Technical Specifications

StableFlow®

Power Generator Hydrogen Monitoring and Optimization System

PROTON
THE LEADER IN ON SITE GAS GENERATION.

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DESCRIPTION

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

APPLICABILITY

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

SYSTEM FUNCTIONS	
Continuous Monitoring	Hydrogen Purity (H_2 in Air) and Dew Point
Measurement and Control	Hydrogen Purity and Dew Point while maintaining specified pressure
Re-Gas Monitoring	H_2 in Air, H_2 in CO_2, Air in CO_2
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 (80-120PSIG))
Purge Gas Quality	Clean, dry air per ISO 8573.1 Class 5.4.5
Operating Temperature	4° to 50°C (40° to 120°F)
Communications	Ethernet - RJ45
Hydrogen Inlet, Outlet Connections	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 (0 to 100 PSIG)
Operating Temperature	-30°C to +50°C
Accuracy	±0.25% Full Scale
4 - 20 MA OUTPUTS	
Signals	Pressure, Purity, Dew Point, Bleed Valve Position
Output	4-20 mA DC
Customer Load	≤ 600 ohm Max.
4-20 mA Scale	Pressure: 0 to 6 bar (0 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

Consult Proton Onsite Applications Department for proper installation guidelines. Specifications subject to change.

PROTON ON SITE™

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