GEM 2000

The GEM 2000 was designed by CES–LANDTEC specifically for use on landfills to monitor landfill gas (LFG) extraction systems, flares, and migration control systems. The GEM 2000 combines the GEM 500 and the GA–90 into one faster, more accurate, intrinsically safe instrument.

The GEM 2000 samples and analyzes the methane, carbon dioxide and oxygen content of landfill gas. The easy-to-read LCD screen shows the results as percentages of CH4, CO2, O2 and "balance" gas. The GEM 2000 calculates and displays gas flow rate. It also measure and displays Btu content, temperature (w/optional probe), relative and atmospheric pressures and CH4 LEL (Lower Explosive Limit).

Highlights

1. Diverse Field Applications–monitors migration control systems, gas extraction systems, flares, migration probes, and more.
2. Gas Extraction Monitor Mode–provides automatic sampling and analysis of gas composition % by volume CH4, CO2, O2 and % balance gas, % CH4LEL, temperature (with optional probe), static pressure, differential pressure, and barometric pressure. Also calculates gas flow rates (SCFM) as well as Btu rates.
3. Landfill Gas Analyzer Mode–provides automatic sampling and analysis of gas composition % by volume CH4, CO2, O2 and % balance gas, % CH4LEL, temperature (with optional probe), barometric pressure and relative pressure. Can be used for data logging, with user programmed intervals.
4. Easy to Read Display. Extra large backlit LCD shows up to five gases, atmospheric and gas vacuum pressure, temperature, ID code—all at the same time.
5. Intrinsically Safe–essential for protecting personnel who work with explosive and hazardous landfill gas.
6. On Site Calibration–rapid calibration checking or adjustment can be carried out on site.
7. Automatic Purge–automatically purges analyzer with clean air when a new ID is selected. (This feature can be turned off).
8. Light Weight Compact Size–easy to carry. Weighs less than five pounds.
9. Quick Analysis—completes sampling and displays gas analysis and flow results in less than one minute.

10. Infrared Gas Analyzer—provides accurate measurements of methane (CH4) and carbon dioxide (CO2).

11. Gas Temperature—read when using optional temperature probe or can be entered manually.

12. Durable Oxygen Sensor—provided by the galvanic cell principle, not influenced by other gases (i.e. CH4, CO2 or H2S)

13. User Friendly On-Screen Menu—in each mode the user performs most operations in just two screens.

14. PC Data Downloading—provided by RS232 interface with Data Field software (Release 3.0 or later).

15. Data Storage/Retrieval—stores prior measurements take for each monitoring point, 900 monitoring points total.

16. Date/Time Stamp—recorded for all stored data.

17. Prior Data Recall—allows user to view prior data for each monitoring point.

18. Methane Analysis—displayed as either % CH4 by volume or CH4LEL (Landfill Gas Analyzer Mode Only).

19. Durable Construction—Built strong, durable plastic material suitable for harsh landfill environments.

20. All Weather Use—designed to operate in extremes from 32F to 104F. Sealed, weather-tight case.


22. Rechargeable Batteries—internal, rechargeable nickel metal hydride batters are standard.

23. Operating Time—approximately 8 hours with normal pump usage (approximately 10 hours without pump running.)

24. Fast Recharge Time—approximately 2 hours from complete discharge.

25. Battery Check—battery life is continuously displayed.

26. Monitoring Point ID Codes—provides alphanumeric identification of monitoring points for data storage and recall.

27. ID Comments—allows user to answer up to 3 questions with a list of 9 potential answers each.

28. Imperial vs. SI Units—can display measurements in Imperial (USA) or SI (metric) units.
29. Interfaces to CES-LANDTEC– Data Field software, which provides statistical management and reporting of LFG data.


**GEM 2000 Specifications**

Sensor Range  Resolution

Methane 0–100% 0.1%

Carbon Dioxide 0–60% 0.1%

Oxygen 0–25% 0.1%

Pressure –differential 0–10" WC 0.001" WC

Pressure –static  0.100" WC 0.1" WC

Pump Flow Rate – 500 cc/min nominal flow

Flow Accuracy +/-3%  50–150 SCFM

Vacuum – up to 80" WC

UL – Certified to Class 1, Zone 1, AEx ib IIA T4