



Run-off water treatment



Storm water treatment units

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without bypass _____ p 71

Vertical storm water treatment units
with bypass _____ p 72

Horizontal storm water treatment units
without bypass _____ p 73



1 Overview

1.1 Scope

TECHNEAU has developed a range of storm water treatment units dedicated to uncovered car parks (vehicles) and the road sector (roads and motorways), where pollution is mainly caused by suspended solids to which most (80%) pollutants are fixed. These structures can also intercept chronic and accidental pollution caused by light liquids.

1.2. The sanitation scheme

The most common sanitation scheme involves treating storm water at a fraction of the peak flow rate:

- by using a control chamber with calibrated threshold, ensuring a controlled flow to the storm water treatment unit.
- downstream from a storm basin with a controlled flow rate upstream.

1.3. The dimensions

1.3.1. Nominal size

Depending on the location, intensities below 16 mm/h represent 75 to 95% of cumulative rainfall.

In a steady-state flow, rainfall intensity of 16 mm/h associated with a waterproofing coefficient of 90% produces an associated run-off rate of 40 L/s/ha, the value chosen as the treatment rate of a storm water treatment unit.

This threshold of 40 L/s/ha can treat:

- run-off water from flushing (characterised by low flow rates and high concentrations at the start of rainfall),
- the vast majority (75 to 95%) of run-off water depending on region.

Considering the characteristics of pollution from urban sealed surfaces, the hydraulic head (or Hazen speed) of a storm water treatment unit is fixed at 2 m/h.

1.3.2. Storage volumes

Several hydraulic dimension criteria have been identified and defined, guaranteeing optimum treatment quality, notably: flow area, storage area, settling zone, recovery zone.

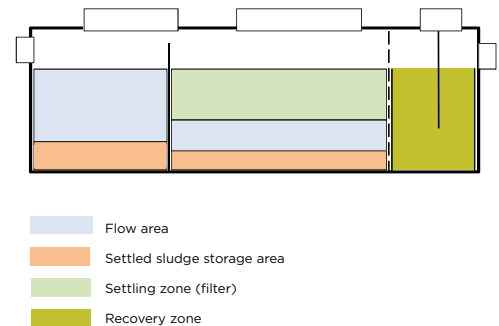
1.4. Accessibility

We focus on large accesses with the following requirements:

- access to all compartments, in accordance with the standard NF EN 476.
- excellent accessibility to the lamellar zone allowing easy cleaning of the lamellar device, with a minimum shaft cross-section of 0.5 m² and a total minimum opening surface of 0.25 m² per linear metre of lamellar blocks.

1.5. Structural stability and coating

Structural stability and requirements on materials and coating will comply with standard requirements defined in the standards NF EN 858-1 and P16-454-1/CN.





Storm water treatment units

Technical charter and manufacturing

Storm water

Polyester

Steel

2. Manufacturing



TECHNEAU storm water treatment units are manufactured in S235JR fabricated steel (standard NF EN 10025) with an external and internal epoxy bi-component coating, or in polyester.

2.1. Common equipment

From 2 to 5 cylindrical primers for easier maintenance.

A high capacity **grit trap** (2 m³/ha) to trap as many floating and heavy materials as possible.

A screen to trap floating materials. Its mesh is smaller than the hydraulic diameter of the downstream tube bundle.

A *Alvéreau*® tube bundle in recycled PVC, angled at 60° and removable, has been developed by Techneau for this purpose. Its 35 mm hydraulic diameter limits clogging and ensures optimal efficacy.

A high-capacity **sludge tank** (3m³/ha).

A tilting blade system distributing the hydraulic flow uniformly across the entire filter.

Effluent recovery channels (drained in the absence of water flow).

