WCS Environmental Engineering
MARLOWE Environmental Services

Hire

MOBILE WASTEWATER TREATMENT

Flexible solutions built around your business needs

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Want to find out more? about our hire service?

Please scan to learn more!

Contact us:

WCS Environmental Engineering Ltd
+44 (0)1454 299 310
info@wcs-group.co.uk
wcs-group.co.uk

WCSEE HIRE SERVICE

Adapted to your site specification

With tightening environmental standards for sewage and industrial effluent, it is crucial to have robust solutions in place.

Our hire service provides an immediate enhancement to effluent treatment, ensuring environmental compliance is met while giving your business the flexibility to plan for a permanent solution.

Flexible hire options

- Hired on a short or long-term basis
- Transported easily and installed quickly
- Mobile assets can stand alone or sit alongside existing processes
- Solutions can be tailored to help manage costs
- Can effectively deal with seasonal flow and loads
- Internationally-recognised standards ISO 9001, 14001 and 45001

At WCS Environmental Engineering we support your needs throughout the hire process, ensuring your site achieves full environmental protection, no matter the challenge.

FLOCELL XFM FILTRATION SYSTEM

Tertiary Solids And Phosphorus Removal

Flocell XFM is an ultra-low-maintenance solution that consumes significantly less power and water than traditional filtration systems, which often require frequent backwashing, chemical cleaning, and part replacements.

Scalable and modular in design, it offers flexible integration across various process stages. Available for hire and containerised for rapid deployment, the XFM system can be delivered, installed and commissioned quickly.

Key features

- **High solids loading capacity**
  - Single-pass: <10 mg/L TSS discharge
  - Bio-dialysis (multi-pass): <5 mg/L TSS discharge
- **Phosphorus removal: <0.25 mg/L TP discharge with chemical dosing**
- **No backwashing required**
- **Filter clean cycle: up to 30 minutes per week – no chemical cleans required**
- **Uses up to 94% less power and over 99% more water efficient than conventional filters**
- **Commissioning in just 1 hour with <30 mins of on-site operator training**
- **Flexible integration across different process stages**
- **Standardised design – no concrete base required on flat surfaces**
- **20-year lifespan for the XFM housing and media**
  - Blowers, pumps, valves and other components are as per the original manufacturer's warranty
- **Manufactured in the UK**

Flocell
Sustainable Filtration Technology

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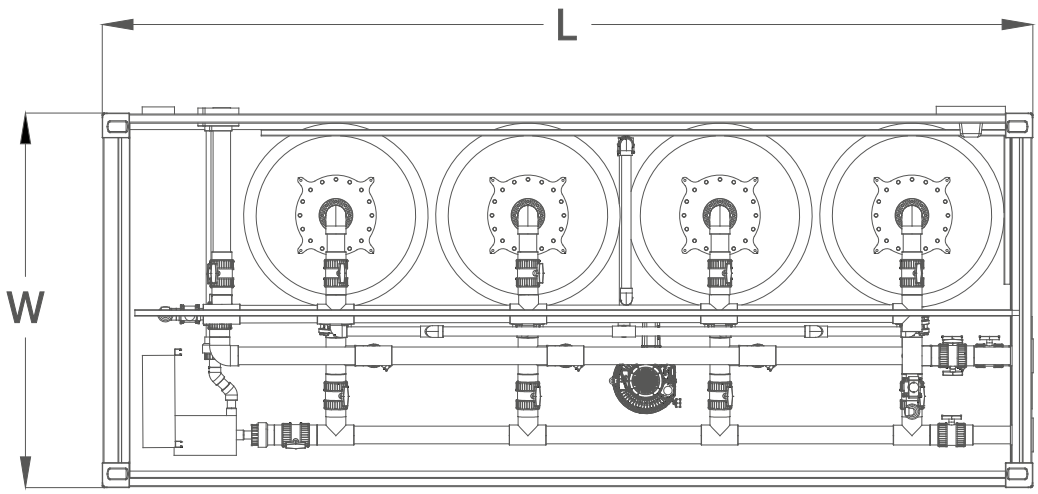
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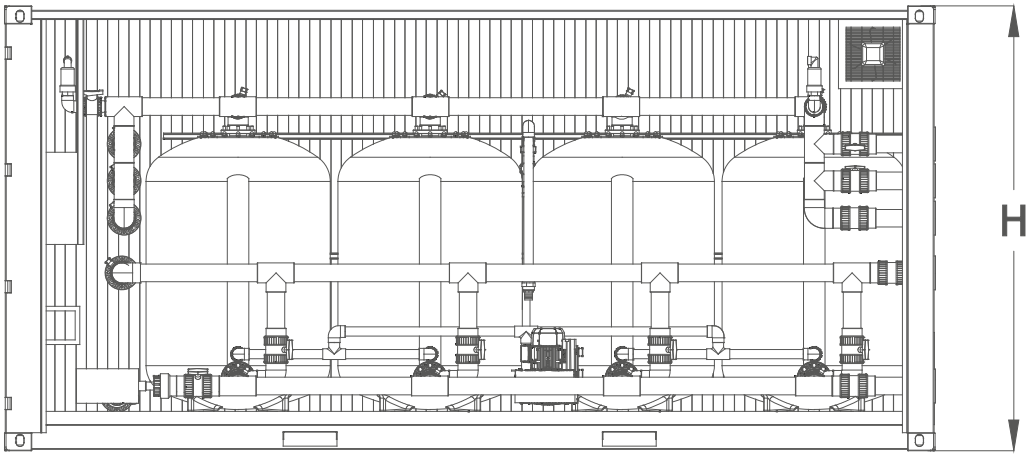
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Modular container options

MODEL	PHASE	CONTAINER SIZE	DIMENSIONS (MM)			WEIGHT (KG)		No. OF XFM FILTERS	FLOW RATE
			L	W	H	Dry	Wet		
XFM5	1ph	10ft	3050	2440	2590	2330	3850	1	5lt/sec
XFM5	3ph	10ft	3050	2440	2590	2330	3850	1	5lt/sec
XFM10	3ph	10ft	3050	2440	2590	3200	6150	2	10lt/sec
XFM20	3ph	20ft-Side Opening Door	6096	2440	2900	5750	11700	4	20lt/sec
XFM40	3ph	40ft-Side Opening Door	12192	2440	2900	11000	23500	8	40lt/sec

