



V-ALFATEC
the key to clean water



HYDRO BG
Sustainable innovation.



Better Side of
Environmental
Protection.

Waste water Treatment

Oil Water Separators
Bypass Oil Water Separators
Grease Trap
FILCOTEN® green

Environmental Systems

We work with the **force of nature** - to **protect and preserve it.**



At BG Group, environmental protection is not just a vain and empty promise, but an active company culture.

We don't perceive business only through profit.

Success and development of our company will always be strongly connected to our responsibility towards society we live in and towards the environment. To be able to look at ourselves in the mirror means more to us than the amount of profit.

Sustainable use of environment is at the core of our beliefs and dreams, not just a marketing trick:

- We are a part of green production that protects both the environment and health of our employees.
- We produce green products that do NOT have any adverse environmental impacts.
- We are pioneers in increased use of green energy. For instance, 100% of renewable resources are used for manufacture of our FILCOTEN® gullies.



V-ALFATEC
the key to clean water

founded in 2007, is a member of BG-Graspointner Group. The company manufactures and sells oil-water separator, grease traps, retention, accumulation and water meter shafts, and pumping stations, all of which are the main contributors to environmental protection.

The products can be applied anywhere where contamination of surface water occurs or where there is a need to clean water and to remove impurities.

Fundamental goals that the company follows are development of new technology, development of waste water treatment, and product consultancy.

Variability of our technical solutions is one of our most critical strengths. We guarantee long-term maintenance of the declared input values and low-cost operation.



Oil Water Separators

LO Alfa – Made of Concrete

Oil-water separator (OWS) is an equipment made of C35/45 XF4 reinforced concrete with a protective 3-layer polyurethane coating to secure perfect and trouble-free maintenance, to increase concrete resistance against oil and to safeguard zero concrete absorption. The oil-water separator is equipped with automatic outlet shut-off. OWS is used to separate free oil from waste water and rain water. Unless regular checks and maintenance is carried out on the equipment, long-term functionality will not be effective. Each equipment is made using parameters as set by EN 858-1,2 and with safety factor 10, which under current climatic conditions means increased protection against overflow and potential leaks of content into the area via inlet stacks and lids. Such an occurrence is quite frequent with undersized equipment where basic required parameters are not met, such as effective volume, minimum separator area, sludge box and retaining time.

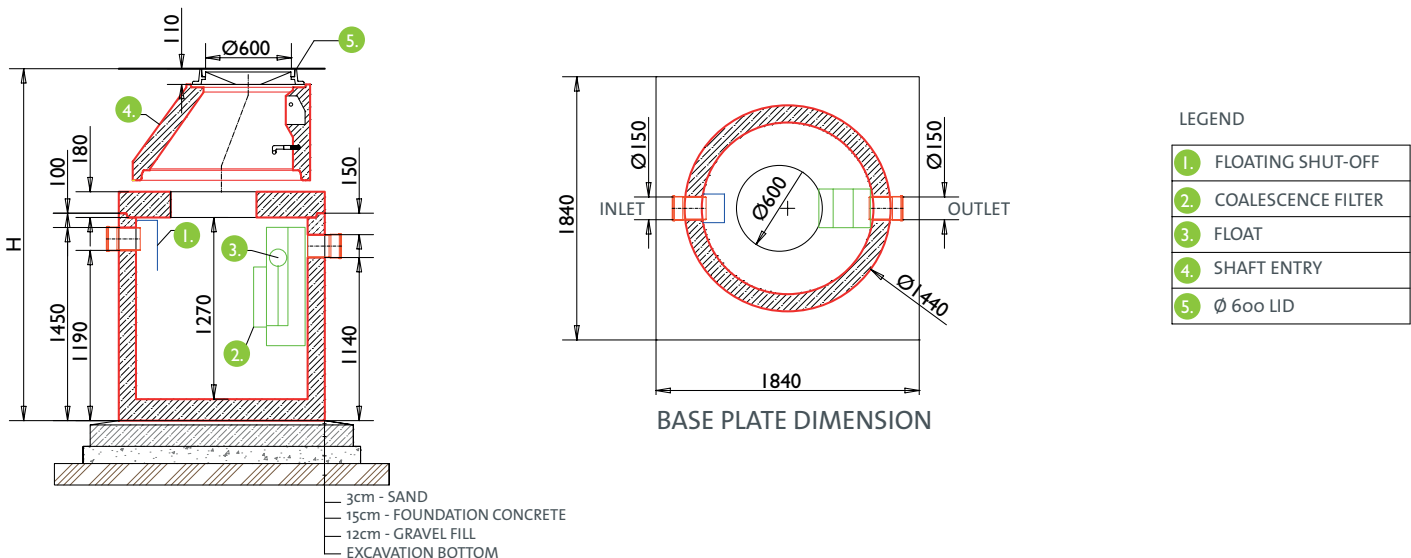
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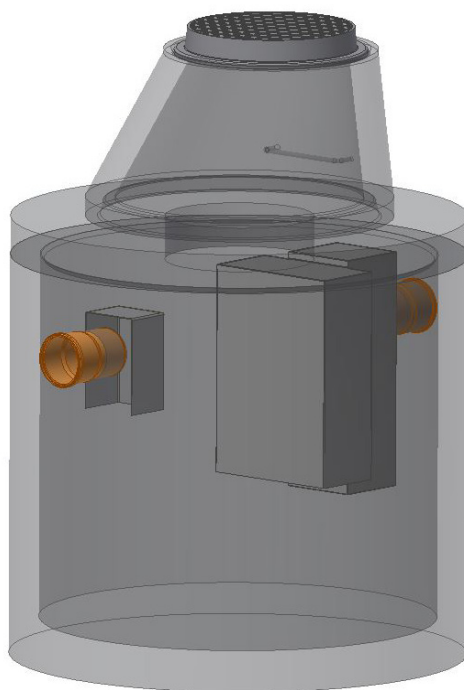
- Absolute tightness and high chemical resistance safeguarded by inner protective coating
- Easy maintenance and low operation costs due to innovative coalescence filter that can be easily cleaned when inside the separator
- Cost-effective design with minimum demands for embedding with the designed inner accessories
- Simple handling due to a reliable suspension system and extremely easy ceiling board assembly due to a rubber gasket, made from NBR, and tank-ceiling screw connection. This solution secures perfect water tightness and does not require additional gap sealing.
- Easy connection using sewage pipes via in-built PVC inlet/outlet passage

Installation sites

- Highways and roads
- Petrol stations
- Parking lots, garages, workshops
- Pull-offs and car washes
- Shopping malls and logistics centres

Sample drawing of oil-water separator with 5 mg/l NES treated water output

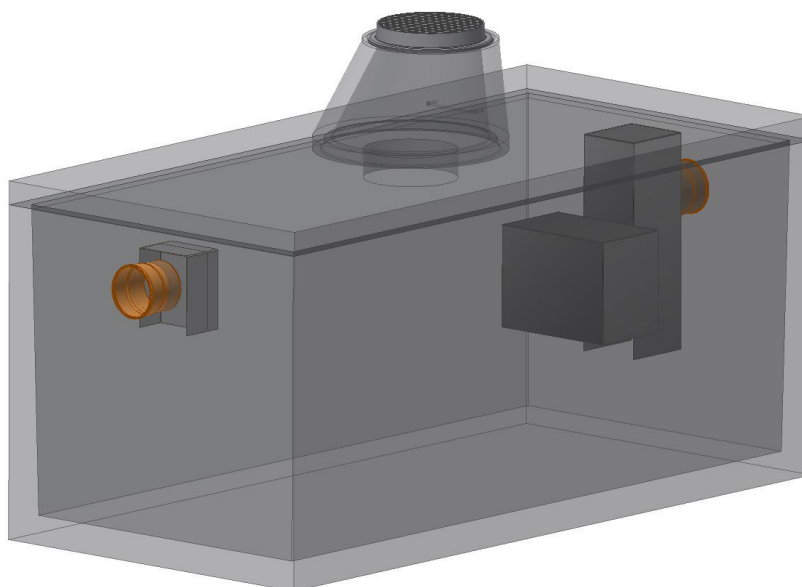




LO Alfa B Oil-Water Separator Product Line

Output values up to 5 mg / l NES

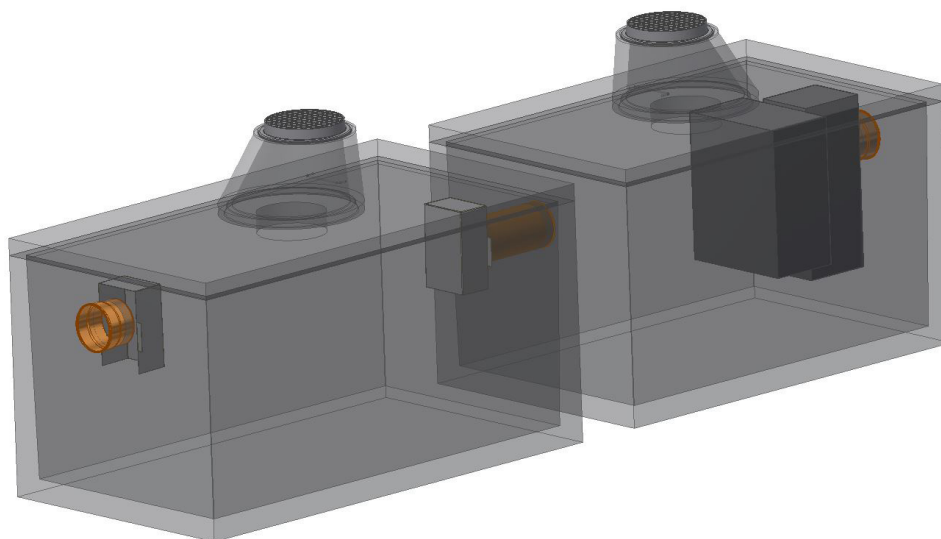
Art. Nr.	Description	Nominal value	Maximum Flow Rate	Effective Volume	Total Volume	Sludge Box	Separated Oil Volume	Parameters (L x W x H)	Inlet/Outlet DN	Heaviest Piece Weight	Total Weight
			(l/s)	(m ³)	(m ³)	(m ³)	(m ³)	(mm)	(mm)	(kg)	(kg)
89000100	LO Alfa 3-IB	3	3	1.17	1.55	0.5	0.17	Ø 1,440 x 1,700	160	2,350	3,100
89000101	LO Alfa 5-IB	5	5	1.3	1.66	0.6	0.17	Ø 1,440 x 1,800	160	2,500	3,250
89000102	LO Alfa 8-IB	8	8	1.5	1.88	0.8	0.17	Ø 1,440 x 2,000	160	2,750	3,500
89000103	LO Alfa 10-IB	10	10	2.4	3.15	1.2	0.3	Ø 1,840 x 1,900	200	3,600	4,850
89000104	LO Alfa 15-IB	15	15	3	3.75	1.8	0.3	Ø 1,840 x 2,200	200	4,100	5,350
89000105	LO Alfa 20-IB	20	20	4.3	5.7	2.2	0.54	Ø 2,390 x 1,900	200	5,100	7,100
89000106	LO Alfa 25-IB	25	25	5.3	6.8	3	0.54	Ø 2,390 x 2,200	250	5,750	7,750
89000107	LO Alfa 30-IB	30	30	5.95	7.5	3.7	0.54	Ø 2,390 x 2,400	250	6,200	8,200
89000108	LO Alfa 40-IB	40	40	7.1	8.9	4.9	0.54	Ø 2,390 x 2,780	315	7,000	9,000
89000109	LO Alfa 50-IB	50	50	10.8	14.8	6	1.155	3,700x2,400x2,250	315	10,500	14,500
89000110	LO Alfa 60-IB	60	60	14.5	19.9	8.1	1.5	4,900x2,400x2,250	315	13,500	18,500
89000111	LO Alfa 70-IB	70	70	14.5	19.9	8.1	1.5	4,900x2,400x2,250	315	13,500	18,500
89000112	LO Alfa 80-IB	80	80	16.4	22.4	9.4	1.7	5,500x2,400x2,250	315	14,500	22,300
89000113	LO Alfa 100-2B	100	100	20.5	29.6	15.5	2.25	2x(3,700x2,400x2,250)	400	10,500	29,000
89000114	LO Alfa 125-2B	125	125	23.7	34.6	19	2.65	4,900x2,400x2,250 +3,700x2,400x2,250	400	13,500	32,800
89000115	LO Alfa 150-2B	150	150	29	42.2	22.7	3.2	5,500x2,400x2,250 +4,900x2,400x2,250	400	14,300	40,500
89000116	LO Alfa 160-2B	160	160	31	48.8	24	3.4	2x(5,500x2,400x2,250)	400	14,300	44,000
89000117	LO Alfa 175-3B	175	175	33.7	49.4	29	3.8	2x(4,300x2,400x2,250) +3,700x2,400x2,250	400	11,800	47,500
89000118	LO Alfa 200-4B	200	200	43.6	69.2	36.4	5.27	4x(4,300x2,400x2,250)	500	11,800	66,000
89000119	LO Alfa 230-4B	230	230	45.2	71.7	38	5.42	3x(4,300x2,400x2,250) +4,900x2,400x2,250	500	13,500	67,800
89000120	LO Alfa 250-4B	250	250	50	79.2	41.8	6	4x(4,900x2,400x2,250)	500	13,500	74,000



LO Alfa B Oil-Water Separator Product Line

Output values up to 0.5 mg / l NES

Art. Nr.	Description	Nominal value	Maximum Flow Rate	Effective Volume	Total Volume	Sludge Box	Separated Oil Volume	Parameters (L x W x H)	Inlet/Outlet DN	Heaviest Piece Weight	Total Weight
			(l/s)	(m3)	(m3)	(m3)	(m3)	(mm)	(mm)	(kg)	(kg)
89000200	LO Alfa 3-ls B	3	3	1.2	1.66	0.5	0.17	Ø 1,440 x 1,800	160	2,500	3,250
89000201	LO Alfa 5-ls B	5	5	1.2	1.66	0.5	0.17	Ø 1,440 x 1,800	160	2,500	3,250
89000202	LO Alfa 8-ls B	8	8	1.65	2.1	1	0.17	Ø 1,440 x 2,200	160	3,000	3,750
89000203	LO Alfa 10-ls B	10	10	2.66	3.55	1.1	0.3	Ø 1,840 x 2,100	200	3,900	5,150
89000204	LO Alfa 15-ls B	15	15	3	3.95	1.5	0.3	Ø 1,840 x 2,300	200	4,250	5,500
89000205	LO Alfa 20-ls B	20	20	5.2	6.8	2.25	0.54	Ø 2,390 x 2,200	200	5,750	7,750
89000206	LO Alfa 25-ls B	25	25	5.2	7.5	2.8	0.54	Ø 2,390 x 2,400	250	6,200	8,200
89000207	LO Alfa 30-ls B	30	30	6	7.9	3.2	0.54	Ø 2,390 x 2,500	250	6,400	8,400
89000208	LO Alfa 40-ls B	40	40	10.25	14.8	4.4	1.155	3,700x2,400x2,250	315	10,500	14,500
89000209	LO Alfa 50-ls B	50	50	12	17.3	5.2	1.33	4,300x2,400x2,250	315	11,800	16,500
89000210	LO Alfa 60-ls B	60	60	14	19.9	6	1.5	2,400x4,900x2,250	315	13,500	18,500
89000211	LO Alfa 70-ls B	70	70	15.5	22.4	7	1.72	2,400x5,500x2,250	315	14,500	22,300
89000212	LO Alfa 80-2s B	80	80	16.9	24.5	12	1.9	2x(3,100x2,400x2,250)	315	8,600	23,200
89000213	LO Alfa 100-2s B	100	100	20.8	32	15.3	2.45	4,300x2,400x2,250 +3,700x2,400x2,250	400	11,800	30,850
89000214	LO Alfa 125-2s B	125	125	24.15	37.1	19.5	2.85	5,500x2,400x2,250 +3,700x2,400x2,250	400	14,300	36,500
89000215	LO Alfa 150-2s B	150	150	29.1	44.8	20.8	3.43	5,500x2,400x2,250 +4,900x2,400x2,250	400	14,300	40,500
89000216	LO Alfa 160-3s B	160	160	33.7	51.9	27.3	4	3x(4,300x2,400x2,250)	400	11,800	49,200
89000217	LO Alfa 175-3s B	175	175	33.7	51.9	27.3	4	3x(4,300x2,400x2,250)	400	11,800	49,200
89000218	LO Alfa 200-4s B	200	200	41.3	69.2	34.3	5.27	4x(4,300x2,400x2,250)	500	11,800	66,000
89000219	LO Alfa 230-4s B	230	230	44.4	74.3	36.4	5.42	2x(4,900x2,400x2,250) +2x(4,300x2,400x2,250)	500	13,500	69,600
89000220	LO Alfa 250-4s B	250	250	50	84.2	42.4	0.45	2x(5,500x2,400x2,250) +2x(4,900x2,400x2,250)	500	14,300	80,600