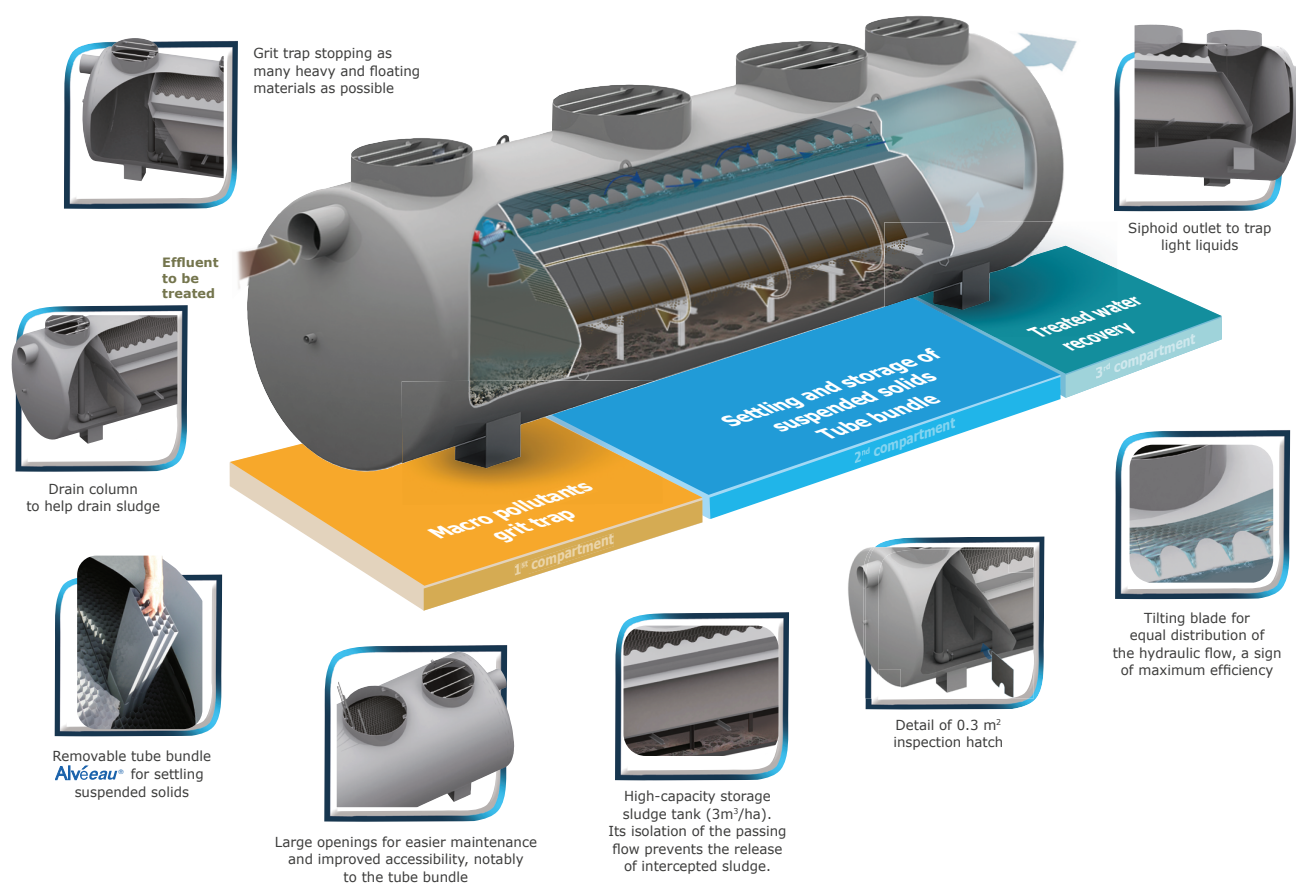
2.2. Equipment specific to horizontal models

A 0.3m² hatch to inspect the sludge tank under the filter.

One or several DN100 sludge drain columns on NH horizontal units.

3. Hydraulic flow

Techneau storm water treatment units have 3 successive compartments:





Storm water treatment units

Different installations, what size depending on the surface area?

4. Different installations

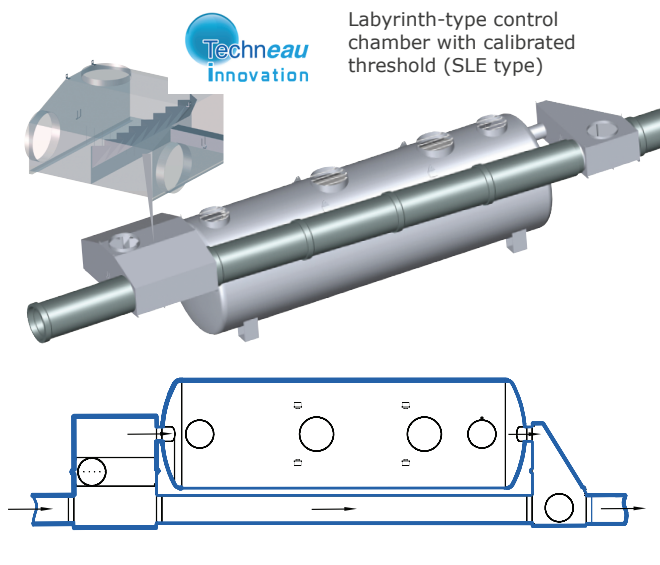
4.1. Main network bypass installation.

