

Isco 4700 Refrigerated Sampler

Forward thinking is evident from top to bottom in Isco's groundbreaking 4700 Refrigerated Sampler. Its rotationally-molded polyethylene construction, user-friendly controls, and workplace-savvy features make it the first choice for stationary sampling in both municipal and industrial wastewater applications.

Control and programming are fast, simple, and easily accomplished on-site. A unique slide-out bottle rack eliminates awkward stooping and bending to reach sample containers.

The controller actively regulates and displays the sample compartment temperature, and logs a 24-hour summary to confirm proper sample cooling. You can download the temperature record with a basic utility program such as HyperTerminal®.

Isco tough - and environmentally friendly, too

The 4700 ushers in a new standard for weather and corrosion resistance. The tough, double-wall LLDPE cabinet shrugs off exposure to weather and harsh environments. It's filled from top to bottom with insulation for efficient, economical cooling even in hot, humid environments.

Heat-treated polyester powder coating protects the refrigeration system, ensuring long life and reliability in corrosive treatment plant conditions.



A slide-out bottle rack and swing-away distributor arm allow obstacle-free access to your samples.



Advanced delivery system

The 4700 uses Isco's proven peristaltic pump to deliver samples at the EPA-recommended line velocity of 2 ft/s (0.6 m/s), even at head heights up to 25 feet (7.6 m).

Sample volume accuracy is assured by the pump revolution counter and Isco's patented* liquid detection system. Pump tubing replacement is simple and fast without requiring tools. A safety interlock cuts power during tube replacement.

Sampling modes

- ◆ Uniform time intervals – uniform sample volumes
- ◆ Uniform time intervals – flow-proportioned sample volumes
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Standard features

- ◆ Composite or sequential sampling
- ◆ Operating range of -20° to 120°F (-29° to 49°C) – without additional heaters
- ◆ Four digital alarm outputs
- ◆ 4-20 mA flow meter input
- ◆ Powerful 1/4 HP compressor delivers energy-efficient, high-performance cooling

* Patent # 5,125,801

Specifications

Isco 4700 Refrigerated Sampler	
Size (HxWxD):	51 x 28 x 33 in (130 x 72 x 84 cm)
Weight: (empty)	159 lb (72 kg)
Bottle configurations:	12 different configurations available. 24 bottles, 1-liter PP or 350 ml glass; 4 bottles, 10-liter PE or glass; 2 bottles, 10-liter PE or glass; 1 bottle, 20-liter PE or glass; 1 bottle, 10-liter PE or glass; 24 ProPaks, 1-liter wedge-shaped; 1 ProPak, 10-liter round
Refrigerator body:	Linear low-density polyethylene (LLDPE)
Power requirements:	120 VAC, 60 Hz, or 240 VAC, 50 Hz (specify)
Operational temperature:	-20° to 120°F (-29° to 49°C)
Pump	
Intake suction tubing	
Length:	3 to 99 feet (1 to 30 m)
Material:	Vinyl or PTFE-lined vinyl.
Inside diameter:	3/8 inch (9 mm)
Pump tubing life:	Typically 1,000,000 pump counts.
Maximum suction lift:	28 feet (8.5 m)
Typical repeatability:	±5 ml or ±5% of the average volume in a set.
Typical line velocity at head height (with 3/8-inch ID vinyl suction line)	
3 ft. (0.9 m):	3.0 ft./s (0.91 m/s)
10 ft. (3.1 m):	2.9 ft./s (0.87 m/s)
15 ft. (4.6 m):	2.7 ft./s (0.83 m/s)
Liquid presence detector:	Non-wetted, non-conductive sensor detects when liquid sample reaches the pump to automatically compensate for changes in head heights.

The 4700 is especially well suited for outdoor environments.

Its exclusive roto-molded cabinet provides a degree of durability and insulation that's unmatched in the industry.



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Controller	
Enclosure rating:	NEMA 4X, 6 (IP67)
Program memory:	Non-volatile ROM.
Flow meter signal inputs:	5 to 15 volt DC pulse or 25 millisecond isolated contact closure for Isco flowmeters. 4-20 mA input for non-Isco flowmeters.
Digital alarms:	4 programmable outputs; 5V, 100 mA
Number of composite samples:	Programmable from 1 to 999 samples.
Internal clock accuracy:	1 minute per month, typical
Software	
Sample frequency:	1 minute to 99 hours 59 minutes, in 1-minute increments. 1 to 9,999 flow pulses.
Sampling modes:	Uniform time, flow proportioned, flow paced. (Flow modes are controlled by external flow meter signal.)
Programmable sample volumes:	10 to 9,990 ml in 1 ml increments.
Sample retries:	If no sample is detected, up to 3 attempts; user selectable.
Rinse cycles:	Automatic rinsing of suction line up to 3 rinses for each sample collection.
Controller diagnostics:	Tests for RAM, ROM, pump, display, and electrical components.

Ordering information

Contact the factory or your Isco representative for complete ordering information.

Description	Part Number
Isco 4700 Refrigerated Sampler. Suction line, strainer, and bottle configuration not included; order separately.	115V/60Hz 68-4700-001 220V/50Hz 68-4700-002
Bottle Configurations	
Twenty-four 1-liter PP bottles	68-4700-003
Twenty-four 350-ml glass bottles	68-4700-004
Four 10-liter round PE bottles	68-4700-005
Four 10-liter round glass bottles	68-4700-006
Two 10-liter round PE bottles	68-4700-007
Two 10-liter round glass bottles	68-4700-008
One 20-liter round PE bottle	68-4700-011
One 20-liter round glass bottle	68-4700-012
One 10-liter round PE bottle	68-4700-009
One 10-liter round glass bottle	68-4700-010
Twenty-four 1-liter ProPaks bottles	68-4700-017
One 10-liter ProPak bottle	68-4700-018