METHANE CAPTURE & EMISSION REDUCTION

Controller

Active Flow Control & Real-Time Gas Analysis to Maximize Landfill Gas Collection

The Controller is a wellhead-mounted measurement device containing an on-board sensor suite, an actuator valve, and communication system that together, enable automated and enhanced visibility and control over the gas collection system. A core component of LoCI's real-time data and control system, the Controller increases gas collection system efficiency and productivity for landfill teams.

The LoCI Controller remotely monitors:

- Methane %
- Carbon dioxide %
- Oxygen %
- Balance gas %
- Flow
- Landfill gas temperature
- Applied and system pressures
- Barometric pressure
- Valve position
- Tuning
- Additional measurement capabilities:
  - Liquid levels
  - Static pressure

The Controller includes a patented automated, precision-controlled valve that regulates flow using LoCI's real-time data on individual well and field-level flow and gas composition. The result maximizes gas collection and methane flow within operator-established gas composition set points.

Gas composition is measured with optical sensors analogous to industry standard handheld gas analyzers, yet with performance approaching that of a gas chromatograph. Flow is measured with a Venturi Flo-Wing® integral to the Controller measurement device, and valve position is shown in real-time on LoCI's WellWatcher® platform.

It is best practice to install Controllers on active wells that comprise at least 80% of the flow in the landfill gas collection system.



MEASUREMENT	RANGE	TOLERANCE*
Methane	0 – 100%	±0.50% (vol)
Carbon Dioxide	0 – 100%	±0.50% (vol)
Oxygen	0 – 25%	±0.1% (vol)
Balance Gas (Nitrogen and trace)	0 – 100%	±1.1% (vol)
System Pressure	-138.5 – 0" of H_20	±0.50"
Landfill Gas Temperature	Up to 140°F (60°C)	±2°F
Flow (for 2" Wellheads)	10 – 120 SCFM <10 SCFM	±2 SCFM ±3 SCFM

*When following manufacturer-recommended calibration procedures



Additional Technical Specifications:

Calibration: Gas sensors are initially calibrated during manufacturing and auto-calibrated every 14 days unless otherwise specified, minimum annually. Flow measurement components are calibrated and certified during manufacturing. Device does not require field calibration upon installation. Field verification can be performed as needed.

Flow Standard Temperature & Pressure Conditions: 60°F and 1 atm, respectively

Power: Solar with rechargeable battery

Battery Capacity: >3 weeks at default measurement frequency

Default Measurement Frequency: 3 hours

Rated Temperatures: Operating range of -40°F to 122°F (-40°C to 50°C); maximum process temperature of 140°F (60°C)

Compatible Pipe Sizes: 2–4" wellheads

Connectivity: Cellular communication or wireless gateway

Install Location: Vertical and horizontal wellheads; vacuum required

Installations at LoCI's Discretion: Corrosive locations with >10,000 ppm H_2S; locations with solvent concentrations >10,000 ppb; not intended for locations with standing liquids

To learn more and contact us, visit locicontrols.com.

Why LoCI Controls?

With financial, operational, and environmental, health, and safety (EHS) benefits, LoCI Controls' real-time data and control system optimizes facility management and gas collection for operators and landfill owners alike.

Increase ROI

- Maximize methane flow
- Control nitrogen in the wellfield
- Automate well tuning strategy
- Improve collection system efficiency
- Increase plant uptime and productivity

Empower On-Site Teams

- Troubleshoot wellfield and gas collection systems faster
- Reduce EHS risks

Improve Relationships with Surrounding Communities

- Reduce potential odors and off-site gas migration

Support Sustainability & Climate Action Goals

- Reduce greenhouse gas emissions