

# PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

**KATflow 150**

Manufactured by:

**Katronic Technologies Ltd**

Earls Court, Warwick Street  
Coventry, CV5 6ET  
UK

has been assessed by CSA Group  
and for the conditions stated on this certificate complies with:

**Performance Standards and Test Procedures for Continuous Water  
Monitoring Equipment, Part 3: Performance standards and test procedures for water  
flowmeters, Environment Agency, version 4, March 2020**

The combined performance characteristic ( $U_c$ , the expanded uncertainty) are as follows:

KATflow 150 transmitter (AC) is 1.90% (**Class 1**)

KATflow 150 transmitter (DC) is 4.96 % (**Class 2**)

Certification Range:

Velocity: 0.25m/s to 6m/s  
Size: DN50 to DN1200

Project No.: 80242096  
Certificate No: CSA MC230373/01  
Initial certification: 01 August 2023  
Certificate issued: 26 September 2025  
Renewal date: 31 July 2028



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Environmental Team Manager

MCERTS is operated on behalf of the Environment Agency by

**CSA Group Testing UK Ltd**

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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](http://www.mcerts.net)

The product is suitable for use, where it is appropriate, for regulated applications such as abstraction, effluent discharge, ultraviolet disinfection and industrial processing.

The field test was carried out between the 16<sup>th</sup> August 2022 and 19<sup>th</sup> January 2023 at a sewage treatment plant in Ford, Shropshire, UK.

## Basis of Certification

This certification is based on the following test report(s) and on CSA Group's assessment and ongoing surveillance of the product and the manufacturing process:

WRC test report ref. 'UC15878', dated March 2022.

WRC test report ref. 'UC17183', dated July 2023.

CSA Group report ref. 80160507, rev 1, incorporating report "Laboratory and Field Test Results", dated 23<sup>rd</sup> September 2025.

## Product Certified

The Katronic KATflow 150 flowmeter system consists of the following parts:

- Transmitter (KATflow 150) - IP66 polycarbonate unit with LCD graphic display.
- Transducers - pair of K1L sensors (variant - application specific) with varying length coaxial TPE cabling.

This certificate applies to all instruments fitted with software version 4.22-7565, 4.00 with transmitter serial number 15000350 (AC powered) and 15002956 (DC powered) and K1 sensors serial number 2127, onwards.

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## Certified Performance

The instrument was evaluated for use under the following conditions:

Ambient Temperature Range: -10°C to +60°C

Instrument IP rating: IP66

Test	Result expressed as % of the certification range				Other results	Class	MCERTS specification
	<0.5	<1	<2	<5			
LABORATORY TESTS							
General requirements/initial checks							
Protection against unauthorised access	Password protected unique to the device. Core metrological functions only modified by manufacturer administration password						cl. 3.1.2
Indicative device and/or analogue digital output signal	LCD and 4-20mA output incorporated						cl. 3.1.3
Units of measurement	Verified						cl. 3.1.6 & 3.1.7
Comparison of output values	Verified - results comparable						cl. 6.1.4
Warm-up time							cl. 6.1.2 - no specification assigned, to be reported
KATflow 150					30 secs		
Combined performance characteristic (Uc)							cl. 6.4 - Table 6 - class specific
AC (100 to 240V)	1.90					1	
DC (9 to 36V)	4.96					2	
Performance tests							
Loss of power	Settings retained for all 12 parameters						cl. 6.3.1
Mean error, x							cl. 6.3.2 - Table 6 - class specific
AC (100 to 240V)							
Test point 1				-3.37			
Test point 2	-0.31						
Test point 3			1,24				
Test point 4	-0.29						
Test point 5		-0.94					
DC (9 to 36V)							
Test point 1			1.07				
Test point 2	-0.38						
Test point 3			-1.21				
Test point 4			-1.93				
Test point 5				-4.08			

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Test	Result expressed as % of the certification range				Other results	Class	MCERTS specification
	<0.5	<1	<2	<5			
Repeatability, U <sub>R</sub>							cl. 6.3.2 - Table 6 - class specific
AC (100 to 240V)							
Test point 1	0.46						
Test point 2	0.28						
Test point 3	0.11						
Test point 4	0.20						
Test point 5	0.18						
DC (9 to 36V)							
Test point 1	0.18						
Test point 2	0.14						
Test point 3	0.25						
Test point 4	0.09						
Test point 5	0.35						
Supply voltage, X <sub>V</sub>							cl. 6.3.3 - Table 6 - class specific
AC mains powered (100 to 240V)	0.01						cl. 6.3.3.1 - table 6 - class specific
DC powered, X <sub>V</sub> (9V to 36V)	0.37						cl. 6.3.3.2 - Table 6 - class specific
Output impedance, X <sub>O</sub> (10Ω to 550Ω)							cl. 6.3.4 - Table 6 - class specific
AC (100 to 240V)	0.35						
DC (9 to 36V)	0.41						
Fluid temperature, X <sub>FT</sub> (4°C to +29°C)							cl. 6.3.5 - Table 6 - class specific
AC (100 to 240V)		0.83					
Ambient air temperature, X <sub>T</sub> (-10°C to +60°C)							cl. 6.3.6 - Table 6 - class specific
AC (100 to 240V)	0.36						
DC (9 to 36V)		0.66					
Relative humidity, X <sub>RH</sub> (95%, 20°C to 60°C)							cl. 6.3.6 - Table 6 - class specific
AC (100 to 240V)	0.20						
DC (9 to 36V)	0.13						