Upstream, installation of a **control chamber with calibrated threshold** to:

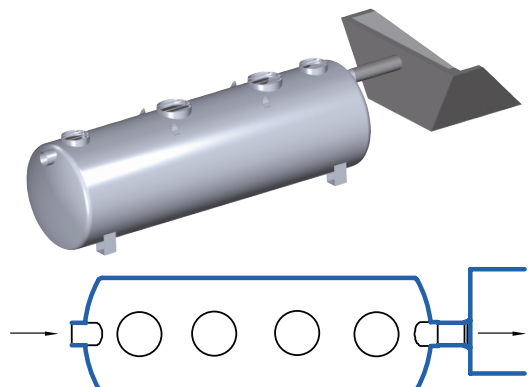


- Control and analyse rainfall events.
- Control the flow regardless of the return period in question.
- Secure the treatment structure during maintenance operations.
- Reduce floor space taken up thanks to a very compact design.

This regulation device, a real Techneau innovation, has patent no. FR3013745.

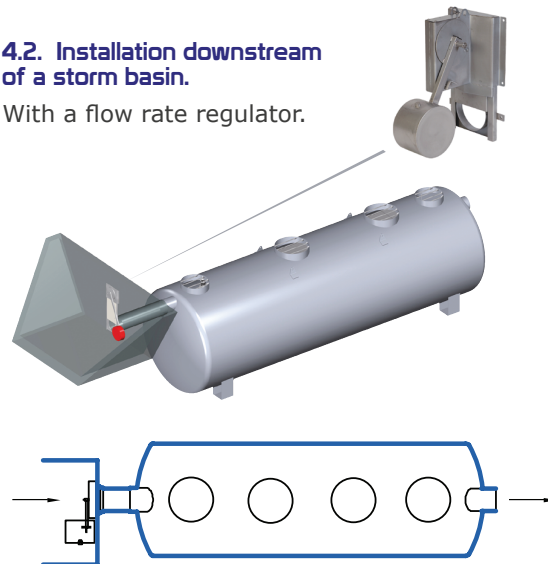


4.1.2 Installation upstream of a storm basin.



4.2. Installation downstream of a storm basin.

With a flow rate regulator.



5. The size of a treatment unit depends on the surface area to be treated.

Recovery sealed surfaces up to 5 ha.

	Surface area in m ²	Bypass		
		built-in	external	
Décant'eu	400	NVB004EA	NV004EA	
	800	NVB008EA	NV008EA	
	1200	NVB012EA	NV012EA	
	1600	NVB016EA	NV016EA	
	2000	NVB020EA	NV020EA	
Storm water treatment unit	3000	NVB030EA	NV030EA	
			NH030EA	
	4000		NH040EA	
	5000		NH050EA	
	6000		NH060EA	
	7000		NH070EA	
	9000		NH090EA	
	10000		NH100EA	
	50000		NH500EA	