MODEL	BLOWER SPEC	No. OF BLOWERS	AIR m3/hr	CONTROL PANEL FEED	FEED PUMP - (SUBMERSIBLE)
XFM5	2BH7420, 1Ph VSD, 1.75kW 6A	1	43	Panel Mounted Appliance socket, 32A	DW M 150 VOX A, 1Ph, 1.1kW, 7.3A
XFM5	2BH7420, 3Ph, 1.75kW 3.45A	1	43	Panel Mounted Appliance socket, 32A	DW M 150 VOX A, 1Ph, 1.1kW, 7.3A
XFM10	2BH1510, 3.45kW, 6.7A	1	95	Panel Mounted Appliance socket, 32A	JST22SV4, 3Ph, 2.2kW, 3" Outlet
XFM20	2BH1610, 4.6kW, 8.6A	1	190	Panel Mounted Appliance socket, 32A	JST55SV4, 3Ph, 5.5kW, 4" Outlet
XFM40	2BH1610, 4.6kW, 8.6A	2	380	Panel Mounted Appliance socket, 32A	JST75SV4, 3Ph, 7.5kW, 4" Outlet

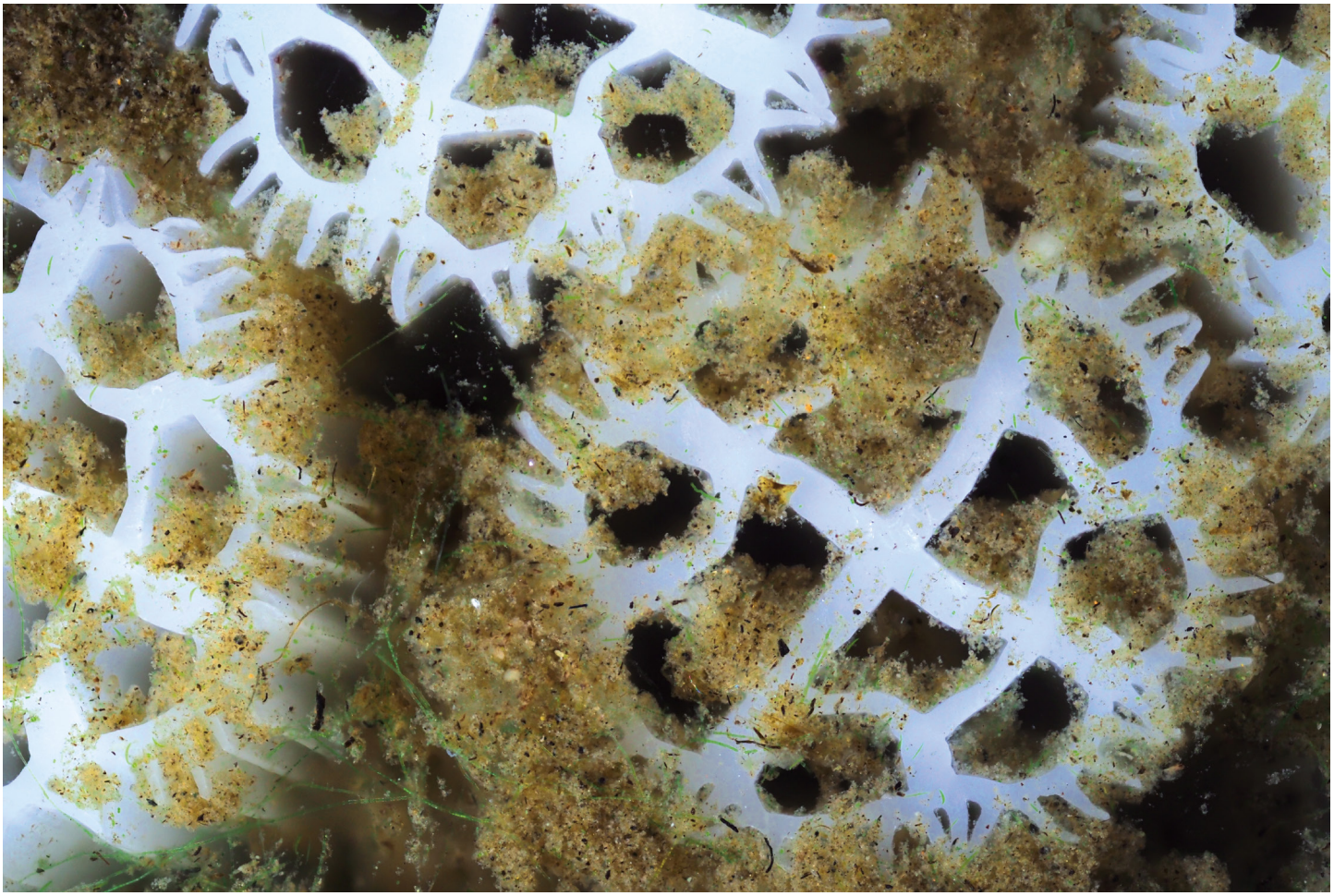
MODEL	SLUDGE PUMP	PIPEWORK SIZES (INTERNAL)	FLANGE SIZES	BAUER CONNECTION SIZES			
				INLET	OUTLET	SLUDGE	RETURN
XFM5	Turboflow 100, 1ph, 0.94kW	4"	4"	2"	2"	2"	2"
XFM5	Turboflow 100, 1ph, 0.94kW	4"	4"	2"	2"	2"	2"
XFM10	Waterco Hydrostar MKIV 550, 4.26kW, 8.1A	4"	4"	4"	4"	4"	4"
XFM20	Waterco Hydrostar MKIV 550, 4.26kW, 8.1A	4"	4"	4"	4"	4"	4"
XFM40	Waterco Hydrostar MKIV 550, 4.26kW, 8.1A	4"	4"	4"	4"	4"	4"

Power consumption

MODEL	PHASE	BLOWER POWER CONSUMPTION	HEATER
XFM5	1ph	1.75kW, 20min/week=0.58kW/week	0.5kW when running
XFM10	3ph	3.45kW, 20min/week=1.15kW/week	0.5kW when running
XFM20	3ph	4.6kW, 20min/week=1.53kW/week	0.5kW when running
XFM40	3ph	9.2kW, 20min/week=3.06kW/week	0.5kW when running

MODEL	FAN	SLUDGE PUMP	FEED PUMP
XFM5	0.15kW when running	0.94kW, 15min/week=0.24kW/week	1.1kW
XFM10	0.15kW when running	4.26kW, 10min/week=0.71kW/week	2.2kW
XFM20	0.15kW when running	4.26kW, 20min/week=1.42kW/week	5.5kW
XFM40	0.15kW when running	4.26kW, 40 min/week=2.84kW/week	7.5kW

PATENTED OPEN CELL MEDIA



- UK manufactured from 100% virgin HDPE
- 20-year media life – compliance tested
- Low hydraulic retention time (HRT)
- Biofilm enhances Mechanical Filtration efficiency
- Ability to manage a wide variety of load scenarios
- Only needs cleaning with system water

The media in the Flocell XFM filtration system has been specifically engineered to optimise mechanical filtration performance.

