

















PORTABLE FUEL CELLS – Operating Info.

Company Name	Product	Operating Temperature	Fuel Used	Fuel Consumption (Flow) Rate	Operating Power Consumption	Start Up Time	Noise	Life Span	Maintenance Expectation	Waste Heat/ Emissions	Picture
Acumentrics	Super Cell		Natural gas or propane								
Anuvu Incorporated											
Astris Energi, Inc.	Model E3										
Avista Labs (now ReliOn)	SR-12 500W PEM Fuel Cell	41 to 95 degrees F (5 to 35 degrees C)	Hydrogen	7.01 L/min. @ 500 W (<1.0 L/min. @ no load)		7 min. @ room temp.			Avista Lab's patented "hot swappable" cartridges can be replaced by anyone in seconds, w/out turning the system off		
Avista Labs (now ReliOn)	Independence 100		Hydrogen								
Avista Labs (now ReliOn)	Independence 500		Hydrogen								
Avista Labs (now ReliOn)	Independence 1000		Hydrogen								
AXANE	PEMFCs		Hydrogen								
Ball Aerospace & Technologies Corp.	Snorkler		Hydrogen								
Ball Aerospace & Technologies Corp.	PPS-100	-20 to 45 degrees C	Hydrogen			< 1 min.					
Ball Aerospace & Technologies Corp.	PPS-50	-20 to 50 degrees C	Hydrogen			1 min.	Inaudible @ 10 ft.				

Ball Aerospace & Technologies Corp.	PPS-30		Hydrogen								
Ball Aerospace & Technologies Corp.	DMFC-60	0 to 40 degrees C	Methanol								
Ball Aerospace & Technologies Corp.	DMFC-20	0 to 40 degrees C	Methanol								
Ballard Power Systems	Nexa™ Power Module	Ambient operating temperature: 3 to 30 degrees C (37 to 86 degrees F)	99.99% dry gaseous hydrogen	Less than or equal to 18.5 standard liters per minute (at rated net output)	N/A	N/A	72 dBA @ 1 meter	1,500 hours	N/A	Liquid water (Maximum 0.87 liters / 30 fluid oz. per hour at rated net output)	
Coleman	Coleman Powermate AirGen™		Hydrogen (Metal Hydride Canisters)				65 dba @ 1 meter	8 –10 hours per fueling		Water	
Energy Conversion Devices, Inc.											
Energy Visions, Inc.											
Forschungszentrum Jülich GmbH	DMFCs		Methanol								
Fuel Cell Resources, Inc.	PS1000	0 to 55 degrees C (32 to 130 degrees F); Optional = (-40 to 55 degrees C (-40 to 130 degrees F))	Hydrogen gas or reformed natural gas (40% hydrogen)	12 l/min. (3-5 psig) at full power				40000 hrs.	Low		
Fuel Cell Resources, Inc.	PS 2000	0 to 55 degrees C (32 to 130 degrees F); Optional = (-40 to 55 degrees C (-40 to 130 degrees F))	Hydrogen gas or reformed natural gas (40% hydrogen)	24 l/min. (3-5 psig) at full power				40000 hrs.	Low		
Fuel Cell Resources, Inc.	PS3000	0 to 55 degrees C (32 to 130 degrees F); Optional = (-40 to 55 degrees C (-40 to 130 degrees F))	Hydrogen gas or reformed natural gas (40% hydrogen)	36 l/min. (3-5 psig) at full power				40000 hrs.	Low		

		(-40 to 130 degrees F))									
Fuel Cell Resources, Inc.	PS5000	0 to 55 degrees C (32 to 130 degrees F); Optional = (-40 to 55 degrees C (-40 to 130 degrees F))	Hydrogen gas or reformed natural gas (40% hydrogen)	60 l/min. (3-5 psig) at full power				40000 hrs.	Low		
Fuel Cell Resources, Inc.	PS7000	0 to 55 degrees C (32 to 130 degrees F); Optional = (-40 to 55 degrees C (-40 to 130 degrees F))	Hydrogen gas or reformed natural gas (40% hydrogen)	84 l/min. (3-5 psig) at full power				40000 hrs.	Low		
Fuel Cell Systems, Inc.	Mk2 module	70 degrees C	Industrial grade hydrogen	0.27 Nm ³ /h (H ₂); 2.4 Nm ³ /h (air)						0.24 l/h (max water production); Max 50 ppm CO ₂	
Fuel Cell Technologies LTD	Portable APU		Diesel/gas fuelled								
Giner, Inc	Direct Methanol Fuel Cell										
Giner, Inc	Regenerative Fuel Cell										
Giner, Inc	Reformate-Air Fuel Cell										
Greenvolt Power Corp.	PM-60 Emergency Fuel Cell Module										
Greenvolt Power Corp.	PM-120 Portable Fuel Cell Module										
Greenvolt Power Inc.	PM-135										

Hydrogenics Corp.	HyTEF Series Generators					Quick	Only noise = quiet air intake fans		Fully automatic and starts with the flip of a switch. Maintenance is minimum.	Warm, most air	
Hydrogenics Corp.	HyPORT Power Generator		Hydrogen from low-pressure compact metal hydride canisters. Can also run on sodium borohydride tablets dissolved in water			Quick	Only noise = quiet air intake fans		Fully automatic and starts with the flip of a switch. Maintenance is minimum.	Warm, most air	
Hydrogenics Corp.	HyPORT C Power Generator		Chemical hydrogen hydride								
IdaTech	FCS 1200	3 to 30 degrees C	8 Liters Methanol/water mix	@ 1 kW = 1.4 L/hr; @ idle = 0.2 L/hr			< 55 db @ 1 meter			Exhaust is < 50 degrees C @ 70 L/sec.	
IdaTech	iGen™										
Jadoo Power	N-Gen										
Jadoo Power	XRT										
Jadoo Power	Fillpoint										
Jadoo Power	FillOne										
Jadoo Power	N-Stor130										
Jadoo Power	N-Stor360										
Lynntech, Inc.											
Manhattan Scientifics, Inc.	NovArs Mid-Range Fuel Cell										
Medis Technologies	Medis Power Pack										
MTI MicroFuel Cells	Mobion 30M										
MTI MicroFuel Cells	Mobion 1M										
Nuvera	PowerFlow PFS-009										
Nuvera	PowerFlow PFS-005										
Nuvera	1 kW hydrogen system	70 degrees C (158 degrees F)	Hydrogen			3 sec.s at 70 degrees F	50 dba @ 3 feet	20 years	Routine (filters, etc.) = 9,000 hours (yearly); Major Components = 40,000 hours (every 5 years)	Exhaust temp=105 degrees C (221 degrees F); zero emissions	
Palcan	PEM fuel cell stack										

Phocos	Hybrid Fuel Cell System (FC1000)		Hydrogen, dry					1500 hours		Pure water 0.73 l per hr	
Protonex Technology Corp.			Hydrodes (<100W); Compress (>100W)								
Schatz Energy Research Center (SERC)	Portable Fuel Cell Generator		Hydrogen								

Notice: For additional information or comments on Fuel Cells 2000's charts, contact Jennifer Gangi at: jennifer@fuelcells.org.