storm water treatment unit

vertical without bypass / from 0.04 to 0.3 ha

Storm water

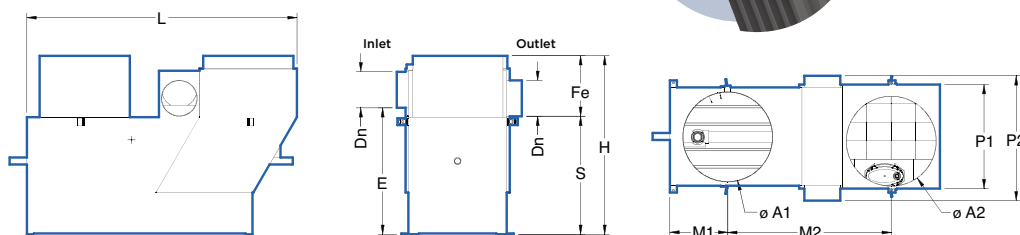
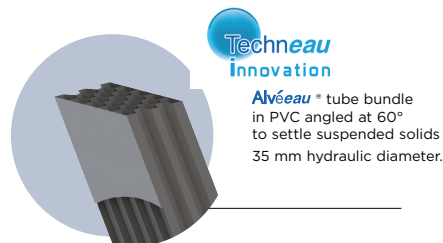
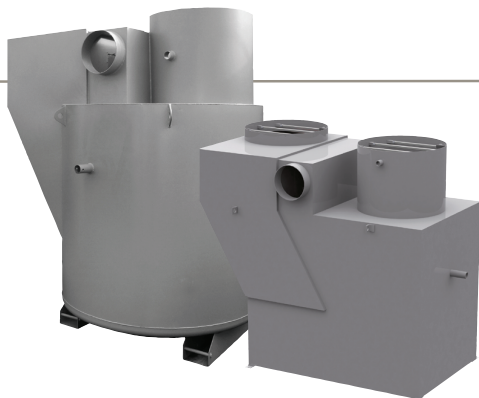
Steel

CH 2 m/h
Sizes 0.04 to 0.3 ha

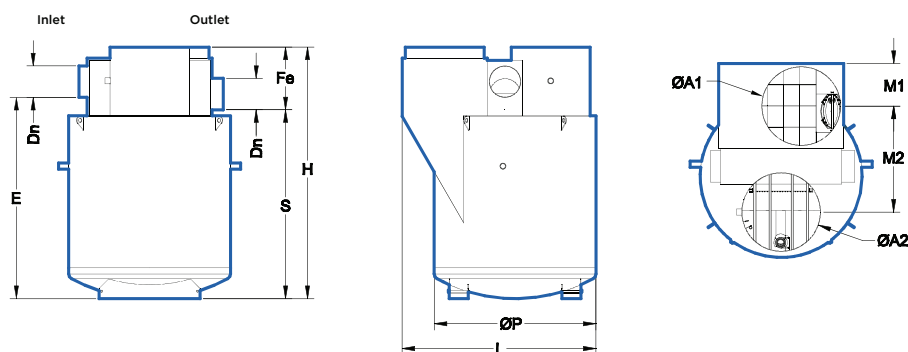
- Tank in S235JR fabricated steel with lifting rings.
- Epoxy resin/polyamine adduct-based bi-component coating.
- *Alvéaeu*® tube bundle
- 2 cylindrical primers without cover.
- Reduction of suspended solids and associated pollutants (heavy metals, COD, oils and PAH) > 75%.

OPTIONS

- Visual and audible alarm see p. 90-91
- Drain column see p. 94
- Automatic shutter see p. 94
- Fall protection grid(s) see p. 93



NV range ref.	P1	P2	L	Dn	E	S	Fe	H	M1	M2	Ø A1	Ø A2	Weight	Storage volume			Useful volume	Total volume
														Sand	Sludge	Light liquids		
NV004EA	685	880	1875	100	1073	1006	434	1448	320	1239	580	580	266	80	236	293	1308	1542
NV008EA	900	1080	2335	150	1098	1014	530	1544	500	1414	780	780	384	160	355	497	2223	2729
NV012EA	1260	1430	2135	150	1119	1014	580	1594	400	1313	780	780	464	240	403	630	2887	3441
NV016EA	1260	1430	2241	150	1642	1514		2094	500	1320	780	780	563	320	954	630	3719	4273



NV range ref.	Ø P	L	Dn	E	S	Fe	H	M1	M2	Ø A1	Ø A2	Weight	Storage volume			Useful volume	Total volume
													Sand	Sludge	Light liquids		
NV020EA	1600	1916	200	1993	1847	630	2487	421	1047	780	780	659	400	730	603	3734	4336
NV030EA	1900	2282	200	2025	1872	630	2512	630	1256	780	950	745	600	950	851	5336	5938

For larger sizes, please contact our design office.
Sizes are in hectares, dimensions in mm and weights in kg.

