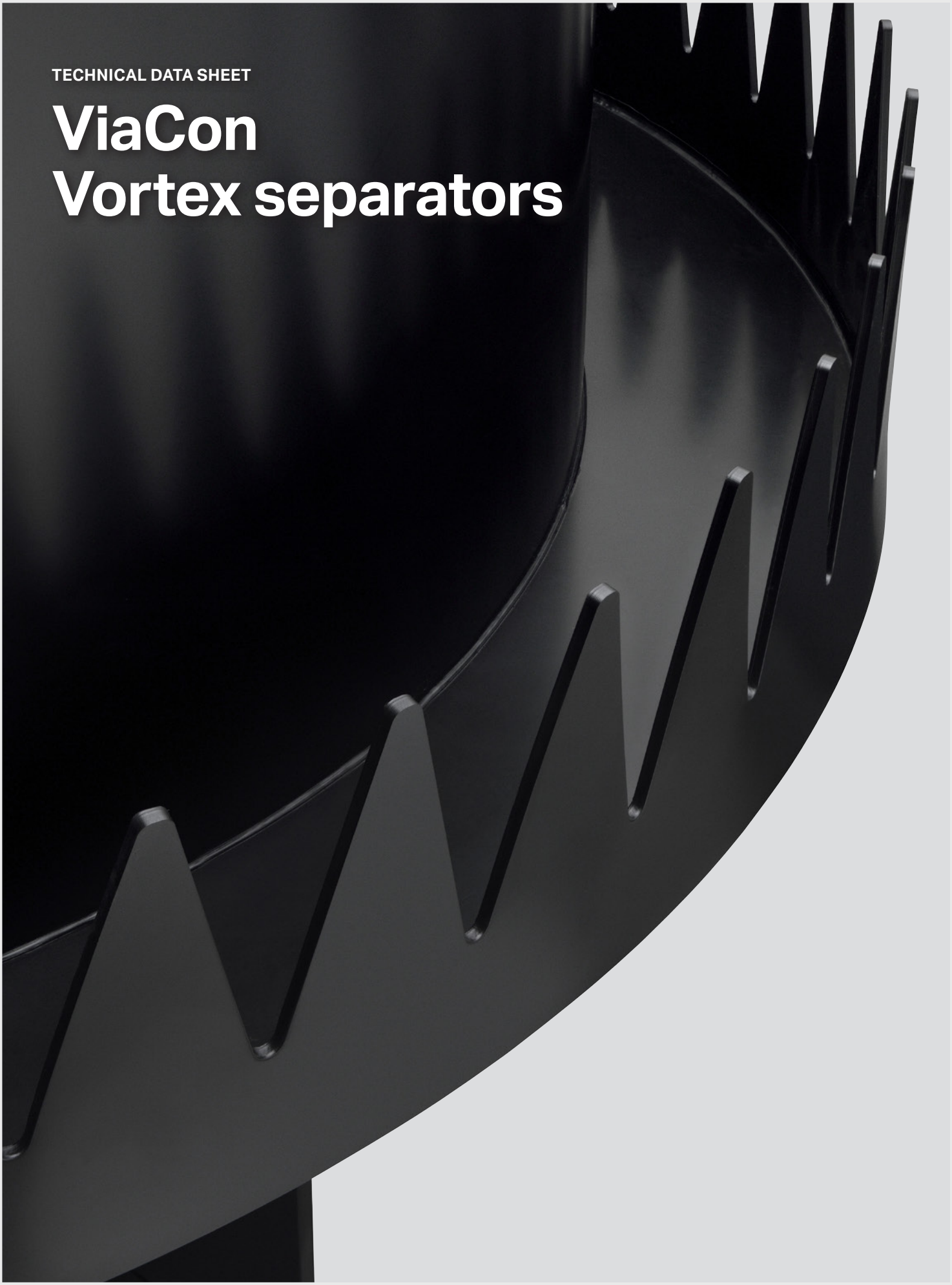
TECHNICAL DATA SHEET

ViaCon Vortex separators



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ViaCon* Vortex separators

Our Advanced Hydrodynamic Separation (HDS) units are designed for use in SUDS treatment trains, providing certainty of water quality treatment. This Manufactured Treatment Device (MTD) device meets and exceeds all German stormwater treatment standards under DWA M153 D24 and D25.

Tested to NJDEP 2021. It can be used on-line or offline, and with or without an external by-pass unit. Multi treatment water purification processes are involved.

DESIGN CERTIFICATIONS AND TESTING

The unit inside the ViaCon UK chamber is a Patented design.