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Test	Result expressed as % of the certification range				Other results	Class	MCERTS specification
	<0.5	<1	<2	<5			
Bi-directional flow							cl. 6.3.13 - no specification assigned, to be reported
Mean error							
Test point 1			-1.67				
Test point 2			-1.47				
Test point 3				-5.31			
Repeatability							
Test point 1	0.38						
Test point 2	0.30						
Test point 3	0.29						
Effect of conduit material							cl. 6.3.16 - no specification assigned, to be reported
Mean error							
Carbon Steel - 0.34m/s		0.82					
Carbon Steel - 0.58m/s		0.53					
Carbon Steel - 0.86m/s			1.91				
Carbon Steel - 1.52m/s				2.85			
Carbon Steel - 3.12m/s				2.82			
Lined Ductile Iron - 0.40m/s			1.22				
Lined Ductile Iron - 0.72m/s			-1.18				
Lined Ductile Iron - 1.07m/s			-1.78				
Lined Ductile Iron - 1.84m/s				-3.51			
Lined Ductile Iron - 3.80m/s				-3.9			
Repeatability							
Carbon Steel - 0.34m/s		0.62					
Carbon Steel - 0.58m/s	0.23						
Carbon Steel - 0.86m/s	0.19						
Carbon Steel - 1.52m/s	0.13						
Carbon Steel - 3.12m/s		0.79					
Lined Ductile Iron - 0.40m/s	0.28						
Lined Ductile Iron - 0.72m/s	0.42						
Lined Ductile Iron - 1.07m/s	0.34						
Lined Ductile Iron - 1.84m/s	0.08						
Lined Ductile Iron - 3.80m/s	0.25						

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Test	Result expressed as % of the certification range				Other results	Class	MCERTS specification
	<0.5	<1	<2	<5			
Effect of conduit size (Note 3)						cl. 6.3.17 - no specification assigned, to be reported	
Mean error							
SMALL 0.35m/s - (DN100)				-3.37			
SMALL 0.70m/s - (DN100)	-0.31						
SMALL 0.89m/s - (DN100)			1.24				
SMALL 1.78m/s - (DN100)	-0.29						
SMALL 3.80m/s - (DN100)		-0.94					
MEDIUM 1 0.1m/s - (DN150)				4.23			
MEDIUM 1 0.33m/s - (DN150)			1.37				
MEDIUM 1 0.69m/s - (DN150)	0.00						
MEDIUM 1 0.95m/s - (DN150)		-0.85					
MEDIUM 1 1.68m/s - (DN150)			-1.27				
MEDIUM 1 3.67m/s - (DN150)		-0.89					
MEDIUM 1 4.70m/s - (DN150)	-0.01						
MEDIUM 2 0.10m/s - (DN250)			-1.94				
MEDIUM 2 0.10m/s - (DN250)				-3.04			
MEDIUM 2 0.10m/s - (DN250)				-2.85			
MEDIUM 2 0.10m/s - (DN250)				-2.35			
MEDIUM 2 0.10m/s - (DN250)			-1.61				
*LARGE 1 - 3652m³/h (DN500)				-3.48			
*LARGE 1 - 2967m³/h (DN500)				-3.23			
*LARGE 1 - 2277m³/h (DN500)				-2.47			
*LARGE 1 - 1579m³/h (DN500)				-2.23			
*LARGE 1 - 881m³/h (DN500)			-1.73				
*LARGE 1 - 181m³/h (DN500)		-0.93					
*LARGE 2 - 9127m³/h (DN1200)				-2.79			
*LARGE 2 - 7542m³/h (DN1200)				-3.83			
*LARGE 2 - 5926m³/h (DN1200)				-3.22			
*LARGE 2 - 4271m³/h (DN1200)		-0.78					
*LARGE 2 - 2629m³/h (DN1200)				-2.70			
*LARGE 2 - 1025m³/h (DN1200)				-2.34			

