

PEM Fuel Cell Test Station

PTS-100



LEANCAT
FUEL CELL TECHNOLOGY



Key features

- Suitable for low-temperature **PEM fuel cells**
- Power range: **1 - 10 kW**
- Current range **up to 1000 A**
- Available configurations for testing short stacks and full stacks
- Optional potentiostat and/or **integrated EIS**
- **Dead-end** mode (optional)
- Safety features for **fully-automated** operation
- CE certificate of conformity

Gas supply specification

MFC anode gas flow (fuel)	5 - 250 slpm
MFC cathode gas flow (oxidant)	18 - 900 slpm
MFC additional gas flow (CO, ...)	optional
N ₂ purge	automatic

Pressure control and measurement

Backpressure controller	up to 3 bar
Stack inlet pressure sensor	anode and cathode (stack outlet optional)
Pressure sensors at gas inlets	

Load bank options

Programmable electronic load	resistive or regenerative, air or water cooled
Power range	1 - 10 kW
Current range	up to 1000 A
Integrated EIS and/or potentiostat	optional

FC stack connectivity

Inlet hoses	heated & thermally insulated
Gas pre-heating	up to 120 °C
Stack temperature monitoring	thermocouple interfaces
Cell voltage monitor	custom number of channels
Dead-end operation (optional)	manual pressure regulator
	programmable purge valve
	Interface to external recirculation pump

Humidification

Humidifiers	micro-bubbling system
Dew-point range	up to 90 °C
Humidifier by-pass	automatic control
Water reservoir refilling	automatic with low water level warning
Over-temperature shutdown	programmable

FC stack cooling

Internal cooling circuit	with deionized water
Heat exchanger interface	tap water or chiller (optional)
Stack heating	optional integrated heater
Conductivity sensor	
Pressurized water tank	

Software control and security

Process control	industrial PLC
Data logging	SQL database
Client SW for Windows	

Safety systems

Features	safety shutdown with N ₂ purging
	emergency stop button
	hydrogen sensor inside the test station
	alarm system and history
Closed exhaust system	incl. water separator

Dimensions and weight

Size (W x D x H)	1150 x 2400 x 2200 mm
Weight	700 kg



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