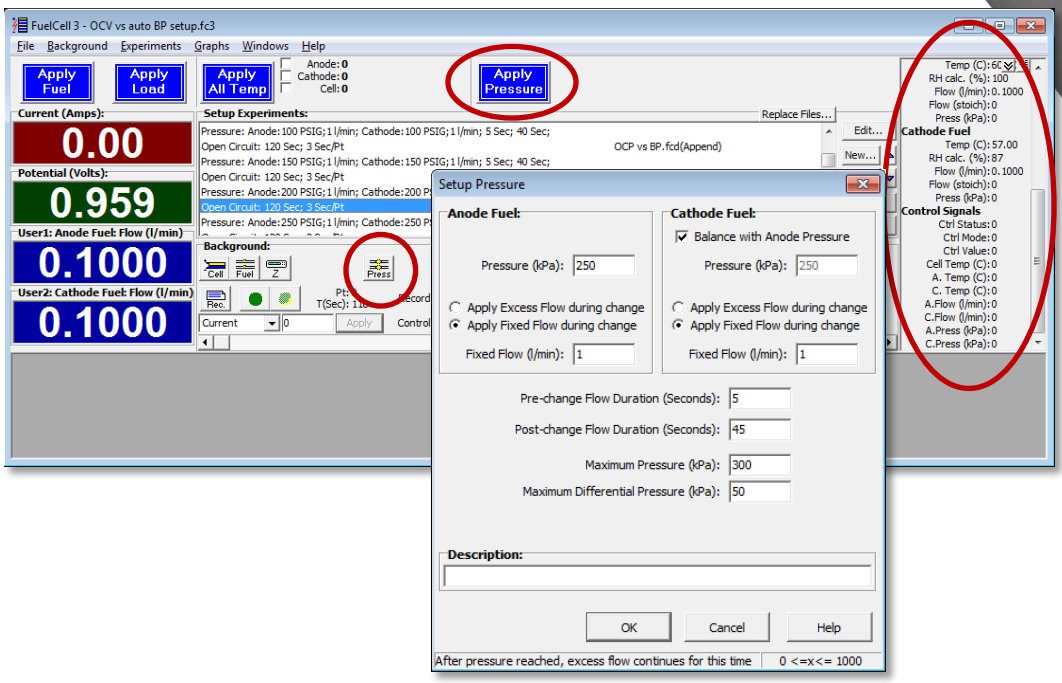
Automatic Back Pressure Unit

The Auto Back Pressure Unit works with Scribner Associates' 840, 850 and 890 Fuel Cell Test Systems for accurate, independent control and measurement of anode and cathode pressure through the *FuelCell*® software.

Features

- Automatic control of back pressure from 10 to 310 kPag (1.5 to 45 psig)
- All stainless steel construction - regulators, condensate collection tanks, tubing and fittings
- Dual channel with isolated flow paths & fan-cooled heat exchangers
- High-precision, water-tolerant regulators and large flow paths
- Accurate pressure control *(±3.5 kPa or ±0.5 psi)* & stability from 0.1 – 10 SLM
- Precision pressure transducers
- Operation with gas with dew point up to 120 °C
- Flexible pressure control through FuelCell®
- Independently control or balance anode & cathode pressure
- Control excess gas flow during pressure increases
- Maximum back pressure & differential pressure set points and alarm triggers
- Program pressure profiles using *Change Pressure Experiment* or *Arbitrary Control Experiment*