LO Alfa B Oil-Water Separator Product Line

Output values up to 0.1 mg / l NES

Art. Nr.	Description	Nominal value	Maximum Flow Rate	Effective Volume	Total Volume	Sludge Box	Separated Oil Volume	Parameters (L x W x H)	Inlet/Outlet DN	Heaviest Piece Weight	Total Weight
89000300	LO Alfa 3-Iss B	3	3	1.2	1.66	0.5	0.17	Ø 1,440 x 1,800	160	2,500	3,250
89000301	LO Alfa 5-Iss B	5	5	1.2	1.66	0.5	0.17	Ø 1,440 x 1,800	160	2,500	3,250
89000302	LO Alfa 8-Iss B	8	8	1.65	2.1	1	0.17	Ø 1,440 x 2,200	160	3,000	3,750
89000303	LO Alfa 10-Iss B	10	10	2.66	3.55	1.1	0.3	Ø 1,840 x 2,100	200	3,900	5,150
89000304	LO Alfa 15-Iss B	15	15	3	3.95	1.5	0.3	Ø 1,840 x 2,300	200	4,250	5,500
89000305	LO Alfa 20-Iss B	20	20	5.2	6.8	2.25	0.54	Ø 2,390 x 2,200	200	5,750	7,750
89000306	LO Alfa 25-Iss B	25	25	5.2	7.5	2.8	0.54	Ø 2,390 x 2,400	250	6,200	8,200
89000307	LO Alfa 30-Iss B	30	30	6	7.9	3.2	0.54	Ø 2,390 x 2,500	250	6,400	8,400
89000308	LO Alfa 40-Iss B	40	40	10.25	14.8	4.4	1.155	3,700x2,400x2,250	315	10,500	14,500
89000309	LO Alfa 50-Iss B	50	50	12	17.3	5.2	1.33	4,300x2,400x2,250	315	11,800	16,500
89000310	LO Alfa 60-Iss B	60	60	14	19.9	6	1.5	2,400x4,900x2,250	315	13,500	18,500
89000311	LO Alfa 70-Iss B	70	70	15.5	22.4	7	1.72	2,400x5,500x2,250	315	14,500	22,300
89000312	LO Alfa 80-2ss B	80	80	16.9	24.5	12	1.9	2x(3,100x2,400x2,250)	315	8,600	23,200
89000313	LO Alfa 100-2ss B	100	100	20.8	32	15.3	2.45	4,300x2,400x2,250 +3,700x2,400x2,250	400	11,800	30,850
89000314	LO Alfa 125-2ss B	125	125	24.15	37.1	19.5	2.85	5,500x2,400x2,250 +3,700x2,400x2,250	400	14,300	36,500
89000315	LO Alfa 150-2ss B	150	150	29.1	44.8	20.8	3.43	5,500x2,400x2,250 + 4,900x2,400x2,250	400	14,300	44,000
89000316	LO Alfa 160-3ss B	160	160	33.7	51.9	27.3	4	3x(4,300x2,400x2,250)	400	11,800	49,200
89000317	LO Alfa 175-3ss B	175	175	33.7	51.9	27.3	4	3x(4,300x2,400x2,250)	400	11,800	49,200
89000318	LO Alfa 200-4ss B	200	200	41.3	69.2	34.3	5.27	4x(4,300x2,400x2,250)	500	11,800	66,000
89000319	LO Alfa 230-4ss B	230	230	44.4	74.3	36.4	5.42	2x(4,900x2,400x2,250) +2x(4,300x2,400x2,250)	500	13,500	69,600
89000320	LO Alfa 250-4ss B	250	250	50	84.2	42.4	0.45	2x(5,500x2,400x2,250) +2x(4,900x2,400x2,250)	500	14,300	80,600

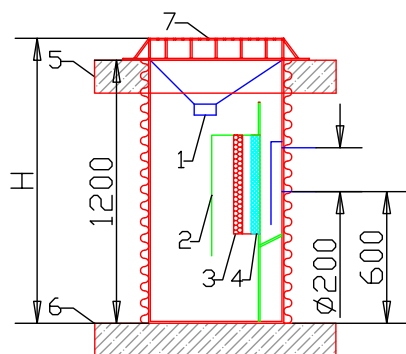
References



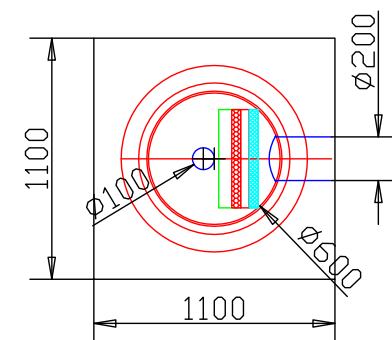
Gulley Separators

LO Alfa 2-1 inlet

CROSS SECTION A-A



FLOOR PLAN



BASE PLATE DIMENSIONS

LO Alfa Oil-Water Separator Product Line

Art. Nr.	Description	Nominal value	Maximum Flow Rate	Effective Volume (m³)	Total Volume (m³)	Sludge Box (m³)	Separated Oil Volume (m³)	Parameters (mm)	Inlet/Outlet DN (mm)	Heaviest Piece Weight (kg)	Total Weight (kg)
Output Values 5 mg / l NEL:											
89000400	LO Alfa 1-1 inlet	1	1	0.22	0.34	0.2	0.04	Ø 880 x 1,300	200	100	150
89000401	LO Alfa 2-1 inlet	2	2	0.22	0.34	0.2	0.04	Ø 880 x 1,300	200	100	150
Output Values 0,5 mg / l NEL:											
89000500	LO Alfa 1-1 s inlet	1	1	0.22	0.34	0.2	0.04	Ø 880 x 1,300	200	100	150
89000501	LO Alfa 2-1 s inlet	2	2	0.22	0.34	0.2	0.04	Ø 880 x 1,300	200	100	150
Output Values 0,1 mg / l NEL:											
89000600	LO Alfa 1-1 ss inlet	1	1	0.22	0.34	0.2	0.04	Ø 880 x 1,300	200	100	150
89000601	LO Alfa 2-1 ss inlet	2	2	0.22	0.34	0.2	0.04	Ø 880 x 1,300	200	100	150

Non-typical plastic custom-made products



Bypass Separators

LO Alfa - Made of Concrete

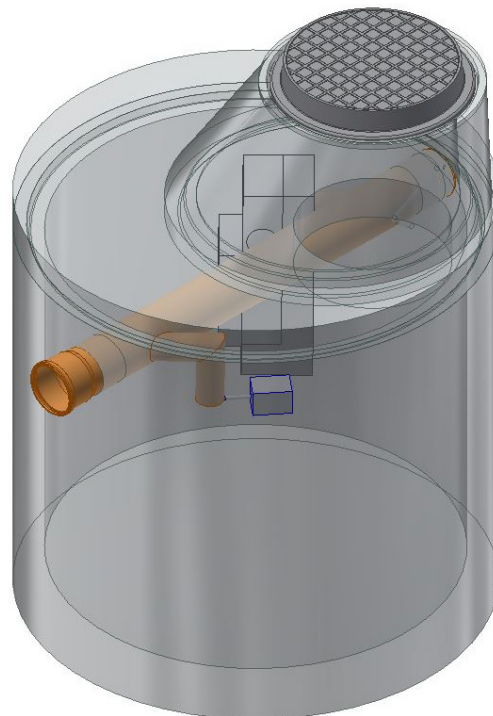
Oil-water separator (OWS) is an equipment made of C35/45 XF4 reinforced concrete with a protective polyurethane coating to secure perfect and trouble-free maintenance, to increase concrete resistance against oil and to safeguard zero concrete absorption. The separator is equipped with an inlet controller and an automatic outlet shut-off. OWS is used to separate free oil from waste water and rain water. Unless regular checks and maintenance is carried out on the equipment, long-term functionality will not be effective.

Properties

- Absolute tightness
- Low spatial demands
- Minimum operation costs
- High chemical resistance
- Excellent hydraulic parameters
- Cost-effective design
- Low maintenance demands

Areas of use

- Highways and roads
- Parking lots and garages
- All areas which allow the flow rate to exceed the maximum permissible value and is led out of the separator



Bypass separator product line.

ORL Alfa - 90% bypass

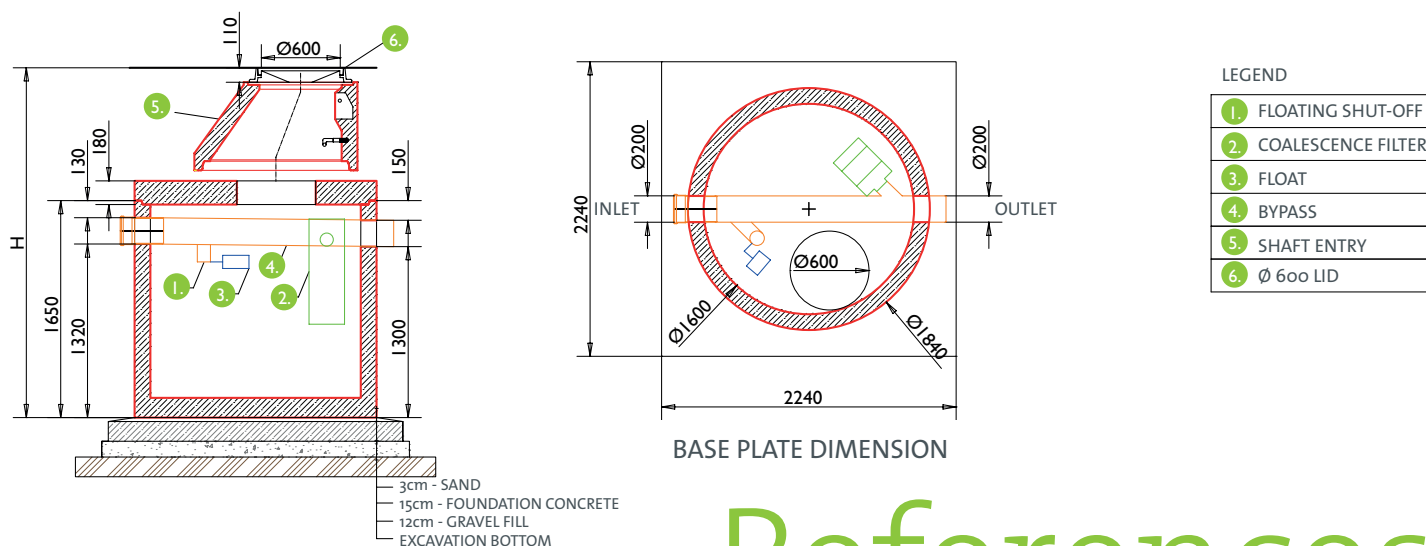
Art. Nr.	Description	Nominal value	Maximum Flow Rate (l/s)	Effective Volume (m³)	Total Volume (m³)	Sludge Box (m³)	Separated Oil Volume (m³)	Parameters (L x W x H) (mm)	Inlet/Outlet DN (mm)	Heaviest Piece Weight (kg)	Total Weight (kg)
89000140	LO Alfa 3-30 B	3	30	2.2	2.95	0.85	0.3	Ø 1,840 x 1,800	250	3,400	4,600
89000141	LO Alfa 4-40 B	4	40	2.2	2.95	0.85	0.3	Ø 1,840 x 1,800	250	3,400	4,600
89000152	LO Alfa 6-60 B	6	60	2	2.95	0.8	0.3	Ø 1,840 x 1,800	315	3,400	4,600
89000153	LO Alfa 8-80B	8	80	2	2.95	0.8	0.3	Ø 1,840 x 1,800	315	3,400	4,600
89000143	LO Alfa 10-100 B	10	100	3.85	5.7	1.5	0.54	Ø 2,390 x 1,900	400	5,100	7,100
89000126	LO Alfa 15-150 B	15	150	3.85	5.7	1.5	0.54	Ø 2,390 x 1,900	400	5,100	7,100
89000145	LO Alfa 20-200 B	20	200	4.6	6.4	2.2	0.54	Ø 2,390 x 2,100	400	5,600	7,600
89000147	LO Alfa 25-250 B	25	250	5	7.1	2.6	0.54	Ø 2,390 x 2,300	500	5,800	7,800
89000146	LO Alfa 30-300 B	30	300	5.3	7.5	3	0.54	Ø 2,390 x 2,400	500	6,200	8,200
89000148	LO Alfa 40-400 B	40	400	10.4	14.8	5.3	1.13	3,700x2,400x2,250	500	10,500	14,500
89000155	LO Alfa 50-500 B	50	500	10.63	17.3	6	1.3	4,300x2,400x2,250	600	11,800	16,500
89000149	LO Alfa 60-600 B	60	600	12	19.85	7	1.5	4,900x2,400x2,250	600	13,000	18,300
89000150	LO Alfa 70-700 B	70	700	13.2	23.4	7.35	1.7	5,500x2,400x2,250	600	14,300	22,000
89000157	LO Alfa 80-800 B	80	800	14.85	25	9	1.7	6,000x2,300x2,500	800	12,000	24,000

ORL Alfa - 80% bypass

Art. Nr.	Description	Nominal value	Maximum Flow Rate (l/s)	Effective Volume (m³)	Total Volume (m³)	Sludge Box (m³)	Separated Oil Volume (m³)	Parameters (L x W x H) (mm)	Inlet/Outlet DN (mm)	Heaviest Piece Weight (kg)	Total Weight (kg)
89000122	LO Alfa 6-30 B	6	30	2.2	2.95	0.85	0.3	Ø 1,840 x 1,800	250	3,400	4,600
89000123	LO Alfa 8-40 B	8	40	2.3	3.15	1	0.3	Ø 1,840 x 1,900	315	3,600	4,800
89000124	LO Alfa 10-50 B	10	50	2.5	3.35	1.2	0.3	Ø 1,840 x 2,000	315	3,800	5,000
89000125	LO Alfa 15-75B	15	75	2.9	3.75	1.6	0.3	Ø 1,840 x 2,200	315	4,100	5,300
89000144	LO Alfa 20-100 B	20	100	4.5	6.4	2.2	0.54	Ø 2,390 x 2,100	400	5,500	7,500
89000127	LO Alfa30-150 B	30	150	5.7	7.5	3.3	0.54	Ø 2,390 x 2,400	400	6,200	8,200
89000128	LO Alfa 40-200 B	40	200	6	8.2	3.7	0.54	Ø 2,390 x 2,600	500	6,600	8,600
89000129	LO Alfa 50-250 B	50	250	8.5	12.25	5.2	0.94	3,100x2,400x2,250	500	9,200	12,500
89000135	LO Alfa60-300 B	60	300	10.3	14.8	6.3	1.14	3,700x2,400x2,250	500	10,500	14,500
89000131	LO Alfa 80-400 B	80	400	13.9	22.4	8.1	1.7	5,500x2,400x2,250	600	14,300	22,000
89000133	LO Alfa 100-500 B	100	500	16.8	25	11.3	1.7	6,000x2,300x2,500	600	12,000	24,000

i Flow rate higher than 100 l/s upon request

Sample drawing of bypass oil-water separator



References



Grease Trap

LT Alfa - Made of Concrete

Used to collect and separate grease and vegetable and animal fat contained in waste water before it is led to sewage or treatment plant.

