

# 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 Sampler 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 Sampler 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 disables the pump during tube replacement.

## *Sampling modes*

- ◆ Constant time – constant volume
- ◆ Constant time – variable volume
- ◆ Variable time – constant volume

## *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 and DC pulse flow meter input
- ◆ Powerful compressor delivers energy-efficient, high-performance cooling

\* Patent # 5,125,801

## Specifications

Isco 4700 Refrigerated Sampler	
<b>Size (HxWxD):</b>	52 x 28 x 33 in (132 x 72 x 84 cm)
<b>Weight: (empty)</b>	159 lb (72 kg)
<b>Refrigerator body:</b>	Linear low-density polyethylene (LLDPE)
<b>Power requirements:</b>	120 VAC, 60 Hz, or 240 VAC, 50 Hz (specify)
<b>Operational temperature:</b>	-20° to 120°F (-29° to 49°C)
Pump	
Intake suction tubing	
Length:	3 to 99 feet (1 to 30 m)
Material:	Vinyl or FEP-lined PE.
Inside diameter:	3/8 inch (9 mm)
<b>Pump tubing life:</b>	Typically 1,000,000 pump counts.
<b>Maximum suction lift:</b>	28 feet (8.5 m)
<b>Typical repeatability:</b>	±5 ml or ±5% of the average volume in a set, whichever is greater, at lifts up to 25 ft.
<b>Typical accuracy:</b>	±10 ml or ±10% of programmed value, whichever is greater.
Typical line velocity at head height	
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)
<b>Liquid presence detector:</b>	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	
<b>Enclosure rating:</b>	NEMA 4X, 6 (IP67)
<b>Program memory:</b>	Non-volatile ROM.
<b>Flow meter signal inputs:</b>	5 to 15 volt DC pulse or 25 millisecond isolated contact closure for Isco flowmeters. 4-20 mA input for non-Isco flowmeters.
<b>Digital alarms:</b>	4 programmable outputs; 5V, 100 mA
<b>Number of composite samples:</b>	Programmable from 1 to 999 samples.
<b>Internal clock accuracy:</b>	1 minute per month, typical
Software	
<b>Sample frequency:</b>	1 minute to 99 hours 59 minutes, in 1-minute increments. 1 to 9,999 flow pulses.
<b>Sampling modes:</b>	Constant time – constant volume, Constant time – variable volume, Variable time – constant volume (Flow modes are controlled by external flow meter signal).
<b>Programmable sample volumes:</b>	10 to 9,990 ml in 1 ml increments.
<b>Sample retries:</b>	If no sample is detected, up to 3 attempts; user selectable.
<b>Rinse cycles:</b>	Automatic rinsing of suction line up to 3 rinses for each sample collection.
<b>Controller diagnostics:</b>	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
<b>Isco 4700 Refrigerated Sampler.</b> Suction line, strainer, and bottle configuration not included; order separately.	120V/60Hz <b>68-4700-001</b>
	230V/50Hz <b>68-4700-002</b>
<b>As above with Pump Heater</b>	120V/60Hz <b>68-4700-102</b>
	230V/50Hz <b>68-4700-103</b>
Bottle Configurations	
Twenty-four 1-liter PP bottles	<b>68-4700-003</b>
Twenty-four 350-ml glass bottles	<b>68-4700-004</b>
Four 10-liter round PE bottles	<b>68-4700-005</b>
Four 10-liter round glass bottles	<b>68-4700-006</b>
Two 10-liter round PE bottles	<b>68-4700-007</b>
Two 10-liter round glass bottles	<b>68-4700-008</b>
One 20-liter round PE bottle	<b>68-4700-011</b>
One 20-liter round glass bottle	<b>68-4700-012</b>
One 10-liter round PE bottle	<b>68-4700-009</b>
One 10-liter round glass bottle	<b>68-4700-010</b>
Twenty-four 1-liter ProPak bottles	<b>68-4700-017</b>
One 10-liter ProPak bottle	<b>68-4700-018</b>