Data Sheet
Compact Screen Unit

Description

A totally automatic system for remove fats, oils, grease, sand, grit and inorganics from wastewater.

The compact pre-treatment plant consists of a screening screw, a grit trap, and a grease separator.

Municipal and industrial wastewater must always be pre-treated before subsequent treatment, e.g. biologically. Sand/gravel and solids would otherwise impair pumps and hoses. When passing through the compact unit, solids are screened, compacted, and dewatered, and sand and grease are removed.

The wastewater flows into the compact plant and the solids are separated by a screw screen. In a second step, sedimentation and the removal of sand and grit take place. Finally, oils and greases are separated by a floating scraper.

The machine consists of the following parts

- Rake
- Screw screen
- Compressor
- Sand trap (horizontal sand accumulation and vertical discharge)
- Grease trap
- Blower

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PPU water systems

Data Sheet
Compact Screen Unit

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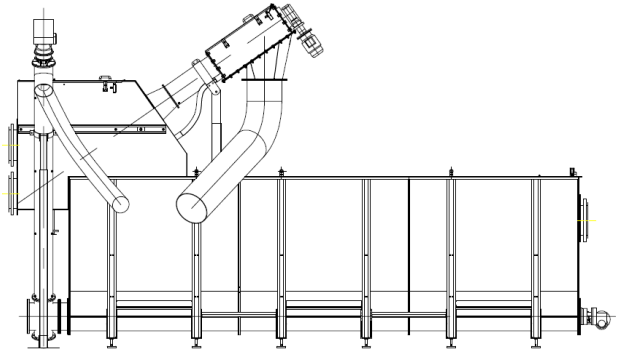
Technical data: rake unit, part 1.1



Module	CSU 50	CSU 110	CSU 160
Max. Flow rate *1	54 m³/hr (15 l/s)	108 m³/hr (30 l/s)	162 m³/hr (45 l/s)
Measurements (L/W/H)	4415x1050x2780 mm	6955x1050x2780mm	6955x1600x4220 mm
Settling tank (L)	3000 mm	6000 mm	6000 mm
Material (except flanges)	Stainless steel 304L or 316L / High-grade steel 304L or 316L		
Lateral position inlet/outlet	right		
Shaft without screw	High carbon steel, lacquered 6029		
Net weight	1.300 kg	1.850 kg	2.250 kg
Control (optional)	Control box; steel housing for indoor installation (weatherproof housing required near calculator).		
Screw screen:			
Max. Solids concentration	Max. 50% (max. 500 mg/l)		
Material flange inlet (and optional emergency overflow) *2	Aluminium		
	DN200 PN10	DN250 PN10	DN250 PN10
Filter diameter of the round hole *3	5 mm	5 mm	5 mm
Diameter of the sieve basket	200 mm	270 mm	450 mm
Inlet height (pipe centre)	1300 mm	1300 mm	1900 mm
Number of screw shaft inserts	1	2	2
Diameter / Pitch / Thickness screw shaft	195 mm / 145 mm / 15 mm	195 mm / 145 mm / 15 mm	195 mm / 145 mm / 15 mm
Current (ATEX protection optional)	0,75 kW	0,75 kW	1,1 kW
Voltage	380-420 V / 50Hz - 440-480 V / 60 Hz; IP 55 F class		

*1: The flow rate depends on the screen width. If the solids content is higher, the flow rate can be reduced.

*2: Depending on the requirements, the size of the flanges can be adjusted.

*3: Type of sieve basket (wedge wire or round hole) and sieve mesh width can be adjusted according to requirements.

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Technical data: rake unit, part 1.2

Module	CSU 50	CSU 110	CSU 160
Sand trap:			
Max. Solids concentration	90% at sand grain > 200 mm		
Outlet height (centre of pipe)	1200 mm	1200 mm	1600 mm
Air consumption ventilation	~ 42 m³/hr at 0,15 bar	~ 42 m³/hr at 0,15 bar	~ 42 m³/hr at 0,15 bar
Connection ventilation	1x 1 ¼"	1x 1 ¼"	1x 1 ¼"
Drain hole	1 ¼"	1 ¼"	1 ¼"
Number of horizontal spiral inserts	1	2	2
Diameter / Pitch / Thickness screw shaft	180 mm / 1:1/ 20 mm	180 mm / 1:1/ 20 mm	280 mm / 1:1/ 20 mm
Current (ATEX protection optional)	0,55 kW	0,55 kW	0,55 kW
Voltage	380-420 V / 50Hz - 440-480 V / 60 Hz; IP 55 F class		
Number of sand conveyor spiral inserts	1	1	1
Shaft diameter	60 mm	60 mm	60 mm
Diameter sand conveyor/ pitch / thickness screw shaft	145 mm / 145 mm / 15 mm	145 mm / 145 mm / 15 mm	195 mm / 145 mm / 15 mm
Current (ATEX protection optional)	0,37 kW	0,37 kW	0,37 kW
Voltage	380-420 V / 50Hz - 440-480 V / 60 Hz; IP 55 F class		
Grease separator:			
Material flange drain *2	Aluminium		
	DN200 PN10	DN200 PN10	DN200 PN10
Current (ATEX protection optional)	0,18 kW	0,18 kW	0,18 kW
Voltage	380-420 V / 50Hz - 440-480 V / 60 Hz; IP 55 F class		
Customer preparation	Water supply and piping on site (hot water recommended)		

*2: Depending on the requirements, the size of the flanges can be adjusted.