Grease trap is an equipment made of C35/45 XF4 reinforced concrete with a protective polyurethane coating to secure perfect and trouble-free maintenance, to increase concrete resistance against chemicals created during decomposition of organic waste, and to safeguard zero concrete absorption. Waste water enters the grease trap via pipeline. This is where the grease is separated on surface using gravity.

Grease cools down in the trap due to the retaining volume. During temperature decrease (cool-down), grease hardens and floats to surface. Treated water is drained to sewage via stainless steel barrier equipment followed by plastic pipeline.

Grease trap content is regularly removed every 14 days, at least once per month. An inlet water flow diverter safeguards easy maintenance of the inlet pipeline. The diverter is made of high-quality steel and can be lifted of the tank wall using a simple lock, thus enabling an easy access to the inlet pipeline.

It is used as a pre-cleaning unit, installed on a separate sewage with inlet of water contaminated with grease and food leftovers. It provides a reliable protection for sewage line against grease contamination and plugging.

Achieved treated water quality: max. 25 mg/l of extractable substances in treated water.



Properties

- Easy handling
- Cost-effective design
- Collection of vegetable and animal fat contained in waste water
- Optional manufacture of non-typical traps, plastic

Areas of use

Such equipment is used mostly in meat and food processing facilities such as:

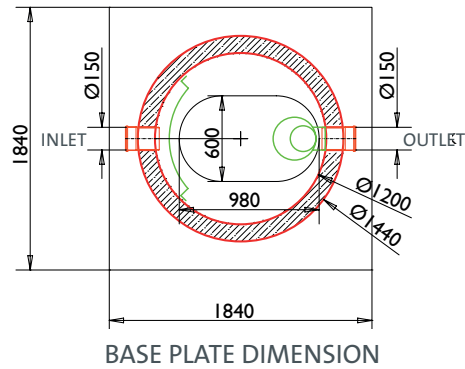
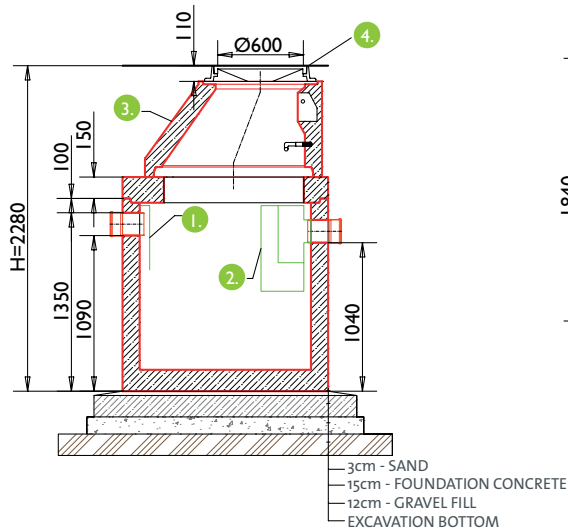
- large canteens
- restaurants
- cafeterias
- stalls with grilled, baked and fried food
- oil pressing shops

LT Alfa B Grease Trap Product Line

Art. Nr.	Description	Minimum Flow Rate (l/s)	Maximum Flow Rate (l/s)	Effective Volume (m³)	Total Volume (m³)	Sludge Box (m³)	Separated Oil Volume (m³)	Parameters (L x W x H) (mm)	Inlet/Outlet DN (mm)	Heaviest Piece Weight (kg)	Total Weight (kg)
89000700	LT Alfa NS 2B	1	1	0.76	1.1	0.37	0.18	Ø 1,440 x 1,300	160	1,700	2,200
89000701	LT Alfa NS 4B	2	2	1	1.32	0.6	0.18	Ø 1,440 x 1,500	160	2,100	2,600
89000702	LT Alfa NS 7B	3	4	2.1	2.75	1.2	0.32	Ø 1,840 x 1,700	200	3,300	4,300
89000703	LT Alfa NS 10B	5	6	2.5	3.15	1.56	0.32	Ø 1,840 x 1,900	200	3,600	4,600
89000704	LT Alfa NS 15B	7	9	4.52	5.7	2.7	0.58	Ø 2,390 x 1,900	200	5,100	7,100
89000705	LT Alfa NS 20B	10	12	8.1	12.4	6.6	1	3,100x2,400x2,250	200	8,600	11,600
89000706	LT Alfa NS 25B	13	15	8.1	12.4	6.6	1	3,100x2,400x2,250	200	8,600	11,600
89000714	LT Alfa NS 30B	16	17	12.1	15	8	1.2	3,700x2,400x2,250	200	10,500	14,500
89000715	LT Alfa NS 40B	18	24	15.6	20	10.3	1.64	4,900x2,400x2,250	250	13,000	18,300



Sample drawing of LT Alfa B grease trap



LEGEND

1	FLOATING SHUT-OFF
2	COALESCENCE FILTER
3	SHAFT ENTRY
4	Ø 600 LID

References



Example of GT calculation

Grease trap calculation depending on food type

Example of GT calculation as per NS

Necessary nominal size of trap NS to be calculated for the facility that hands out 600 warm meals in 12 hours.

Restaurant	Hospital	Canteen
t = 12 h	t = 12 h	t = 12 h
M = 600 meals/day	M = 600 meals/day	M = 600 meals/day
V _m = 50 l/meal (tab. 1)	V _m = 20 l/meal (tab. 1)	V _m = 5 l/meal (tab. 1)
F = 8.5 (tab. 2)	F = 13 (tab. 2)	F = 20 (tab. 2)
V = M.V _m	V = M.V _m	V = M.V _m
= 600x50	= 600x20	= 600x5
= 30,000 l/d	= 12,000 l/d	= 3,000 l/d
Q _s = V.F/3,600.t	Q _s = V.F/3,600.t	Q _s = V.F/3,600.t
= (30,000x8,5)/(3,600x12)	= (12,000x13)/(3,600x12)	= (3,000x20)/(3,600x12)
= 5.9 l/s	= 3.6 l/s	= 1.4 l/s
NS= Q _s . f _t . f _d . f _r	NS= Q _s . f _t . f _d . f _r	NS= Q _s . f _t . f _d . f _r
NS = 5.9 x 1.3 x 1.0 x 1.3 = 9.9	NS = 3.6 x 1.3 x 1.0 x 1.5 = 7.02	NS = 1.4 x 1 x 1 x 1.3 = 1.82
Nearest NS = 10	Nearest NS = 7	Nearest NS = 2

To be assumed:

f_t = 1.0 (temperature never exceeds 60 °C) – constantly or occasionally more than 60°C = 1.3

f_d = 1.0 (fat density below 0,94 g/cm³)

f_r = 1.3 (detergent is used) – no use = 1.0, special cases, e.g. hospital = al. > 1.5

As per EN 1825-1,2, the required sludge box volume in line with the preferred nominal size = 100xNS

For slaughter house and similar, sludge volume of at least 200xNS is recommended

Type of Food Facility	Water Volume per 1 Warm Meal V _m (l)
Hotel	100
Restaurant (for specialities)	50
Hospital	20
Large kitchen (24/7 operation)	10
Cafeterias in companies and buildings	5

Company	Coefficient of max. unevenness F
Catering companies	5.0
Hotel	5.0
Restaurant	8.5
Hospital	13.0
Company cafeterias	20.0
Large Kitchen (24/7)	22.0
Meat production or Butchers	30.0
Small up to 5 GV/week	30.0
Medium from 6 to 10 GV/week	35.0
Large from 11 to 40 GV/week	40.0
1 GV = 1 cow or 2.5 small stock	



1. Standards and Regulations

The equipment meets:

STN EN 12050-1: Lifting plants for waste water containing faecal matter,

STN EN 12050-2: Lifting plants for faecal-free waste water,

2. Use

Designed to pump waste water, rainwater and everywhere where gravitational flow is not possible.

3. Construction Material

- reinforced concrete tank or PE-HD tank without concrete encasement;
- internal equipment from stainless steel or composite material;
- alloy shaft lids, D 400kN Class, or as required.

4. Assembly

Pumping station (PS) is put on a horizontal foundation concrete and on sand bed using a crane. Safeguard against uplift of underground water to be designed by a structural engineer as per assembly conditions. PS shall be anchored to the foundation slab using anchoring screws. Anchored part of PS shall be encased into concrete to min. 300mm height from the foundation slab in its entire floor plan. In case the underground water is higher than the concrete encasement and there is a threat of tank uplift, PS must be loaded with concrete bottom from inside the PS, or ceiling slab thickness shall be increased, as per requirements and calculations of the structural engineer. The tank shall be backfilled with material of 0-20 mm grading. Compaction shall be done gradually by layers.

5. PS Equipment

PS can be equipped with technology as per customer's requirement. A working platform, railing, a screen rack and other accessories can be installed into the pumping station. The control unit with switchboard can be upgraded with a GSM transmission unit to send a text with each pump failure.

6. Warranty Period

Warranty Period is 24 months or 60 months, as per investor's requirement, save the technology part where the manufacturer provides a different warranty period.

7. Delivery Terms and Conditions

Delivery term is max. 6 weeks. The equipment shall be delivered including or excluding accessories as per customer's requirements.

The Client shall secure the following at its own costs: excavation work, foundation gravel bed, foundation concrete, sand bed, crane, anchoring, and other structural amendments.



Pumping Stations

Made of concrete

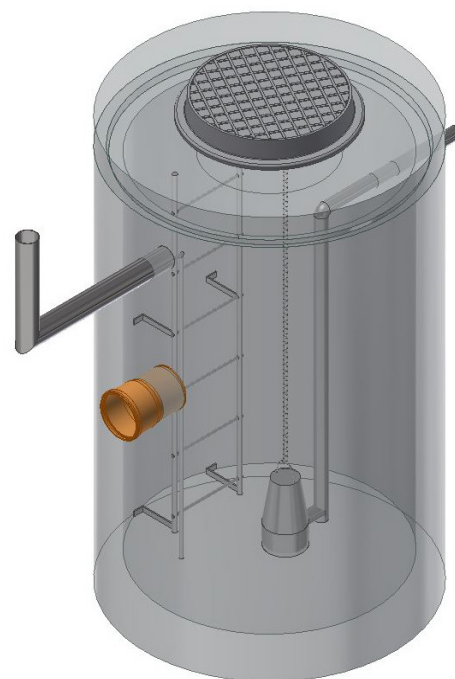
Reinforced concrete tanks with extenders

Tank $\phi 1,200\text{mm}$

Art. Nr.	DW (mm)	DN (mm)	H (mm)	Hv (mm)	Tank Volume (m ³)	Area (m ²)	Weight (kg)
89001426	1,440	1,200	1,350	1,200	1.36	8.29	2,100
89001427	1,440	1,200	1,450	1,300	1.47	8.67	2,230
89001428	1,440	1,200	1,550	1,400	1.58	9.04	2,350
89001429	1,440	1,200	1,650	1,500	1.70	9.42	2,480
89001430	1,440	1,200	1,750	1,600	1.81	9.80	2,620
89001431	1,440	1,200	1,850	1,700	1.92	10.17	2,720
89001432	1,440	1,200	1,950	1,800	2.00	10.55	2,850
89001433	1,440	1,200	2,050	1,900	2.14	10.93	2,970
89001434	1,440	1,200	2,150	2,000	2.26	11.30	3,100
89001435	1,440	1,200	2,250	2,100	2.37	11.68	3,220
89001436	1,440	1,200	2,350	2,200	2.48	12.06	3,340
89001392	1,440	1,200	2,450	2,300	2.60	12.43	3,470
89001437	1,440	1,200	2,550	2,400	2.71	12.81	3,600
89001467	Ceiling Slab 1,440x180mm						750
89001481	Ceiling Slab 1,440x250mm						900

Extenders $\phi 1,200\text{mm}$

Art. Nr.	DW (mm)	DN (mm)	H (mm)	Tank Volume (m ³)	Area (m ²)	Weight (kg)
89001313	1,440	1,200	400	0.45	1.51	500
89001314	1,440	1,200	500	0.57	1.88	620
89001315	1,440	1,200	600	0.68	2.26	740
89001316	1,440	1,200	700	0.79	2.64	870
89001317	1,440	1,200	800	0.90	3.01	1,000
89001318	1,440	1,200	900	1.02	3.39	1,120
89001319	1,440	1,200	1,000	1.13	3.77	1,240
89001320	1,440	1,200	1,100	1.24	4.14	1,360
89001321	1,440	1,200	1,200	1.36	4.52	1,490
89001322	1,440	1,200	1,300	1.47	4.90	1,620
89001323	1,440	1,200	1,400	1.58	5.28	1,740
89001324	1,440	1,200	1,500	1.70	5.65	1,860
89001325	1,440	1,200	1,600	1.81	6.03	2,000
89001326	1,440	1,200	1,700	1.92	6.41	2,110
89001327	1,440	1,200	1,800	2.03	6.78	2,240
89001328	1,440	1,200	1,900	2.15	7.16	2,360
89001329	1,440	1,200	2,000	2.26	7.54	2,490
89001330	1,440	1,200	2,100	2.37	7.91	2,610
89001331	1,440	1,200	2,200	2.49	8.29	2,740
89001332	1,440	1,200	2,300	2.60	8.67	2,860
89001333	1,440	1,200	2,400	2.71	9.04	2,990





