

PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

Efcon® Sampler JZ10C

Manufactured by:

Efcon Water BV (AVM BV)

Nieuweweg 3 B
4126 RN Hei- en Boeicop
The Netherlands

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, Automatic
Water Sampling Equipment Part 1, Version 3.1 dated July 2015 &
EN16479:2014**

Certification Ranges :

Lift heights
0 to 4m (VS-PUM-4M pump)
2 to 6m (VS-PUM-6M pump)

Sample line diameter nominally 12mm ID

Project No.: 70097392
Certificate No: Sira MC160310/00
Initial Certification: 18 November 2016
This Certificate issued: 18 November 2016
Renewal Date: 17 November 2021

Emily Alexander
Deputy Certification Manager

MCERTS is operated on behalf of the Environment Agency by

Sira Certification Service

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Approved Site Application

Any potential user should ensure, in consultation with the manufacturer, that the monitoring system is suitable for the intended application. For general guidance on monitoring techniques refer to the Environment Agency Monitoring Technical Guidance Notes available at www.mcerts.net

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

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 Ref UC11639.03 dated October 2016

Product Certified

The Efcon® Sampler measuring system consists of the following parts:

- Efcon® Sampler with integrated heater & cooler
- Vacuum sampler up to 6m, Guillotine up to 5 Bar
- PVC suction hose
- Patented thermoplastic fibre enclosure
- Unitronics controller & standardised electronics
- Coated cool unit with SS evaporator
- 35 Watt heater cable
- Multi bottle, 2x25L, 4x15L, 8x5L, 12x2L, 24x1L, 2x10L self-cleaning.
- VS-PUM-4M pump 0 to 4m (0 to 4m lift heights)
- VS-PUM-6M pump 2 to 6m (2 to 6m lift heights)

This certificate applies to all instruments fitted with software version JZ 160727.

