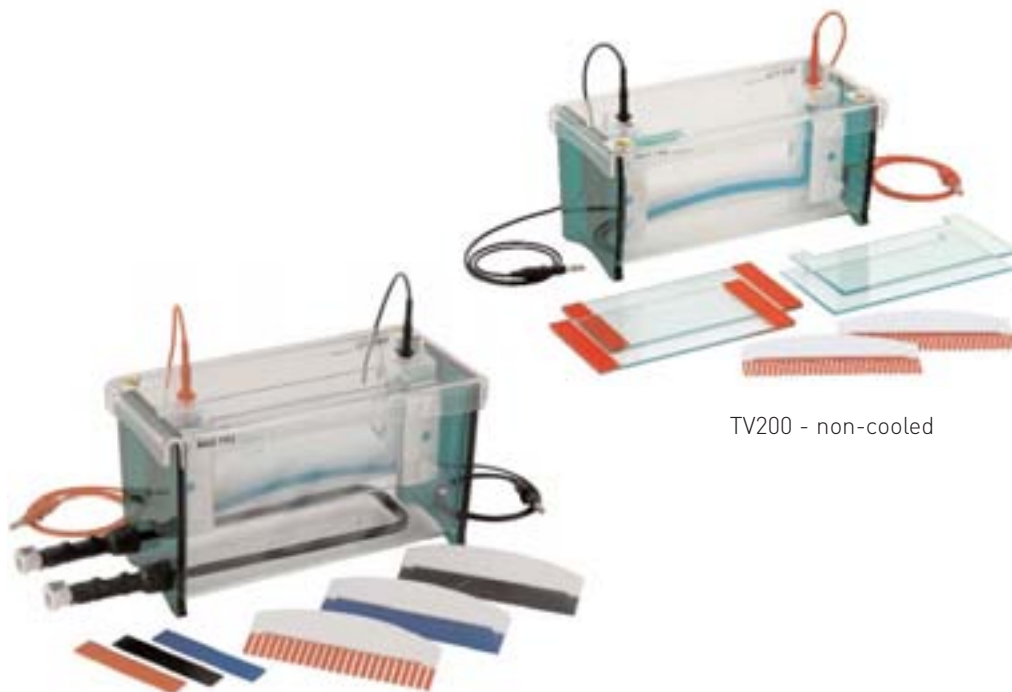


Vertical Gel Units

BENEFITS INCLUDE

- **Twin-plate 20.5 x 10cm (W x H) wide format mini-gel unit** - designed specifically for PAGE techniques requiring self-cast gels
- **Wide format** - 20.5cm gel width effectively allows 2 mini-gels to be run within the same gel
- **Two versions available:** -
 - Standard TV200 - non-cooled
 - Cooled TV200K - includes a cooling coil in the bottom of the gel tank
- **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 TV200K - snap-lock connectors allow the cooling coil within TV200K to be connected to the JULABO chiller unit for faster, higher voltage separations
- **Additional gel casting** - with the optional TV400-CB cam-pin casting base or TV400-MC2 and TV400-MC10 2 and 10 gel multicasters
- **Float glass plates** - 4mm thick - guarantee uniform gel thickness and even sample migration, and with ground edges to inhibit sample leakage during casting
- **Twin screws** - on each gel-clamp - 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
- **Colour-coded combs and spacers** - available in 0.75, 1, 1.5 and 2mm thicknesses



TV200 - non-cooled

TV200K - cooled

TV200 Standard & TV200K Cooled Twin-Plate Wide Format Mini-Gel Electrophoresis Units

The TV200 and TV200K twin-plate 20.5 x 10cm (W x H) wide format mini-gel units allows more samples to be screened on the same gel, eliminating the problems associated with comparing samples from 2 separate tape-cast mini-gels.