Pumping Stations

Made of concrete

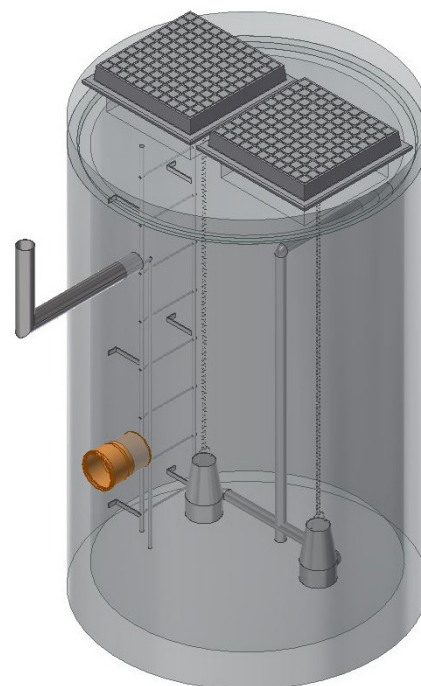
Reinforced concrete tanks with extenders

Tank $\phi 1,600\text{mm}$

Art. Nr.	DW (mm)	DN (mm)	H (mm)	Hv (mm)	Tank Volume (m ³)	Area (m ²)	Weight (kg)
89001413	1,840	1,600	1,350	1,200	2.41	11.05	2,940
89001414	1,840	1,600	1,450	1,300	2.61	11.56	3,100
89001415	1,840	1,600	1,550	1,400	2.81	12.06	3,265
89001416	1,840	1,600	1,650	1,500	3.01	12.56	3,430
89001417	1,840	1,600	1,750	1,600	3.22	13.06	3,590
89001418	1,840	1,600	1,850	1,700	3.42	13.56	3,750
89001419	1,840	1,600	1,950	1,800	3.62	14.07	3,900
89001420	1,840	1,600	2,050	1,900	3.82	14.57	4,080
89001421	1,840	1,600	2,150	2,000	4.02	15.07	4,240
89001422	1,840	1,600	2,250	2,100	4.22	15.57	4,400
89001423	1,840	1,600	2,350	2,200	4.42	16.08	4,560
89001424	1,840	1,600	2,450	2,300	4.62	16.58	4,730
89001425	1,840	1,600	2,550	2,400	4.82	17.08	4,890
89001468	Ceiling Slab 1,840x180mm						1,250
89001482	Ceiling Slab 1,840x250mm						1,500

Extenders $\phi 1,600\text{mm}$

Art. Nr.	DW (mm)	DN (mm)	H (mm)	Tank Volume (m ³)	Area (m ²)	Weight (kg)
89001213	1,840	1,600	400	0.80	2.01	650
89001214	1,840	1,600	500	1.00	2.51	810
89001215	1,840	1,600	600	1.21	3.01	970
89001216	1,840	1,600	700	1.41	3.52	1,140
89001217	1,840	1,600	800	1.61	4.02	1,300
89001218	1,840	1,600	900	1.81	4.52	1,460
89001219	1,840	1,600	1,000	2.01	5.02	1,620
89001220	1,840	1,600	1,100	2.21	5.53	1,780
89001221	1,840	1,600	1,200	2.41	6.03	1,950
89001222	1,840	1,600	1,300	2.61	6.53	2,100
89001223	1,840	1,600	1,400	2.81	7.03	2,270
89001224	1,840	1,600	1,500	3.01	7.54	2,430
89001225	1,840	1,600	1,600	3.22	8.04	2,600
89001226	1,840	1,600	1,700	3.42	8.54	2,760
89001227	1,840	1,600	1,800	3.62	9.04	2,920
89001228	1,840	1,600	1,900	3.82	9.55	3,080
89001229	1,840	1,600	2,000	4.02	10.05	3,240
89001230	1,840	1,600	2,100	4.22	10.55	3,400
89001231	1,840	1,600	2,200	4.42	11.05	3,570
89001232	1,840	1,600	2,300	4.62	11.56	3,730
89001233	1,840	1,600	2,400	4.82	12.06	3,890



Pumping Stations

Made of concrete

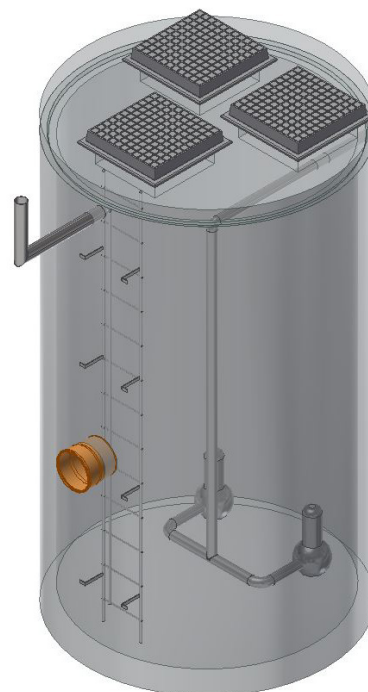
Reinforced concrete tanks with extenders

Tank $\phi 2,150\text{mm}$

Art. Nr.	DW (mm)	DN (mm)	H (mm)	Hv (mm)	Tank Volume (m ³)	Area (m ²)	Weight (kg)
89001400	2,390	2,150	1,350	1,200	4.35	14.85	4,250
89001401	2,390	2,150	1,450	1,300	4.72	15.53	4,460
89001402	2,390	2,150	1,550	1,400	5.08	16.20	4,680
89001403	2,390	2,150	1,650	1,500	5.44	16.88	4,890
89001404	2,390	2,150	1,750	1,600	5.81	17.55	5,100
89001405	2,390	2,150	1,850	1,700	6.17	18.23	5,320
89001406	2,390	2,150	1,950	1,800	6.53	18.90	5,530
89001407	2,390	2,150	2,050	1,900	6.89	19.58	5,750
89001408	2,390	2,150	2,150	2,000	7.26	20.25	5,960
89001409	2,390	2,150	2,250	2,100	7.62	20.93	6,170
89001410	2,390	2,150	2,350	2,200	7.98	21.60	6,390
89001411	2,390	2,150	2,450	2,300	8.35	22.28	6,600
89001412	2,390	2,150	2,550	2,400	8.71	22.95	6,800
89001397	2,390	2,150	2,630	2,480	9.00	23.49	7,000
89001469	Ceiling Slab 2,390x180mm						2,000
89001483	Ceiling Slab 2,390x250mm						2,650

Extenders $\phi 2,150\text{mm}$

Art. Nr.	DW (mm)	DN (mm)	H (mm)	Tank Volume (m ³)	Area (m ²)	Weight (kg)
89001113	2,390	2,150	400	1.45	2.70	860
89001114	2,390	2,150	500	1.81	3.38	1,070
89001115	2,390	2,150	600	2.18	4.05	1,280
89001116	2,390	2,150	700	2.54	4.73	1,500
89001117	2,390	2,150	800	2.90	5.40	1,710
89001118	2,390	2,150	900	3.27	6.08	1,930
89001119	2,390	2,150	1,000	3.63	6.75	2,140
89001120	2,390	2,150	1,100	3.99	7.43	2,350
89001121	2,390	2,150	1,200	4.35	8.10	2,570
89001122	2,390	2,150	1,300	4.72	8.78	2,780
89001123	2,390	2,150	1,400	5.08	9.45	3,000
89001124	2,390	2,150	1,500	5.44	10.13	3,210
89001125	2,390	2,150	1,600	5.81	10.80	3,420
89001126	2,390	2,150	1,700	6.17	11.48	3,640
89001127	2,390	2,150	1,800	6.53	12.15	3,850
89001128	2,390	2,150	1,900	6.89	12.83	4,060
89001129	2,390	2,150	2,000	7.26	13.50	4,280
89001130	2,390	2,150	2,100	7.62	14.18	4,490
89001131	2,390	2,150	2,200	7.98	14.85	4,700
89001132	2,390	2,150	2,300	8.35	15.53	4,920
89001133	2,390	2,150	2,400	8.71	16.20	5,130



Pumping Stations

Made of concrete

Reinforced concrete tanks with extenders

Tank $\phi 2,500\text{mm}$

Art. Nr.	DW (mm)	DN (mm)	H (mm)	Hv (mm)	Tank Volume (m ³)	Area (m ²)	Weight (kg)
89001051	2,740	2,500	1,500	1,350	6.62	25.32	5,280
89001053	2,740	2,500	1,750	1,600	7.85	27.28	5,870
89001056	2,740	2,500	2,000	1,850	9.08	29.24	6,460
89001058	2,740	2,500	2,250	2,100	10.30	31.21	7,050
89001061	2,740	2,500	2,500	2,350	11.53	33.17	7,650
89001047	Ceiling Slab 2,740x200mm						2,360
89001048	Ceiling Slab 2,740x250mm						3,020

Extenders $\phi 2,500\text{mm}$

Art. Nr.	DW (mm)	DN (mm)	H (mm)	Tank Volume (m ³)	Area (m ²)	Weight (kg)
89001071	2,740	2,500	1,000	4.91	17.67	2,330
89001073	2,740	2,500	1,250	6.13	19.63	2,920
89001076	2,740	2,500	1,500	7.36	21.60	3,500
89001078	2,740	2,500	1,750	8.59	23.56	4,090
89001081	2,740	2,500	2,000	9.81	25.53	4,670
89001083	2,740	2,500	2,250	11.04	27.49	5,260
89001086	2,740	2,500	2,500	12.27	29.45	5,840

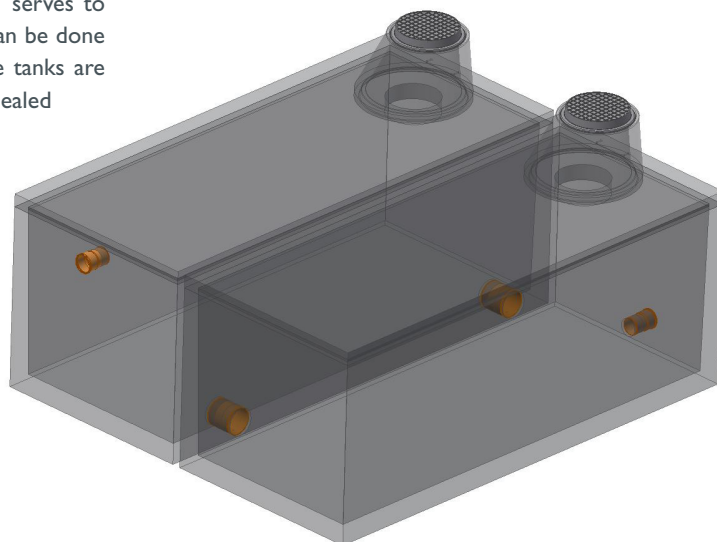




Retention Tank

RN Alfa Concrete

Retention tanks are covered, underground watertight tanks with an outlet, used to retain rainwater for further use, such as watering, for technical purpose or without any use with a controlled outlet option. RT serves to decrease the water run-off from an area. Water run-off control can be done either using a run-off controller or a pump. Reinforced concrete tanks are made of C 30/37 Class concrete. The ceiling slab/tank joint is sealed with a rubber gasket. The ceiling slab is screwed to the tank using screw connections. The connection is watertight and permanently elastic. RT can consist of one tank or, if larger retention volume is needed, can have several interconnected tanks. The individual tanks are interconnected with PVC pipes via transitions and rubber gaskets that are inbuilt into the tanks during manufacture. Such transitions are completely watertight and their assembly is very easy and fast.



Reinforced concrete tanks with extenders

- variable dimensions

Art. Nr.	Name	Tank Volume (m ³)	Dimensions (L x VV x H) (mm)	DN (mm)	Heaviest Piece Weight (kg)	Total Weight (kg)
89000900	RN 25	25	6,000x2,300x2,500	as required	12,000	24,000
89000901	RN 33	33	6,000x2,300x3,300	as required	12,000	28,800
89000902	RN 38	38	6,000x2,300x3,750	as required	12,000	31,500
89000903	RN 40	40	6,000x4,700x2,000	as required	10,000	40,000
89000904	RN 50	50	6,000x4,700x2,500	as required	12,000	48,000
89000905	RN 75	75	7,100x6,000x2,500	as required	12,000	72,000
89000906	RN 100	100	9,500x6,000x2,500	as required	12,000	96,000
89000907	RN 125	125	11,900x6,000x2,500	as required	12,000	120,000
89000908	RN 150	150	14,300x6,000x2,500	as required	12,000	144,000
89000909	RN 175 and more	175 and more	as required	as required	12,000	as required



Water tanks

System Types and Advantages

Alfa MODUL tanks are covered, underground watertight tanks with an outlet, used to retain rainwater for further use, such as watering, for technical purpose or without any use with a controlled outlet option. Alfa MODUL tanks serve to decrease the water run-off from an area. Water run-off control can be done either using a run-off controller or a pump. MODUL tanks can also be used to store fire water or as accumulation tanks for sewage water. Reinforced concrete tanks are made of C 30/37 Class concrete. The advantage of these tanks is that their entire volume can be modulated and the end is closed with front-ends on both sides. The individual segments are connected using a rubber gasket with screw connections. Using screw connections, the ceiling slabs are screwed to the tank so that the slab covers the individual segment joints. Once assembled, the tank gaps are sealed with polyurethane filler, thus achieving an enhanced joint tightness. Unused screw holes are covered with plastic lids that are sealed over with polyurethane filler. The tank can consist of a single set or, if larger retention volume is needed, can have several interconnected sets. The individual sets are interconnected with PVC pipes via transitions and rubber gaskets that are inbuilt into the tanks during manufacture. Such transitions are completely watertight and their assembly is very easy and fast.



For economic rainwater management, we offer a large-volume rainwater retention tanks that can be used as the following types of tanks:

- retention
- detention
- accumulation

Such an extraordinary construction method of underground rainwater tanks is made using a lost ceiling boarding.



Main system advantages:

- lower concrete and reinforcement consumption = cost saving by investor
- shorter construction time = due to a system of shortened ceiling boarding
- high loadability of the structure = utilisation under parking lots, roads, storage and grass areas
- variable tank shape and size = adaptation to structure requirements
- tank entrance = for inspection and cleaning



System Characteristics

1. Install reinforced concrete basin made of water construction concrete onto the foundation concrete. It is at this stage that transitions for inlet/outlet, area for pumping technology, flow rate controllers, partition walls and other technical requirements as per project are carried out.

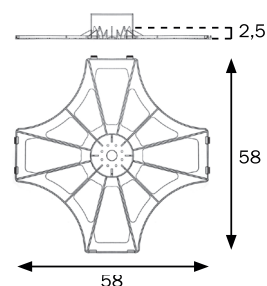
2. Put 58x58 cm foundation stabilising feet on the tank bottom so that they interlock and create a precise span between the support pillars. This is also important during concrete work on ceiling and pillars so that they do not turn away from their axis, this decreasing the system loading ability.

3. Insert 125cm diameter PVC pillars into the prepared stabilisation feet. Max. pillar length (tank height) is determined by the backfill composition above the tank and by the static calculation for tank loading ability.

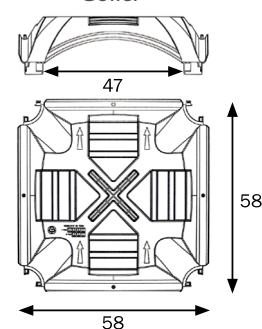
4. Insert 58x58x15 cm coffers onto PVC pillars and let them interlock using lateral channels.