- NJDEP 2021
- NRW Trennerlass (independent German lab & field test)
- DIBt

FEATURES

- Simple maintenance
- No head loss, level inverts
- Cannot air lock
- Wide variety of connection possibilities
- Designed for installation into a wide variety of chambers, including steel, concrete, PE and GRP

PROCESSES

- Inlet deflector plate induces vortex.
- Floatable materials & liquids are retained.
- Settled solids are prevented from re-mobilisation.
- Distributed upward flow ensures a uniformity of flow pathway, even at high design flows.
- Toothed weir ensures balanced optimised flow pathways.

All 8 No. models of our HDS units are easily maintained using conventional road gully sucking equipment. Floatable materials retained within the upper treatment room chamber are easily removed from the water surface layer. There is then access for suction pipes to remove the accumulated sludge and sediments from the chamber floor. Treatment Flow Rates are based on the NJDEP protocol form the USA.

Whilst NJDEP has no regulatory role or authority in the UK and Ireland, it has been one widely recognised standard for solids separation in stormwater. The HDS unit has also been tested according to both the NRW (surface water discharge) and DIBt (groundwater discharge) protocols. These more detailed protocols of course require far higher removal rate of sediments and provide independently certified figures for the retention of oils and microplastics (NRW Trennerlas).

CHAMBER BODIES AND INSTALLATION

Installation instructions are available separately. ViaCon UK recommend these units are delivered to site pre-installed in chambers. The final chamber design should consider traffic loadings, ground conditions and variable ground water elevations. If in any doubt consult ViaCon UK or the schemes Designer/Engineer. A suitably qualified professional is required to sign off the installation.

Installation at site within a chamber is also possible. ViaCon UK advise extra care to be taken in ensuring pipe connection diameters for the pipe materials finally deployed at site are suitable, especially where “as-built” pipework materials do not match original designs. HDS unit hydraulic flow rates have larger pipe connection sizes, ideal for sites where higher peak flows are anticipated or required. They also afford ease of connection to the structural wall drainage pipes commonly used in the UK stormwater drainage market.

MITIGATION INDICES

Our HDS unit removes sediment bound contaminants. Available in differing sizes to suit site flows and conditions. Removing over 50% of fine TSS (0-200 microns, median size 75 microns) at design flows, and up to 99% of TDS 0.1 to 0.4mm (coarse).

TABLE 1: MITIGATION INDICES

Mitigation indices	TSS	Total metals	Total HC
MI NJDEP*	0.5	-	-
ViaCon UK	0.5	0.4	0.45
British Water Code of practice **	0.5	0.38	0.53

** NJDEP protocol, + "best advice" (in part as NJDEP only covers TSS)*

*** The British Water Code of Practice (Assessment of Manufactured Treatment Devices Designed to Treat Surface Water Runoff).*

