

# Power Supply

## Specification Sheet

Name		AE-8135	AE-8155	AE-8450	AE-8750	AE-8800	AE-8300
		myPower II 300	myPower II 500	PowerStation 1000VC	PowerStation 1000XP	ConstaPower 3000	CrossPower 150
Voltage	Output	1 - 300 V	1 - 500 V	10 - 1000 V	5 - 1000 V	5 - 3000 V	High: 1 - 150 V Low: 1 - 75 V
	Setting	1 - 300 V in 1 V steps	1 - 500 V in 1 V steps	5 - 1000 V in 5 V steps		20 - 3000 V in 10 V steps	High: 1 - 150 V Low: 1 - 75 V in 1 V steps
Current	Output	1 - 400 mA (0mA~by setting)	1 - 200 mA (0mA~by setting)	4 - 500 mA (0mA~by setting)	1 - 500mA (0mA~by setting)	0.015 - 300 mA (Display: 1 mA or more)	High: 0.01 - 2 A Low: 0.01 - 3.8 A
	Setting	1 - 400 mA in 1 mA steps	1 - 200 mA in 1 mA steps	2 - 500 mA in 2 mA steps	1 - 20 mA in 1 mA steps 20 - 500 mA in 2 mA steps	1 - 300mA in 1 mA steps	High: 0.01 - 2A Low: 0.01 - 3.8A in 0.01 A steps
Power	Output				0.2 - 200 W 0.1 - 20 W in 0.1 W steps 20 - 200 W in 1 W steps	0.5 - 300 W	No mode (Up to 200W)
	Setting	No mode (Up to 50 W)	No mode (Up to 25 W)	No mode (Up to 200 W)		2 - 300 W in 1 W steps	
Timer		0 - 999 minutes in 1 minute steps		0 - 1000 minutes in 1 minute steps		0 - 99999 min. in 1 minute steps	None
Display		LED 3 digits x 2		LED 4 digits x 1		LED 3 to 5 digits x 4	LED 3 digits x 1
Output		2 pairs		4 pairs		3 pairs	2 pairs
Power consumption		70 VA	40 VA	350 VA		400 VA	350 VA
Power requirement (Choose one)		90 - 117 VAC, 50/60 Hz		100 - 115 VAC, 50/60Hz		100 - 115 VAC, 50/60Hz	100 - 115 VAC, 50/60Hz
		220 - 240 VAC, 50/60Hz		220 - 240 VAC, 50/60Hz		220 - 240 VAC, 50/60Hz	-
Dimensions		74 (W) x 170 (D) x 170 (H) mm		96 (W) x 341 (D) x 195 (H) mm		150 (W) x 325 (D) x 260 (H) mm	119 (W) x 230 (D) x 165 (H) mm
Net weight		0.74 kg		2.6 kg		6.3 kg	3.0 kg

## Specifications Common to Power Source Equipment

### ◆ Operating modes

#### Constant voltage:

Electrophoresis is performed while maintaining a fixed voltage. When several electrophoresis chambers are connected, the same value as for one unit is set regardless of the number of units with a parallel connection. With a series connection, voltage is set by voltage for one unit  $\times$  number of units connected.

#### Constant current:

Electrophoresis is performed while maintaining a fixed current. When several electrophoresis chambers are connected, current is set voltage for one unit  $\times$  number of units connected. With a series connection, the same value as for one unit is set regardless of the number of units.

#### Constant power:

Electrophoresis is performed while maintaining fixed power. When several electrophoresis chambers are connected, power is set by taking the value for one unit and multiplying it by the number of units connected regardless of whether they are in a parallel or series connection.

\*Power outlets of all models are parallel terminals.

### ◆ High-frequency switching/crossover

- Lighter weight power source equipment and compact design achieved via the high-frequency switching method
- In accordance with changes in electrical resistance during electrophoresis and set values, constant voltage, constant current, and constant power are automatically switched and output via the crossover method

If, equipment is used in constant voltage mode, for example, and maximum current or maximum power is set, there is no output of current or power above that and unneeded output can be automatically limited. Thus, damage to the sample due to a temperature rise of the carrier and evaporation of the buffer solution can be prevented; power source-related problems can be kept to a minimum. In addition, the occurrence of gel heating can be limited.