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Flocell
Sustainable Filtration Technology

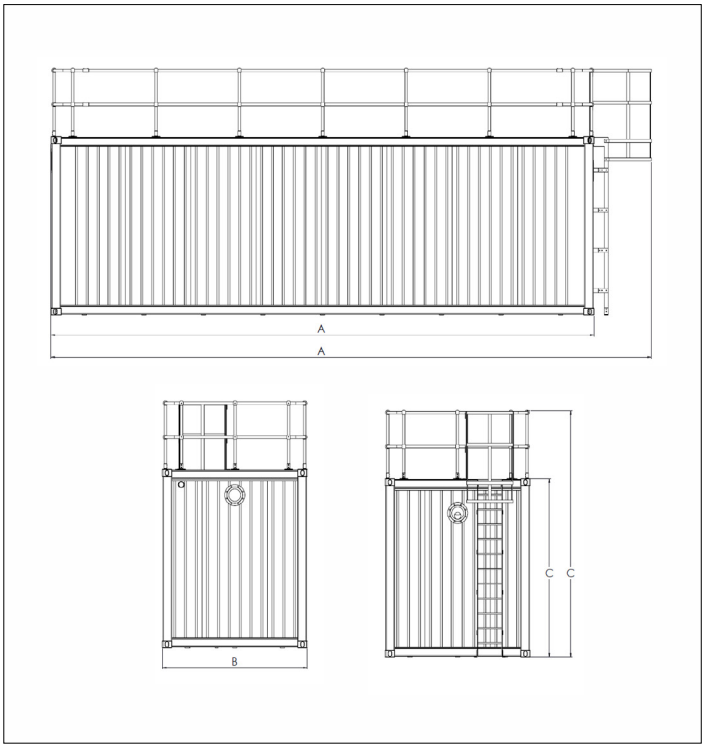
WCSEE HYBRID™ T1KP

The patented WCSEE Hybrid™ biological treatment process technology employs a submerged moving-bed, fixed-film reactor which treats wastewater with greater energy efficiency than traditional submerged aerated filters (SAFs).

The above ground modular T1KP vessels are manufactured in steel in a quality controlled environment.

KEY FEATURES:

- High-rate process (submerged moving-bed, fixed-film reactor)
- Capable of achieving low ammonia effluent quality
- Site footprint requirement 30% smaller (comparable technologies)
- Energy consumption reduced in line with footprint reduction
- Off-site build significantly reduces installation time
- Scalable to accommodate growing populations
- No mechanical or electrical moving parts within the cells
- Can be redeployed if the asset becomes redundant before end-of-life



TECHNICAL TABLE:

Model	A Length Mm	B Width Mm	C Height Mm	In/Outlet Size	Inlet Invert Mm	Outlet Invert Mm	Media Retention (M3)	Dry Weight (Te)	Operating Weight (Te)	Dry Weight After Operation (Te)
T1KP	11300	2438	2900	8" BAUER	508	648	29	14	61	20

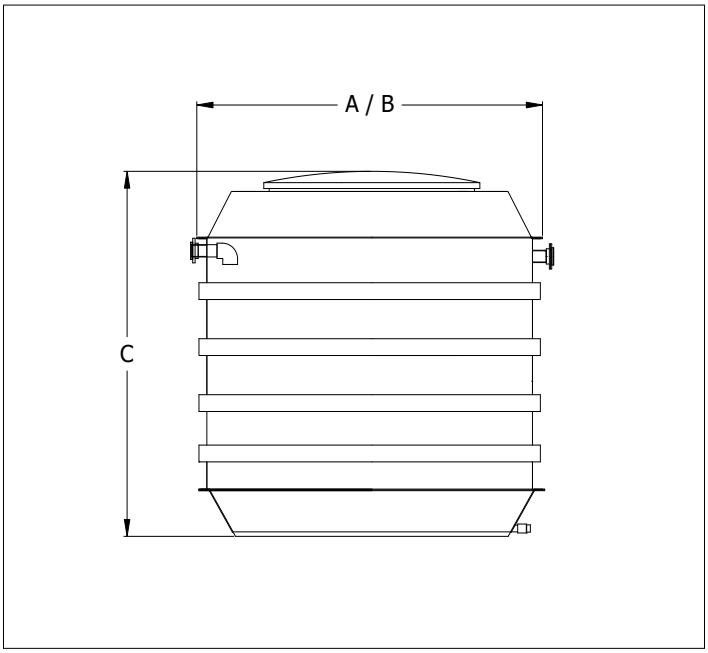
WCSEE HYBRID™ T3HP

The patented WCSEE Hybrid™ biological treatment process technology employs a submerged moving-bed, fixed-film reactor which treats wastewater with greater energy efficiency than traditional submerged aerated filters (SAFs).

The above or below ground modular T3HP vessels are manufactured in GRP in a quality controlled environment.

KEY FEATURES:

- High-rate process (submerged moving-bed, fixed-film reactor)
- Capable of achieving low ammonia effluent quality
- Site footprint requirement 30% smaller (comparable technologies)
- Energy consumption reduced in line with footprint reduction
- Off-site build significantly reduces installation time
- Scalable to accommodate growing populations
- No mechanical or electrical moving parts within the cells
- Can be redeployed if the asset becomes redundant before end-of-life



TECHNICAL TABLE:

Model	A Length Mm	B Width Mm	C Height Mm	In/Outlet Size	Inlet Invert Mm	Outlet Invert Mm	Media Retention (M3)	Dry Weight (Te)	Operating Weight (Te)	Dry Weight After Operation (Te)
T3HP	3900	3300	3260	4" BAUER	580	630	11.2	1.3	19	1.5

LAMELLA SEPARATOR

Designed to maximise efficiency in settling out solids in sewage and industrial wastewater.

Discharge occurs through a full-length v-notch channel positioned on either side of the lamella separator.

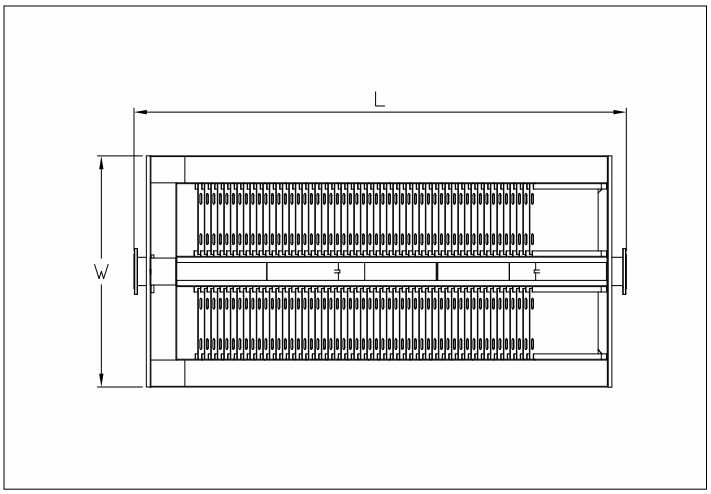
The weir design significantly reduces the velocity of the effluent flow resulting in a smaller quantity of suspended solids being transported to the outfall point.