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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	Option for both timed and flow proportional sampling.	Clause 3.1.2																					
Sample interval <ul style="list-style-type: none"> Time proportional sampling Flow proportional sampling 	Sample Interval range 2min to 250, with increments of 1 minute 4-20mA and pulse inputs accepted Number of pulses per sample adjustable	Clause 3.1.2																					
Sample failure	Warning given on display both while programme is running and when complete	Clause 3.1.2																					
Sample line diameter	Intake line: Nominally 12mm ID	Clause 3.1.2 >9mm																					
Sample volume	Sample volume adjustable	Clause 3.1.2																					
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	250ml 2 to 50L without distributor 2x25L / 4x13.5L / 12X2l / 24X1L without direct distributor	Clause 3.1.2																					
Maximum sampling head	6 metres	Clause 3.1.2																					
Sampling volume error a) Time Proportional	<table style="width: 100%; border: none;"> <thead> <tr> <th></th> <th colspan="2">U*</th> <th colspan="2">X*</th> </tr> </thead> <tbody> <tr> <td>1m</td> <td>0.51%</td> <td>1m</td> <td>-1.93%</td> </tr> <tr> <td>3m</td> <td>0.85%</td> <td>3m</td> <td>-3.17%</td> </tr> <tr> <td>6m</td> <td>0.63%</td> <td>6m</td> <td>-4.21%</td> </tr> <tr> <td>Average:</td> <td>0.66%</td> <td>Average:</td> <td>-3.10%</td> </tr> </tbody> </table>		U*		X*		1m	0.51%	1m	-1.93%	3m	0.85%	3m	-3.17%	6m	0.63%	6m	-4.21%	Average:	0.66%	Average:	-3.10%	Clause 6.4.1.1 <5% Note 1
	U*		X*																				
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Test	Results	MCERTS specification								
Sampling principles	All available sampling principles were tested. Clause 6.4.2.2 was fulfilled using data from 6.4.1.1. No significant timing errors were seen.	Clause 6.4.2								
Sample line velocity	0.88 m/s at 1m sampling head 0.96 m/s at 2m sampling head 0.93 m/s at 3m sampling head 0.82 m/s at 4m sampling head 0.76 m/s at 5m sampling head 0.68 m/s at 6m sampling head	Clause 6.4.3 >0.5m/s								
Supply voltage AC (228.5 to 241.5V)* *Tested ranges	0 to 6 metre – >0.69 m/s (lowest velocity)	Clause 6.4.4 >0.5 m/s								
Sample integrity	No statistically significant difference found in the analysis for suspended solids, total N, total P, BOD and COD	Clause 6.4.5 Annex B5								
Sample timing error	1 sec/24hr	Clause 6.4.6 < ±10 sec/24hr								
Sample temperature control a) Volume	<table border="0"> <tr> <td style="text-align: center;">U*</td> <td style="text-align: center;">X*</td> </tr> <tr> <td style="text-align: center;">-10°C 1.2%</td> <td style="text-align: center;">-10°C -3.00%</td> </tr> <tr> <td style="text-align: center;">+40°C 1.39%</td> <td style="text-align: center;">+40°C -3.06%</td> </tr> </table>	U*	X*	-10°C 1.2%	-10°C -3.00%	+40°C 1.39%	+40°C -3.06%	Clause 6.4.7.2 ±5%		
U*	X*									
-10°C 1.2%	-10°C -3.00%									
+40°C 1.39%	+40°C -3.06%									
Sample temperature control b) Temperature	<table border="0"> <tr> <td style="text-align: center;">During sample period:</td> <td style="text-align: center;">24hrs after sample period:</td> </tr> <tr> <td style="text-align: center;">-10°C at +0.8°C</td> <td style="text-align: center;">-10°C at +0.1°C</td> </tr> <tr> <td style="text-align: center;">+20°C at +4.2°C</td> <td style="text-align: center;">+20°C at +3.7°C</td> </tr> <tr> <td style="text-align: center;">+40°C at +4.1°C</td> <td style="text-align: center;">+40°C at +4.0°C</td> </tr> </table>	During sample period:	24hrs after sample period:	-10°C at +0.8°C	-10°C at +0.1°C	+20°C at +4.2°C	+20°C at +3.7°C	+40°C at +4.1°C	+40°C at +4.0°C	Clause 6.4.7.3 Maintain sample between 0°C to +5°C Annex B7
During sample period:	24hrs after sample period:									
-10°C at +0.8°C	-10°C at +0.1°C									
+20°C at +4.2°C	+20°C at +3.7°C									
+40°C at +4.1°C	+40°C at +4.0°C									

Note 1: *U: Expanded uncertainty
*X: Mean error

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Description

Efcon@omy model JZ10C is a refrigerated automatic sampling system constructed in a lockable Thermoplastic fibre reinforced patented enclosure. The compact (600x600x1100 mm & 55kg) enclosure is designed for an ambient temperature of -40°C to +80°C (please note, the sampler is certified over the ambient temperature range -10°C to +40°C).

The thermoplastic enclosure has a PU foam thickness of 40 to 60 mm, warranty of 48 months and a life expectancy of 25 years.

The standard unit has a window to view the electronic display and a standard main switch. The \pm 240 Watt cool-unit has a foamed SS316 evaporator and a coated condenser part with R134A filling. Cool capacity tuning is done with IP55 fans.

The cabinet is built in 3 sections:

- Cooled area with sample storage and electronics in safe 24VDC voltage.
- An air tight electronic area to avoid electronics lifetime reduction by aggressive ambient conditions.
- Easily accessible section with compressor and fan.

The electronics and compressor are situated above the sample compartment to reduce corrosion problems and heat effects on the sample storage area. Sample collection is arranged by a bidirectional air pump and bi-directional tube pincher. Wetted parts are minimum 12mm in diameter (according ISO 5667-2 Annex A) and are removable without special tools for easy cleaning.

Efcon@omy model JZ10C uses a Unitronics process controller. A sample can be taken on time, pulse or batch base. Efcon@omy samplers are manufactured in the Netherlands.

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 V00 for certificate No. Sira MC160310/00
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.

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