5. Coffers are made in such a way that, when concreting the ceiling, the concrete will get into the pillars due to a vibrator, creating a structure with high loading ability.

Stabilisation foot



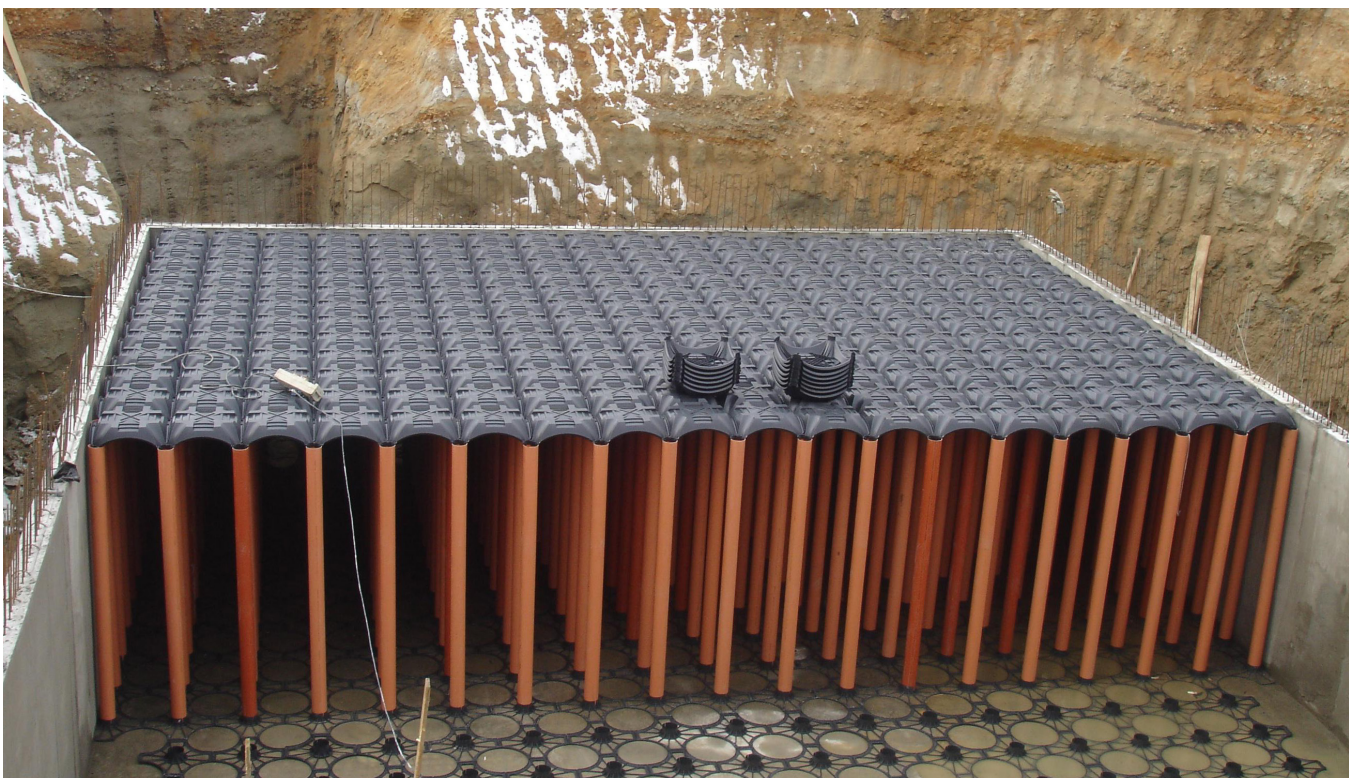
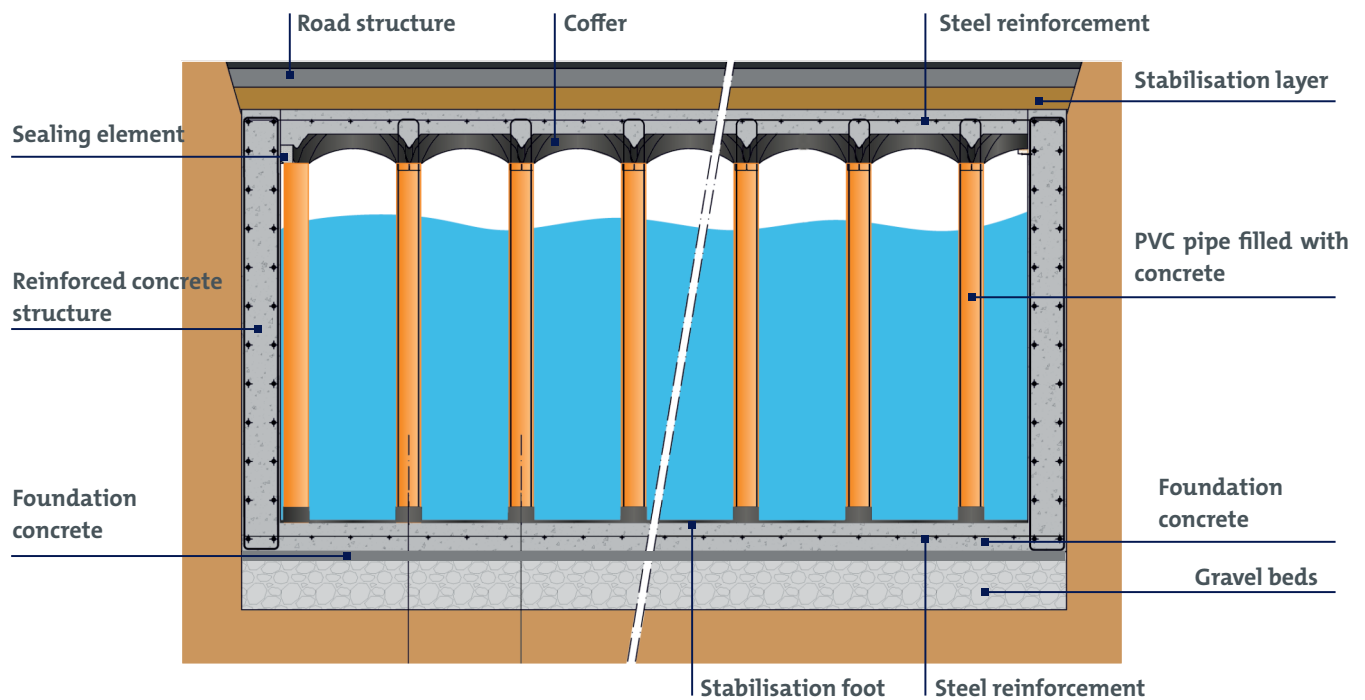
Coffer



Technical solution is always individual and depends on the requirements and conditions of the structure.

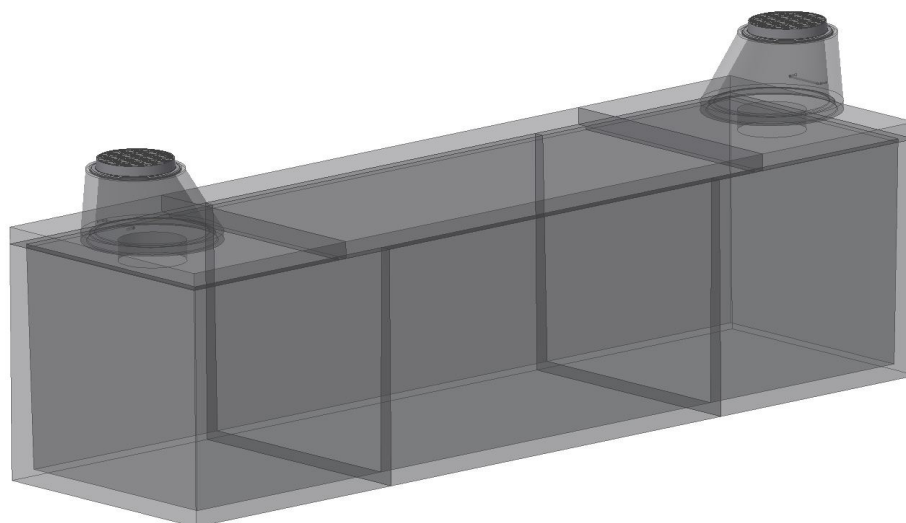
V-Alfatec safeguards the entire constructions of tanks, including comprehensive design documentation. It goes without saying that the solution also includes technical parts related to the tank operation, such as sludge area, pump area, flow rate controllers, oil water separators, etc.

Rainwater Tank



Alfa MODUL Tank

Reinforced Concrete Tanks



NEW

Alfa MODUL tanks are covered, underground watertight tanks with an outlet, used to retain rainwater for further use, such as watering, for technical purpose or without any use with a controlled outlet option. Alfa MODUL tanks serve to decrease the water run-off from an area. Water run-off control can be done either using a run-off controller or a pump. MODUL tanks can also be used to store fire water or as accumulation tanks for sewage water. Reinforced concrete tanks are made of C 30/37 Class concrete. The advantage of these tanks is that their entire volume can be modulated and the end is closed with front-ends on both sides. The individual segments are connected using a rubber gasket with screw connections. Using screw connections,

the ceiling slabs are screwed to the tank so that the slab covers the individual segment joints. Once assembled, the tank gaps are sealed with polyurethane filler, thus achieving an enhanced joint tightness. Unused screw holes are covered with plastic lids that are sealed over with polyurethane filler. The tank can consist of a single set or, if larger retention volume is needed, can have several interconnected sets. The individual sets are interconnected with PVC pipes via transitions and rubber gaskets that are inbuilt into the tanks during manufacture. Such transitions are completely watertight and their assembly is very easy and fast.

Art. Nr.	Name	Tank Volume (m ³)	Parameters (L x W x H) (mm)	DN (mm)	Heaviest Piece Weight (kg)	Total Weight (kg)
89000912	Tank MODUL 26	26	6,500x2,400x2,250	as required	5,000	20,300
89000913	Tank MODUL 28	28	7,000x2,400x2,250	as required	5,000	21,700
89000914	Tank MODUL 31	31	7,700x2,400x2,250	as required	6,200	23,700
89000915	Tank MODUL 33	33	8,300x2,400x2,250	as required	7,300	25,300
89000916	Tank MODUL 36	36	8,900x2,400x2,250	as required	8,400	26,900
89000917	Tank MODUL 39	39	9,500x2,400x2,250	as required	9,600	28,800
89000918	Tank MODUL 47	47	11,500x2,400x2,250	as required	9,600	34,500
89000919	Tank MODUL 49	49	12,000x2,400x2,250	as required	9,600	36,100
89000920	Tank MODUL 52	52	12,700x2,400x2,250	as required	9,600	38,000
89000921	Tank MODUL 55	55	13,300x2,400x2,250	as required	9,600	39,800
89000922	Tank MODUL 60	60	14,500x2,400x2,250	as required	9,600	43,000
89000923	Tank MODUL 80	80	19,500x2,400x2,250	as required	9,600	57,600
89000924	Tank MODUL 100	100	24,500x2,400x2,250	as required	9,600	72,000
89000925	Tank MODUL 120	120	14,500x4,900x2,250	as required	9,600	86,000
89000926	Tank MODUL 160	160	19,500x4,900x2,250	as required	9,600	115,200
89000927	Tank MODUL 200	200	24,500x4,900x2,250	as required	9,600	144,000

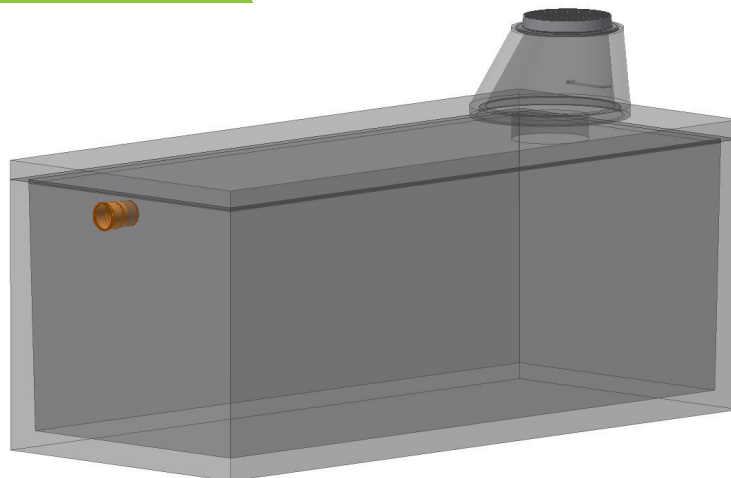


Tank volume can be adjusted to the customer's needs.

Accumulation Tanks

Reinforced Concrete Tanks

Accumulation tanks are covered underground watertight tanks with no outlet to accumulate sewage waste water, usually drained using a cesspool emptier. Tanks with an outlet are used to store the rainwater for later use such as watering or technical purpose. Reinforced concrete tanks are made of C 30/37 Class concrete. The ceiling slab/tank joint is sealed with a rubber gasket and screw connections. The connection is watertight and permanently elastic.



Reinforced concrete tanks with extenders

- variable dimensions

Art. Nr.	Name	Tank Volume (m³)	Parameters (L x W x H) (mm)	DN (mm)	Tank Weight (kg)	Total Weight (kg)
89001000	AN 2	2	Ø 1,440x2,100	as required	2,850	3,580
89001001	AN 3	3	Ø 1,840x1,800	as required	3,430	4,680
89001002	AN 5	5	Ø 2,390x1,700	as required	4,680	6,680
89001003	AN 9,5	9.5	2,500x2,400x2,250	as required	7,900	10,600
89001004	AN 12	12	3,100x2,400x2,250	as required	8,600	11,600
89001005	AN 14,5	14.5	3,700x2,400x2,250	as required	10,500	14,500
89001008	AN 16,9	16.9	4,300x2,400x2,250	as required	11,800	16,450
89001009	AN 19,4	19.4	4,900x2,400x2,250	as required	13,000	18,300
89001006	AN 20	20	6,000x2,300x2,000	as required	10,000	20,000
89001010	AN 21,9	21.9	5,500x2,400x2,250	as required	14,300	22,050
89000911	AN 22	22	6,000x2,300x2,250	as required	12,000	22,000
89001007	AN 25	25	6,000x2,300x2,500	as required	12,000	24,000



Tank volume can be adjusted to the customer's needs.



