

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 90 °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 sensors (1 inside and 1 ambient) |
| | 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 |



LEANCAT s.r.o.
U Pergamenky 1145/12
170 00 Prague, Czech Republic
info@lean-cat.com
www.lean-cat.com