# Power Supply

## Selection

Type	AE-8800	AE-8750	AE-8450	AE-8135	AE-8155	AE-8300
Name	ConstaPower 3000	powerStation 1000XP	powerStation 1000VC	myPower II 300	myPower II 500	CrossPower 150
Compact Slab Mini Slab	○	○	○	○	○	△
Slab gel electrophoresis unit.	○	○	○	○	○	×
Cooled Slab	○	○	○	×	△	×
Sequence	○	△	△	×	×	×
IEF Short column	×	○	○	△	○	×
IEF Long column	×	○	○	△	△	×
Thin-layer IEF	△	△	△	×	×	×
Submarine electrophoresis	○	○	○	○	△	△
Semi-dry blotting	×	○	○	○	△	○
Wet type Blotting	×	×	×	×	×	○

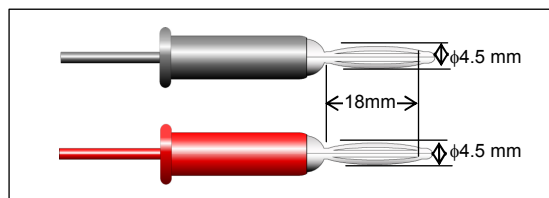
○: Recommended    △: OK (Performance may be limited according to the specification of the model)    ×: Not suitable

- For polyacrylamide electrophoresis (PAGE) requires relatively high voltage (V). When cooling in particular, if the electrophoresis chamber is large (distance between electrodes is long), high voltage (V) is needed.
- In the case of agarose electrophoresis or blotting, relatively high current (a few hundred mA~A) is required.
- For isoelectric focusing electrophoresis, stable output in the low current (0~a few mA) zone is required.
- When connecting multiple electrophoresis chamber, the amount of current (mA) and power (W) required is large, because it is equal to the number of units to be connected × current (mA).

• Output terminal is connected in parallel in the power supply device.

- It is possible to connect the lead wire that comes with the electrophoresis chamber of our company.

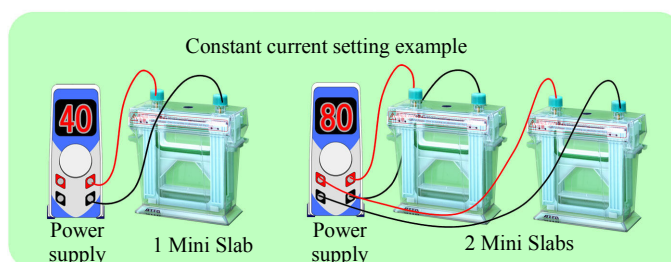
Check size and safety when connecting lead wires of another company.



### ■ Conducting (setting) conditions

Follow the instruction manual of the electrophoresis device and blotting device to be connected for the conducting conditions. Generally speaking, it is better to remember the principle that “current is proportional to the conducting area and voltage is proportional to the distance between electrodes (gel length). For instance, when electrophoresing 1 sheet of gel using 20mA per gel in dual electrophoresis chamber, if 2 of them are electrophoresed under the same conditions, conducting area becomes double, so the current is set at 40mA. Likewise, when electrophoresing gel of 1mm thickness at 20mA followed by electrophoresing gel of 2mm under the same conditions, it is set at 40mA.

When connecting 2 sets of electrophoresis chamber to one power supply (one each from output terminal), because terminals are usually set in parallel in the power supply, current value should be doubled if it is a constant current setting, and voltage can stay as it is if it is a constant voltage setting. If electrophoresis distance becomes large (large electrophoresis device) or temperature is low, resistance becomes large, so in many cases higher voltage is required.



# Power Supply

## AE-8135 myPower II 300

## AE-8155 myPower II 500



- Small, compact electrophoresis power supplies
- Low-cost, high-tech power source for your own
- Minimal lab space with a slim body
- Achieves a small size, light weight, and low cost
- Power source equipment that is compact and yet maintains performance/features

[2311175] AE-8135 myPower II 300, 110V

[2311177] AE-8135 myPower II 300, 230V

[2311185] AE-8155 myPower II 500, 110V

[2311187] AE-8155 myPower II 500, 230V

\*Output of less than 1 mA is also possible for the AE-8135/8155 depending on settings.

### Applications

AE-8135 myPower II 300: For agarose gel electrophoresis, semi-dry blotting, etc.

AE-8155 myPower II 500: For slab/minislab-size electrophoresis, PAGE, IEF electrophoresis, etc.

Name	AE-8135 myPower II 300	AE-8155 myPower II 500
Constant output	1 - 300 VDC in 1V steps 1 - 400 mA in 1 mA steps Automatic crossover	1 - 500 VDC in 1V steps 1 - 200 mA in 1 mA steps Automatic crossover
Maximum output	50 W	25 W
Output ripple	Less than 15 V (peak to peak) at 300V, 50 VA	Less than 15 V (peak to peak) at 500V, 25 VA
Output noise	Less than 1 V (Peak to peak)	
Meter accuracy	1% FS $\pm$ 1 digit or better	
Timed output	1 to 999 minutes setting in 1 minute steps with alarm buzzer, or melody	
Display	LED 3 digits x 2 1 line for voltage, 1 line for current and time, selectable	
Safety protection	Automatic output shutdown, against short or open circuit, with alarm buzzer	
Power outlet	2 pairs in parallel	
Power requirement	90 - 117 VAC, 50/60 Hz, 70 VA 220 - 240 VAC, 50/60Hz, 70 VA	90 - 117 VAC, 50/60 Hz, 40 VA 220 - 240 VAC, 50/60Hz, 40 VA

