

PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

Waste Water Meter Assembly 100 (WWMA100)

manufactured by:

Dynamic Flow Technologies Ltd

*5 Oakwood Drive,
Loughborough
LE11 3QF,
United Kingdom*

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

MCERTS Performance Standards for Water Monitoring Equipment Part 3, Version 2.4 dated February 2013

Certification Ranges*:

0.05 to 5.150 l/s

*The certified ambient temperature range is 0° to 35°C

Project No.: 70066596
Certificate No: Sira MC180334/00
Initial Certification: 07 June 2018
This Certificate issued: 07 June 2018
Renewal Date: 06 June 2023

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 may be used on all MCERTS applications including abstraction, effluent discharge, ultraviolet disinfection and industrial processing.

Designed for clay and plastic pipe wall construction.

Basis of Certification

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

DFTL_WWM_DR_011_MCERTS Laboratory Report 1V1.11 dated 11/05/2018
DFTL_WWM_DR_012_MCERTS Field Trial 1V1.2 dated 27/04/2018
WRc UC13206 Witness testing report dated May 2018

Product Certified

The WWM100 consists of the following parts:

- WWMA – head unit
- WWMA100 – base assembly unit

This certificate applies to all instruments fitted with software version 3.11 onwards (serial number SN220 onwards).

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Certified Performance

The instrument was evaluated for use under the following conditions:

Ambient Temperature Range: 0°C to +35°C

The instrument meets MCERTS Class 3 requirements for the combined performance characteristic as specified in Table 7 of the MCERTS performance standard. Details of individual performance characteristics are summarised below:

Results are expressed as error % certification range, unless otherwise stated.

Test	Results expressed as error % certification range				Other results	MCERTS specification
	<0.5	<1	<2	<5		
Protection against unauthorised access					Password required	Clause 3.1.2
Units of measurement					The flowmeter records in metric units	Clause 3.1.6
Indicating device					The flowmeter displays totalised volume	Clause 3.1.3
Combined performance characteristic					<u>Note 1</u> 7.8	Table 7 ±10% Class 4
Mean error				4.4		Clause 6.3.2 ±6.5% Class 3
Repeatability		0.65				Clause 6.3.2 ±2% Class 2
Supply voltage 100 to 240 V AC 9.6V to 14.4V DC battery	0.31	0.55				Clause 6.3.3 ±2% Class 3 ±0.5% Class 1
Fluid temperature				3.8		Clause 6.3.5 ±1% Class 2
Ambient temperature 0°C to +35°C				3.2		Clause 6.3.6 ±2.5% Class 4

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Test	Results expressed as error % reading				Other results	MCERTS specification
	<0.5	<1	<2	<5		
Relative humidity ≥95%RH	0.1					Clause 6.3.6 ±0.5% Class 1
Fill level			1.83			Clause 6.3.18 To be reported
15% flow						
50% flow				3.10		
85% flow				5.88		
Response time					13 seconds	Clause 6.3.19 < 30 secs
Error under field test conditions	Max error 7.66% Min error -5.28% Mean error -0.01% Proportion of errors ≤2% = 36% Proportion of errors ≤5% = 88% Proportion of errors ≤8% = 97%					Clause 7.3 >90% Class 3
Up time					100%	Clause 7.4
Maintenance					Annually	Clause 7.5

Note 1: The combined performance characteristic reported is the root-sum-square addition of the maximum errors recorded in the following tests: mean error, repeatability, supply voltage, fluid temperature, ambient air temperature, and relative humidity.

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Description

The WasteWater Meter WWM™ described on this certificate provides flow measurement of partially full foul/clean water pipes, using non-intrusive microwave technology. The WWM™ can be used on any gravity fed partially full pipe. Suitable applications include black or grey water (contaminated) flows and blue water (surface) flows. Trade effluent consent licenses can be monitored 24 hours a day, 365 days a year, with data delivered via the web. It also allows the customer to check non-return to sewer allowances on a water bill.

The WasteWater Meter WWM™ consists of two parts. A WWMHA (head unit) and a WWMA100 (base unit) both using WRAS approved plastics.

The WWMHA houses the electronic components used to make the measurements of the flow. The WWMHA is powered through an internal battery which can be supplemented and battery life extended through an external power source allowing for more frequent reporting of readings. This external power source can be provided by mains or solar power for use in remote locations. Due to the nature of civils work the WWMHA can be detached from the base of the WWM™ preventing damage to the electronics. The WWMHA can be installed after the base unit at a future date. Furthermore, the WWMHA can be replaced or swapped out without making installation changes to pipework which is connected to the base unit which it sits on. The WWAHA has a LCD which displays in cubic meters to 5 decimal places.

The WWMHA can communicate with the aid of a Remote Access Server (RAS) to water sampling machines enabling flow-based sampling. The RAS is a two-way communications system that can output data over the air (GPRS/3G/4G data) to be remotely monitored and controlled. This provides the following feature:

- Remote -Volumetric display, LCD in cubic meters with 5 decimal places.
- Pulse output.
- Building Management System (BMS) communications.
- Bespoke RF Communication.
- Remote Software services.

Waste Water Meter Assembly 100 (WWMA100) refers to the 100mm/4-inch pipe diameter base assembly. The WWMA100 is a WRAS approved terracotta polypropylene pipe with controlled space environment for the microwaves to operate. The base unit provides a clear pipe with no obstructions or restrictions to the flow. The base assembly WWMA100 works with 100/4-inch internal diameter pipes. A complete base unit with a head unit is referred to as WWM™ 100 (WWMA100+WWMHA). The complete unit is designed for IP68 protection.

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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 MC180334/00
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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