FLUITECO®

THE PRETREATMENT HOUSE

Technical Book

FLUITECO S.r.l.
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Welcome in Fluiteco

With more than 25 years of experience and hundreds of satisfied clients all over the world, Fluiteco continues to be the landmark with his specialized wastewater filtration treatment equipment.

Thanks to our professional R&D team, our range is always evolving and constantly improving, in fact we represent the best choice in terms of quality and reliability.

The extraordinary performances of our machines are ensured by the quality of our components and by our highly professional production team.

Our range is designed to be manufactured in the highest quality Stainless Steel AISI 304/316 (L), and it's fully customizable according the customer's requirements and needs.

The production team is composed by assemblers and certified welders, experts in TIG (Tungsten Inert Gas) welding, a process of arc wielding with a consumable electrode (tungsten), under the protection of an inert gas.

Especially useful for welding thin materials, this method is characterized by a stable arc and high quality welds, but it requires significant operator skill and can only be accomplished at a relatively low speed.

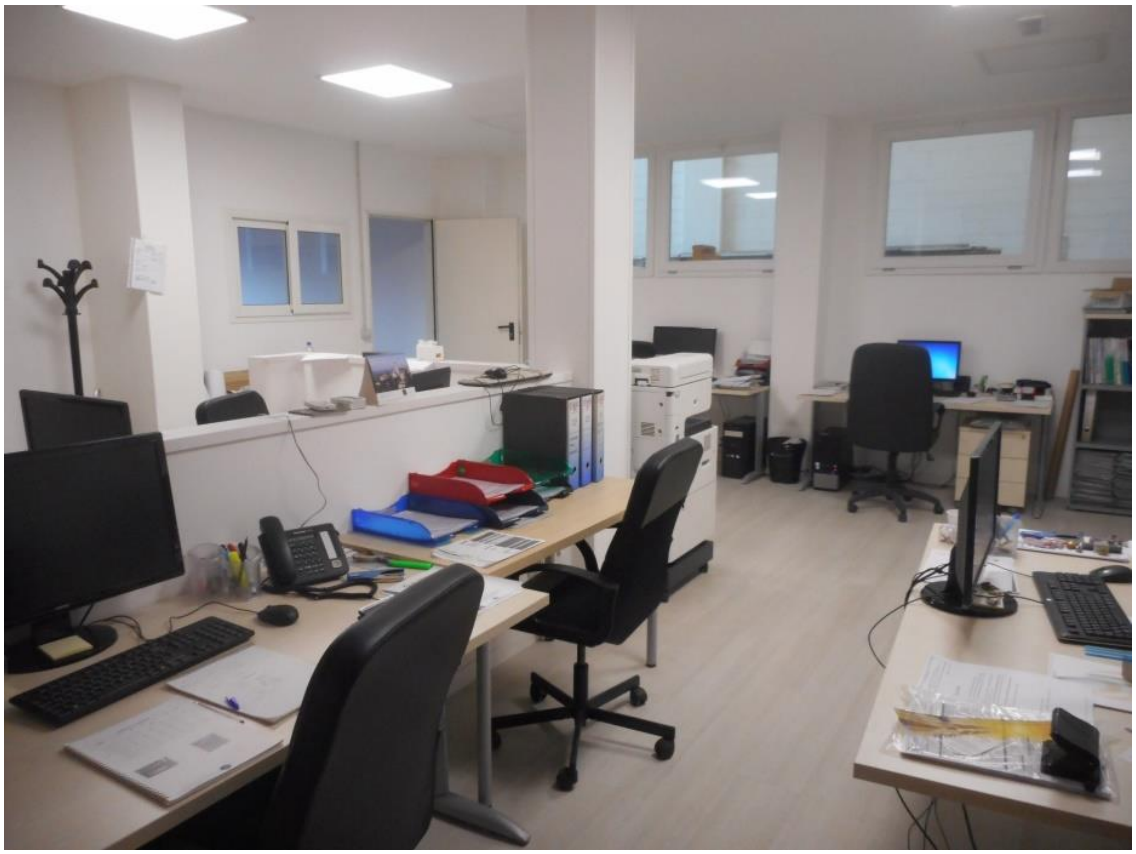
After the welding processes, the Stainless Steel is passivated by our operators.