cl. 6.3.17 - no specification assigned, to be reported

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Test	Result expressed as % of the certification range				Other results	Class	MCERTS specification
	<0.5	<1	<2	<5			
Effect of conduit size						cl. 6.3.17 - no specification assigned, to be reported	cl. 6.3.17 - no specification assigned, to be reported
Repeatability							
SMALL 0.35m/s - (DN100)	0.46						
SMALL 0.70m/s - (DN100)	0.28						
SMALL 0.89m/s - (DN100)	0.11						
SMALL 1.78m/s - (DN100)	0.20						
SMALL 3.80m/s - (DN100)	0.18						
MEDIUM 1 0.1m/s - (DN150)				3.37			
MEDIUM 1 0.33m/s - (DN150)		0.61					
MEDIUM 1 0.69m/s - (DN150)	0.29						
MEDIUM 1 0.95m/s - (DN150)	0.46						
MEDIUM 1 1.68m/s - (DN150)	0.32						
MEDIUM 1 3.67m/s - (DN150)			1.80				
MEDIUM 1 4.70m/s - (DN150)		0.76					
MEDIUM 2 0.10m/s - (DN250)				4.21			
MEDIUM 2 0.10m/s - (DN250)		0.83					
MEDIUM 2 0.10m/s - (DN250)		0.89					
MEDIUM 2 0.10m/s - (DN250)	0.35						
MEDIUM 2 0.10m/s - (DN250)			1.02				
*LARGE 1 - 3652m³/h (DN500)		0.86					
*LARGE 1 - 2967m³/h (DN500)		0.85					
*LARGE 1 - 2277m³/h (DN500)		0.81					
*LARGE 1 - 1579m³/h (DN500)			1.36				
*LARGE 1 - 881m³/h (DN500)	0.35						
*LARGE 1 - 181m³/h (DN500)		0.96					
*LARGE 2 - 9127m³/h (DN1200)		0.63					
*LARGE 2 - 7542m³/h (DN1200)		0.87					
*LARGE 2 - 5926m³/h (DN1200)			1.50				
*LARGE 2 - 4271m³/h (DN1200)			1.26				
*LARGE 2 - 2629m³/h (DN1200)			1.34				
*LARGE 2 - 1025m³/h (DN1200)		0.67					
Response Time (either increasing or decreasing flow)						cl. 6.3.19 - ≤30 seconds	
AC (100 to 240V)					≤15 secs		
DC (9 to 36V)					≤15 secs		

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Test	Parameter	Result	Class	MCERTS specification
<b>FIELD TESTS</b>				
<b>Error under field conditions</b>	Maximum error (%)	5.68	<b>2</b>	cl. 7.3 - Table 6
	Minimum error (%)	-0.03		
	Mean error (%)	-1.01		
	Proportion of errors ≤2% (%)	54.2		
	Proportion of errors ≤5% (%)	95.8		
	Proportion of errors ≤8% (%)	100		
<b>Up-time (%)</b>		100 (note 1)		cl. 7.4 ≥95%
<b>Maintenance</b>		None (note 2)		cl. 7.5 - to be reported

**Note 1:** Of the total operating time 223,802 minutes, 21,600 minutes, or 360 hours, were attributed to power outages on two separate occasions - this does not constitute device malfunction or repair.

**Note 2:** The measuring system was installed in a sewage treatment works from 16<sup>th</sup> August 2022 to the 19<sup>th</sup> January 2023 with a total scheduled operating time of 223,802 minutes. No maintenance was required during the field test.

**Note 3:** The testing carried out on the larger pipe sizes (DN500 and DN1200) were performed at a third-party test facility and witnessed by the MCERTS Certification Committee, these tests are denoted '\*'.

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## Description

Katronic's KATflow 150 is a non-invasive, clamp on ultrasonic flowmeter operating by the transit time principle, which features compact, stainless-steel transducers that are mounted on to a filled pipe by means of straps or clamps.

Advanced measurement algorithms compensate for variations in the flow ensuring accurate measurement within the MCERTS standard. Single and dual channel measurement is possible. KATflow 150 features a large, clear LCD readout in a robust and lockable polycarbonate IP66 enclosure. Katronic's 'Audible Positioning Assistant' is designed to support accurate sensor positioning. The 'Quick Setup' menu helps the user to easily set the unit up.

The Katronic KATflow 150 is configurable to meet the customer's needs in terms of outputs, offering analogue, digital and a full range of telemetry outputs to interface with the site control system where necessary, plus options of data logging up to one million data points.

## 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 CSA Certificates'.
2. The design of the product certified is defined in the CSA design schedule for certificate No. CSA MC230373.
3. If the certified product is found not to comply, CSA Group should be notified immediately at the address shown on this certificate.
4. The certification marks that can be applied to the product or used in publicity material are defined in 'Regulations Applicable to the Holders of CSA Certificates'.
5. This document remains the property of CSA Group and shall be returned when requested by CSA Group.

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