Reinforced Concrete Tanks

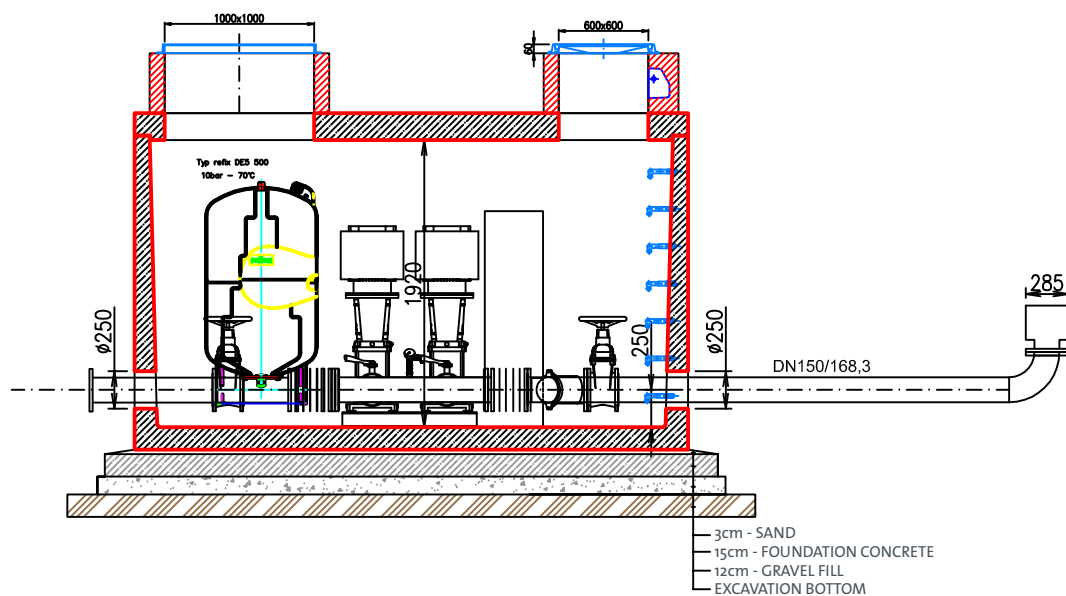
Automatic technological stations (ATS) are equipment that serves to bring water under pressure to its destination.

ATS is used in fire water distribution systems or in potable water distribution systems together with water treatment plants. Except for this most common use, ATS can also be used as a temporary site accommodation. Along with cleaning equipment, it can serve to wash construction vehicles.

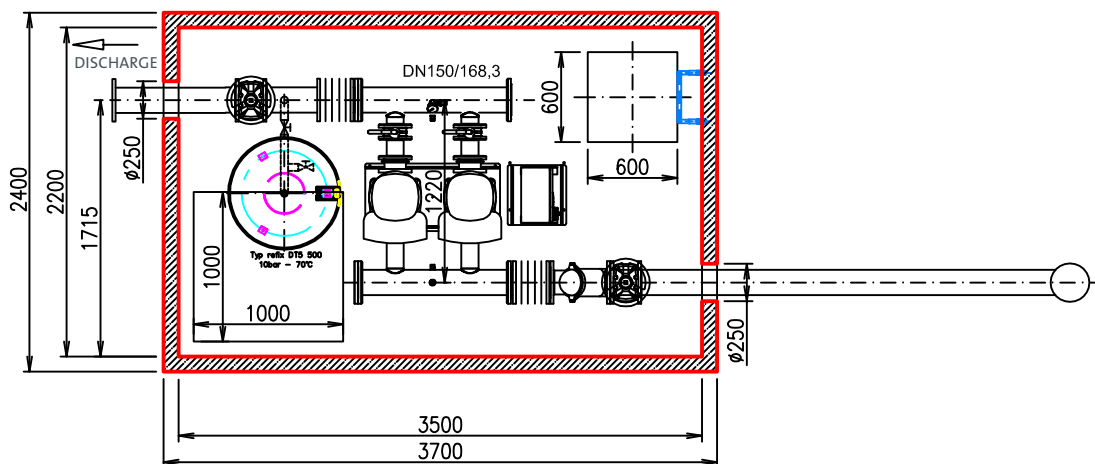
ATS is supplied by V-ALFATEC, s.r.o. as a complete delivery - constructional and technology parts as well as design proposal.



CROSS SECTION A-A



GROUND PLAN





Reinforced Concrete Tanks

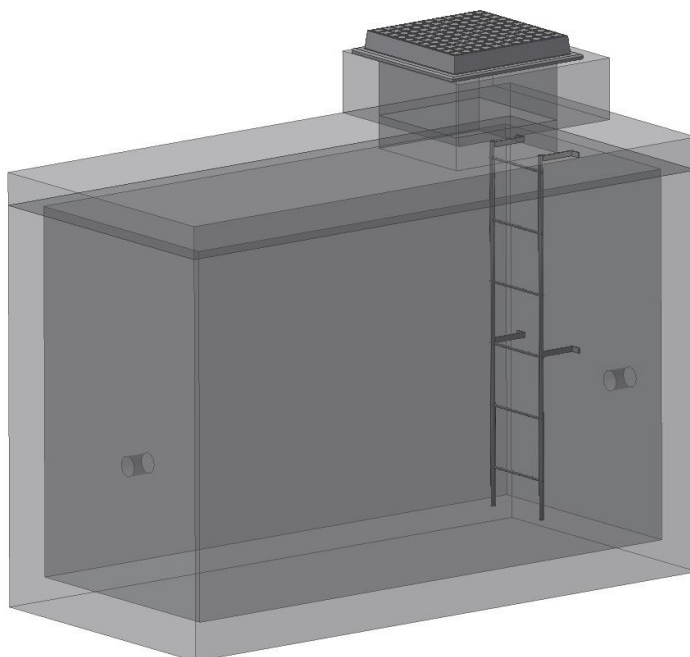
Product Description:

A reinforced concrete shaft is perceived as a spatial element. The static system is selected as a solid connection between the walls and tank bottom slab. Wall thickness (120, 140, 160, 180, 200, 250 mm) is designed as per requirement. The bottom slab is min. 150 mm. Min. thickness of the top slab is 160 mm. The individual bottom, wall and top thickness is subject to static calculations as per requirements and spatial arrangement of the shaft. The reinforced concrete shaft is made from C25/30 Class concrete.

Use Purpose and Method:

The reinforced concrete tank is used as a shaft where various technology can be embedded, such as valves, water meters, AT stations, etc.

As per customer's requirements, an access ladder of plastic-coated steps can be added to the shaft.



Product Range

Art. Nr.	Inner parameters (L x W x H) (mm)	Tank Volume (m³)	Heaviest Piece Weight (kg)	Top Slab Weight (kg)	Total Weight (kg)
89000800	1,200x900x1,800	1.9	2,200	600	2,800
89000801	1,200x1,200x1,800	2.6	3,600	850	4,450
89000816	1,400x1,200x1,800	3.0	4,100	900	5,000
89000803	1,500x1,200x1,800	3.3	4,250	950	5,200
89000817	1,600x1,200x1,800	3.5	4,400	1,000	5,400
89000818	1,800x1,200x1,800	3.9	4,750	1,100	5,850
89000819	2,060x1,200x1,800	4.5	5,200	1,250	6,450
89000820	2,150x1,200x1,800	4.6	5,300	1,300	6,600
89000806	2,500x1,200x1,800	5.4	5,900	1,500	7,400
89000821	2,760x1,200x1,800	6.0	6,400	1,600	8,000
89000822	3,200x1,200x1,800	7.0	7,100	1,850	8,950
89000807	1,500x1,400x1,800	3.8	4,600	1,000	5,600
89000823	1,600x1,400x1,800	4.0	4,800	1,100	5,900
89000824	1,800x1,400x1,800	4.5	5,150	1,250	6,400
89000825	2,060x1,400x1,800	5.2	5,600	1,400	7,000
89000826	2,150x1,400x1,800	5.4	5,750	1,500	7,250
89000804	2,500x1,400x1,800	6.3	6,400	1,700	8,100
89000827	2,760x1,400x1,800	7.0	6,850	1,850	8,700
89000828	3,200x1,400x1,800	8.0	7,600	2,100	9,700
89000862	3,500x1,400x1,800	8.8	10,000	2,600	12,600
89000856	3,750x1,400x1,800	9.5	10,500	2,800	13,300
89000858	4,000x1,400x1,800	10	11,000	3,000	14,000
89000863	4,250x1,400x1,800	10.7	11,500	3,150	14,650
89000864	4,500x1,400x1,800	11.3	12,000	3,300	15,300

Art. Nr.	Inner parameters (L x W x H) (mm)	Tank Volume (m³)	Heaviest Piece Weight (kg)	Top Slab Weight (kg)	Total Weight (kg)
89000802	1,500x1,500x1,800	4	4,650	1,200	5,850
89000829	1,600x1,500x1,800	4.3	5,000	1,200	6,200
89000830	1,800x1,500x1,800	4.9	5,300	1,350	6,650
89000831	2,060x1,500x1,800	5.6	5,800	1,500	7,300
89000832	2,150x1,500x1,800	5.8	6,000	1,500	7,500
89000860	2,500x1,500x1,800	6.8	6,600	1,800	8,400
89000833	2,760x1,500x1,800	7.5	7,000	2,000	9,000
89000834	3,200x1,500x1,800	8.6	7,900	2,250	10,150
89000865	3,500x1,500x1,800	9.5	10,300	2,800	13,100
89000866	3,750x1,500x1,800	10	10,800	3,000	13,800
89000809	4,000x1,500x1,800	10.8	11,300	3,150	14,450
89000867	4,250x1,500x1,800	11.5	11,800	3,300	15,100
89000868	4,500x1,500x1,800	12.2	12,400	3,500	15,900
89000835	1,800x1,600x1,800	5.2	5,550	1,400	6,950
89000836	2,060x1,600x1,800	6	6,000	1,600	7,600
89000837	2,150x1,600x1,800	6.2	6,200	1,650	7,850
89000869	2,500x1,600x1,800	7.2	6,850	1,900	8,750
89000838	2,760x1,600x1,800	8	7,300	2,100	9,400
89000839	3,200x1,600x1,800	9.2	8,150	2,400	10,550
89000870	3,500x1,600x1,800	10	10,500	2,900	13,400
89000871	3,750x1,600x1,800	10.8	11,000	3,150	14,150
89000872	4,000x1,600x1,800	11.5	11,600	3,300	14,900
89000873	4,250x1,600x1,800	12.2	12,200	3,500	15,700
89000874	4,500x1,600x1,800	13	12,700	3,700	16,400

Product Range

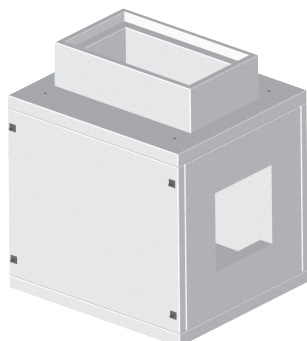
Art. Nr.	Inner parameters (L x W x H) (mm)	Tank Volume (m³)	Heaviest Piece Weight (kg)	Top Slab Weight (kg)	Total Weight (kg)
89000840	2,060x1,800x1,800	6.7	6,400	1,800	8,200
89000841	2,150x1,800x1,800	7	6,600	1,850	8,450
89000859	2,500x1,800x1,800	8.1	7,300	2,100	9,400
89000842	2,760x1,800x1,800	9	7,800	2,300	10,100
89000843	3,200x1,800x1,800	10.4	8,350	2,650	11,000
89000844	3,500x1,800x1,800	11.3	11,150	3,250	14,400
89000875	3,750x1,800x1,800	12.2	11,700	3,500	15,200
89000845	4,000x1,800x1,800	13	12,700	3,700	16,400
89000876	4,250x1,800x1,800	13.8	12,800	3,900	16,700
89000846	4,500x1,800x1,800	14.6	13,400	4,100	17,500
89000861	2,150x2,060x1,800	8	7,100	2,100	9,200
89000877	2,500x2,060x1,800	9.3	7,850	2,350	10,200
89000847	2,760x2,060x1,800	10.2	8,000	2,600	10,600
89000848	3,200x2,060x1,800	11.9	9,300	3,000	12,300
89000849	3,500x2,060x1,800	13	11,900	3,600	15,500
89000878	3,750x2,060x1,800	13.9	12,500	3,900	16,400
89000850	4,000x2,060x1,800	14.8	13,000	4,150	17,150

Art. Nr.	Inner parameters (L x W x H) (mm)	Tank Volume (m³)	Heaviest Piece Weight (kg)	Top Slab Weight (kg)	Total Weight (kg)
89000879	4,250x2,060x1,800	15.8	13,600	4,350	17,950
89000851	4,500x2,060x1,800	16.7	14,200	4,600	18,800
89000880	2,500x2,150x1,800	9.7	8,100	2,450	10,550
89000857	2,760x2,150x1,800	10.7	8,250	2,900	11,150
89000852	3,200x2,150x1,800	12.4	9,500	3,100	12,600
89000853	3,500x2,150x1,800	13.5	12,150	3,800	15,950
89000881	3,750x2,150x1,800	14.5	12,750	4,000	16,750
89000854	4,000x2,150x1,800	15.5	13,300	4,300	17,600
89000882	4,250x2,150x1,800	16.5	13,900	4,500	18,400
89000855	4,500x2,150x1,800	17.4	14,500	4,800	19,300
89001901	Ladder		10,000	0	10,000
89001092	Stack H=200		150	0	150
89000810	Stack H=250		250	0	250
89000811	Stack H=300		300	0	300
89001447	Lid 600x600 Cl.A 15kN				15
89001450	Lid 600x600 Cl.D 400kN				50

References



Cable Pits

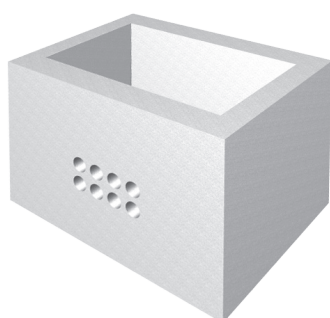


Cable Pits - 5 Different Sizes

Used as working pits Y-points and cable crossing sites. Pits can store cables that can be later used as extension of cable lines.

Pits also serve to level uneven surfaces, e.g. railroad crossings.

Art. Nr.	Cable pit 6-piece	Inner dimensions (L x W x H)	Outer dimensions (L x W x H)	Weight (approx.)
40021	Cable pit KS 1 6-piece	1,750 x 1,500 x 1,800 mm	2,070 x 1,820 x 2,200 mm	8,482 kg
40022	Cable pit KS 2 6-piece	2,000 x 1,500 x 1,800 mm	2,320 x 1,820 x 2,200 mm	9,215 kg
40023	Cable pit KS 3 6-piece	2,000 x 1,750 x 1,800 mm	2,320 x 2,070 x 2,200 mm	10,028 kg
40024	Cable pit KS 4 6-piece	2,500 x 2,000 x 1,800 mm	2,900 x 2,400 x 2,200 mm	14,612 kg
40025	Cable pit KS 5 6-piece	3,000 x 2,000 x 1,800 mm	3,400 x 2,400 x 2,200 mm	16,482 kg



Auxiliary Pits - 2 Standard Sizes

Used mostly on platforms as inter-shafts to enter small pipelines that feed lighting features, loudspeakers, watch, etc. We can install entrance and transitions upon request.