Passivation is a phenomenon of electrochemical nature that can slow down o completely prevent the reaction of corrosion of metallic materials, which would otherwise occur. This phenomenon consists in the formation of a thin film (made from corrosion products, substances present in the aggressive environment or oxygen adsorbed on the metal surface) that adheres perfectly to the part of the workpiece surface in contact with the aggressive environment (for example, water or air).

After the assembling, every machine is verified and tested by our control quality to give the best product possible, and to satisfy the exigence of our worldwide costumers.

FLUITECO S.r.l.

Picture 1. Fluiteco's headquarters



Picture 2. Offices and technical department

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Picture 4. Assembly department

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COARSE SCREEN:

SMT – BASKET SCREEN

The basket of the screen is lifted out of the well and lowered by an electrical winch. For guidance of the basket there are two guide rails fixed at the structure in which the basket is driven over 4 rollers. The guides are made of u-profiles, designed with an opening in the rail for maintenance of the basket in the upper area. The residual draining is made by a rake.

The drive is made by a rope drum with gear motor which are installed out of the building. For upper limitation of the basket a limit switch is mounted on the guide rail.

The basket of the screen consists of a sectional steel construction and there is a flat- steel grating (4 mm) at the discharge side and the lower area. The sides are made of stainless steel pipes for a better cleaning/draining of the basket. The size of the basket is suited to the inlet situation.

when lifting the basket of the screen a drop screen automatically closes the inlet so that no screenings can get into the outlet during the draining of the basket.

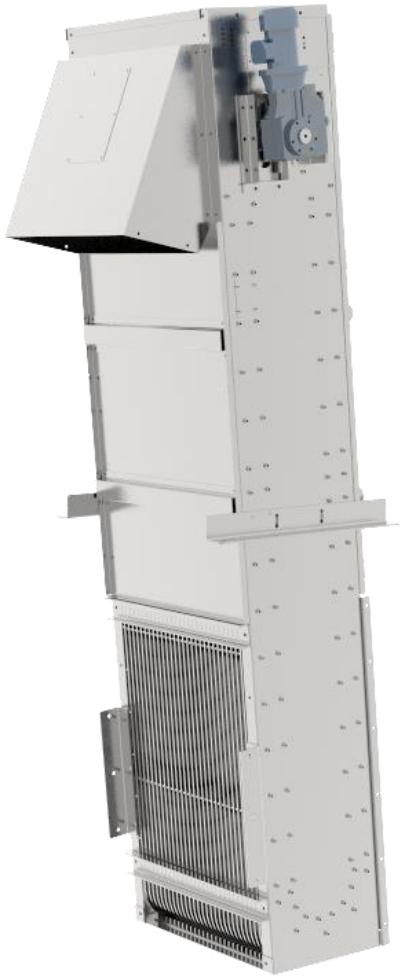
SMT – BASKET SCREEN

COARSE SCREEN:

SMC – MULTI RAKED BAR SCREEN

The SMC – MULTI RAKED BAR SCREEN is the ideal machine for the pretreatment of the wastewater.
It represents the best solution as a first step in a forefront depuration plant.

The SMC consist in a Stainless Steel frame, developed for an “in channel” installation with a 75° inclination.
The filtration zone, placed in the bottom part, is made by equidistant stainless steel bars.
The coarse waste present in the wastewater (water that needs to be processed) is blocked by the bars of the filtering zone and accumulates in the bottom of the frame, until the consequent increase of water level activates the cleaning system through rakes.
The rakes are developed to fit perfectly with the filtration bar spacing and they are connected to a transmission chain moved by the gear motor placed on the top of the machine.
When the gear motor starts working, the rakes take the coarse waste from the bottom of the channel and carry it to the discharge outlet placed on the top.

