

# PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

## ***ISCO 4700 Automatic Waste Water Sampler***

manufactured by:

### **Teledyne ISCO Inc**

4700 Superior Street  
Lincoln  
Nebraska  
NE 68504  
USA

has been assessed by Sira Certification Service  
and for the conditions stated on this certificate complies with:

### **MCERTS Performance Standards for Continuous Water Monitoring Equipment, Version 2.1 (November 2009)**

Certification Range :

Lift height 0 to 7 metres

Project No: 674/0266  
Certificate No: Sira MC 070114/04  
Initial Certification: 07 June 2007  
This Certificate Issued: 20 July 2012  
Renewal Date: 05 June 2017

R Cooper I Eng MInst MC

MCERTS is operated on behalf of the Environment Agency by

### **Sira Certification Service**

12 Acorn Industrial Park, Crayford Road, Crayford  
Dartford, Kent, UK DA1 4AL  
Tel: +44 (0)1322 520500 Fax: +44 (0)1322 520501



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To authenticate the validity of this certificate please visit [www.siracertification.com/mcerts](http://www.siracertification.com/mcerts)  
Registered Office: Rake Lane, Eccleston, Chester, UK CH4 9JN*

### Approved Site Application

The product is suitable for use on applications for compliance with the Urban Wastewater Treatment Regulations.

Any potential user should ensure, in consultation with the manufacturer, that the emission monitoring system is suitable for the process on which it will be installed.

### Basis of Certification

This certification is based on the following Test Report(s) and on Sira's assessment and ongoing surveillance of the product and the manufacturing process:

WRc report      Report Reference: UC 7399 dated May 2007

### Product Certified

The 4700 automatic wastewater sampler consists of the following parts:

- 4700 control panel
- 4700 pump assembly
- 4700 distributor assembly
- 4700 refrigeration system

This certificate applies to all instruments fitted with software version 1.10 onwards (serial number 207B01436 onwards).

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## Certified Performance

The instrument was evaluated for use under the following conditions:

Ambient Temperature Range: -10°C to +40°C

Test	Results	MCERTS specification
Sample Collection	Flow proportional and timed sampling available Certified for use with single 10 litre composite sample bottle and 24 X 1 litre bottles.	Clause 3.1.3
Sample interval	Sample interval range is 1 min to 99 hours, 59 minutes with increments of 1 min is selectable 4-20mA and pulse outputs are available 1min to 9,999 flow pulses with increments of 1 pulse.	Clause 3.1.4 & 3.1.5
Sample failure	Sample failures are recorded. Fault indicated on display	Clause 3.1.6 & 3.1.7
Sample line diameter	9.52 mm.	Clause 3.1.8 >9mm
Sample volume	Sample volume adjustable over the range 10 to 9,990mL in 1mL increments	Clause 3.1.9
Maximum volume of a discrete sample that can be set Total storage capacity both by numbers and volumes of individual bottles and in a composite container	9,990mL The following are available: 24 X 1 L PP or 350ml glass 4 X 10 L PE or glass 2 X 10 L PE or glass 1 X 20 L PE or glass 1 X 10 L PE or glass 24 X ProPak, 1 L wedge 1 X ProPak, 10 L round	Clause 3.2.1
Maximum sampling head	8.5m Certified for up to 7m	Clause 3.2.2

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Test	Results		MCERTS specification
Sample volume error – Time proportional	Mean Error (X) %	Expanded Uncertainty (U) %	Clause 6.2.1a)
Test height: 1m	2.69	2.03	<5%
3.5m	-2.46	3.29	<5%
7m	-4.37	4.11	<5%
Sample volume – Constant volume variable time (CVVT) flow proportional sampling	Mean Error (X) %	Expanded Uncertainty (U) %	Clause 6.2.1 b)
Test height: 1m	-0.04	1.77	<5%
3.5m	-3.89	2.41	<5%
7m	-2.34	2.26	<5%
Sample volume – Constant time variable volume (CTVV) flow proportional sampling	Mean Error (X) %	Expanded Uncertainty (U) %	Clause 6.2.1 c)
Test height: 1m	-0.03	2.49	<5%
3.5m	-1.05	1.69	<5%
7m	0.71	1.31	<5%
Sample line velocity	0.95 m/s at 1m sampling head 0.94 m/s at 2m sampling head 0.90 m/s at 3m sampling head 0.88 m/s at 4m sampling head 0.85 m/s at 5m sampling head 0.83 m/s at 6m sampling head 0.75 m/s at 7m sampling head		Clause 6.2.2 >0.5 m/s >0.5 m/s >0.5 m/s >0.5 m/s >0.5 m/s >0.5 m/s >0.5 m/s
Sample integrity	No statistically significant difference was found in analysis for BOD, COD, suspended solids, total N and total P		Clause 6.2.3

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Test	Results		MCERTS specification
Sample timing	4 seconds		Clause 6.2.4 < ±10 sec/24h
Ambient temperature effects • Sampler without sample temperature control	Mean Error (X): 1.43% at -10°C 3.04% at 40°C	Expanded Uncertainty (U): 2.43% at -10°C 2.58% at 40°C	Clause 6.2.5 a) <5% <5%
Ambient temperature • Sampler with sample temperature control	During sample period: 3.40°C at -10°C 4.94°C at 20°C 4.98°C at 40°C	24hrs after sample period: 1.60°C at -10°C 4.10°C at 20°C 4.40°C at 40°C	Clause 6.2.5 b) Maintain sample between 0°C to 5°C

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### **Description:**

The 4700 Refrigerated Sampler System consists of a 4700 Control Panel, 4700 Pump Assembly, 4700 Distributor Assembly, and 4700 Refrigeration System.

The 4700 Control Panel provides user programmable sampler features via a keypad and display. The 4700 Pump Assembly consists of a peristaltic pump for pulling samples to the sampler. The 4700 Distributor Assembly distributes the pumped sample into container(s) located in the refrigerator. The sample is transported by 3/8 inch I.D. PVC or PTFE lined suction line.

The refrigeration system utilizes a 1/4 hp compressor running on R134a refrigerant and is controlled by the microprocessor located in the 4700 Sampler Control Panel. The refrigerator cabinet is constructed from UV resistant LLDPE. The refrigeration system constructed from stainless steel and is powered by 230Vac 50 Hz.

### **General Notes**

1. This certificate is based upon the equipment tested. The Manufacturer is responsible for ensuring that on-going production complies with the standard(s) and performance criteria defined in this Certificate. The Manufacturer is required to maintain an approved quality management system controlling the manufacture of the certified product. Both the product and the quality management system shall be subject to regular surveillance according to 'Regulations Applicable to the Holders of Sira Certificates'. The design of the product certified is defined in the Sira Design Schedule for certificate No. Sira MC 070114/03.
2. If certified product is found not to comply, Sira Certification Service should be notified immediately at the address shown on this certificate.
3. The Certification Marks that can be applied to the product or used in publicity material are defined in 'Regulations Applicable to the Holders of Sira Certificates'.
4. This document remains the property of Sira and shall be returned when requested by the company.

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