TABLE 2: PLASTICS RETENTION

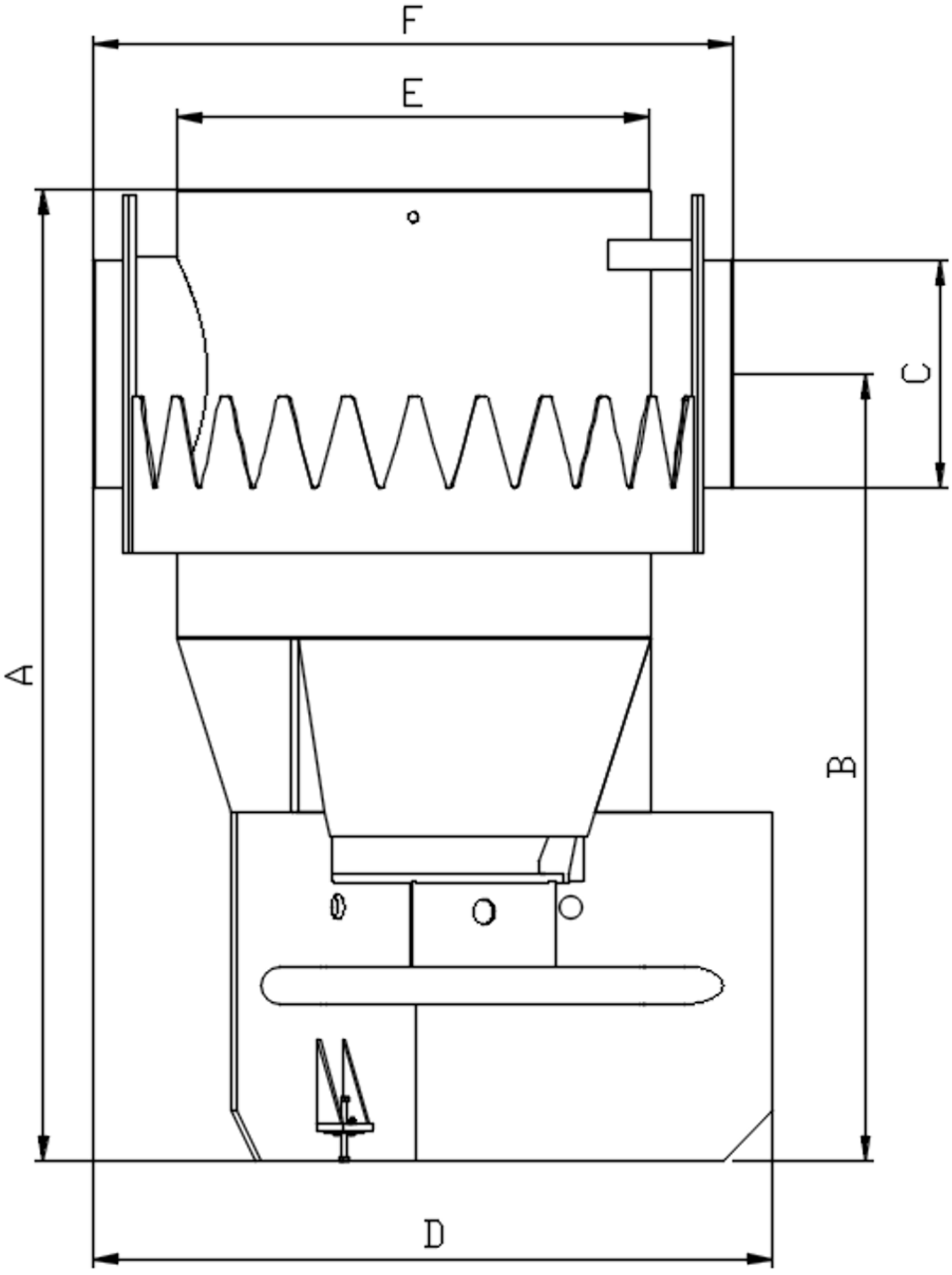
NWR tested	Polyethylene	Polystyrene
% Retained	62.24%	75.41%

TABLE 3: TECHNICAL DATA

HDS unit - Fig. 1	750	1000	1200	1500	1800	2000	2500	3000
Overall Height (mm) - **A, Fig. 1**	1950	1950	1953	1950	1950	1950	2150	2150
Chamber ID	750	1000	1200	1500	1500	2000	2500	3000
Height to Invert (mm)	1598	1450	1419	1350	1268	1245	1323	1293
Height to Inlet Centre (mm) - **B, Fig. 1**	1700	1587	1600	1580	1568	1550	1681	1680
Max Inlet/Outlet ID (mm) - **C, Fig 1.**	203	362	362	457	600	610	714	714
Overall Unit Width (mm) - **D, Fig 1.**	690	904	1066	1361	1470	1815	2272	2509
Unit Diameter @ Top (mm) - **E, Fig 1.**	460	600	750	950	1062	1200	1590	1940
Overall Unit Width @ Top (mm) - **F, Fig. 1**	691	868	991	1282	1500	1690	2104	2488
Sediment Storage capacity (m^3)	0.47	0.42	0.61	0.96	1.40	1.70	2.70	3.90
Oil/Debris Storage Capacity (litres)	81	200	278	417	421	569	1125	1839
HDS Unit Weight (kg)***	50	70	90	95	120	140	170	290

Dimensions are for unit, dimensions c/w ViaCon UK chamber available on application.
****Overall unit weight available on application, varies depending on camber depth.*

FIG. 1: HDS UNIT



OUR ADVANCED HYDRODYNAMIC SEPARATION (HDS) UNITS

750

1000

1200

1500

1800

2000

2500

3000

VIACON

Constructing connections.
Consciously.

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ViaCon is a leader in infrastructure construction solutions. Built on strong Nordic roots, ViaCon embodies a practical, human perspective that brings together technology and verifiable sustainability. The long-term view defines our vision, and by driving smart, future-friendly construction solutions for bridges and culverts, geotechnical and stormwater solutions, we will continue to shape and lead our industry.

10 Sutton Fold, St Helens, Merseyside, WA9 3GL.
01744 452 900 | info@viacon.co.uk | www.viacon.co.uk