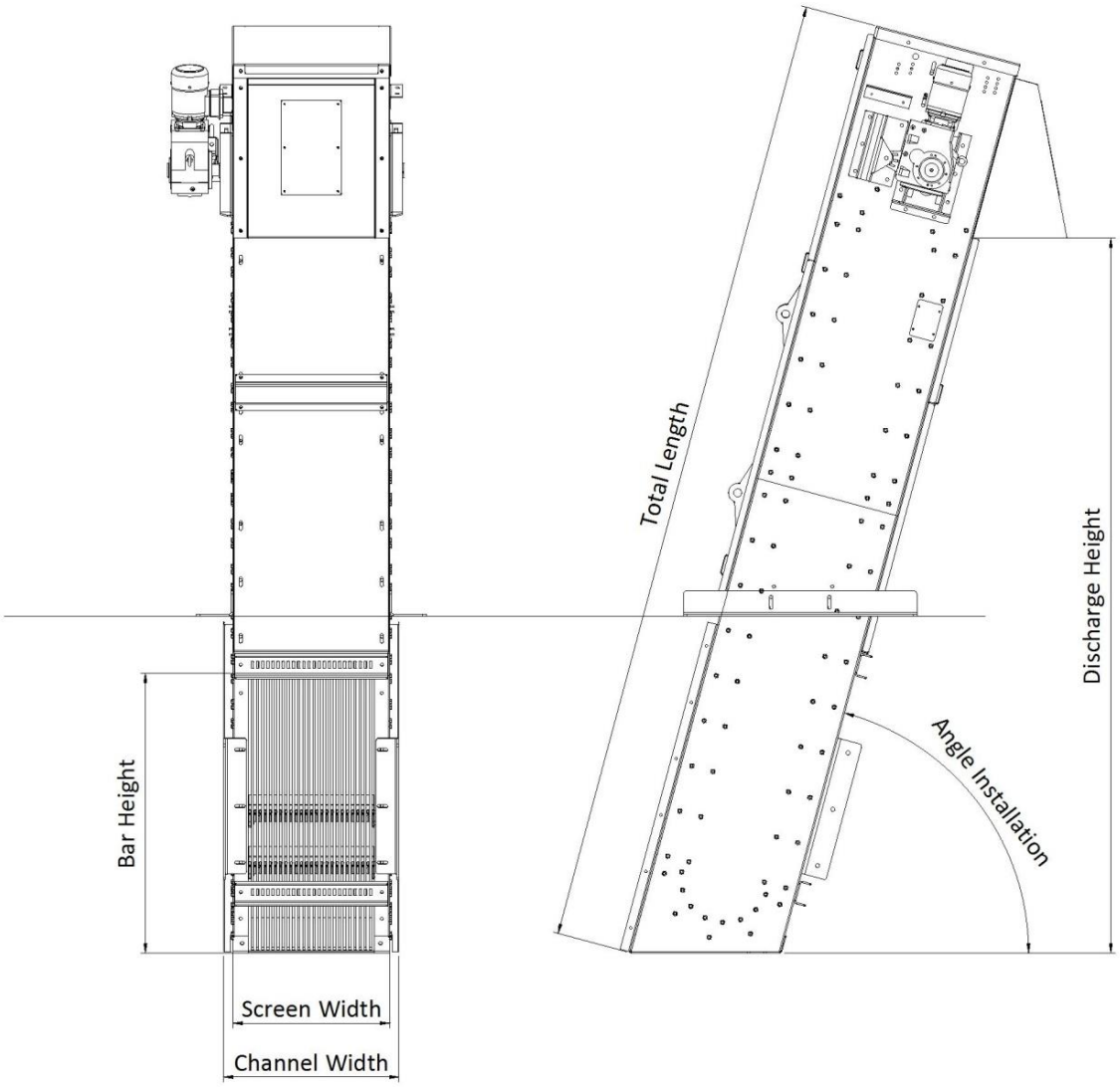


SMC1000 - MULTI RAKED BAR SCREEN

The SMC can be manufactured in Stainless Steel AISI304-316 (L), and is fully customizable according to the customer needs, but anyways we offer a standard range which can help the costumer in his final choose:

Standard Dimensions

MODEL	SMC04	SMC06	SMC08	SMC10	SMC12	SMC14	SMC16	SMC18	SMC20
Channel width (mm)	400	600	800	1000	1200	1400	1600	1800	2000
*Total length (mm)	3350	3350	3350	3550	3550	3550	3550	3550	4050
**Discharge height (mm)	2300	2300	2300	2500	2500	2500	2500	2500	3000
Screen width (mm)	370	570	770	970	1170	1340	1540	1740	1940
Bars height (mm)	600	600	600	800	800	800	800	800	1300
*Number of rakes (n°)	2	2	2	2	2	2	2	2	2
***Angle installation	75°	75°	75°	75°	75°	75°	75°	75°	75°



Outfall and lateral supports to fix the unit at the channel always included.

* Every 1000 mm of extra height of the unit, a supplementary rake is included (total maximum number of rakes 6).

** From channel bottom

*** Standard inclination

Figure 1 -SMC multi raked bar screen

Figure 2 - SMC multi raked bar screen in channel

Figure 3 - SMC screen and rake detail

Figure 4 - SMC screen, chain and rake view

FINE SCREEN:

GTS – ROTARY RAKE DRUM SCREEN

The GTS – ROTARY RAKE DRUM SCREEN is designed for the fine screening of municipal and industrial waste water.