TECHNICAL SPECIFICATION

	TV200	TV200K
Unit Dimensions (W x D x H)	30 x 15 x 14cm	40 x 15 x 17cm
Inner Tank Dimensions (W x D x H)	27 x 11 x 11.5cm	27 x 11 x 15cm
Plate Dimensions (W x H x T)	20.5 x 10 x 0.4cm	20.5 x 10 x 0.4cm
Standard Spacer Dimensions (W x H x T)	2 x 20 x 0.1cm	2 x 20 x 0.1cm
Active Gel Dimensions (W x H)	16.5 x 8.5cm	16.5 x 8.5cm
Maximum Sample Capacity	2 x 48	2 x 48
Recommended Buffer Volume	Inner Buffer Chamber	300ml
	Gel Tank	2800ml
Recommended Running Conditions for Denaturing/Native PAGE Gel	Voltage	100 - 150V (10 - 15V/cm)
	Current	10 - 15mA
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
Power Output Connectors (diameter)	Shrouded, 4mm	Shrouded, 4mm
Recommended Power Supplies	Consort EV243	Consort EV243



TV200YK - cooled + casting

TV200Y - non-cooled + casting

TV200Y Standard & TV200YK Cooled Twin-Plate Wide Format Mini-Gel Electrophoresis Units

The TV200Y and TV200YK twin-plate 20.5 x 10cm (W x H) wide format mini-gel units allows more samples to be screened on the same gel, eliminating the problems associated with comparing samples from 2 separate mini-gels. Both units include, as standard, a precision engineered casting base, which acts in conjunction with our recently modified TV200-GRM to provide simple, leak-free casting.

TECHNICAL SPECIFICATION

	TV200Y		TV200YK	
Unit Dimensions (W x D x H)	30 x 15 x 14cm		40 x 15 x 17cm	
Inner Tank Dimensions (W x D x H)	27 x 11 x 11.5cm		27 x 11 x 15cm	
Plate Dimensions (W x H x T)	20.5 x 10 x 0.4cm		20.5 x 10 x 0.4cm	
Standard Spacer Dimensions (W x H x T)	2 x 20 x 0.1cm		2 x 20 x 0.1cm	
Active Gel Dimensions (W x H)	16.5 x 8.5cm		16.5 x 8.5cm	
Maximum Sample Capacity	2 x 48		2 x 48	
Recommended Buffer Volume	Inner Buffer Chamber	300ml	Inner Buffer Chamber	300ml
	Gel Tank	2800ml	Gel Tank	3800ml
Recommended Running Conditions for Denaturing/Native PAGE Gel	Voltage	100 - 150V (10- 15V/cm)	Voltage	150 - 200V (15 - 20V/cm)
	Current	10 - 15mA	Current	15 - 20mA
	Time	1.5 - 2h	Time	1 - 1.5h
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
Casting Base Silicone Seal Dimensions (W x L x H)	1.7 x 22.5 x 0.8cm		1.7 x 22.5 x 0.8cm	
Power Output Connectors (diameter)	Shrouded, 4mm		Shrouded, 4mm	
Recommended Power Supplies	Consort EV243		Consort EV243	

BENEFITS INCLUDE

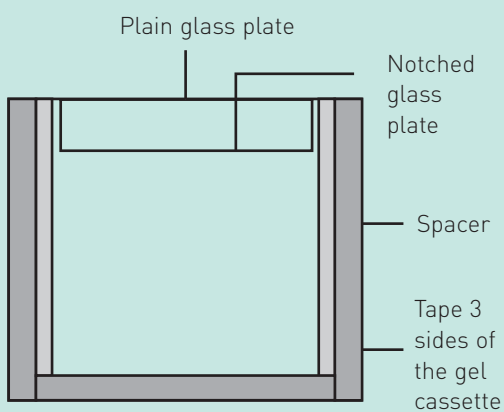
- **Twin-plate 20.5 x 10cm (W x H) wide format mini-gel unit** - designed specifically for PAGE techniques requiring self-cast gels
- **Wide format** - 20.5cm gel width effectively allows 2 mini-gels to be run within the same gel
- **Casting base** - included as standard with both units
- **Two versions available:** -
Standard TV200Y - non-cooled + casting
Cooled TV200YK - 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 TV200YK - snap-lock connectors allow the cooling coil within TV200YK to be connected to the JULABO chiller unit for faster, higher voltage separations
- **Additional gel casting** - with the optional TV400-MC2 and TV400-MC10 2 and 10 gel multicasters
- **Float glass plates** - 4mm thick - guarantee uniform gel thickness and even sample migration, and with ground edges to inhibit sample leakage during casting
- **Twin screws** - on each gel-clamp - 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
- **Colour-coded combs and spacers** - available in 0.75, 1, 1.5 and 2mm thicknesses

Vertical Gel Units

NATIVE PAGE

Native PAGE resolves proteins by their individual charge to mass ratios. For successful application of this technique, samples must be kept at 4°C and all conditions or steps conducive to protein denaturation, such as SDS, excessive sample agitation and heat incubation, should be omitted from the above protocol. Native PAGE is applied in many areas of research: from resolving proteins of identical molecular weight to recovering biologically active proteins from cell lysates.

