

An Introduction to the NivuFlow Stick



Van Walt Ltd
21A Gordon Rd, Wanaka, 9305
salesnz@vanwalt.com
034435326

Frequently Asked Questions

What is it?	The NivuFlow Stick is a mobile unit which measures flow in streams and canals, accurately calculating flow using depth and velocity measurements.
How does it take a measurement?	It measures depth with a high-accuracy pressure sensor and velocity with an ultrasonic sensor.
How do I connect to the device?	The NivuFlow Stick communicates via internal wifi. You just connect your device and open the web browser.
What are the advantages?	The NivuFlow Stick measures depth. The NivuFlow Stick measures velocity in multiple water layers - up to 16 layers (bins) per vertical position. It can calculate mean and mid methods post-measurement. It can be used in accordance with ISO standards for measuring flow.
What is the Max Depth / Velocity	Max depth is 5m and Max Velocity is 6m/s
Can we rent it?	Yes, coming soon.
Does it meet NZ and International Standards?	Yes NIWA have tested and verified its accuracy (See below) It also meets the EU/UK standards.

Customer » Nivus
 NivuFlow Stick Serial Number » 2218NFS0106
 CPU (Firmware) Version » V5.2.0RC18
 Date Checked » 2/02/2023
 Calibration Numbers » 9376, 9377
 Next Calibration verification due by » 2/02/2028
 Evaluation Outcome » **PASS**

Velocity Check Summary Data

0.18 m/s % Error from rating cart »	1.79%	PASS
0.18 m/s Nivus Allowable ± Error Band »	2.35%	
0.5 m/s % Error »	1.09%	PASS
0.5 m/s Nivus Allowable ± Error Band »	1.99%	
1 m/s % Error »	0.22%	PASS
1 m/s Nivus Allowable ± Error Band »	1.00%	
R2 »	0.99999897	PASS
Temperature Probe Check »		PASS

NOTES: Overall performance of the meter being tested is set to PASS if all values in Velocity, Beam Check, and Temperature Probe Check tests are set to PASS.

Velocity Summary Check PASS/FAIL criteria (all data averaged over multiple velocity runs)

- ^ Meter velocity % error set to PASS if the meter determined velocity % error is within Nivus Error Band for the set velocity when compared to the rating cart velocity
- ^ Meter velocity % error set to FAIL if the meter determined velocity % error is outside Nivus Error Band for the set velocity when compared to the rating cart velocity

R2 Value set to PASS when returned value is > 0.96
 R2 = statistical measure of how regression line approximates data points (R2 of 1.0 indicates a perfect fit)

Temperature Probe Check is set to pass if the NivuFlow Stick temperature probe reads the water temperature within ± 2 deg. C of the traceable reference thermometer over a range of temperatures

Velocity Results

0.18 m/s »			
Average rating cart velocity »	0.1814	% Difference	
Average NivuFlow Stick velocity »	0.1847	1.79%	
NivuFlow Stick ± velocity error band »	0.0059		
Acceptable velocity range »	0.1787	TO	0.1906
0.5 m/s »			
Average rating cart velocity »	0.5006	% Difference	
Average NivuFlow Stick velocity »	0.5060	1.09%	
NivuFlow Stick ± velocity error band »	0.0075		
Acceptable velocity range »	0.4985	TO	0.5135
1 m/s »			
Average rating cart velocity »	1.0005	% Difference	
Average NivuFlow Stick velocity »	1.0027	0.22%	
NivuFlow Stick ± velocity error band »	0.0100		
Acceptable velocity range »	0.9927	TO	1.0127

Temperature Results

Reference Temperature (°C) »	25.3	2.9
NivuFlow Stick Temperature (°C) »	25.1	3.0
Difference from Reference (°C) »	-0.2	0.1