Art. Nr.	Auxiliary Shaft Single-piece	Inner dimensions (L x W x H)	Outer dimensions (L x W x H)	Weight (approx.)
40050	Auxiliary Shaft Simple Single-piece	700 x 700 x 1,030 mm	1,020 x 1,020 x 1,200 mm	1,664 kg
40051	Auxiliary Shaft Double Single-piece	1,440 x 700 x 1,030 mm	1,760 x 1,020 x 1,200 mm	2,493 kg



Shaft 6-piece



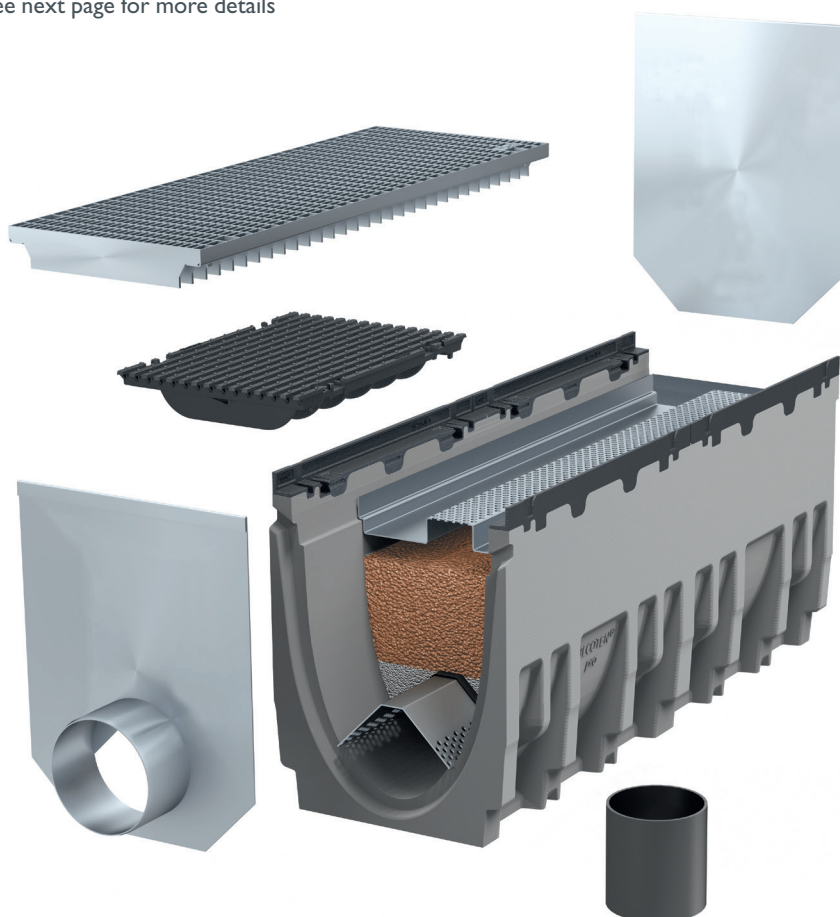
Double-piece Shaft - tank + top slab.
Dimension Range Table Valve pits

Cleaning Substrate Channel

FILCOTEN[®] green filters both organic and inorganic impurities from rainwater before it enters water circulation whether via run-in or sewage. See next page for more details of equipment and its function.

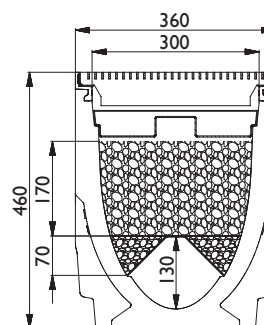
Obvious Advantages

- sustainable protection of underground water and soil
- retains 99% of heavy metals, organic substances and particles
- oil residues get biologically degraded
- decrease of contamination level in waste water system
- operation life up to 20 years
- suitable for implementation into waste water sewage network
- resistant up to E 600 Class
- inspection and cleaning options
- low investment and maintenance costs
- easy maintenance and substrate exchange

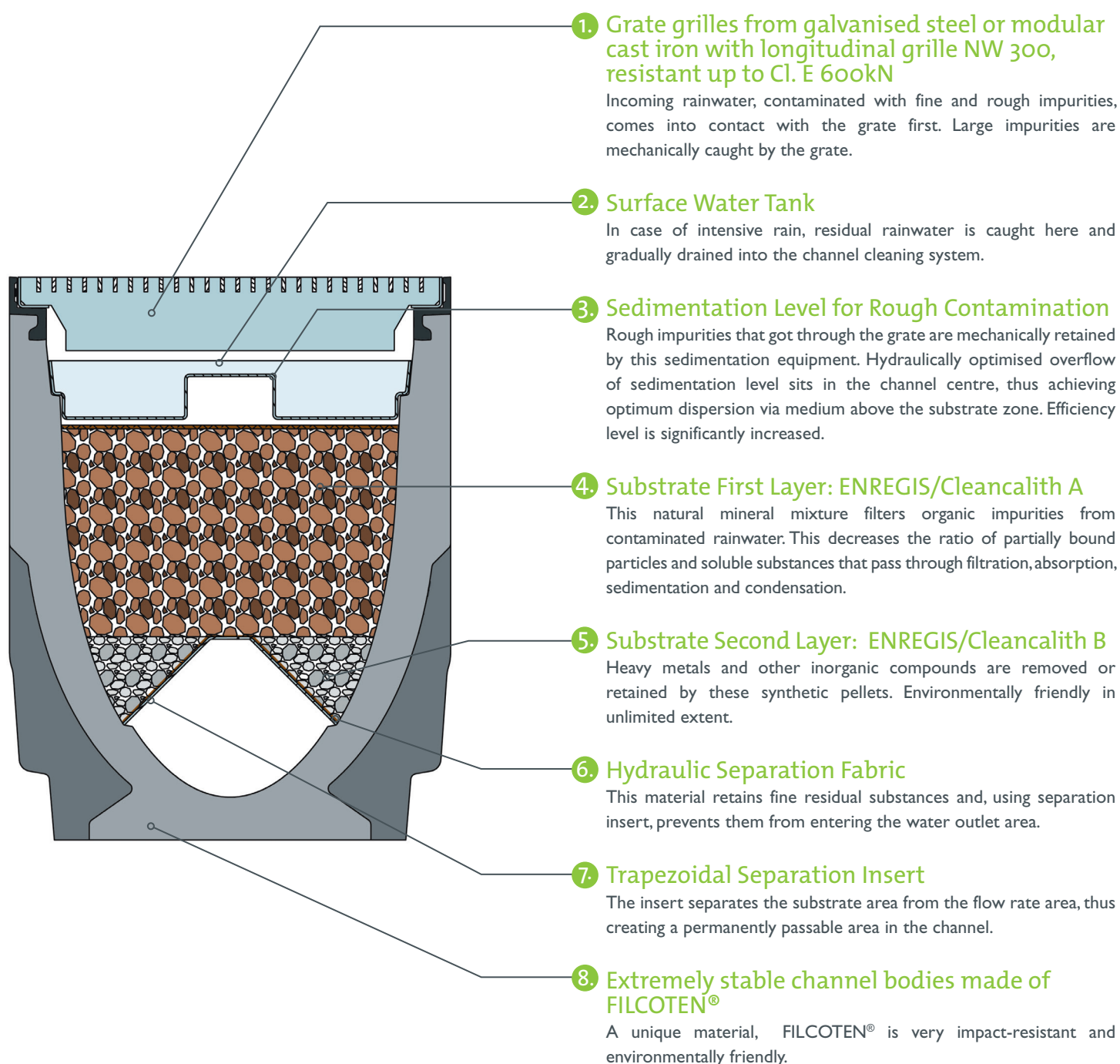


FILCOTEN[®] green Product Range

Art. Nr.	Accessories	Material
<i>Channel body, inlet, grates – set FILCOTEN pro 300</i>		
I 9530950	Set consists of separation insert, separation fabric, ENREGIS / Cleancalith A+ B substrate and sedimentation metal sheet	I set / mb of channel
I 9530951	Set consists of separation insert, separation fabric, ENREGIS / Cleancalith A+ B substrate	I set / mb of channel
I 9530911	Rough impurities basin / sediment. Level	Stainless steel V2A
I 9030313	Front/back-end solid wall	Stainless steel V2A
I 9030350	Back-end wall with DN150 outlet	Stainless steel V2A



Technology Set Up-Close





General Terms and Conditions

for the sale of products supplied by V-Alfatec, s.r.o. (hereinafter referred to as “Commercial Terms”)

I. Validity

The Commercial Terms apply to all concluded business transactions, commercial contracts and both supplies associated therewith and additional deliveries between V-Alfatec, s.r.o. Kátlovce 303, 919 55 Kátlovce, Slovak Republic, hereinafter referred to as the “Seller” and its business partner, hereinafter referred to as the “Buyer”. Whenever goods are ordered by the Buyer, these Commercial Terms are thereby deemed to have been accepted by him. Any and all other deviations herefrom shall come into force only after they have been confirmed in writing by the Seller.

II. Tenders and Conclusion of Agreements

All price data provided in tariffs and tenders are non-binding until a commercial relationship has been established. All dimensions, weights, images, descriptions, sketches and drawings in catalogues, tariffs and other printed matter to be made known and an understanding obtained thereof are non-binding. Any change in the price of input materials shall entitle the Seller to change correspondingly his price. An agreement shall be reached upon confirmation of the (order) price by the Seller.

III. Prices, Invoices, Supplies and Returns

The quoted and invoiced prices are understood to be net, exclusive of VAT, and ex-works (EXW) V-Alfatec s.r.o., Kátlovce, Slovak Republic. The actual amount to be billed is for the dimensions and volume of actual deliveries or for services actually rendered. Transport costs to the site will be separately billed to the Buyer (unless agreed otherwise). The Seller reserves the right to change prices if the total price of the order differs from the quoted price.

The Seller may only take back those items which he has supplied, upon having approved the return and if the goods are intact. Handling fees of 15% will be deducted from the credit note to be issued by the Buyer for returned items. The Buyer shall not be entitled to return products to V-Alfatec, s.r.o. produced at the Buyer's own individual specifications and requirements, unless it results from a legitimate complaint.

Concluded orders may only be partially or fully cancelled with the consent of the Seller, and with the charging of a 20% cancellation fee.

1. The Seller shall supply the Buyer with the subject of the contract at the stipulated place and time. The Buyer undertakes to take from the Seller the ordered goods at the stipulated place and time, and to pay for them the stipulated purchase price.
2. The Buyer is only allowed to use the supplied goods in accordance with the purpose for which they are intended. If they are used in any way other than as intended, the Seller shall not be liable for damage thereby incurred, or either caused to the goods by another person or in other matters related thereto.
3. The Seller shall not be considered in delay of supplying the subject of the contract when the goods cannot be delivered due to failure by the Buyer to provide proper and timely interaction, and also in the case of either unavoidable circumstances or default by the Buyer in the payment of negotiated instalments and/or deposits.
4. The Seller's obligation to supply the ordered goods duly and properly to the place of delivery shall be fulfilled:
 - a) When the goods have been delivered to the Buyer at the stipulated place (whenever transport is provided by the Seller);
 - b) When the goods have been taken by the Buyer at the Seller's works (whenever transport is provided by the Buyer);
 - c) When the goods have been forwarded to the place of delivery defined by the Buyer;
 - d) When the Buyer unjustifiably refuses to take the goods or illegitimately refuses to sign the delivery note.

Whenever goods are to be transported to the Buyer, the Seller undertakes to have the delivery note forwarded therewith. The Buyer consents, in the case of goods to be imported directly to the construction site, for the Seller to forward them to anyone who has declared himself entitled to take the goods on behalf of the Buyer. The supply of goods shall be confirmed by either the Buyer's authorised representative or anybody who declares himself entitled to take the goods on behalf of the Buyer, with his (or her) signature and legibly written forename and surname on the delivery note.

5. The Buyer undertakes to pay to the Seller either the purchase price or the stipulated amount to be billed within thirty (30) days of issue of the invoice (unless agreed otherwise). Whenever the Buyer fails to pay to the Seller the price for the subject of the contract, after having received previous written notice from the Seller thereof, the Seller shall be thereby entitled to seek recovery of the amount by third parties through either extrajudicial or judicial



enforcement, or to authorise his legal representative to do so, where the Buyer shall undertake to settle any and all verifiable costs for these services within twenty-one (21) days of the issue of an invoice therefor by the Seller.

6. Rights to own and dispose of the subject of the contract shall pass from the Seller to the Buyer when full payment of the purchase price and any and all contractual penalties has been received. The Buyer shall not be entitled to resell the goods to third parties until the moment when full payment has been received, nor to export, process or machine them, or to settle debts to third parties with them, nor to otherwise transfer them to a third party, lend them or put them up as a deposit and the like. The Buyer is only entitled to resell goods taken over from the Seller with the Seller's written consent and, unless the purchase price has been paid to the Seller, the Buyer shall be obliged to warn his customers that the supplied goods are not in his possession and is so obliged to return them unless such payment is made by him. The Parties agree that if the Buyer fails to provide such information, he shall then undertake to pay to the Seller one-time liquidated damages amounting to 5% of the price of the supplied goods, within fourteen (14) days of issue of an invoice therefor by the Seller.
7. If the Buyer is in default in the payment of any billed amount, he shall undertake to pay to the Seller a contractual penalty amounting to 0.1% of the outstanding billed amount for each day until the amount has been paid. Payment of the contractual penalty shall not prejudice any claim by the Seller to be indemnified. The Buyer is not allowed to set off his annual claims against the Seller without the Seller's express consent. Unless the Buyer pays to the Seller the price for the subject of the contract (or part thereof), the Seller shall be entitled to take back such supplied and unpaid goods thereunder, where the Buyer shall undertake to cooperate with the Seller in doing so. The Seller shall not be obliged either to recover liquidated damages and contractual penalties from the Buyer or to forgive them in cases deserving special consideration, taking into account previous and future business cooperation.
8. The Seller shall warrant the quality of the subject of the contract for a period of twenty-four (24) months from the date when the goods are taken.
9. The Buyer shall claim any defects in the subject of the contract, or part thereof, apparent upon delivery and takeover when the subject has been delivered and is to be taken, otherwise such a right shall be extinguished.
10. Defects later identified by the Buyer after professional care shall be claimed at latest by the expiration of the Seller's warranty period, and at all times in writing.
11. The Buyer shall indicate the faults in a written complaint and describe the effects thereof, while keeping the subject of the contract, or part thereof, in its possession for inspection by the Seller.
12. The Seller shall not be liable for defects in goods resulting from the incorrect use thereof in manufacturing and/or installation by the Buyer, from mishandling or improper storage, or from utilisation of the delivered goods. Complaints can only be made by the Buyer and no one else.
13. The Parties undertake to indemnify each other for any damage to have been caused by breach of contractual and/or legal obligations. Contractual penalties and liquidated damages hereunder are not included in such compensation for damages stipulated here.
14. The Parties to a contract agree to have all disputes between them arising out of legal relationships thereunder or relating thereto, including disputes about the validity, interpretation and termination thereof, as well as any disputes that have arisen or arise between them from the legal relationships established under previously signed contracts or related thereto and from disputes concerning the validity, interpretation and termination of such contracts, submitted for decision by an arbitrator, namely Mgr. Tomáš Tomaniček, Sládkovičova 6, 010 01 Žilina, Slovak Republic. The dispute shall be arbitrated according to the Arbitration Rules established by JUDr. Tomáš Tomaniček, Sládkovičova 6, 010 01 Žilina, Slovak Republic (including the setting of arbitration fees and the arbitration procedure), which can be found at his website. The Parties undertake to submit to the decision of the arbitrator from arbitration and such a decision will be final, binding and enforceable upon them. The address for bringing action is JUDr. Tomáš Tomaniček, Sládkovičova 6, 010 01 Žilina, Slovak Republic.
15. These Commercial Terms are agreed by the Parties pursuant to Sec. 273 of the Commercial Code and are an integral part of any purchase contract and order.

