



Data sheet

S-8 Fuel cell stack

- Based on open cathode PEM fuel cell technology
- Ultra-lightweight and compact
- Up to 146W per stack

The S-8 open cathode, air-cooled fuel cell stack runs on hydrogen and ambient air. The unique design of the system allows the S-8 to achieve best-in-world class performance in terms of weight and footprint while being easily integrated into customers' systems with minimal balance-of-plant.

The S-8 can be scaled to provide 29W to 146W. It can be configured in a myriad of ways to achieve voltage or current requirements. In addition, multiple stacks may be utilized to provide additional power based on your requirements.

The ease-of-integration, high power density and modularity of the S-8 makes it ideal for applications such as:

- Portable power
- Fixed-wing drones
- Backup power
- Off-grid power

Please contact us at contact@duralitepower.com for further information on availability and pricing.

Features:

- Lightweight and sturdy metallic fuel cell
- Peak output of up to 4.2W per cell
- Configurable cell count from 10 to 50 cells
- Proven compatible with chemical hydrogen generator and pressurized gas supply
- Minimal balance-of-plant and controls required
- Easily integrated into your system
- Standard product configuration of 20, 35 and 50-cells
- Ideal for hybridization with battery and/or supercapacitors to meet peak power requirements
- Low thermal signature
- Multiple series- and/or parallel- configurations available
- Quiet operation
- Zero harmful emissions

S-8 Product Specifications

Technology	Polymer Electrolyte Membrane fuel cell	
Stack performance	Number of cells per stack	10 to 50
	Rated stack power ¹	29 to 146W at 4.5A
	Peak stack power ²	42 to 210W at 7A
Stack dimensions	Width	70mm
	Depth	30mm
	Height	30mm to 95mm
Stack mass	-	95 to 194g
Environment	Stack	5 to 50°C ambient temperature
	System	-20 to 50°C ambient temperature
	Start-up time	~5s
	Altitude	0 to 4000m ³
Fuel	Composition	Pure hydrogen, conform to SAE J2719
	Supply pressure	2 bar
	Flow rate	0.04 slpm/cell at rated current
	Inlet connection	Barb connector for 1/8" tubing ⁴
Orientation	-	Any

Standard configurations

Cell number	Rated/peak power (W)	Rated/peak power voltage (Vdc/Vdc)	Fuel flow at rated power (slpm)	Mass (g)	Dimensions (mm)	Rated power density (W/kg)
20	59 / 84	13 / 12	0.8	125	30 x 70 x 46	472
35	102 / 147	22.7 / 21	1.4	159	30 x 70 x 71	641
50	146 / 210	32.5 / 30	2	194	30 x 70 x 95	752

¹ At beginning of life conditions.

² Up to 10 mins depending on system design.

³ De-rating occurs above 1000m.

⁴ Configurable upon request.

Specifications subject to change without notice.