

+ CLIF MOCK LGS-2000 Gas and light liquid sampler

The CLIF MOCK LGS-2000* gas and light liquid sampler answers the call for simple and dependable sampling of liquid or gas flow streams by combining quality materials, high-performance electronics, and a configuration interface that is so simple, even first-time operators can put the device into operation within minutes.

The CLIF MOCK LGS-2000 sampler is user-configured to sample product in proportion to time or volume. As the electronics drives the solenoid to supply air pressure to the pump, the pump collects product samples from the pipeline and deposits them into a receiver that can be transported for offsite analysis.

A bracket connects the pump to the explosion-proof controller enclosure for ease of installation. The system can be mounted directly to a sample probe in a pipeline or remotely mounted to a bulkhead or a vertical pipe, using stainless steel tubing to carry the sample from the sample probe to the pump inlet.

The CLIF MOCK LGS-2000 sampler is rated to use for hazardous areas in Class I, Division 1, Groups B, C and D and Class I, Division 2, Groups A, B, C and D.

SAMPLE CONTROLLER

The electronic sampling controller circuitry and optional battery are housed inside an explosion-proof enclosure. The explosion-proof solenoid and regulator are connected to the CLIF MOCK True Cut LGS-1* pneumatic positive displacement sample pump. These are all mounted on a compact bracket fixture. The LCD readout, which displays sample count and other job status indicators, is mounted behind the cover window for easy viewing, and a six-key keypad allows quick and easy configuration. RS-485 communications also allow remote configuration of the device and real-time data collection using any Modbus-compliant device or host system.

The controller can be user-configured to act as a timer or a pulse counter for the sampling product and enables flow total, flow rate, and various performance indicators to be viewed on demand.

The sampling controller is powered using 24-VDC external power source, which can be provided through existing site power. If a remote power source is required, talk to your Sensia representative to discuss power supply options.

The controller's ability to calculate sample volume and frequency greatly simplifies the configuration process. Operators simply select the type of sampling desired and respond to the setting prompts that follow on the LCD.



SAMPLE PUMP

The pneumatically operated all-stainless-steel sample pump transfers samples of liquid or gas into an atmospheric sample receiver or pressurized cylinder. The controller solenoid valve remains on for 1 second when it receives a signal to initiate a sample. The sample size is adjusted by controlling the size of the sample taken during the 1-second period. Sample size ranges are shown in the table below.

Features

Enclosure	Hazardous area rated painted aluminum enclosure with an Epoxy coating, 2-in. pole or bulkhead mount, with six-key keypad Two cord grips for circuit board connections One single 3/4-in. conduit entry (solar cable, meter inputs, communications, etc.) and two fittings for air input/output
Power Requirement	24 VDC +/-10% external power supply
LCD Display	Eight-digit top readout of values (7-segment characters) Six-digit bottom readout of scrolling parameters and associated engineering units (11-segment characters for easy-to-read prompts) 0.3-in. character height Configurable scan parameters and duration
Solenoid	Premium (Stainless steel), 150-psi maximum air pressure Exhaust is vented through a 1/4-in. bulkhead fitting for release to atmosphere or for collection and disposal.
Pump	1,500-psi maximum input 5-second minimum cycle time 0.25-cm ³ to 1.25-cm ³ sample size for liquid 0.05-cm ³ to 1.00-cm ³ sample size for gas
Regulator	3000-psi maximum input Nickel plated brass body
Communications	Two RS-485 communication ports (RTU Modbus®)
Environment	-40°F to 158°F (-40°F to 70°C) 0 to 90% non-condensing relative humidity LCD contrast is reduced below -22°F (-30°C)
Security	Two security levels, password protection
Safety Approval	Hazardous area Class 1, Division 1, groups B, C, and D and Class 1, Division 2, Groups A, B, C, and D

AIR PRESSURE REGULATOR

The regulator receives air pressure from the pipeline or an external air supply and reduces it to a level that the solenoid can accept (3000-psi maximum input and 200-psi maximum output).

Inputs

Turbine Meter Input	Configurable sensitivity adjustment (20 mV to 200 mV, peak to peak) Frequency range: 0 to 5000 Hz Input amplitude: 20 mV to 3000 mV, peak to peak Programmable K-factor
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Sampling Methods

Time Proportional Sampling	Batch sampling (controller calculates the frequency of samples required to fill the bottle in a specified time) Time sampling (controller collects samples at user-configured frequency until specified number of samples is collected) Continuous time sampling (controller collects samples at user-configured frequency until sampling period is manually terminated)
Volume Proportional Sampling	Preconfigured input (controller collects samples to deliver specified volume, based on an input from a turbine meter) Turbine input (controller collects samples to deliver specified volume, based on turbine input frequency settings)
Volume Units	gal, bbl, m3, L, ft3, and none
Rate Units	sec, min, hr, and day

CUSTOM INSTALLATIONS

Sensia recognizes that each customer’s sampling system needs are different and one size does not fit all. We offer a variety of options and accessory components along with our sampling system engineering expertise to provide a sampling system that suits each customer’s specific requirements.

First, we gather information about our customer’s line pressure, process fluid, sample collection schedules, and power supply needs so we can select the right products and options for each application.

Then, we design to the specifications to configure a system that is specifically matched to the application and built for lasting performance.

The diagram below shows a typical fast-loop configuration in which sample fluid is sampled upstream, flows through the pump, and is reinjected into the pipeline downstream. This configuration ensures that a fresh product sample is collected with each sampling cycle.

For more information or a free quote, contact your local Sensia sales representative.