TECHNICAL TABLE:

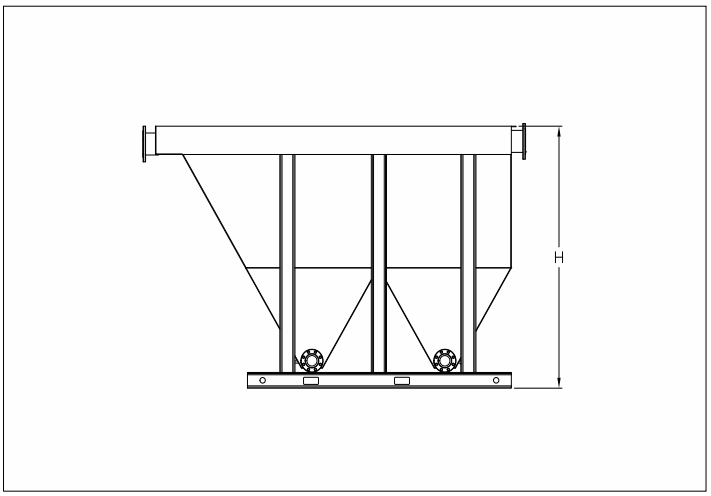
Model	Dimensions (m)			Q (m^3/h)	Total volume (m^3)	Weight (Kg)		Inlet/Outlet (DN Flange)	Surface plate area
	L	W	H			Empty	Operational		
LST-50-AG	3.78	1.71	2.5	50	6.15	3,000	10,000	DN200	29.1m^2

The Lamella Separator can be custom designed based on site specific requirement, with hire, trial or purchase options available.

*Below ground option only



Plan view



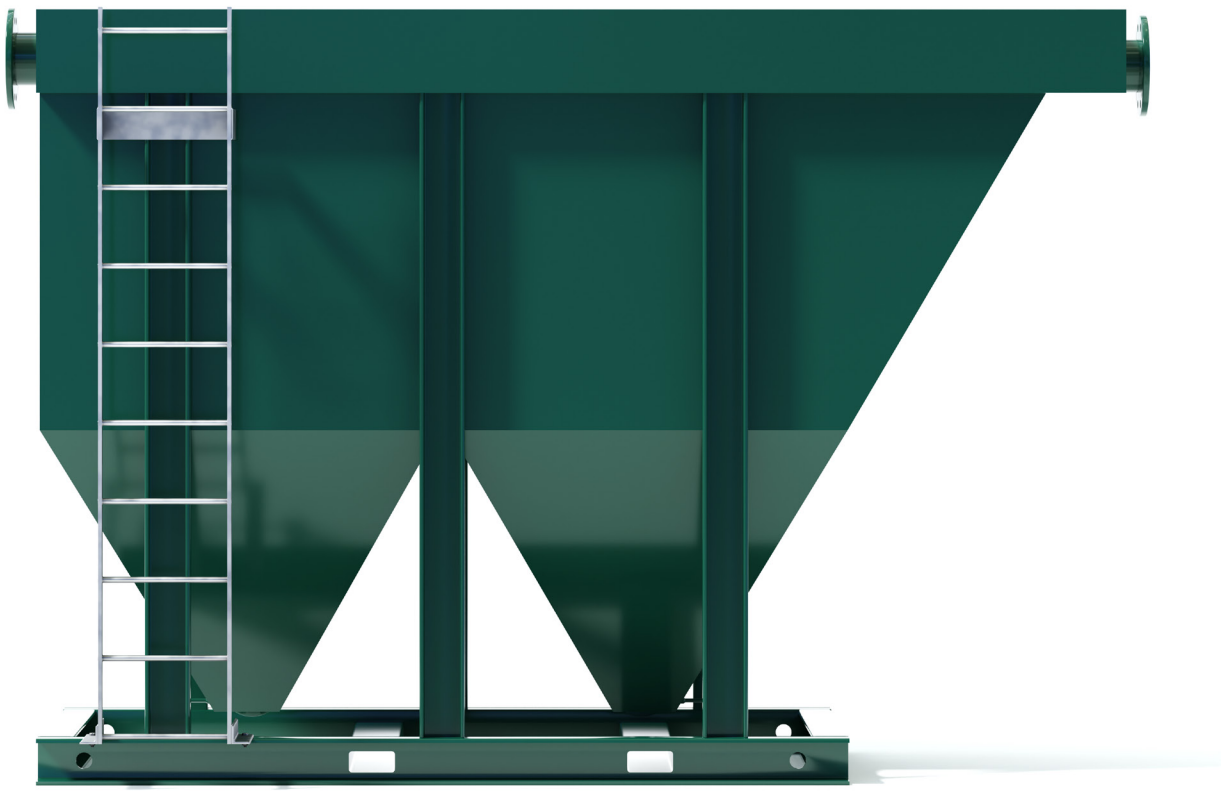
Front view

Model	Hydraulic loading (max) against the projected surface area (m/h)	Standard lamella plate spacing (mm)	Plate	
			Angle (degree)	Weight** (kg)
LST-50-AG	1.15	40.3	60	4

*Below ground option only
**Weight with no deposited sludge attached

KEY FEATURES:

- 90% smaller than traditional separators or clarifiers
- High treatment – up to 95% efficiency
- No moving parts within the clarifier
- Supplied as complete units manufactured off-site
- Quick set-up due to pre-configured weirs and fixed pipework
- Units can be linked in series or in parallel
- Skid mounted option



CLIC-CO MICROSCREEN

Ideal tertiary polishing when further solids and/or Biological Oxygen Demand (BOD_5) needs to be removed. The unique design of the drum filter maximises the surface area of filtration to achieve high removal efficiency with extremely low operating costs.

