

PRODUCT DATA SHEET

120HD Portable Hydrogen Analyzer

Measures the hydrogen concentration in a gas sample, then digitally reports the percent volume of hydrogen in air

The 120HD analyzer functions as a katharometer. It operates by having two parallel tubes, both of which contain gas and heating coils. The gases are examined by comparing the rate of loss of heat from the heating coils into the gas. The coils are arranged in a bridge circuit so that resistance changes due to unequal cooling can be measured.

One channel contains moisture-saturated air and the mixture to be tested is passed through the other channel. Hydrogen has a much higher thermal conductivity than air and so the 120HD is very sensitive to it, but it will also respond to any gas whose thermal conductivity is different from that of air.



KEY BENEFITS

- Battery-operated and fully portable
- Non-destructive: Sample can be used after analysis
- All wetted surfaces are stainless steel
- Measurement unaffected by changes in ambient temperature or pressure
- Factory-calibrated

APPLICATIONS

- On ships
- In turbine halls
- During lead-acid battery charging

KEY MARKETS

- Research and development (R&D)
- Hydrogen in air/steam

PERFORMANCE SPECIFICATIONS

Operating principle	Katharometer
Operating range	0 to 25% H ₂ in water-saturated air
Accuracy	±4% full scale (±1% H ₂ v/v)
Response time	<1 minute for 90% step change
Repeatability	±2% full scale (±0.5% H ₂ v/v)
Environment	Ambient temperature: 10 to 38°C (50 to 100°F)
Relative humidity	0% to 100%
Shock test	MIL-S-901D (Navy) Grade B
Recommended sample gas flow rate	50 ml/min
Sample pressure	5 psi (34 kPa) gauge maximum
Power supply	(1) 6V industrial alkaline lantern battery
Battery life (approximate)	120 hours minimum with backlight
Power drain	210 mA, 6V (with backlight) 170 mA, 6V (without backlight)
Weight	Less than 15 lb with battery

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