

L450 Silica Analyzer



Liquid Analysis Systems' L450 series chemical analyzers perform dependable online colorimetric measurements. The L450 is optimized for extreme reliability, ease of use, and minimum operating cost.

L450 Series Features

- Auto sample retrieval and preparation
- Auto-check of titrant, sample, and sensors
- Result range and trend check

Through its display and keypad, users can view process status and history, and modify analysis intervals and other configuration parameters. This series offers a variety of hardware options for stream selection, sample preparation, and sample/reagent delivery.

Series Options

- Multi-stream analysis
- Grab sample port
- Auto sample filter back flush
- Sample diluter for extended range
- Replenishment and dosing systems
- RS 485/Ethernet networking/email messaging

L450 Silica LR Analyzer

The low range L450 Silica LR analyzer measures silica in water by means of the proven Heteropoly Blue method with pH buffering.¹ Citric acid is used to destroy interfering phosphate complexes. A reducing agent is used to develop an intense blue color for this low range analysis. For dependable process monitoring, each analysis is automatically replicated prior to posting or alarming. Process level relay(s) with settable trip point and a maintenance alarm relay are provided. Low drift is accomplished by auto-corrections for reaction rate and optical clarity. Sample is drawn from pressurized streams or loops. For sample with significant particulate, a sample strainer with automatic backflush is offered. An optional grab sample port is offered.

¹ See *Standard Methods for the Examination of Water and Wastewater*.



Analyzer Model	
L450-Silica LR	Low range colorimetric silica analyzer with multi-stream options. Process alarm relays included.

Options	
DI	Digital input for remote enable of analyses or dosing
DO	Digital output relay with settable trip point or other control function
EB	Ethernet server for remote monitoring via web browser
GS	Auto grab sample with sipper tube inlet.
MS	Multi-stream sampling
PV	Current loop process value output
SB	Sample inlet strainer with auto backflush for particulates

Specifications	
Method	pH adjustment is followed by color development with molybdate reagent. Citric acid releases interference from phosphate complex. A reducing agent further develops an intense blue complex for this low range measurement. Intensity measured at 810 nm are used to determine concentrations.
Range	Standard: 0 to 2 ppm as silica Other: consult
Repeatability	≤4% of range
Cycle time	5 to 10 minutes per stream, dependent upon sample temperature and repeatability settings
Equipment drift	<3% / year. Auto optical drift compensation is included.
Reagent consumption	Up to 500 µl/test
Power required	100 to 240 VAC, 50/60 Hz
Sample streams	Standard: 1 Optional: up to 8
Sample conditions	Standard: 5 to 20 psig, < 50 µm particulate, 15 to 60 °C Other: consult factory
Sample connection	¼" NPT or tube
Air supply (for option SB)	Compressed, oil-free, ¼" tube or NPT-F connection
Waste	¼" NPT. ½" tube adapter provided.
Leak	⅜" tube connection
Enclosure	22"Hx18"Wx10"D (55x46x26cm), wall mount, NEMA 4X/IP66
Display	3" x 2.2", LCD with backlight
Outputs	Standard: Process level relay(s) with settable trip point, maintenance alarm relay. Optional: 4-20 mA process value(s), Ethernet, and/or serial network per user requirements.

Specifications subject to change