



PEM FUEL CELL SYSTEM

- Compact 45 / 60kW Module
- Liquid-Cooled Operation
- Simple Integration



The VL-45 and VL-60 from Horizon deliver high power density with simple balance of plant requirements.

With easy integration, the VL-45 and VL-60 can be readily deployed in buses, logistics vehicles and passenger cars.

These fuel cell systems are also suitable for stationary power generation.

System Specifications	VL-45	VL-60
Output Power, System	0~45kW@20°C, 101.3kPa	0~60kW@20°C, 101.3kPa
Output Voltage, System	250~450VDC or 450~700VDC	250~450VDC or 450~700VDC
Number of Cells	230 pcs	310 pcs
Dimensions, Fuel Cell Module	475*430*216mm	608*430*216mm
Volume Power Density, Fuel Cell	2.8kW/L	2.84kW/L
Weight Power Density, Fuel Cell	1.50kW/kg	1.50kW/kg
Efficiency, Fuel Cell Module	47%	47%
Hot Startup Time	<30s @ Normal Temperature	<30s @ Normal Temperature
Cold Startup Time	<20min @ <-10°C	<20min @ <-10°C
Hydrogen Consumption at Rated Power	≤3.5kg/hour	≤4.7kg/hour
Air Consumption at Rated Power	≤234kg/hour	≤312kg/hour
Hydrogen Requirements	99.95% dry H ₂ (CO<0.1ppm)	99.95% dry H ₂ (CO<0.1ppm)
Hydrogen Inlet Pressure	8-11bar	8-11bar
Oxygen Supply Requirements	Filtered Air Intake	Filtered Air Intake
Oxygen Inlet Pressure	0-100kPa	0-100kPa
Relative Humidity	0-100% Non-Condensing	0-100% Non-Condensing
Operating Temperature (°C)	-30 ~ 45°C	-30 ~ 45°C
Storage Temperature (°C)	-40 ~ 65°C	-40 ~ 65°C
Operating Altitude (m)	0~1600m	0~1600m





PEM FUEL CELL SYSTEM

- Compact 75 / 90kW Module
- Liquid-Cooled Operation
- Simple Integration

The VL-75 and VL-90 from Horizon deliver high power density with simple balance of plant requirements.

With easy integration, the VL-75 and VL-90 can be readily deployed in heavy duty trucks, buses, port equipment and trains.

These fuel cell systems are also suitable for stationary power generation.

System Specifications	VL-75	VL-90
Output Power, System	0~75kW@20°C, 101.3kPa	0~90kW@20°C, 101.3kPa
Output Voltage, System	250~450VDC or 450~700VDC	250~450VDC or 450~700VDC
Number of Cells	400 pcs	500 pcs
Dimensions, Fuel Cell Module	780*430*216mm	950*430*216mm
Volume Power Density, Fuel Cell	2.84kW/L	2.84kW/L
Weight Power Density, Fuel Cell	1.50kW/kg	1.50kW/kg
Efficiency, Fuel Cell Module	47%	47%
Hot Startup Time	<30s @ Normal Temperature	<30s @ Normal Temperature
Cold Startup Time	<20min @ <-10°C	<20min @ <-10°C
Hydrogen Consumption at Rated Power	≤5.9kg/hour	≤7kg/hour
Air Consumption at Rated Power	≤390kg/hour	≤463kg/hour
Hydrogen Requirements	99.95% dry H ₂ (CO<0.1ppm)	99.95% dry H ₂ (CO<0.1ppm)
Hydrogen Inlet Pressure	8-11bar	8-11bar
Oxygen Supply Requirements	Filtered Air Intake	Filtered Air Intake
Oxygen Inlet Pressure	0-100kPa	0-100kPa
Relative Humidity	0-100% Non-Condensing	0-100% Non-Condensing
Operating Temperature (°C)	-30 ~ 45°C	-30 ~ 45°C
Storage Temperature (°C)	-40 ~ 65°C	-40 ~ 65°C
Operating Altitude (m)	0~1600m	0~1600m

