

4700 Refrigerated Sampler Reference Guide



Designed for WWTP Operators

ISCO

Isco 4700 Refrigerated Sampler

Isco's 4700 Refrigerated Sampler set new standards for weather and corrosion resistance. 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.

Use this handy reference guide to explore the design features that make the 4700 Sampler your best choice in refrigerated sampling.

The 4700 gives you:

◆ Ease of Maintenance

Quick & easy pump tube replacement - without tools.

◆ Easy to Service

Modular design uncomplicates servicing. Simply switch out components and put the sampler back into service with minimal downtime.

New modular refrigeration system allows fast, easy removal and replacement.

◆ User Convenience

Protective coatings on refrigeration components
Lockable covers and refrigerator compartment
Automatic variable sample volume control
Single cable for multiple connections
Optional battery-backed power

◆ Superior Cooling Performance

Positive door latch with compression door gasket
Fully insulated
Efficient air circulation fan
Built-in air temperature sensors
Rugged, high-efficiency 1/5 hp compressor

◆ Superior Pump Performance

Non-contacting liquid detection system
Pump revolution counter
Pump tubing bands
Specially formulated pump tubing
-- 28 ft. (8.5 m) suction lift
-- Line velocity over EPA & ISO recommended
2 ft/sec (0.6 m/sec)

◆ All weather Operation

Optional pump heater
Corrosion protection on:
-- Controller -- Refrigeration System
-- Distributor -- Pump -- Cable Connector

Roto-molded cabinet provides exceptional durability and is fully insulated for maximum refrigeration performance and economical operation.



Integrated **Drip rail** over bottles prevents contamination of open bottles when door is opened.



Textured surfaces cover the enclosure to repel dirt and dust.



Circulation fan keeps cold air in the refrigeration compartment and moves warmer air to the cooling chamber.

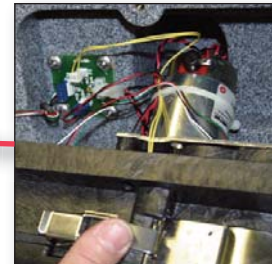


Air temperature sensor is located in the warmest part of the refrigerator for quicker reaction to temperature changes.

