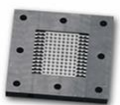


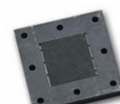
## PEM Fuel Cell Hardware With MEA

ElectroChem's EFC01, EFC05, EFC25, EFC50 and EFC100 Series Fuel Cell Hardware are rugged pieces of hardware designed to be built and re-built by researchers for advanced research in the area of catalyst, electrode, gas diffusion layer, and membrane electrode assembly development.

Part No	Active Area	Application	Reference Electrode	Weight	Operation Pressure	Operation Temperature	Connection
<b>Column Flow Field</b>							
<a href="#">EFC-05-01</a>	5 cm <sup>2</sup>	PEM		1.34 Kg	Max 60 psig	Max 75 C	1/4" Swagelok
<a href="#">EFC-25-01</a>	25 cm <sup>2</sup>	PEM					
<a href="#">EFC-25-01-REF</a>		PEM	Yes				
<a href="#">EFC-05-01-DM</a>	5 cm <sup>2</sup>	DMFC					
<a href="#">EFC-25-01-DM</a>	25 cm <sup>2</sup>	DMFC					
<b>Serpentine Flow Field</b>							
<a href="#">EFC-01-02</a>	1 cm <sup>2</sup>	PEM		1.34 Kg	Max 60 psig	Max 75 C	1/4" Swagelok
<a href="#">EFC-05-02</a>	5 cm <sup>2</sup>	PEM					
<a href="#">EFC-05-02-REF</a>		PEM	Yes				
<a href="#">EFC-05-02-H2R</a>		PEM	Yes				
<a href="#">EFC-25-02</a>	25 cm <sup>2</sup>	PEM					
<a href="#">EFC-25-02-REF</a>		PEM	Yes				
<a href="#">EFC-50-02</a>	50 cm <sup>2</sup>	PEM					
<a href="#">EFC-01-02-DM</a>	1 cm <sup>2</sup>	DMFC					
<a href="#">EFC-05-02-DM</a>	5 cm <sup>2</sup>	DMFC					
<a href="#">EFC-25-02-DM</a>	25 cm <sup>2</sup>	DMFC					
<a href="#">EFC-50-02-DM</a>	50 cm <sup>2</sup>	DMFC					
<a href="#">EFC-50-02-DM</a>	50 cm <sup>2</sup>	DMFC		2.50 Kg			
<b>Straight Flow Field</b>							
<a href="#">EFC-50-03</a>	50 cm <sup>2</sup>	PEM		2.50 Kg	Max 60 psig	Max 75 C	1/4" Swagelok
<a href="#">EFC-100-03</a>	100 cm <sup>2</sup>	PEM		3.62 Kg			
<b>Interdigitate Flow Field</b>							
EFC-25-04	25 cm <sup>2</sup>	PEM		1.34 Kg	Max 60 psig	Max 75 C	1/4" Swagelok
EFC-50-04	50 cm <sup>2</sup>	PEM		2.50 Kg			



Column Flow Pattern



Serpentine Flow Pattern



Straight Channel Flow Pattern



**EFC Fuel Cell Hardware includes a conditioned MEA (Membrane Electrode Assembly) installed inside the hardware utilizing ElectroChem's proprietary technology for leak-tight performance**

Power generation from a fuel cell is depended on cell's active area and current density at a cell voltage.  
 For example, when a fuel cell with 25 cm<sup>2</sup> active area provides 0.5 A/cm<sup>2</sup> current density at a cell voltage of 0.7 v,  
 the power of the fuel cell is 25 (cm<sup>2</sup>) x 0.5 (A/cm<sup>2</sup>) x 0.7 (V) = 8.75 watt

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