

Technical Specifications

StableFlow[®]

Hydrogen Control Systems



DESCRIPTION

Monitors and controls the electric power generator's hydrogen atmosphere to the generator OEM specified levels.

APPLICABILITY

StableFlow Hydrogen Control system is applicable to all hydrogen-cooled electric power generators.

SYSTEM FUNCTIONS

Continuous Measurement and Control	Hydrogen Purity and dew point while maintaining specified pressure
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SYSTEM REQUIREMENTS

Electrical Specification	110 to 240 VAC, single phase, 5 amps, 50 or 60 Hz
Inlet H ₂ Pressure	1.7 to 5.2 bar (25-75 psig)
Electrical Cabinet purge gas	Instrument Air - 1/4" Parker CPI™ Compression fitting, <16 SLPM (≈0.6 SCFM, 5.5-8.2 bar (80-120 PSIG))
Purge gas quality	Clean, dry air per ISO 8573.1 Class 5-54
Operating Temperature	4° to 50°C (40° to 120°F)
Communications	Ethernet - RJ45
Hydrogen Inlet, Outlet	1/4" Parker CPI™ Compression fitting

SYSTEM FEATURES

Dimensions (W x D x H) (Product / Est. Shipping)	39" x 23" x 82" (99 cm x 58 cm x 208 cm) / 47" x 40" x 90" (119 cm x 102 cm x 229 cm)
Weight (Product / Est. Shipping)	375 lbs (170 kg) / 730 lbs (332 kg)
Standard Features	Fully automated. Data Logging. Remote Telemetry. Local operator interface. StableFlow software control. Integrated System Controller.
Standard Siting Location	Indoor. Floor mount. ± 3° of level

DEW POINT SENSOR

Dew Point Range	-80°C to + 20°C, (0.5 ppmv min.)
Accuracy	±3°C or better, (±0.015 ppmv)
Repeatability	±0.5°C or better, (±0.002 ppmv)
Response Time	< 10 seconds for 63% step change in moisture content (wet-up or dry-down cycle)

HYDROGEN PURITY MONITOR

Measurement Technique	Vibrating Element
Response Time	< 10 Sec
Linearity	± (0.001 + 1% of set range)
Repeatability	± 0.001
Long Term Stability	± 0.003/month

PRESSURE TRANSDUCER

Operating Pressure Range	0 to 6.9 bar (to 100 PSIG)
Operating Temperature	-30°C to +50°C
Accuracy	± 0.25% Full Scale

4 - 20 MA OUTPUTS

Signals	Pressure, Purity, Dew Pt, Bleed Valve Position		
Output	4-20 mA DC		
Customer Load	≤ 600 ohm Max.		
4-20 mA Scale	Pressure: 0 to 6.9 bar (to 100 PSIG)	H ₂ Purity in Air:	85 to 100%
	Dew Point: -80 to 20 °C	Valve Position (Open):	100 to 0%

SAFETY AND REGULATORY CONFORMITY

CSA/EN/IEC/UL 61010-1, NFPA 70 (NEC), NFPA 79, NFPA496; EN/IEC 60204-1, EN/ISO 12100-1, EN/ISO 12100-2; EN 1127-1, EN 50014, EN 5020, IEC 60079-0, EN/IEC 60079-1, EN60079-2, IEC 60079-11, IEC 60079-14
 Area Classification: Class 1, Div 2 / Zone 2

Australasia Official Representative of Proton Energy Systems

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