Storm water treatment units



Storm water treatment unit

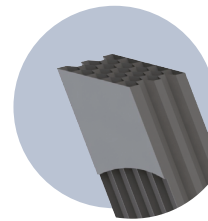
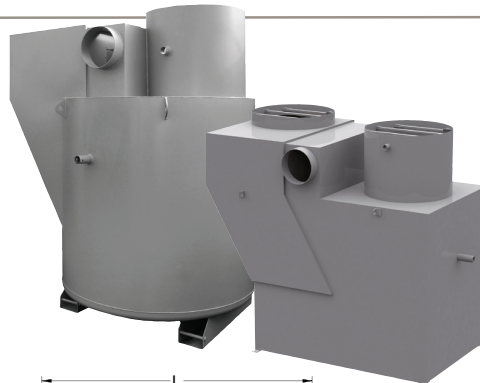
vertical with bypass / from 0.04 to 0.3 ha

CH 2 m/h
Sizes 0.04 to 0.3 ha

- Tank in S235JR fabricated steel with lifting rings.
- Epoxy resin/polyamine adduct-based bi-component coating.
- Exclusive tube bundle *Alvéreau*
- 2 cylindrical primers without cover.
- Built-in bypass
- Reduction of **suspended solids** and associated pollutants (heavy metals, COD, oils and PAH) > 75%.

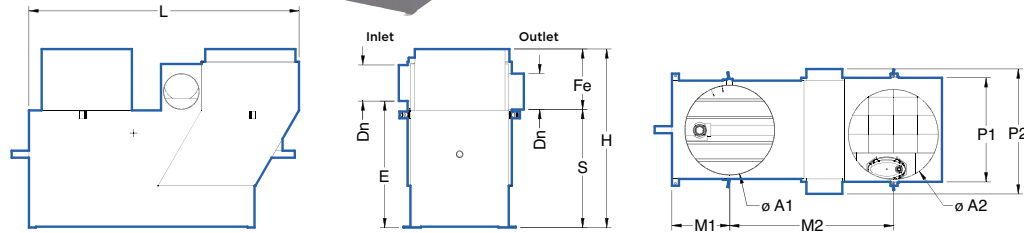
OPTIONS

- Visual and audible alarm for oils and/or sludge [see p. 90-91](#)
- Drain column [see p. 94](#)
- Automatic shutter [see p. 94](#)
- Fall protection grid(s) [see p. 93](#)



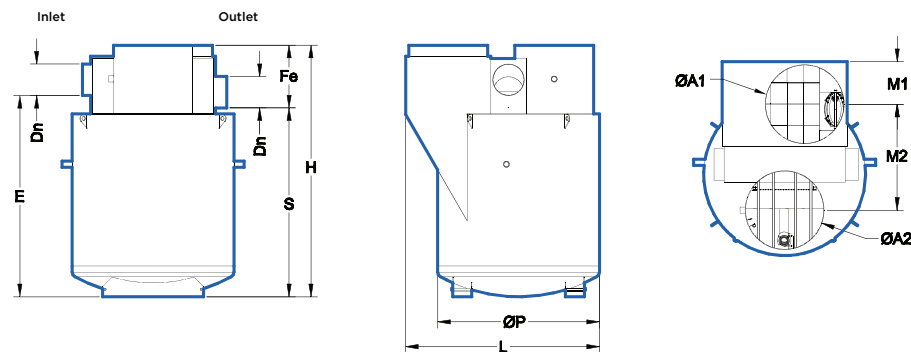
Techneau
innovation

Alvéreau® tube bundle in PVC angled at 60° to settle suspended solids 35 mm hydraulic diameter.



NVB

NVB range ref.	P1	P2	L	Dn	E	S	Fe	H	M1	M2	ø A1	ø A2	Weight	Storage volume			Useful volume	Total volume
														Sand	Sludge	Light liquids		
NVB004EA	685	880	1875	200	1073	1015	434	1448	320	1239	580	580	273	80	236	293	1307	1541
NVB008EA	900	1080	2335	300	1090	1017	530	1544	500	1414	780	780	394	160	355	497	2207	2721
NVB012EA	1260	1430	2135	300	1111	1020	580	1594	400	1313	780	780	474	240	403	630	2867	3429
NVB016EA	1260	1430	2241	300	1634	1525	580	2094	500	1320	780	780	575	320	954	630	3698	4260



NVB range ref.	øP	L	Dn	E	S	Fe	H	M1	M2	ø A1	ø A2	Weight	Storage volume			Useful volume	Total volume
													Sand	Sludge	Light liquids		
NVB020EA	1600	1916	300	1993	1870	630	2487	421	1047	780	780	589	400	730	603	3734	4336
NVB030EA	1900	2282	300	2023	1887	630	2512	630	1256	780	950	755	600	950	851	5336	5938

For larger sizes, please contact our design office.
Sizes are in hectares, dimensions in mm and weights in kg.



