

# OPTIMA Vacuum Samplers

## Two Models for All-Season, Refrigerated Wastewater Sampling

The Optima vacuum samplers from Teledyne ISCO are a heavy duty, all season refrigerated composite/sequential wastewater sampler. With a fiberglass base and body, the all season unit is suitable for corrosive environments and severe outdoor/indoor conditions.

*Proven vacuum pump technology delivers high sample integrity and reliable performance.*

The Optima vacuum pump exceeds EPA transport velocity requirements and generates a stronger purge. Optima samplers collect specified volumes of water at programmed times or flow intervals and deposits them into refrigerated composite or sequential sample containers.

Their piston vacuum pumps provide long-term consistent sampling with vertical lifts of up to 28 feet (8.5 m). With a powerful pump, the sampler can draw a sample from a longer distance. The pump provides a strong purge to remove contamination.

The Optima sampler delivers accurate and repeatable samples with two different technologies:

- The Optima QLS has a patented Quick Lift Sampler (QLS) system that uses a load cell to precisely weigh each sample and it self-calibrates to maintain the specified sample size. Collect samples at various programmable sample volumes with no need of manual adjustments.
- The Optima CVE has a Consistent Volume Extraction (CVE) system, and it reliably trims each sample to the same user-adjustable volume. Optional diaphragm pump for low lift applications.



### Standard Features:

- **Heavy Duty** Piston Vacuum Pump
- **Adjustable Sample Size**  
20–500 mL (QLS),  
20–400 mL (CVE)
- **Self Calibrating**  
Sample Size (QLS)
- **115/230V Operation**
- **Pre-, Post-Sample Purge,**  
0 thru 99 Sec.
- **Variable Sampling,**  
Time/Flow
- **Line velocity >3.25 ft/s**
- **Inputs** (Pulses, 4–20 mA,  
0–10 Vdc, 0–5 Vdc)
- **Data Logging**
- **Powerful Modular  
Refrigeration System**
- **Composite and Sequential  
Sampling**

## REFRIGERATION UNIT AND CONTROLLER

<b>Size:</b>	49 H x 25.5 W x 25.5 D (124.5 H x 65 W x 65 W cm)
<b>Weight:</b>	190 lbs. (86.2 kg) approximate
<b>Refrigeration Body:</b>	2.5" (6.35 cm), fully insulated cabinet
<b>Power Requirements:</b>	115 Vac, 60 Hz, 230 Vac, 50 Hz, $\pm 10\%$
<b>Operational Temperatures:</b>	-20° F to 122° F (-29° C to 50° C)
<b>Corrosion Protection:</b>	Refrigerated copper lines, phenolic coated
<b>Intake Tubing:</b>	Diameter: Vinyl 3/8 in. (9 mm), 1/2 in (12 mm), Length: 3–150 ft (1–45 m)
<b>Bottle Configurations:</b>	1-liter PP (24), 2.5-liter PP (12), 20-liter PE (1), 10-liter PE or glass (1)
<b>Maximum Lift:</b>	QLS: 28 feet (8.5 m) CVE: 23 feet (7 m) diaphragm pump - or - 28 feet (8.5 m) piston pump
<b>Line Velocity:</b>	Greater than 3.25 FPS @ 20' (6.1 m) with 3/8" (9 mm) tubing
<b>Repeatability:</b>	QLS: $\pm 5\%$ or 4 mL CVE: $\pm 5\%$ or 5 mL
<b>Programmable Functions:</b>	Pre-purge: 0–99 sec. Programmable sample size: 20–500 mL in 1mL increments (QLS) Post-purge: 1–99 sec. Auto shut off Delay Start Flow inputs: pulses, 4–20 mA, 0–10 Vdc, 0–5 Vdc Sampling interval: 1 to 9999 min.
<b>Sampling Modes:</b>	Constant Time, Constant Volume Variable Time, Constant Volume Constant Flow, Constant Volume Variable Flow, Constant Volume Time and Flow Based Sampling (refer to the manual for more info) Incremental Flow per Bottle
<b>Controller:</b>	Microprocessor control
<b>Controller Protection:</b>	Nema 4X, IP66
<b>Warranty:</b>	Two year from shipment

REPRESENTED BY:

**CCLYNCH**  
& ASSOCIATES  
*The Water Monitoring People*

Phone: 1-800-333-2252

Fax: 228-452-2563

info@cclynch.com

www.cclynch.com



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