

# SDS Aqua-Swirl®

Hydrodynamic Vortex Separator

**SDS Aqua-Swirl® is a custom engineered, flow-through water quality device that utilises hydrodynamic separation technology to maximise the removal of coarse sediment, debris and free-floating oil from surface water runoff.**

**SYMBiotic™**

When connected to a SDS SYMBiotIC™ system, SDS Aqua-Swirl® provides real time data on a broad range of key operating factors such as pollutant loads and silt capture level.

- *BBA HAPAS approved*
- *HDPE plastic modular construction*
- *No moving parts*
- *Sealed baffle*
- *Large debris storage chamber*
- *Lifting supports*
- *Compact dimensions*
- *Available in 9 different sizes*
- *Bespoke sizing available*

SDS Aqua-Swirl® is supplied in the standard version when sizing to its water quality treatment flow rate according to OK-110 (coarse) test sediment. 'XC' versions are also available when sizing according to the NJDEP (finer) test sediment.



SDS Aqua-Swirl® is sized according to water quality treatment flow rates which are based on the initial movement of pollutants into the storm drainage system. This flow rate typically represents approximately 90% to 95% of the total pollutants in the runoff volume.

The treatment flow rate of the SDS Aqua-Swirl® system is engineered to meet or exceed the local water quality treatment criteria and form an intrinsic part of the SuDS solution.

Features	Benefits
Performance monitoring available via SDS SYMBiotIC™.	Provides bespoke suite of operating data, such as silt levels and pollutants, viewable via a secure web portal dashboard with live notifications via email and text.
BBA HAPAS certified.	Approved for installation under roads and pavements; adoptable by National Highways.
NJCAT/NJDEP-verified performance for sediment removal and retention.	Verification accepted by the Environment Agency (as cited in the CIRIA C753 SuDS Manual).
'XC' models meet NJDEP testing protocol.	Ensures that particulates and adhered pollutants are not mobilised during major storm events, maximising the capture of floating debris, oil and hydrocarbons.
Manufactured from HDPE high strength plastic Weholite.	Offers a durable, light weight and low-cost alternative to concrete. Easy and quick to install resulting in substantial cost savings.
Bespoke construction.	No on-site assembly required.
Specialised sealed baffle.	Prevents captured floatables from escaping.
Internal bypass with pollution retention.	Able to treat localised rain and larger storm events while retaining captured pollutants.
Single easy-access chamber for pollutant removal and storage.	Simplifies inspection and maintenance facilities with no special equipment required.
Compact dimensions.	Reduces ground excavation and product installation costs.
Small footprint design.	Can be retro-fitted with minimal disruption to existing infrastructure utilities or surface features, extending the ability to meet new regulations.
Certified installation lifting supports.	Easy installation without the need for large, expensive cranes.
Suitable for use during site construction programme.	Can be put into operation prior to completion of the site build, with the inclusion of a planned maintenance schedule.
Available in 9 different standard sizes and also bespoke.	Provides greater design flexibility and assists the removal of sediments at a greater rate than comparable systems.

## SPECIFICATIONS

Aqua-Swirl® Model No.	Maximum ID Pipe Connection (mm) BYP <sup>1</sup>	Chamber Internal Diameter (mm)	Water Quality Treatment Flow Rate OK-110 Coarse (l/s) Model AS- <sup>2</sup>	Water Quality Treatment Flow Rate NJDEP Fine (l/s) Model XC-	Oil/ Debris Storage Capacity (litres)	Sediment Storage Capacity (m <sup>3</sup> )	Aqua-Swirl® Weight (kg)
AS-2/XC-2	375	750	30	16	136	0.3	300
AS-3/XC-3	500	1050	53	31	416	0.6	700
AS-4/XC-4	600	1200	77	40	644	0.8	1000
AS-5/XC-5	750	1500	120	63	1382	1.3	1100
AS-6/XC-6	900	1800	173	91	1439	1.8	1400
AS-7/XC-7	1050	2100	235	123	1987	2.5	1700
AS-8/XC-8	1200	2400	307	161	2612	3.3	2200
AS-9/XC-9	1350	2800	418	220	3596	4.4	2600
AS-10/XC-10	1500	3000	480	252	4164	5.1	3100

<sup>1</sup> BYP (Internal Bypass) provides full treatment of the first flush of water while the peak design storm is diverted and channelled through the main conveyance pipe.  
<sup>2</sup> Based on the Tennessee Tech University 'Laboratory Evaluation of TSS Removal Efficiency for the Aqua-Swirl® Concentrator Stormwater Treatment System'.

Notes:

Details of pollution mitigation indices, head loss and CAD details, standard drawings and Installation Guides available upon request.

The sediment storage capacity has been calculated in accordance with the relevant test protocol and is not a physical maximum; any additional sediment capacity required is achieved with bespoke deeper units.

For assistance in design and specific sizing using historical rainfall data, please contact SDS.

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