## AE-8450 power Station 1000VC

## AE-8750 power Station 1000XP



[2311151] AE-8450 powerStation 1000VC, 110V

[2311152] AE-8450 powerStation 1000VC, 230V

[2311154] AE-8750 powerStation 1000XP, 110V

[2311155] AE-8750 powerStation 1000XP, 230V

- Powerful with a slim body (maximum voltage 1000V, maximum current 500 mA)
- Supports diverse needs
- For a variety of purposes such as all-size PAGE, IEF electrophoresis (AE-8750), semi-dry blotting, horizontal agarose gel electrophoresis and so on.

Name	AE-8450 Power Station 1000VC	AE-8750 Power Station 1000XP
Output	Constant voltage or current with automatic crossover	Constant voltage, current, or wattage, with automatic crossover
Output range / setting steps	10 to 1000 VDC in 5 V steps 4 to 500 mA in 2 mA steps Output limited to 200 W	5 to 1000 VDC in 5 V steps 1 to 20 mA in 1 mA steps + 20 to 500 mA in 2 mA steps 0.1 to 20.0 W in 0.1 W steps + 20 to 200 W in 1 W steps Output limited to 200 W
Meter accuracy	V: 1% FS $\pm$ 5digit / C: $\pm$ 2digi	1% FS $\pm$ 1 digit
Output time	1 to 1000 minutes with timer/	1 to 1000 minutes with timer/ 1 to 9999 Vh/ continuous
Programmable condition	Voltage, current, and time continuous	Voltage, current, wattage, and time or Vh
Display	4 digit LED x 1	
Program strage	Up to 10 files	Up to 10 independent files and up to 10 sequential files
Vh integrator	None	1 - 9999 Vh
Power outlet	4 pairs in parallel	
Power requirement	100 - 115 VAC or 200 - 240 VAC, 50/60Hz, 350 VA	
Dimensions	96 (W) x 341 (D) x 195 (H) mm, 2.6 kg	

# Power Supply

## AE-8800 ConstaPower 3000



- Power source equipment for electrophoresis for a large voltage output
- Stable output in constant voltage, constant current, or constant wattage

[2314161] AE-8800 ConstaPower 3000, 110 V

[2314162] AE-8800 ConstaPower 3000, 230 V

### Specifications

Name	AE-8800 ConstaPower 3000
Output	Constant voltage, current, or wattage, with automatic crossover
Output range	5 to 3000 VDC 0.015 to 300 mA (Display: 1 mA or more) 0.5 to 300 W (Display: 1 W or more)
Output setting	20 to 3000 VDC in 10 V steps 1 to 300 mA in 1 mA steps 2 to 300 W in 1 W steps
Meter accuracy	2% FS $\pm$ 1 digit
Output time	1 to 99999 minutes in 1 minute steps/ 1 to 99999 Vh in 1 Vh steps/ continuous output
Display	Voltage: 4-digit LED Current: 4-digit LED Power: 3-digit LED
Safety protection	Automatic output shutdown against ground leakage, open circuit, short circuit and unregulated output status
Power outlet	3 pairs in parallel
Power requirement	AC 85V - 125V or 200 - 240V, 50/60Hz, 400VA
Dimensions	150 (W) x 325 (D) x 260 (H) mm, 6.1 kg

## AE-8300 CrossPower 150



- Power source equipment for electrophoresis for a large current output
- Optimal model when large current is required with a relatively low voltage such as in large sized agarose gel electrophoresis, semi-dry blotting, and electrical decolorization.

[2311121] AE-8300 CrossPower 150, 110V

### Specifications

Name	AE-8300 CrossPower 150
Output	Constant voltage or current with automatic crossover
Output range	High: 1 to 150 V and 0.01 to 2.00 A Low: 1 to 75 V and 0.01 to 3.8 A 200 VA maximum
Automatic crossover	At any current or voltage limit
Meter accuracy	1% FS $\pm$ 1 digit
Ambient temperature	4 - 40 °C, no warm-up time
Display	3-digit LED x 2
Timer (option)	Up to 99 minutes and 99 seconds/Up to 99 hours and 99 minutes, digital, externally connected
Power outlet	2 pairs in parallel
Power requirement	AC 100 - 115 V, 50/60Hz, 350VA (200-240V version is not available)
Dimensions	119 (W) x 230 (D) x 165 (H) mm, 3.2 kg