

Power to change the world®

**FCvelocity® – 9SSL**

Ballard Power Systems offers a proton exchange membrane (PEM) fuel cell stack based on our proven, fourth generation transportation stack technology.

Available now to customers with fuel cell stack integration capabilities, the FCvelocity-9SSL is designed to perform in rugged conditions and is scalable depending upon customer requirements. Stacks are available in power increments from approximately 4 to 21 kilowatts.

The FCvelocity-9SSL provides stable electrical power to a system over a wide range of operating and environmental conditions. A liquid-cooled, hydrogen-fueled product, the FCvelocity-9SSL uses Ballard's standard fuel cell components.

Suitable for motive applications, the FCvelocity- 9SSL features fast, dynamic response, robust and reliable operation and durable packaging.

The FCvelocity-9SSL establishes a new standard of performance by optimizing reliability, power density and compatibility with customer system requirements.

Please contact us for product availability and pricing.



**PRODUCT SPECIFICATIONS**

Rated Power [kW] <sup>1</sup>	3.8	4.8	10.5	14.3	17.2	21.0
DC voltage (at 300A) <sup>1</sup>	12.8	16.0	35.0	48.0	57.4	70.2
Mass (with no coolant) [kg]	7.1	7.2	10.7	13	15	17
Stack core length [mm]	92	104	174	220	255	302
Stack core width [mm]	760					
Stack core height [mm]	60					

Type	PEM (Proton Exchange Membrane) fuel cell stack	
Performance	Maximum current	300A
	Shock and vibration	Automotive <sup>2</sup>
Fuel:	Fuel composition (pre-humidification)	> 95% H <sub>2</sub> <sup>3</sup>
Oxidant	Oxidant composition (pre-humidification)	Compressed ambient (filtered to remove particulates)
Stack Temperatures	Storage temperature <sup>4</sup>	-40 to 60° C (-40 to 140° F)
	Start-up temperature	> 2° C (> 36° F)
	Fluid inlet temperature (operating)	2 to 68° C (36 to 154° F) <sup>1</sup>

**Additional information available upon request.**

- <sup>1</sup> Values achieved at Ballard-specified conditions at the beginning of operational life.
- <sup>2</sup> Vibration 5g, meets USABC/SNL CRADA No. SC961447 USABC 10. Shock: 5g sections of IEC 60068-2-27 Ea and IEC 60068-2-29 Eb.
- <sup>3</sup> H<sub>2</sub> purity as per SAE specifications: J2719 with exceptions.
- <sup>4</sup> Allowable temperature following approved Ballard dry out procedure only, without dry out procedure +2-600C.