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Data Sheet
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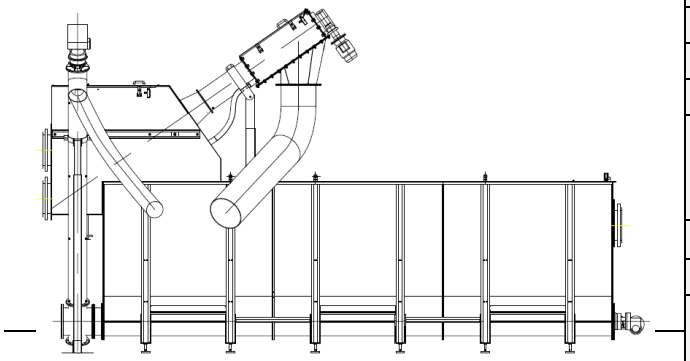
Technical data: rake unit, part 2.1



Module	CSU 220	CSU 310
Max. Flow rate *4	216 m³/hr (60 l/s)	306 m³/hr (85 l/s)
Measurements (L/W/H)	8620x1600x4220 mm	8380x2500x4000 mm
Settling tank (L)	7500 mm	9000 mm
Material (except flanges)	Stainless steel 304L or 316L / High-grade steel 304L or 316L	
Lateral position inlet/outlet	right	
Shaft without screw	High carbon steel, lacquered 6029	
Net weight	2.900 kg	3.350 kg
Control (optional)	Control box; steel housing for indoor installation (Weatherproof housing required in the vicinity of the calculator)	
Screw screen:		
Max. Solids concentration	Max. 50% (max. 500 mg/l)	
Material flange inlet (and optional emergency overflow) *5	Aluminium	
	DN300 PN10	DN350 PN10
Filter diameter of the round hole *6	5 mm	5 mm
Diameter of the sieve basket	450 mm	615 mm
Inlet height (pipe centre)	1900 mm	1780 mm
Number of screw shaft inserts	2	2
Diameter / Pitch / Thickness screw shaft	195 mm / 145 mm / 15 mm	295 mm / 210 mm / 20 mm
Current (ATEX protection optional)	1,1 kW	1,9 kW
Voltage	380-420 V / 50Hz - 440-480 V / 60 Hz; IP 55 F class	

*4: The flow rate depends on the screen width. If the solids content is higher, the flow rate can be reduced.

*5: Depending on the requirements, the size of the flanges can be adjusted.

*6: Type of sieve basket (wedge wire or round hole) and sieve mesh width can be adjusted according to requirements.

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Module	CSU 220	CSU 290
Sand trap:		
Max. Solids concentration	90% at sand grain > 200 mm	
Outlet height (centre of pipe)	1600 mm	1460 mm
Air consumption ventilation	~ 42 m³/hr at 0,15 bar	~ 42 m³/hr at 0,15 bar
Connection ventilation	1x 1 ¼“	1x 1 ¼“
Drain hole	1 ¼“	1 ¼“
Number of horizontal spiral inserts	1	1
Diameter / Pitch / Thickness screw shaft	280 mm / 1:1/ 20 mm	280 mm / 1:1/ 20 mm
Current (ATEX protection optional)	0,55 kW	0,75 kW
Voltage	380-420 V / 50Hz - 440-480 V / 60 Hz; IP 55 F class	
Number of sand conveyor spiral inserts	2	2
Shaft diameter	60 mm	60 mm
Diameter sand conveyor/ pitch / thickness screw shaft	195 mm / 145 mm / 15 mm	195 mm / 145 mm / 15 mm
Current (ATEX protection optional)	0,37 kW	0,37 kW
Voltage	380-420 V / 50Hz - 440-480 V / 60 Hz; IP 55 F class	
Grease separator:		
Material flange drain [*5]	Aluminium	
	DN300 PN10	DN350 PN10
Current (ATEX protection optional)	0,18 kW	0,18 kW
Voltage	380-420 V / 50Hz - 440-480 V / 60 Hz; IP 55 F class	
Customer preparation	Water supply and piping on site (hot water recommended)	

[*5]: Depending on the requirements, the size of the flanges can be adjusted.

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Application

The system is suitable for all types of domestic, municipal and industrial wastewater. In each case, the design must be individually adapted to the purpose.

Features of ClearFox® compact screen units

- Volume reduction of solids by up to 50%
- Low speed
- Heavy duty screw
- Screening, conveying, and compacting in a single compact unit
- Easy installation
- Low maintenance
- Durable attachable screw brushes that are self-cleaning
- Low operating costs
- No clogging even with fibres due to the shaftless screw design
- Floating scraper for the removal of light substances (e.g. oils, greases)
- Outdoor installation with optional frost protection accessories

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- Endless hose for guided coarse material discharge
- Emergency overflow
- Sieve mesh width: 0.25/0.5/1/2/3 mm (wedge wire) 2/3/4/5/6/7/10 mm (round hole)
- Coating against chemically highly contaminated wastewater (e.g. with chlorine)
- Washing system for the transport area
- Insulation for transport section / compressor
- ATEX motors
- GSM network connection (transmission to mobile networks)
- Housing for control cabinet

Advantages for ClearFox® compact computing units:

- Fast commissioning, cost savings during installation, low space requirement
- Modular system, adaptable to any application
- High performance with high quality, Made in Germany
- Flexible against underload and overload
- Industrial and municipal wastewater
- Stable and very robust process technology

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