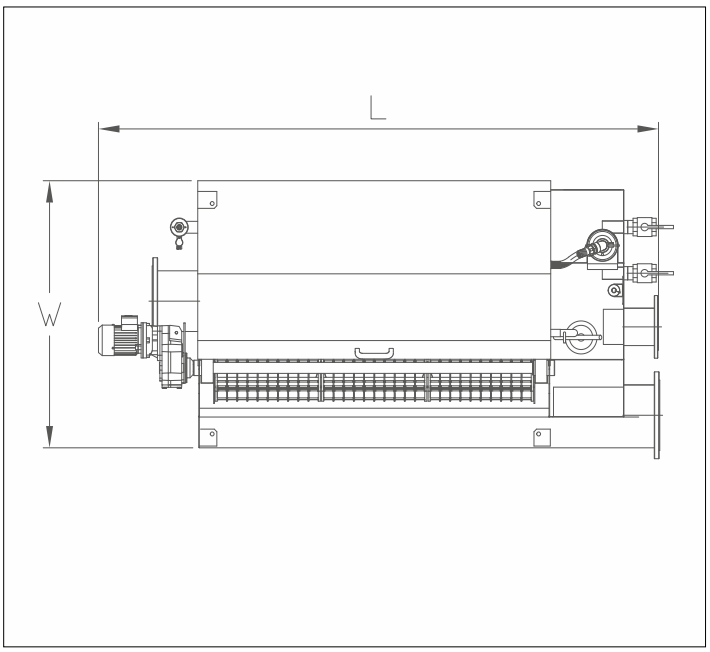
KEY FEATURES:

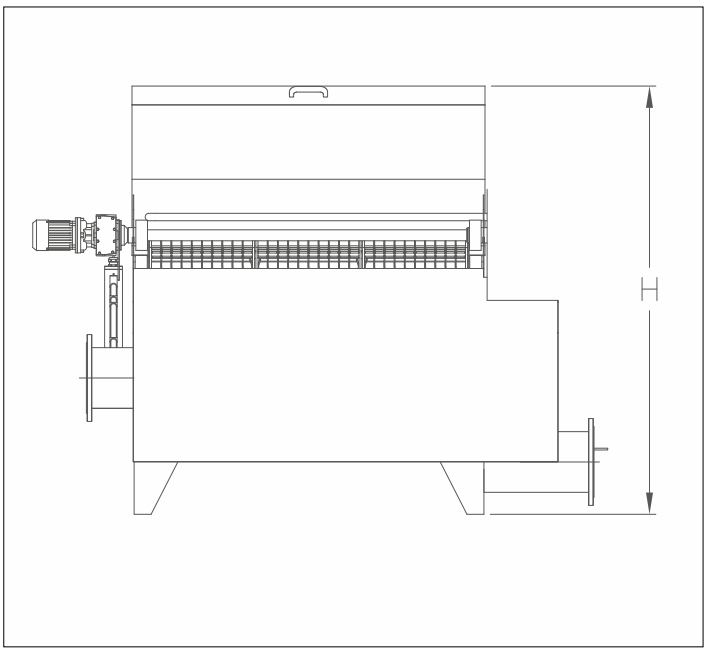
- Fully automated system
- Integrated pumped backwash system
- Simple operation and low maintenance
- Easy installation or retrofit in to existing works
- Typical power consumption for 20 l/sec <0.3kw/hr
- Choice of Form 2 or Form 4 control panels
- Above ground installation stainless steel
- Below ground installation in a precast concrete channel
- Skid mounted option
- The process can be used to assist with achieving Fe & P compliance

CARTRIDGE CLOTH FILTRATION SYSTEM:

The cartridge based screen cloth can be easily fitted within minutes, removing the need for time-consuming maintenance activities.

- One-size cartridge fits all models
- Easy to change on site without the need for a service call
- Polyamide or stainless steel cloths can be fitted
- From 20 microns upwards to provide flexibility on flow
- Use of backwash wastewater to clean the cloth





TECHNICAL TABLE:

Model	Dimensions (mm)			Effective Filter Area	Flow rate @ 40mg/ltr with 40 micron cloth	Weight (Kg)		Inlet/Outlet (DN Flange)
	L	W	H			Empty	Operational	
2FBO/5BMF10	1958	1166	1420	1.100	10 l/s	280	1085	DN200
3FBO/10BMF10	2716	1398	1655	2.400	26.3 l/s	570	2250	DN250
4FBO	3218	1727	1775	4.200	52.5 l/s	750	3810	DN300

Table Example:
Influent max. in-flow capacity with TSS @ 40mg/lt (95%ile)

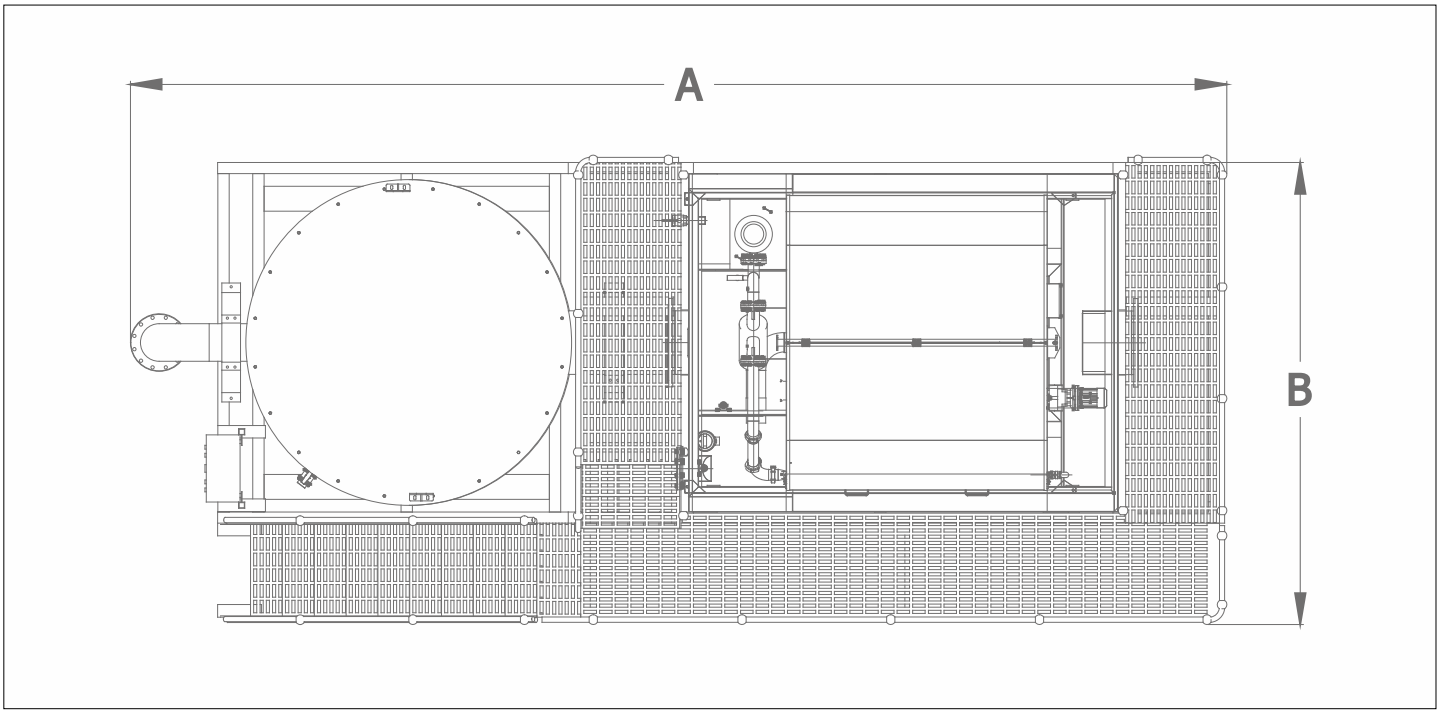
Filter Type	Capacity of Filter (l/s) at various apertures (µM)			
2FBO	20	10	10	7
3FBO	45	26.3	21	14
4FBO	87	52,5	42	27

