



Surface Water Treatment Device Performance Declaration

Testing carried out according to British Water Code of Practice

Product Details	Description
Manufacturer	Hydro International
Treatment Device Name/Model	Downstream Defender [®] Select
General description	The Downstream Defender [®] Select is designed for treatment of urban stormwater runoff.
Envisaged application	Device for pollutant capture and retention.
Pollutant(s) captured	TSS, Metals, Hydrocarbons.

Parameter	Value							Unit
Device size (Internal Diameter)	1	1.2*	1.5	1.8	2.1	2.4	3	m
Sediment storage capacity	310	450	710	1020	1390	1810	2830	l
Treatment flow rate	21	30	48	69	94	123	192	l/s
Connected area	2800	4000	6400	9200	12500	16400	25600	m ²

Parameter	Value							Unit
Pollution retention flow rate	31	44.5	70	100	136	178	278	l/s
Maximum capacity flow rate	70	120	170	278	355	529	787	l/s
Device head loss (at treatment flow rate)	0.15	0.15	0.22	0.23	0.24	0.25	0.26	m
Device head loss (at maximum capacity treatment flow rate)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	m
TSS capture and retention efficiency	57.3							%

TSS mitigation index**	0.5
Metals mitigation index**	0.4
Hydrocarbon mitigation index**	0.5

* Test Report and calculations for the 1.2m Downstream Defender® Select were investigated to verify their compliance with the British Water Code of Practice for the Assessment of Manufactured Treatment Devices Designed to Treat Surface Water Runoff. To ensure similar performance indices were achieved at varying device model sizes, the scaling protocols from section 6.1 of the British Water How to Guide: Applying the CIRIA The SuDS Manual (C753) Simple Index Approach to Proprietary / Manufactured Stormwater Treatment Devices were followed.

** Extrapolated value in accordance with British Water How to Guide: Applying the CIRIA The SuDS Manual (C753) Simple Index Approach to Proprietary / Manufactured Stormwater Treatment Devices. Version 7, Section 4.3, (2021 - under pre-publication review).

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Signed:



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