The GTS separates the solid from the wastewater, transporting and compacting the screening and can reach a dry percentage of 35%.

The screen zone consists in a drum made by bars, a cleaning rake that rotates together with the screening conveying spiral. There is also a washing system and a system to clean the rake too. The spiral rotates on the U shape channel with the same mesh size as the spacing between the bars.

The equipment consists in a drum screen made by bars at a certain distance and this distance is the screening size; a cleaning rake in the screening zone, a conveyor to transport the solid to the compaction and discharge zone.

It is easy to inspect in every part and this make the ordinary and extraordinary maintenance very easy.

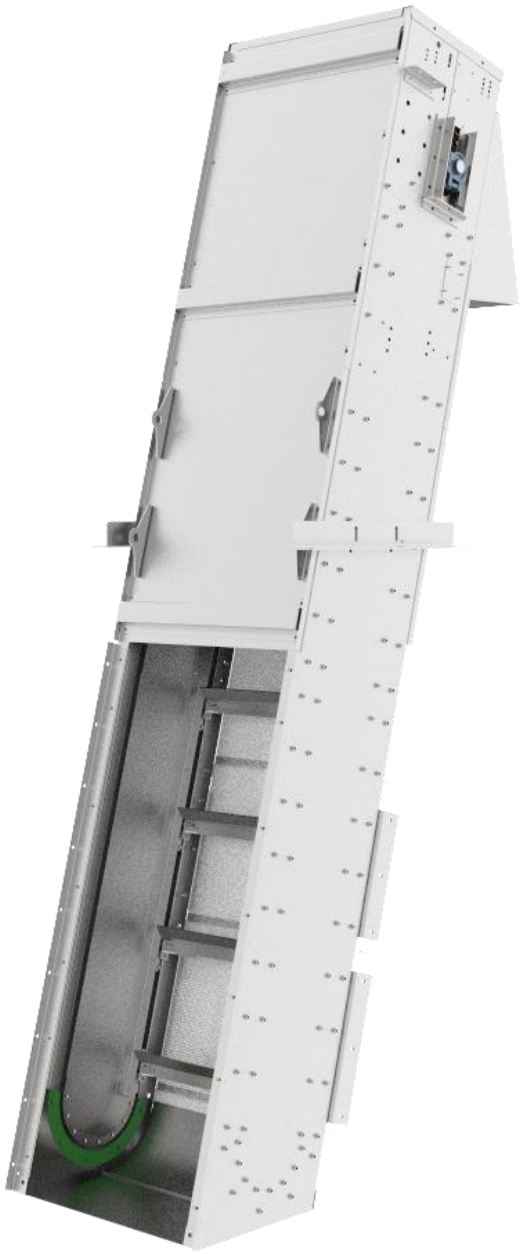
GTS800 – ROTARY RAKE DRUM SCREEN

FINE SCREEN:

SMCH – MULTI BRUSHED HOLED SCREEN

Our SMCH – MULTI BRUSHED HOLED SCREEN is the fine screen variant of the *SMC - Multi Raked Bar Screen.*

The SMCH, as the *SMC*, consists in a Stainless Steel frame and is designed to be positioned in a channel with a 75° inclination; the substantial difference is in the filtration zone, where the machine is equipped with a stainless steel holed sheet with a spacing Ø between 2 and 10mm, instead of bars.
The wastewater, passing into the screen, is filtered and once the water level reaches the preset level, it automatically activates the cleaning system of the filter screen.
This system is quite similar to the one proposed in the *SMC - Multi Raked Bar Screen*, but instead of the combs, brushes perform the cleaning and shipping operation until reaching the discharge placed on the top.

