mm thick spacers for TV100	TV100-S2
2 x spacer aligners for TV100	TV100-SA
1 x cam-pin casting base with 2 silicone seals	TV100-CB
2 x silicone seals for cam-pin casting base	TV100-CB-SEALS
1 x caster system for 2 x (10 x 10cm) gradient mini-gels	TV100-MC2
1 x caster system for 10 x (10 x 10cm) gradient mini-gels	TV100-MC10
2 x silicone gaskets for "non-eared" glass plates	TV100-SGB
2 x 0.2mm thick, platinum electrode wire	PT-0.2
2 x 1 metre power leads with shrouded 4mm power output connectors	CABLE-4

**TV100 Combs**

Part No.	Thickness (mm)	Sample Throughput	Tooth Width (mm)	Tooth Height (mm)	Max. Spacing (mm)	Sample Volume / Well (µl)
+TV100-C0.75-1D	0.75	1	70	15	n/a	785
*TV100-C0.75-8MC	0.75	8	6	15	3	67
TV100-C0.75-10	0.75	10	4	15	3	45
TV100-C0.75-12	0.75	12	3.75	15	2.25	42
*TV100-C0.75-16MC	0.75	16	2.5	15	2	28
TV100-C0.75-20	0.75	20	2	15	1.5	22
+TV100-C1-1D	1	1	70	15	n/a	1050
*TV100-C1-8MC	1	8	6	15	3	90
TV100-C1-10	1	10	4	15	3	60
TV100-C1-12	1	12	3.75	15	2.25	56
*TV100-C1-16MC	1	16	2.5	15	2	37
TV100-C1-20	1	20	2	15	1.5	30
+TV100-C1.5-1D	1.5	1	70	15	n/a	1575
*TV100-C1.5-8MC	1.5	8	6	15	3	120
TV100-C1.5-10	1.5	10	4	15	3	90
TV100-C1.5-12	1.5	12	3.75	15	2.25	84
*TV100-C1.5-16MC	1.5	16	2.5	15	2	55
TV100-C1.5-20	1.5	20	2	15	1.5	45
+TV100-C2-1D	2	1	70	15	n/a	2100
*TV100-C2-8MC	2	8	6	15	3	180
TV100-C2-10	2	10	4	15	3	120
TV100-C2-12	2	12	3.75	15	2.25	112
*TV100-C2-16MC	2	16	2.5	15	2	75
TV100-C2-20	2	20	2	15	1.5	60

\*Multi-channel compatible +Suitable for 1-D preparatory or 2-D electrophoresis



Rat supernatant proteins separated, following serial dilution, using the TV100Y mini-gel electrophoresis unit at 230V for 1 hour and 20 minutes. Proteins were resolved in a 4% polyacrylamide stacking gel and a 10% polyacrylamide resolving gel made from the following SERVA chemicals: 40% (37.5:1) acrylamide [10681.03]; 1M Tris-HCl, pH 8.5 [39794.01]; 20% (w/v) SDS solution [20767.03]; APS [13375.05]; TEMED [35925.01]; 10x Laemmli buffer [42556.01]; Tris (analytical grade) [37180.04] and Glycine (analytical grade) [23390.03]. Courtesy of The University of Coventry, UK.

**DO YOU NEED...?**

PRECAST SDS-PAGE GELS	SEE PAGE 141
A BLOTTING MODULE	SEE PAGE 72
ELECTROPHORESIS BUFFERS	SEE PAGE 137
RECIRCULATING CHILLER	SEE PAGE 92
COLLOIDAL COOMASSIE BLUE STAIN	SEE PAGE 137