Making polyacrylamide gels by the tape-casting method



SDS-PAGE METHOD

SDS-PAGE allows proteins to separate on the basis of their molecular weight (MW) and is dependent on the action of SDS - a detergent that equalises the charge to mass ratio of each protein by coating it with a uniform negative charge - and the sieving action of the polyacrylamide gel matrix. This technique is particularly useful for determining the MW of individual protein subunits and as the first step of western blotting to examine the post-translational modification of individual proteins. Scie-Plas recommends using SERVA chemicals in the application of this technique and their part numbers are shown (see pages 135-142 for further details).

1. Clean glass plates with distilled water and methanol.
2. Tape 3 sides of each gel cassette to form a leak-free seal and insert into the GRM (see diagram below for tape-cast gels).

3. Prepare and pour a 10% resolving gel as follows for two 10 x 10cm: -

Resolving gel	Part No.
7.5ml 40% (37.5:1) acrylamide	(10681.01)
11.25ml 1M Tris-HCl, pH 8.5	(39794.01)
0.15ml 20% (w/v) SDS	(20767.03)
0.1ml 10% (w/v) APS	(13375.05)
0.02ml TEMED	(35925.01)
11.0ml distilled water	-

4. Overlay distilled water on top of the gel, allowing the gel to set for 30 minutes.

5. Remove the water and prepare and pour a 4.5% stacking gel as follows: -

Stacking gel	Part No.
1.15ml 40% (37.5:1) acrylamide	(10681.01)
1.25ml 1M Tris-HCl, pH 6	(39794.01; to pH 6 with HCl)
0.05ml 20% (w/v) SDS	(20767.03)
0.03ml 10% APS	(13375.05)
0.01ml TEMED	(35925.01)
7.5ml distilled water	-

6. Insert the comb and allow the gel to set.
7. Mix the protein samples with SERVA Tris-Glycine/SDS sample buffer (2x) buffer (Tris/HCl pH 6, 126mM, glycerol 20%, SDS 4%, bromophenol blue 0.02%; 42527.01) and denature for 2 minutes at 98°C and then centrifuge for 2 minutes at 14000rpm.
8. Fill the inner buffer chamber and tank with SERVA Tris-Glycine/SDS electrophoresis buffer (10x) (0.25M Tris, 1.92M Glycine and 1% SDS; 42529.01).
9. Load the protein samples into the wells according to the well volumes in aqueous solution.
10. Run the gel according to the operating guidelines in Technical Information.
11. After electrophoresis, turn off the power supply and remove the GRM from the tank after emptying it of buffer.
12. Remove the plates from the GRM and gently prise them open with a spacer at a corner but NOT at the notched ears - the gel is now ready for the next application e.g. Western Transfer, staining etc.

Glass plate stops -

serve as an immovable barrier, locking the glass plates firmly into position on the casting base

Twin screws -

act, as they are tightened, with a silicone dovetailed gasket to apply an even pressure across the height and breadth of the gel to prevent 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

Dovetailed silicone gasket -

forms a leak-free seal between the inner GRM and gel tank, making it ideal for discontinuous PAGE

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

Part No.

Twin-plate wide format mini-gel unit with GRM and gel tank, lid, 2 x (20.5 x 10cm; W x H) plain glass plates, 4 x 1mm spacers, 2 x spacer aligners, 2 x (20.5 x 10cm) notched glass plates, 1 x dummy plate and 2 x 1mm thick 24-sample combs



TV200

Twin-plate wide format mini-gel unit with GRM and cooled gel tank, with built-in cooling coil and quick-fit tubing, plus lid, 2 x (20.5 x 10cm; W x H) plain glass plates, 4 x 1mm spacers, 2 x spacer aligners, 2 x (20.5 x 10cm) notched glass plates, 1 x dummy plate and 2 x 1mm thick 24-sample combs