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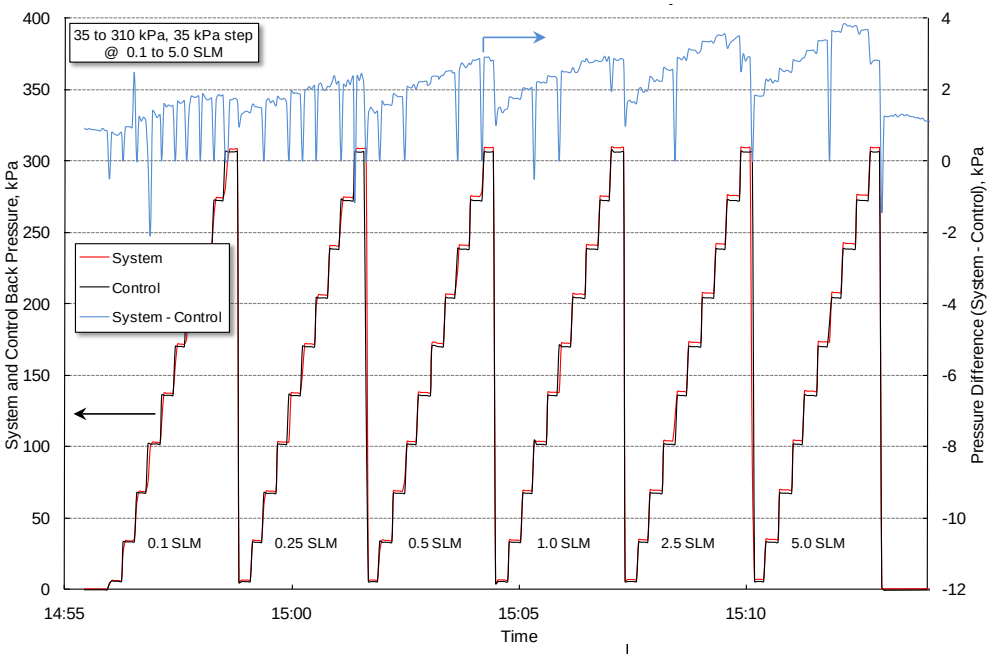
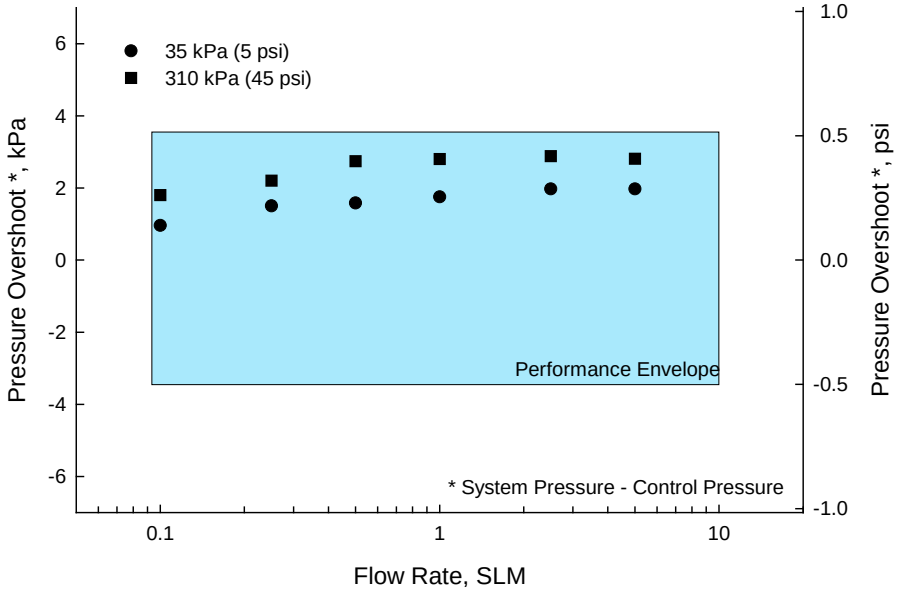
Specifications

Back Pressure Control	10 - 310 kPa_g (1.5 - 45 psi_g)
Control Accuracy	±3.5 kPa (±0.5 psi)
Range	0 - 310 kPa_g (0 - 45 psi_g)
Measurement Accuracy	2.5 kPa (0.35 psi)
Channel-to-Channel Pressure Difference	< 3.5 kPa (< 0.5 psi)
Time to achieve normal P-to-P Set-point (when not flow rate limited)	< 10 s
Overshoot	< 5 kPa (1.5 psi)
Flow Rate	0.1 - 12 SLPM
Inlet Gas Temperature & Dew Point	Up to 120 °C
Pilot Gas Supply	Clean, dry air or N_2, 345-480 kPa (50-70 psi), ≤ 1 SLPM
Dimensions	33 W x 33 D x 64 H (cm), 13 W x 13 D x 25 H (inch)
Operating Temperature	5 - 35 °C
Power Requirements	100 - 240 V, 50 - 60 Hz, 2 A



Typical system and control back pressure (left), and pressure differential (right) as a function of flow rate



Typical pressure overshoot (System – Control) vs. flow rate at low (35 kPa) and high (310 kPa) system back pressure

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