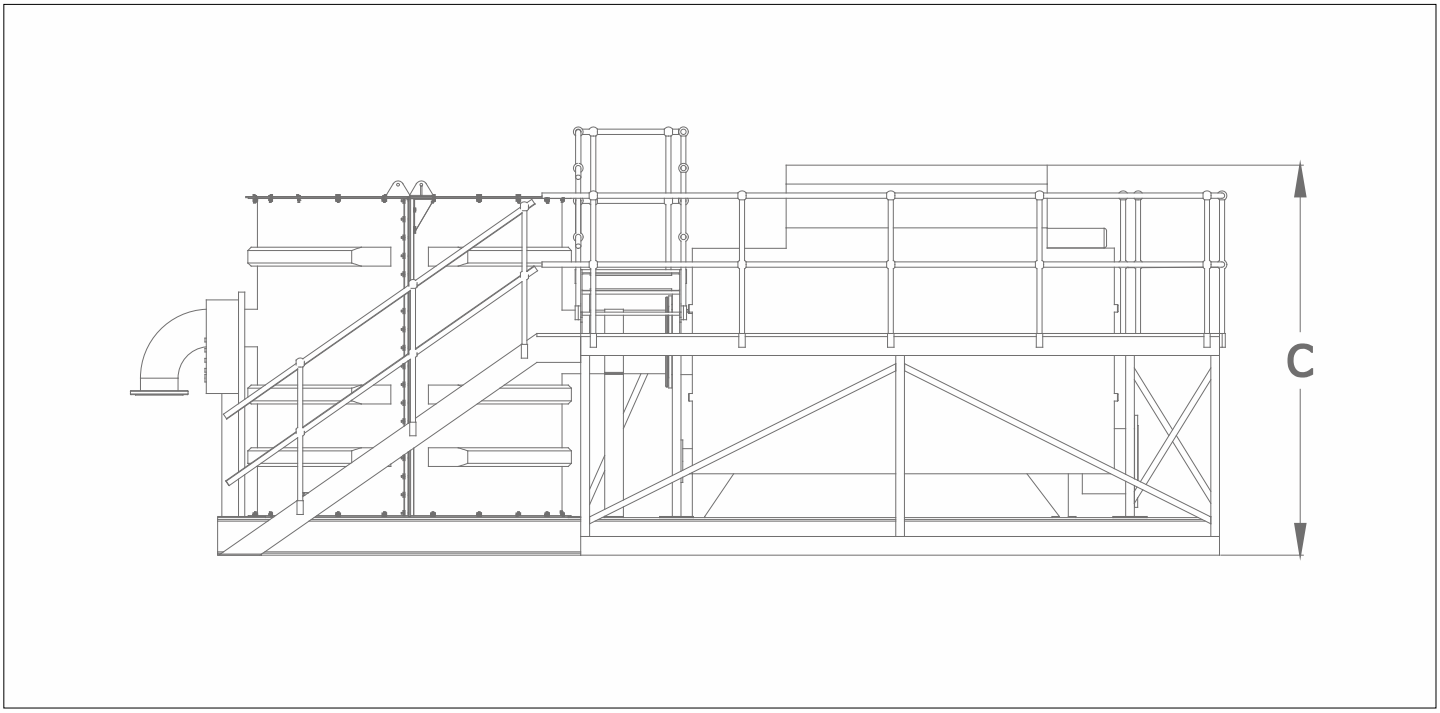
DISC FILTER

Designed for the filtration of large volumes of wastewater, the compact system has the capability to filter high flows (volumes) of liquids.

KEY FEATURES:

- Compact unit with high flows up to 500 L/s
- Gravity flows saves energy costs
- Simple removal and replacement of cartridge filters
- Fully automated operation including pre-set operational parameters
- Installed above ground in steel tanks or below ground in concrete channels
- Cartridges can be supplied to filter down to 10 microns
- The process can be used to assist with achieving Fe & P compliance
- Skid mounted option





TECHNICAL TABLE:

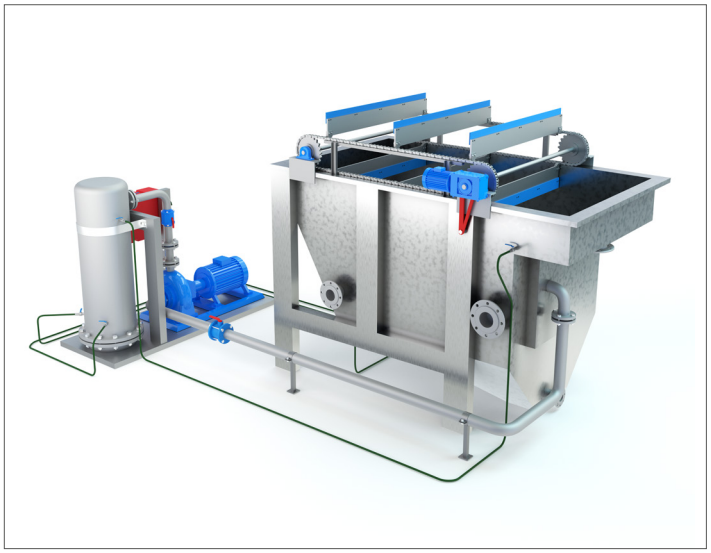
Model	A LENGTH MM	B WIDTH MM	C HEIGHT MM	Max flow with 40um cloth	Weight / Empty	Weight / Operational	INLET BAUER	OUTLET DN FLANGE
4FDO	5400	2800	2760	54 l/s	3200	8600	DN100	DN300
8FDGO	8700	3670	3113	194 l/s	9300	19500	DN300	DN300

DISSOLVED AIR FLOATION (DAF)

The Dissolved Air Flotation (DAF) water treatment process is a physical and chemical technology for the effective removal of biological solids from a wide range of wastewaters to maintain environmental compliance and reduce trade effluent charges.

DAF systems are designed to reduce total suspended solids (TSS), biochemical oxygen demand (BOD), and fats, oils and greases (FOG) from a wastewater stream.

Containerised or skid mounted options available for DAF.

