Insulated temperature-controlled box

Operation mode:
A, E – restructuring
B – hydration
C – dehydration
D, B – bypass

Legend
- Pump
- Filter
- Dew point sensor
- Silica gel dryer
- Nafion-membrane humidifier/dryer
- Mass flow meter
- Adjustable valve
- Jet atomizer
- Temperature and humidity sensors
- Kr 85 neutralizer
- Condensation particle counter

Compressed dry air, 2.5 bar

Pre-dryer NAFION MD700

Aerosol pre-conditioning

Humid air

Humidifier

Water bath at 27 °C

GORE-TEX membrane

Humidified air 1 L min⁻¹

Sheath flow

Bypass

Aerosol 0.3 L min⁻¹

Pre-dryer aerosol NL 0.3

Aerosol pre-conditioning

Aerosol 0.3 L min⁻¹

Humidified sheath air 3 L min⁻¹

Dilution flow

Excess 3 L min⁻¹

0.3 L min⁻¹

Excess 3 L min⁻¹

Humidified sheath air 3 L min⁻¹

Humidified air

Humidifier

1 L min⁻¹

Water heat exchanger

Orifice

CPC

Dilution flow

Pre-dryer NAFION MD700

Aerosol dryer NAFION MD700

Excess

DMA1

Excess

Humid air

DMA2