Easy to Service Components



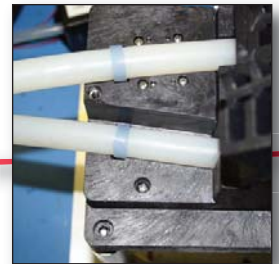
Removing control panel



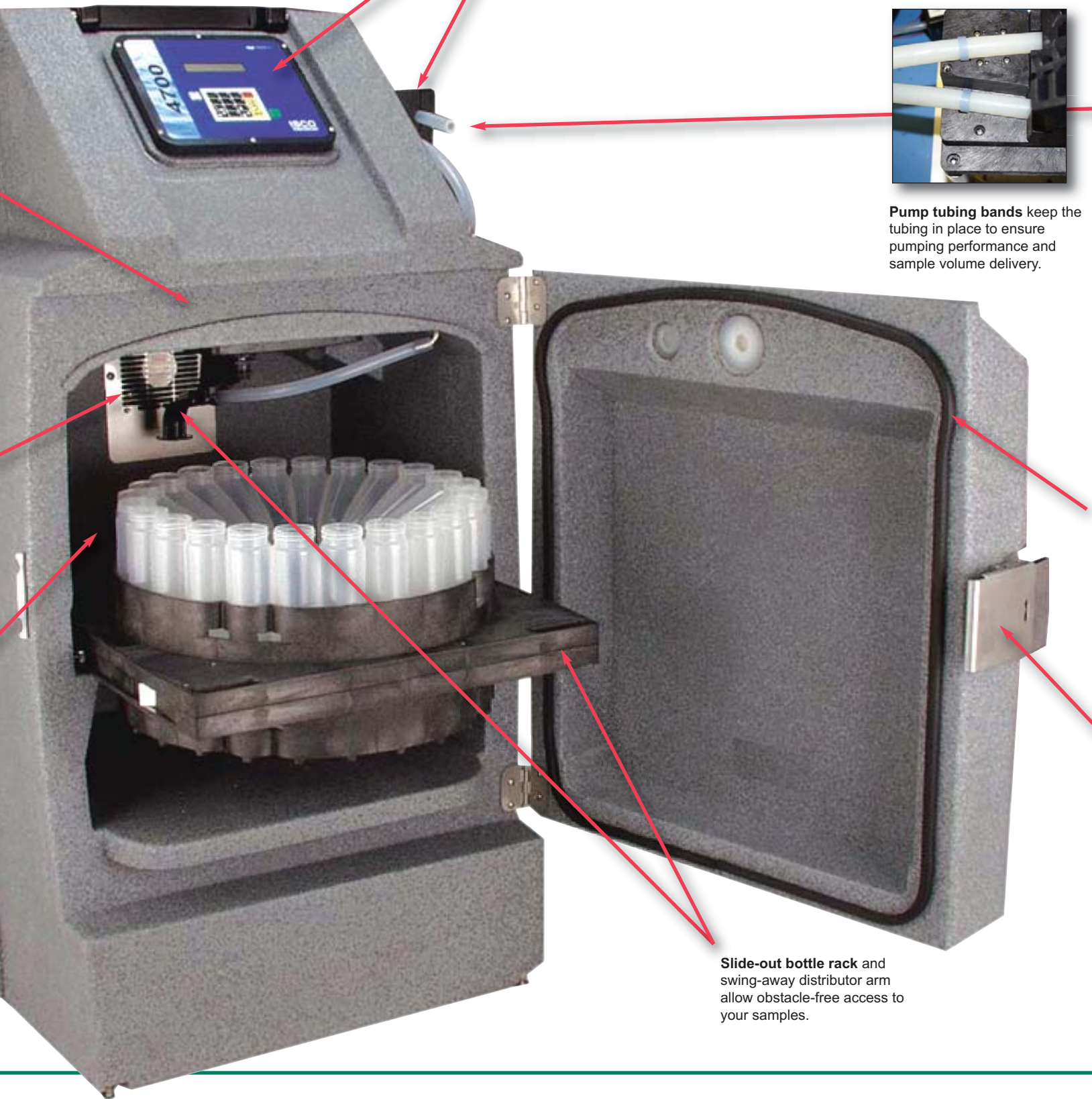
Pump assembly removal



Distributor assembly



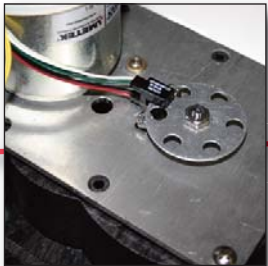
Pump tubing bands keep the tubing in place to ensure pumping performance and sample volume delivery.



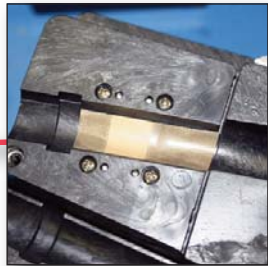
Slide-out bottle rack and swing-away distributor arm allow obstacle-free access to your samples.



y removal



Pump revolution counter guarantees sample volume accuracy.



Liquid detector notifies controller when liquid is present for precise line rinsing and eliminating missed samples.



Lockable covers on the front panel, pump cover, and refrigerator door prevent tampering.



Compression Door Gasket provides a tight seal for efficient cooling & heating.



Positive Door Latch keeps the door from flying open and maintains sample cooling / heating efficiency.

Rugged, all-weather construction and optional pump heaters allow the 4700 to perform flawlessly, even in the harshest climates.



Isco 4700 Sampler

Designed for long term reliability & ease of use.

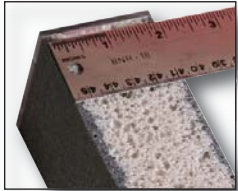


Single connector reduces the number of cables leading to the sampler.

- ◆ 4-20 mA input
- ◆ 4 digital alarm outputs
- ◆ Flow meter pulse input
- ◆ Event mark output
- ◆ Output to PC



Optional battery-backed power ensures uninterrupted operation during main power outages



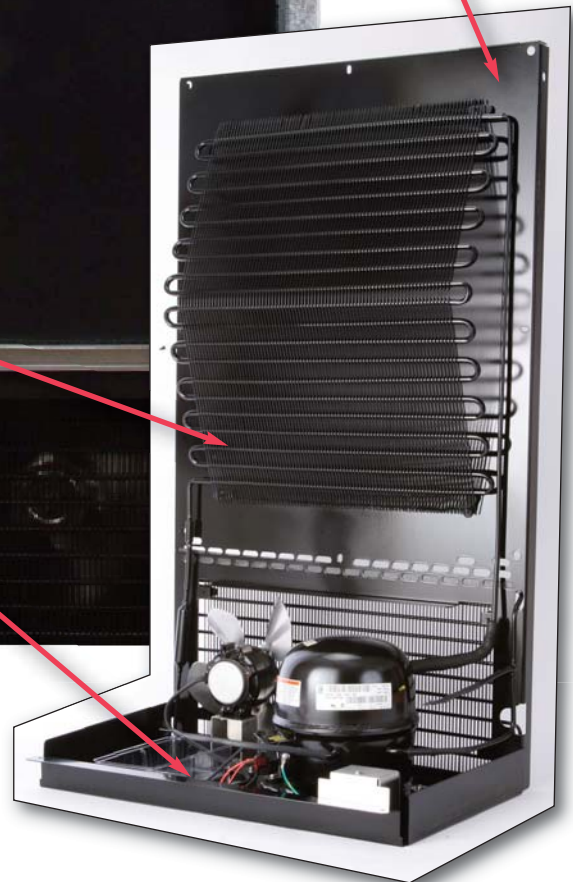
Thick insulation improves cooling/heating efficiency.

Powder coating with heat treated polyester and rust conversion paint provide superior corrosion protection of the refrigeration system.



Adjustable feet allow easy leveling.

Modular construction allows quick, easy component removal and replacement.



Specifications

Isco 4700 Refrigerated Sampler

Physical	
Size (HxWxD):	52 x 28x 33 inches (132 x 72 x 84 cm)
Weight (empty):	159 lbs (72 kg)
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 FEP-lined PE
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, whichever is greater, at lifts up to 25 ft.
Typical accuracy:	±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)
Liquid presence detector:	Non-wetted, non-conductive sensor detects when liquid reaches the pump to automatically compensate for changes in head heights.

Controller	
Enclosure rating:	NEMA 4X, 6 (IP67)
Program memory:	NEMA 4X, 6 (IP67)
Flow meter signal inputs:	5 to 15 volt DC pulse or 25 millisecond isolated contact closure for Isco flow meters. 4-20 mA input for non-Isco flow meters.
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:	Constant time - constant volume, Constant time - variable volume, Variable time - constant volume (Flow modes are controlled by external flow meter signal).
Programmable sample volumes:	10 to 9,999 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.	120V/60Hz 230V/50Hz	68-4700-001 68-4700-002
	120V/60Hz 230V/50Hz	68-4700-102 68-4700-103
As above with Pump Heater		
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 ProPak bottles		68-4700-017
One 10-liter ProPak bottle		68-4700-018
Four 20-liter Rectangular PE bottles		60-5314-740



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