Kátlovce: January 1, 2017

Jozef Vagovič
Director, V-Alfatec, s.r.o.

Test Protocols

 TECHNICKÝ A SKÚŠOBÝ ÚSTAV STAVEBNÝ, s. r. o. Skúšobné laboratórium Slovenská 3, 821 04 Bratislava		PRODUCT SAMPLE Description of the sample: separator system for light liquids from concrete Designation of the sample by client: LO ALFA B1 Production date: 2015 Place and date of sampling: at the manufacturer's address, September 8 th 2015 Sampling performed by: client Place and date of delivery: at the manufacturer's address, September 8 th 2015 Designation of the sample by lab: none											
Laboratory branch in A. Rudavya 90, 010 01 Žilina, tel: +421 41 6883 494, fax: +421 41 6883 458, e-mail: lab.zs@tslo.sk		TESTS Determination of the class separator system for light liquids – content of residual oil Test procedure: EN 858-1, clause 8.3.3.1.3 Description of test specimens: identical with description of the sample Test specimens prepared by: client Test conditions: test was performed at the client. Sampling and analysis of wastewater was made by a testing laboratory VUVH Bratislava – National Reference Laboratory for the water sector in Slovakia, accredited organization for the sampling and analysis of wastewater SNAS according to ISO/IEC 17025, reg. No. 059/S-100. Deviations from the standard: none Date of test: September 9 th 2015 Supervisor: Ing. Peter Míľuška											
TEST REPORT No. 60-15-1802 JOB No.: 60110247 Client: V-ALFATEC, s. r. o. Káľovce 303 919 55 Káľovce Slovakia		EVALUATION: Based on results of tests content of residual oil may the separator classified in Class 1 within the meaning of EN 858-1, Table 1. ANNEXES: Annex 1 – Test report No. 78598 + 78502											
OBJECT OF TESTING Product: separator system for light liquids Manufacturer: manufacturer is the client Manufacturing plant: Sereď 928 01, Níková ulica 4346, Slovakia Standard of product: EN 858-1:2003/A1:2004 – Separator systems for light liquids (e. g. oil and petrol). Part 1: Principles of product design, performance and testing, marking and quality control		Date of report: October 1 st 2015 Prepared by: Ing. Peter Míľuška Authorized by: Ing. Peter Míľuška Head of Laboratory Branch  Notes: • Unless the Test Laboratory makes the sampling, data on the manufacturer, its manufacturing plant and about the sampling are presented according to information provided by the client • Presented results are relevant to the product sample only • This report shall not be reproduced without in full written approval of the Test Laboratory. End of test report											
		Applied instrumentation: <table border="1"> <thead> <tr> <th>ID</th> <th>Name</th> <th>Range</th> <th>Unit</th> <th>Division</th> </tr> </thead> <tbody> <tr> <td>M601001</td> <td>Stopwatch</td> <td>0-24</td> <td>h</td> <td>1 s</td> </tr> </tbody> </table>		ID	Name	Range	Unit	Division	M601001	Stopwatch	0-24	h	1 s
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WATER RESEARCH INSTITUTE BRATISLAVA The Slovak National Reference Laboratory for Waters Nítr. arm. gem. L. Svoboda 5, 812 49 Bratislava, Slovakia fax: +421/2/54 41 80 47, tel: +421/2/59 34 34 52 The laboratory is accredited by Slovak National Accreditation Service for testing, certificate of accreditation No. S-100    Reg. No. 059/S -100		WATER RESEARCH INSTITUTE BRATISLAVA The Slovak National Reference Laboratory for Waters Nítr. arm. gem. L. Svoboda 5, 812 49 Bratislava, Slovakia fax: +421/2/54 41 80 47, tel: +421/2/59 34 34 52 The laboratory is accredited by Slovak National Accreditation Service for testing, certificate of accreditation No. S-100    Reg. No. 059/S -100		WATER RESEARCH INSTITUTE BRATISLAVA The Slovak National Reference Laboratory for Waters Nítr. arm. gem. L. Svoboda 5, 812 49 Bratislava, Slovakia fax: +421/2/54 41 80 47, tel: +421/2/59 34 34 52 The laboratory is accredited by Slovak National Accreditation Service for testing, certificate of accreditation No. S-100    Reg. No. 059/S -100																																					
SAMPLE ANALYSIS REPORT No. 78604 Sample No.: NRL/78604 Client name: V-ALFATEC, s.r.o. Client address: Níková ul. 4346, 926 01 Sereď tel: Client Sample: Sample No. 2 - LO ALFA B2 Identification of sample: Waste water Date received: 9. 9. 2015 Method of sampling: Sampling by the Slovak National Water Reference Laboratory (NRL) (Protokol o odb.vz.č. 78604) Date sample taken: 9. 9. 2015 The input date of last analysis to system: 16. 9. 2015 TEST RESULTS : See table page No. 2		SAMPLE ANALYSIS REPORT No. 78598 Sample No.: NRL/78598 Client name: V-ALFATEC, s.r.o. Client address: Níková ul. 4346, 926 01 Sereď tel: Client Sample: Sample No. 1 - LO ALFA B1 Identification of sample: Waste water Date received: 9. 9. 2015 Method of sampling: Sampling by the Slovak National Water Reference Laboratory (NRL) (Protokol o odb.vz.č. 78598) Date sample taken: 9. 9. 2015 The input date of last analysis to system: 16. 9. 2015 TEST RESULTS : See table page No. 2		SAMPLE ANALYSIS REPORT No. 78599 Sample No.: NRL/78599 Client name: V-ALFATEC, s.r.o. Client address: Níková ul. 4346, 926 01 Sereď tel: Client Sample: Sample No. 2 - LO ALFA B1 Identification of sample: Waste water Date received: 9. 9. 2015 Method of sampling: Sampling by the Slovak National Water Reference Laboratory (NRL) (Protokol o odb.vz.č. 78599) Date sample taken: 9. 9. 2015 The input date of last analysis to system: 16. 9. 2015 TEST RESULTS : See table page No. 2																																					
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Certificates

TECHNICKÝ A SKÚŠBOÝ ÚSTAV STAVEBNÝ, s. r. o.
Košúrová 17, 821 01 Bratislava
Súbor 3, 821 01 Bratislava

Certifikácia podľa normy ISO 9001

PRODUCT CERTIFICATE No. 00034/TSUS/Y/2011

from 20 October 2011

Product: Grease separator LT ALFA

Manufacturer: V-ALFATEC, s. r. o.
919 55 Káľovec 303, Slovakia Republic

Business ID: 36757306

Manufacture place: V-ALFATEC, s. r. o.
Hlávová 634/2, 828 01 Staré, Slovakia Republic

Business ID: 36757306

This product was the subject of the certification in accordance with the working procedures of TSUS, as an accredited certification body for product certification and

declares, that the product characteristics:

nominal size, dimensional accuracy, maximum operating level, water-tightness, accessibility, design of the sludge tank, design of the separator, carrying capacity, storage capacity —

respond to the following criteria:

Amendment to STN EN 12566 Grease separators. Part 1. Principles of design, performance and testing, marking and quality control, issued by V-ALFATEC, s. r. o., Káľovec, effective from March 2011 —

Purpose and conditions of product use: capture and removal of fats and oils contained in wastewater from kitchen and restaurant services, industrial and other establishments. It is used as the preliminary cleaning unit, mounted on a single separate sewer, in which flows water free from gross impurities. It is forbidden to use in the wastewater from toilets through the grease separator —

This certificate is issued on the basis of the Report of product certification No. 00034/TSUS/Y/2011 of the 12 October 2011.

Validity of the certificate from: **20 October 2011 to: without restrictions.**

A part of the product certification are surveillance inspections conducted in given periods and validity of control testing in the specified range.

Note:

The reproduction of the Product Certificate must be possible only as whole, or a part of it only with the written approval of the Certification body. The misuse of the certificate will be by the Certification Body sanctioned under the provisions of relevant laws.

[Signature]
Ing. Danka Kozlovská
Head of certification body

067313

TECHNICKÝ A ROZKUSOVÝ ÚSTAV STAVEBNÝ, s. r. o.
HODNENIE TESTOV A ROZKUSOVANIE STAVEBNÝCH
MATERIÁLŔ A ROZKUSOVANIE STAVEBNÝCH

Certifikát o splnení požiadaviek na certifikáciu výrobkov

CERTIFICATE No. 00033/TSUS/r/2011

from 20 October 2011

Product: Oil-water separator LO ALFA

Manufacturer: V-ALFATEC, s. r. o.
918 Kátovce 303, Slovak Republic

Business ID: 36757306

Manufacture place: V-ALFATEC, s. r. o.
Kátovce 4346, 918 01 Ser, Slovak Republic

Business ID: 36757306

This product was the subject of the certification in accordance with the working procedures of TSUS, as an accredited certification body for product certification and

declares, that the product characteristics:

nominal size, dimensional accuracy, maximum operating level, watertightness, accessibility, design of the sludge tank, design of the separator, carrying capacity, storage capacity.

respond to the following criteria:

Amendment to STN EN 858-1 Separator systems for light liquids (e.g. oil and petrol), Part 1: Principles of product design, performance and testing, marking and quality control, issued by V-ALFATEC, s. r. o., Kátovce, effective from March 2011 –

Purpose and conditions of product use: for cleaning of water polluted with free oil substances or their unstable emulsions. It is used in cases, with the need to clean wastewater or rain water, or when there is a risk of contamination of the recipient by the handling with the product (workshops, garages, paved areas, etc.). The separator can be used for wastewater treatment with a suitable amount of oil and for cleaning of wastewater containing substances handling by temperatures occurring in the sewage (e.g. fat, heavy heating oils, etc.).

The concentration of non-polar extractable substances in the treated water after the separator is max. 5 mg/l. With the inclusion of separator filters are the output values of petroleum substances according to the requirements less than 0.5 mg/l or less than 0.1 mg/l NEEL –

This certificate is issued on the basis of the Report of certification certificate No. 00033/TSUS/r/2011 of the 12 October 2011.

Validity of the certificate from: 20 October 2011 to: without restrictions.

A part of the product certification are surveillance inspections conducted in given periods and performance of control testing in the specified range.

Note:

The reproduction of the product certificate is possible only as whole, or a part of it only with the written approval of the Certification Body. The misuse of the certificate will be by the certification body sanctioned under the provisions of relevant laws.

Ing. Danka Kozáková
Head of certification body

067314

TOLUO TECHNICKÝ A SKÚŠOVÝ ÚSTAV STAVBY, n.o.
BUILDING TESTING AND RESEARCH INSTITUTE, Brno s.r.o.
Svatého S. 621 01 Brno

Testing Institute – Laboratory Brno Zlín, A. Rutovský 6, 602 01 Zlín, ☎ 0415683 494 ☎ 0415683 458 ✉ info@toluocn.cz

Total number of pages excluding attachments: _____

TEST REPORT No. 60110247 - 100
of PRODUCT TEST in compliance with Annex 5 of the Regulation (EU) No. 305/2011 of the European Parliament and of the Council of 9 March 2011 and delegated Regulation (EU) No. 558/2014 of European Commission of 18 February 2014

Separator system for light liquids LO ALFA 100 B

Customer/Manufacturer: V-ALFATEC, s.r.o.
IČO: 36757306
010 55 Kátovské 363
Slovenská republika

Manufacturing plant: V-ALFATEC, s.r.o.
Nábořská ulice 434/6
928 01 Sened
Slovenská republika

Report prepared by: Building Testing and Research Institute
Laboratory Brno Zlín
A. Rutovský 90
010 01 Zlín
Slovak Republic

Time of realization: March – April 2016

Date of report: 8.4.2016

Prepared by: Ing. Helena Sabadovičová

Authorized by – Head of testing laboratory Zlín: Ing. Peter Mišulka







☒ **Division of director**
Technical division
Functional division
Financial division
Quality management
Vývojová divízia
Kvalitný manažér
Technická divízia
Funkčná divízia
Finančná divízia
Vývojová divízia

☒ **Branch Brno-Zlín**
Svatého S. 621 01 Brno
Branch Brno-Mesto v Bratislave
Zemědělská 397/11 811 01 Bratislava
Branch Nitra
Svatého S. 640 11 Nitra
Branch Zlín
Zemědělská 100 01 Zlín

☒ **Branch Zlín**
A. Rutovský 90 010 01 Zlín
Branch Kátovské
Kátovské 363 010 55 Kátovské
Branch Hradec
Budovatelův 15 030 01 Hradec
Branch Tátočná Zlín
Budovatelův 26 030 01 Tátočná Zlín

☒ **Registered**
Územní oddělení v Bratislavě
OVV 47452/020-02
Brno VOB, s. r. o.
Asi, Inc.
02-2421262
Brno 602 01 Brno

DECLARATION OF PERFORMANCE

No. 01/2014

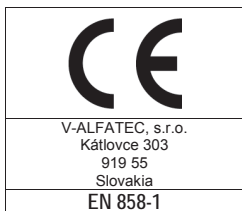
1. Unique identification code of the product-type:
Separator system for light liquids LO ALFA
2. Intended use:
is used for treatment waste water by oil-free substances or unstable emulsions
3. Manufacturer:
V-Alfatec s.r.o.
Kátlovce 303, 919 55
ID: 36 757 306
4. Authorised representative:
not applicable
5. System/s of AVCP: **4**
- 6a. Harmonised standard: **EN 858-1:2002/A1:2004**
- 6b. European Assessment Document: **not applicable**
7. Declared performances:

Essential characteristics	Performance	Harmonised technical specification
Reaction to fire	F	EN 858-1:2002/A1:2004
Watertightness	pass	
Efficiency	pass	
Load bearing capacity	pass	
Durability	pass	

8. Appropriate Technical Documentation and/or Specific Technical Documentation: **not applicable**

The performance of the product identified above is in conformity with the set of declared performance/s. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by: **Jozef VAGOVIČ** – manager



DECLARATION OF PERFORMANCE

No. 02/2014

1. Unique identification code of the product-type: **Grease separator ALFA LT**
2. Intended use:
is used for elimination of greases and oils contained in waste water from kitchen and restaurant establishments, meat production and other establishments
3. Manufacturer:
V-Alfatec s.r.o.
Kátlovce 303, 919 55
ID: 36 757 306
4. Authorised representative:
not applicable
5. System/s of AVCP: **4**
- 6a. Harmonised standard: **EN 1825-1:2004**
- 6b. European Assessment Document: **not applicable**
7. Declared performances:

Essential characteristics	Performance	Harmonised technical specification
Reaction to fire	F	EN 1825-1:2004
Watertightness	pass	
Efficiency	pass	
Load bearing capacity	pass	
Durability	pass	

- 8. Appropriate Technical Documentation and/or Specific Technical Documentation: not applicable**

The performance of the product identified above is in conformity with the set of declared performance/s. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by: **Jozef VAGOVIČ** – manager





HYDRO BG
Sustainable innovation.



V-ALFATEC
the key to clean water