TV200K

Twin-plate wide format mini-gel unit with GRM and gel tank, lid, 2 x (20.5 x 10cm; W x H) plain glass plates, 4 x 1mm spacers, 2 x spacer aligners, 2 x (20.5 x 10cm) notched glass plates, 1 x dummy plate, 2 x 1mm thick 24-sample combs, casting base and 2 x silicone seals



TV200Y

Twin-plate wide format mini-gel unit with GRM and cooled gel tank, with built-in cooling coil and quick-fit tubing, plus lid, 2 x (20.5 x 10cm; W x H) plain glass plates, 4 x 1mm spacers, 2 x spacer aligners, 2 x (20.5 x 10cm) notched glass plates, 1 x dummy plate, 2 x 1mm thick 24-sample combs, casting base and 2 x silicone seals



TV200YK

Replacement Parts & Accessories

1 x TV200 gel-running module	TV200-GRM
2 x quick-fit tubes for cooling coil	TCS-CC
2 x (20.5 x 10cm) plain glass plates with 0.75mm bonded spacers for TV200	TV200-PGS0.75
2 x (20.5 x 10cm) plain glass plates with 1mm bonded spacers for TV200	TV200-PGS1
2 x (20.5 x 10cm) plain glass plates with 1.5mm bonded spacers for TV200	TV200-PGS1.5
2 x (20.5 x 10cm) plain glass plates with 2mm bonded spacers for TV200	TV200-PGS2
2 x (20.5 x 10cm) plain glass plates for TV200	TV200-PG
2 x (20.5 x 10cm) notched glass plates for TV200	TV200-NG
1 x (20.5 x 10cm) dummy plate	TV200-DP
2 x 0.75mm thick spacers for TV200	TV200-S0.75
2 x 1mm thick spacers for TV200	TV200-S1
2 x 1.5mm thick spacers for TV200	TV200-S1.5
2 x 2mm thick spacers for TV200	TV200-S2
2 x spacer aligners for TV200	TV400-SA
1 x cam-pin casting base with 2 silicone seals	TV400-CB
2 x silicone seals for cam-pin casting base	TV400-CB-SEALS
1 x caster system for 2 x (20.5 x 10cm) gradient wide format mini-gels	TV200-MC2
1 x caster system for 10 x (20.5 x 10cm) gradient wide format mini-gels	TV200-MC10
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

TV200 Combs

Part No.	Thickness (mm)	Sample Throughput	Tooth Width (mm)	Tooth Height (mm)	Max. Spacing (mm)	Sample Volume / Well (µl)
TV400-C0.25-24	0.25	24	4.75	5	2	6
*TV400-C0.25-36MC	0.25	36	2.5	5	2	3
TV400-C0.35-24	0.35	24	4.75	5	2	8
*TV400-C0.35-36MC	0.35	36	2.5	5	2	4
+TV400-C0.75-1D	0.75	1	152	20	n/a	2280
TV400-C0.75-10	0.75	10	11	20	5.5	165
*TV400-C0.75-18MC	0.75	18	6	20	3	90
TV400-C0.75-24	0.75	24	4.75	20	2	71
*TV400-C0.75-36MC	0.75	36	2.5	20	2	37
TV400-C0.75-48	0.75	48	2.35	20	1	35
+TV400-C1-1D	1	1	152	20	n/a	3040
TV400-C1-10	1	10	11	20	5.5	220
*TV400-C1-18MC	1	18	6	20	3	120
TV400-C1-24	1	24	4.75	20	2	95
*TV400-C1-36MC	1	36	2.5	20	2	50
TV400-C1-48	1	48	2.35	20	1	47
+TV400-C1.5-1D	1.5	1	152	20	n/a	4560
TV400-C1.5-10	1.5	10	11	20	5.5	330
*TV400-C1.5-18MC	1.5	18	6	20	3	180
TV400-C1.5-24	1.5	24	4.75	20	2	142
*TV400-C1.5-36MC	1.5	36	2.5	20	2	75
TV400-C1.5-48	1.5	48	2.35	20	1	70
+TV400-C2-1D	2	1	152	20	n/a	6080
TV400-C2-10	2	10	11	20	5.5	440
*TV400-C2-18MC	2	18	6	20	3	240
TV400-C2-24	2	24	4.75	20	2	190
*TV400-C2-36MC	2	36	2.5	20	2	100
TV400-C2-48	2	48	2.35	20	1	94

*Multi-channel compatible

+Suitable for 1-D preparatory or 2-D electrophoresis