PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

ISCO 5800 Automatic Waste Water Sampler

manufactured by:

Teledyne ISCO
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 4, April

Certification Range :

Lift height 0 to 7 metres

Project No:	16W29523 / 70171503
Certificate No:	Sira MC 130227/01
Initial Certification:	10 July 2013
This Certificate Issued	10 July 2018
Renewal Date:	09 July 2023

Technical Director

MCERTS is operated on behalf of the Environment Agency by

Sira Certification Service
Unit 6, Hawarden Industrial Park
Hawarden, Deeside, CH5 3US
Tel: +44 (0)1244 670 900

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
WRc report	Report Reference: UC 9502 dated March 2013

Product Certified

The 5800 automatic wastewater sampler consists of the following parts:

- 5800 control panel
- 5800 pump assembly
- 5800 distributor assembly
- 5800 refrigeration system

This certificate applies to all instruments fitted with software version 1.00.0006 onwards (serial number 213A00001 onwards).

Certified Performance

The instrument was evaluated for use under the following conditions:

Ambient Temperature Range: -10^0C to $+40^0$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	7 metres		Clause 3.2.2
Sample volume error – Time proportional	Systematic Errors: 2.03% at 1m 3.29% at 3.5m 4.11% at 7m Overall: 3.14%	Random Errors: 2.69% at 1m -2.46% at 3.5m -4.37% at 7m Overall: -1.38%	Clause 6.2.1a) <5% <5% <5% <5%

Test	Results		MCERTS specification
Sample volume – Constant volume variable time (CVVT) flow proportional sampling	Systematic Errors: 1.77% at 1m 2.41% at 3.5m 2.26% at 7m Overall: 2.15%	Random Errors: -0.04% at 1m -3.89% at 3.5m -2.34% at 7m Overall: -2.09%	Clause 6.2.1 b) <5% <5% <5% <5%
Sample volume – Contact time variable volume (CTVV) flow proportional sampling	Systematic Errors: 2.46% at 1m 1.69% at 3.5m 1.31% at 7m Overall: 1.83%	Random Errors: -0.03% at 1m -1.05% at 3.5m 0.71% at 7m Overall: -0.12%	Clause 6.2.1 c) <5% <5% <5% <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
Sample timing	4 seconds		Clause 6.2.4 < ±10 sec/24h
Ambient temperature effects • Sampler without sample temperature control	Systematic Errors: 2.43% at –10°C 2.58% at 40°C	Random Errors: 1.43% at –10°C 3.04% at 40°C	Clause 6.2.5 a) <5% <5%
Ambient temperature • Sampler with sample temperature control	During sample period: 4.1°C at –10°C 4.3°C at 20°C 4.0°C at 40°C	24hrs after sample period: 3.0°C at –10°C 3.8°C at 20°C 3.7°C at 40°C	Clause 6.2.5 b) Maintain sample between 0°C to 5°C

Description:

The 5800 Refrigerated Sampler System consists of a 5800 Control Panel, 5800 Pump Assembly, 5800 Distributor Assembly, and 5800 Refrigeration System.

The 5800 Control Panel provides user programmable sampler features via a keypad and display. The 5800 Pump Assembly consists of a peristaltic pump for pulling samples to the sampler. The 5800 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 5800 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 130227/00.

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.