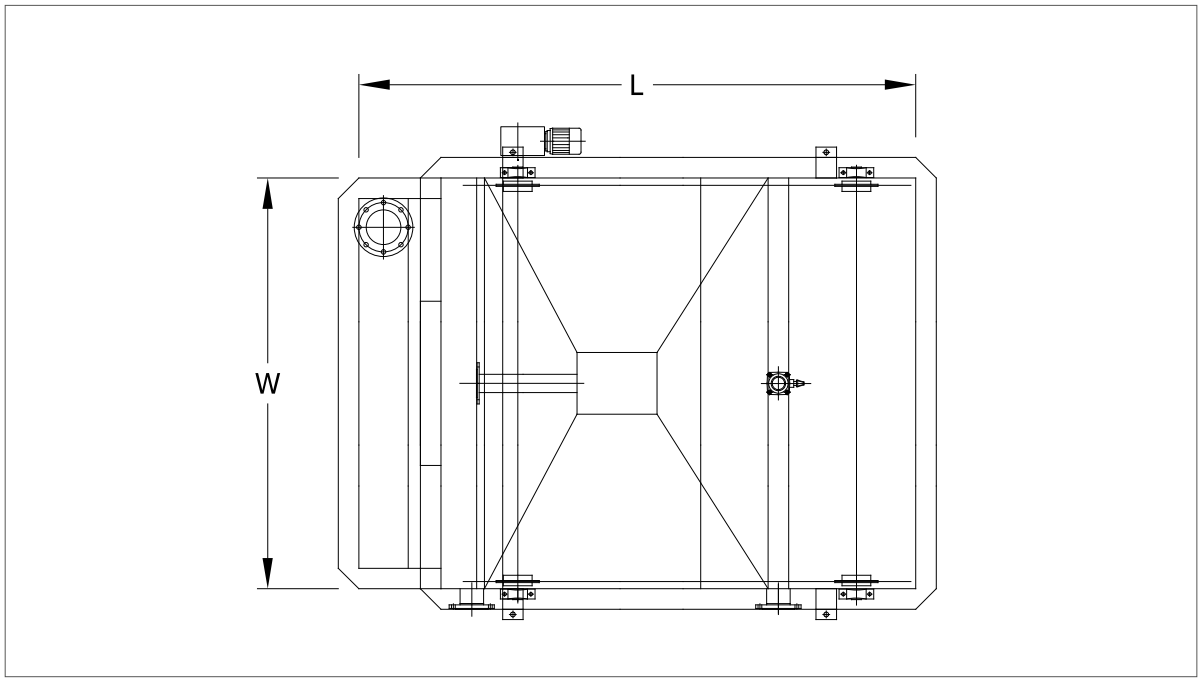


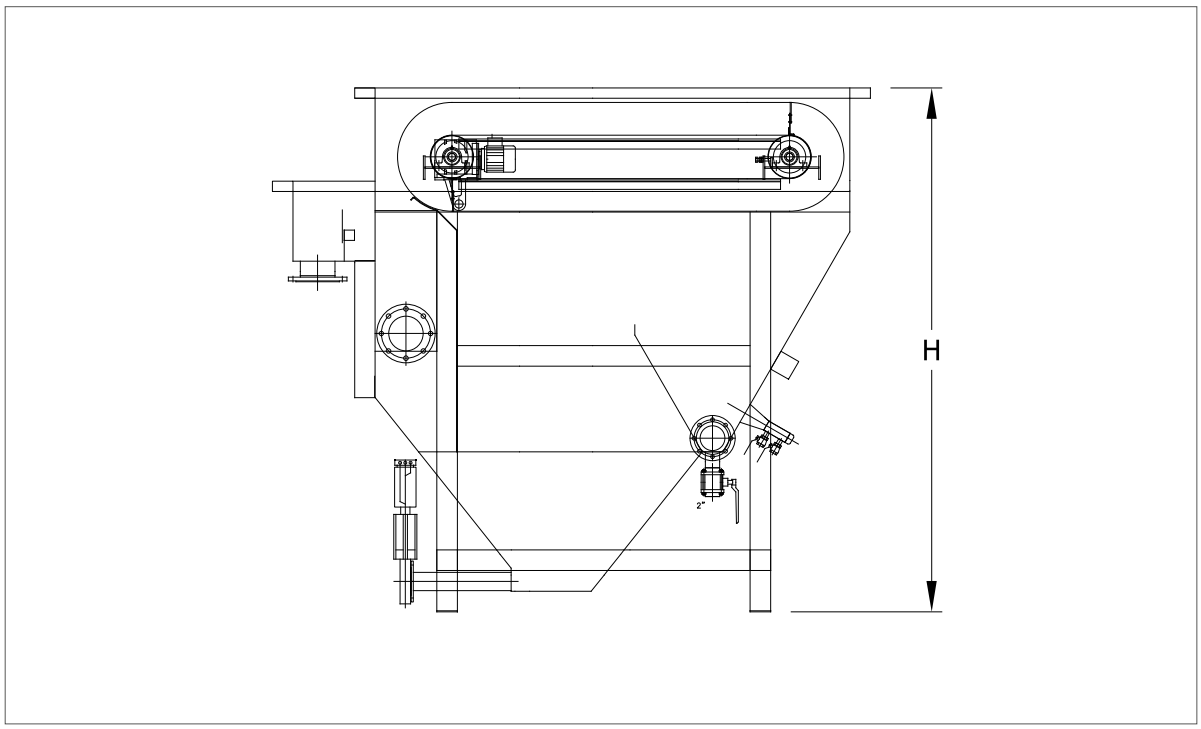
KEY FEATURES:

- **Stainless (304 or 316) plus reinforced plastic components reduce wear and corrosion**
- **Purpose build, adaptable flocculation system to allow ideal sampling, pH correction and dosing**
- **Can be linked with Screening and Sludge Dewatering for even higher efficiency**
- **Can be integrated with site SCADAR and BMS (building management systems)**
- **Multiple systems can be installed in parallel for higher or variable flows**
- **Multiple chemical injection and sampling points to site requirement**

TECHNICAL TABLE:

Filter Type	Dimensions (mm)			"Max Flow (if TSS <2g/l) m3/h"	"Volume m3"	"Scrapped Surface m2"	Weight (Kg)	
	L	W	H				Empty	Operational
UF5N	2700	1500	1800	5	2.3	1.8	500	2500
UF10N	2700	2000	1800	10	3.0	2.7	800	3300
UF25N	4400	1500	3200	25	4.6	4.0	2100	6575





VOLUTE SCREW PRESS

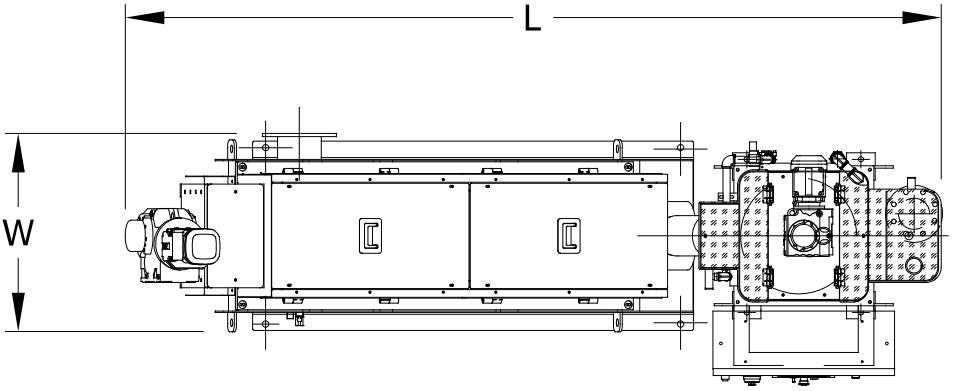
Dewatering with a screw press solution offers clients a low-energy, low-maintenance way to cut their carbon footprint and join the circular economy.