Storm water treatment unit

horizontal without bypass / from 0.3 to 1 ha

Storm water

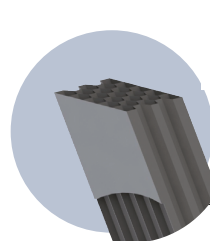
Steel

CH 2 m/h
Sizes 0.3 to 1 ha

- **Tank** in S235JR fabricated steel with lifting rings.
- **Epoxy resin/polyamine adduct-based bi-component** coating.
- **Exclusive** tube bundle **Alvéreau**
- **DN100** drain column.
- **2 m/h** hydraulic head.
- **Up to 4 cylindrical primers** without cover.
- **Reduction** of **suspended solids** and associated pollutants (heavy metals, COD, oils and PAH) **> 75%**.
- **Polyester construction:** contact us

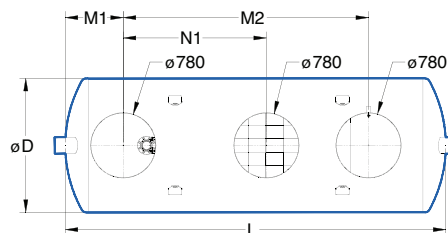
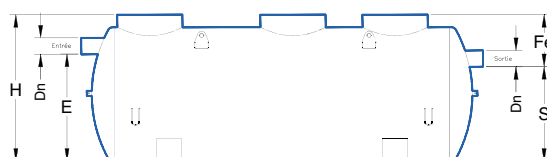
OPTIONS

- **Visual and audible alarm** for oils and/or sludge [see p. 90,91](#)
- **Fall protection grid(s)** [see p. 93](#)
- **Speed chassis** [see p. 92](#)



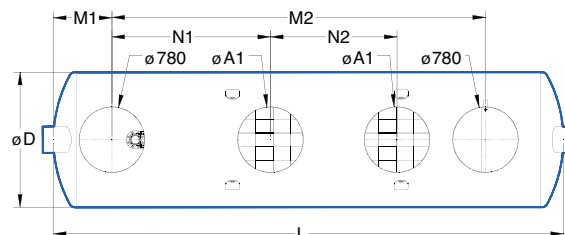
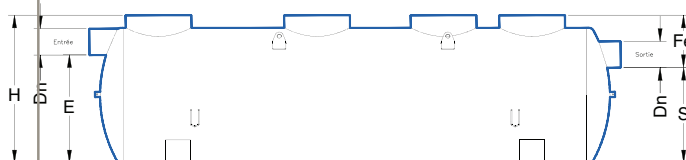
Techneau
Innovation

Alvéreau® tube bundle in PVC angled at 60° to settle suspended solids 35 mm hydraulic diameter.



NH

NH range ref.	Ø D	L	Dn	E	S	Fe	H	M1	M2	N1	Weight	Storage volume			Useful volume	Total volume
												Sand	Sludge	Light liquids		
NH030EA	1600	4547	200	1235	1105	645	1750	693	2930	1710	976	1005	1067	751	6291	8539



NH range ref.	Ø D	L	Dn	E	S	Fe	H	M1	M2	N1	N2	ø A1	Weight	Storage volume			Useful volume	Total volume
														Sand	Sludge	Light liquids		
NH040EA	1600	5047	200	1235	1105	645	1750	693	3430	1110	1100	780	1080	1005	1265	805	7031	9544
NH050EA	1600	5547	200	1235	1105	645	1750	693	3930	1360	1350	780	1188	1005	1561	722	7772	10550
NH060EA	1600	6047	315	1206	1105	645	1750	693	4530	1880	1500	780	1302	1206	1858	640	8513	11555
NH070EA	1600	7047	315	1206	1105	645	1750	693	5430	2180	2000	780	1476	1407	2155	787	9994	13566
NH090EA	1900	6145	315	1506	1336	714	2050	823	4450	1800	1500	950	1989	1843	2899	778	12452	16572
NH100EA	1900	6645	315	1506	1336	714	2050	823	4950	1900	1800	950	2136	2056	3199	853	13517	17990

For larger sizes, please contact our design office.
Sizes are in hectares, dimensions in mm and weights in kg.

For larger surface areas,
please contact our design office.

Storm water
treatment units