The screw press cuts out the need to transport large volumes of unprocessed waste. It can save money and create new revenue streams with a portable and ready-to-use product for growing markets.

Containerised or skid mounted option available for the screw press.

KEY FEATURES:

- 70% footprint space saving compared to standard screw press
- Up to 99% saving on cleaning water against belt press, and 92% against conventional screw press
- No thickening or storage tanks needed
- Only 5% of the power usage of a comparable centrifuge
- Sensor-controlled operation - automatically run for 24-hours
- Only two consumable parts – typical 10,000 hours ring lifespan and 30,000 hours screw lifespan (3/9 years if run at 9 hours per day)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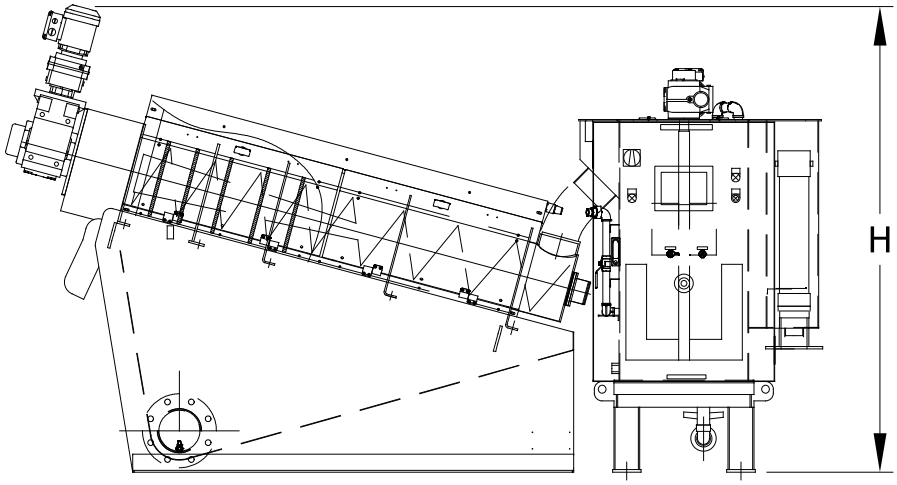
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TECHNICAL TABLE:

Model	Dimensions (mm)			Power (kW)	Weight (Kg)	
	L	W	H		Empty	Operational
FS-131-SA	2035	760	1180	0.2	280	375
FS-132-SA	2080	928	1180	0.3	370	585
FS-201-SA	2519	856	1400	0.3	355	505
FS-301-SA	3178	963	1808	0.74	895	1185
FS-351-SA	3859	1143	2289	1.87	1570	2170

Model	Raw Wastewater, Waste Activated Sludge, Chemically Precipitated Sludge		Dissolved-air flotation sludge		Mixed raw sludge/ aerobic digested sludge (swage sludge)
	0.2%	1.0%	2.0%	5.0%	3.0%
FS-131-SA	"up to 4kg-DS/h (up to 2.0m3/h) "	"up to 6kg-DS/h (up to 0.6m3/h)"	"up to 10kg-DS/h (up to 0.5m3/h)"	"up to 20kg-DS/h (up to 0.4m3/h)"	"up to 26kg-DS/h (up to 0.87m3/h)"
FS-132-SA	"up to 8kg-DS/h (up to 4.0m3/h) "	"up to 12kg-DS/h (up to 1.2m3/h)"	"up to 20kg-DS/h (up to 1.0m3/h)"	"up to 40kg-DS/h (up to 0.8m3/h)"	"up to 52kg-DS/h (up to 1.73m3/h)"
FS-201-SA	"up to 9kg-DS/h (up to 4.5m3/h) "	"up to 13kg-DS/h (up to 1.3m3/h)"	"up to 22kg-DS/h (up to 1.1m3/h)"	"up to 44kg-DS/h (up to 0.88m3/h)"	"up to 57kg-DS/h (up to 1.9m3/h)"
FS-301-SA	"up to 20kg-DS/h (up to 10.0m3/h)"	"up to 30kg-DS/h (up to 3.0m3/h)"	"up to 50kg-DS/h (up to 2.5m3/h)"	"up to 100kg-DS/h (up to 2.0m3/h)"	"up to 130kg-DS/h (up to 4.33m3/h)"
FS-351-SA	"up to 40kg-DS/h (up to 20m3/h)"	"up to 60kg-DS/h (up to 6.0m3/h)"	"up to 100kg-DS/h (up to 5.0m3/h)"	"up to 200kg-DS/h (up to 4.0m3/h)"	"up to 260kg-DS/h (up to 8.67m3/h)"

About Marlowe Environmental Services

Your trusted partner for environmental compliance solutions

WCS Environmental Engineering is part of Marlowe Environmental Services, which is a leading group in the UK specialising in services related to water, wastewater, air hygiene and property compliance.

At Marlowe, we are committed to ensuring your business meets the highest standards of environmental compliance. With a team of over 1,700 professionals, we provide extensive coverage across the UK and Ireland, delivering reliable solutions tailored to your needs.

Our comprehensive range of services includes:

- **Wastewater Management:**
  Effective management of wastewater systems to meet environmental standards and reduce carbon footprint
- **Water Hygiene and Treatment:**
  Safeguarding water systems to ensure compliance with health and safety regulations
- **Air Hygiene:**
  Improving indoor air quality through regular maintenance and system management
- **Clean Water Engineering:**
  Ensuring the provision of safe and clean water through expert engineering solutions
- **Property Compliance:**
  Helping businesses stay compliant with the latest legislation and regulations
- **Training:**
  Offering specialised training to ensure your team is well-equipped to manage environmental compliance


MARLOWE
Environmental Services


WCS Environmental Engineering

Contact us:

WCS Environmental Engineering Ltd
+44 (0)1454 299 310
info@wcs-group.co.uk
wcs-group.co.uk

Disclaimer

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