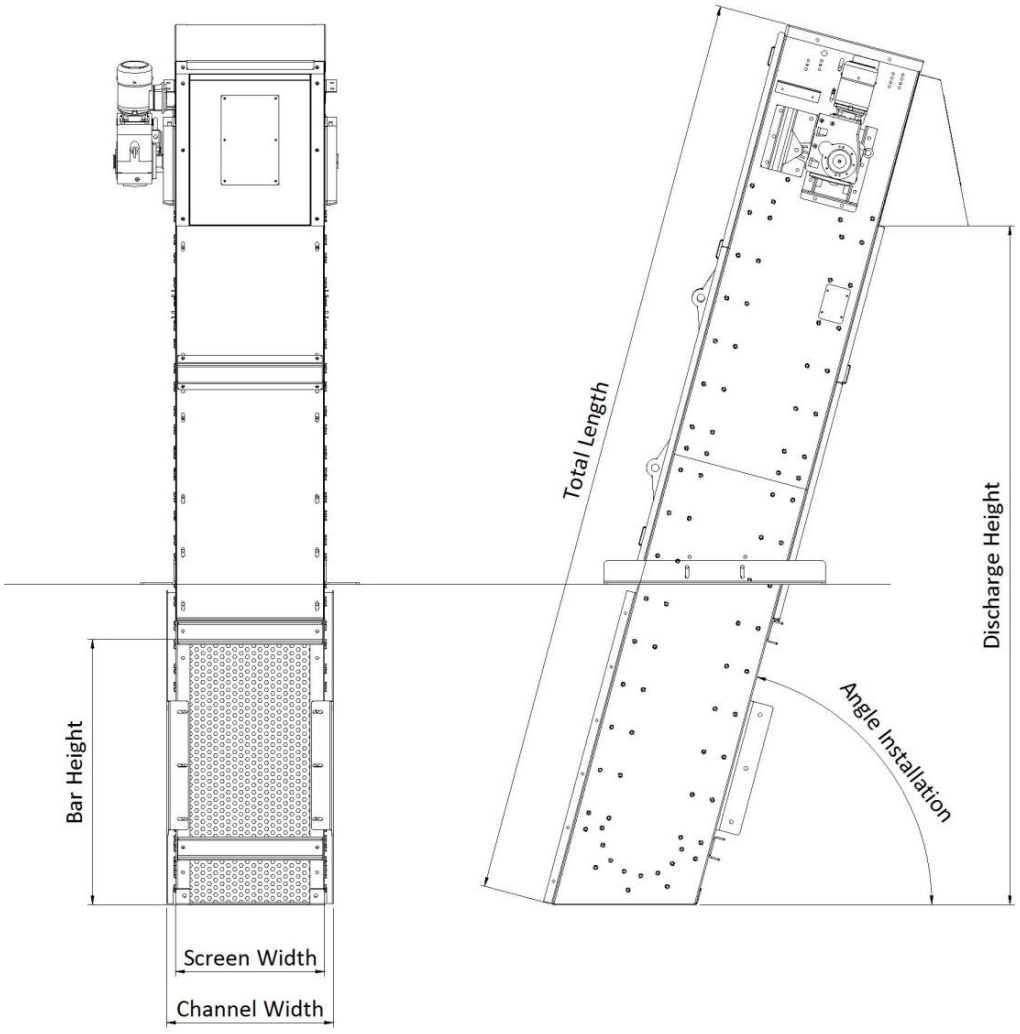


SMCH1000 - MULTI BRUSHED HOLED SCREEN

The SMCH can be manufactured in Stainless Steel AISI304-316 (L), and is fully customizable according to the customer needs, but anyways we offer a standard range which can help the costumer in his final choose:

Standard Dimensions

MODEL	SMCH04	SMCH06	SMCH08	SMCH10	SMCH12	SMCH14	SMCH16	SMCH18	SMCH20
Channel width (mm)	400	600	800	1000	1200	1400	1600	1800	2000
*Total length (mm)	3350	3350	3350	3550	3550	3550	3550	3550	4050
**Discharge height (mm)	2300	2300	2300	2500	2500	2500	2500	2500	3000
Screen width (mm)	370	570	770	970	1170	1340	1540	1740	1940
Screen height (mm)	800	800	800	1000	1000	1000	1000	1000	1500
*Number of brushes (n°)	2	2	2	2	2	2	2	2	2
***Angle installation	75°	75°	75°	75°	75°	75°	75°	75°	75°



Outfall and lateral supports to fix the unit at the channel always included.

* Every 1000 mm of extra height of the unit, a supplementary brush is included (total maximum number of brushes 6).

** From channel bottom

*** Standard inclination

Figure 5 - SMCH multi brushed holed Screen

Figure 6- SMCH screen and brushes view

FINE SCREEN:

SSW – STEP SCREEN

The **SSW – STEP SCREEN** is a great solution for medium depuration plants and it's based on the same constructive principles of the *SMC - Multi Raked Bar Screen* but with substantial differences.

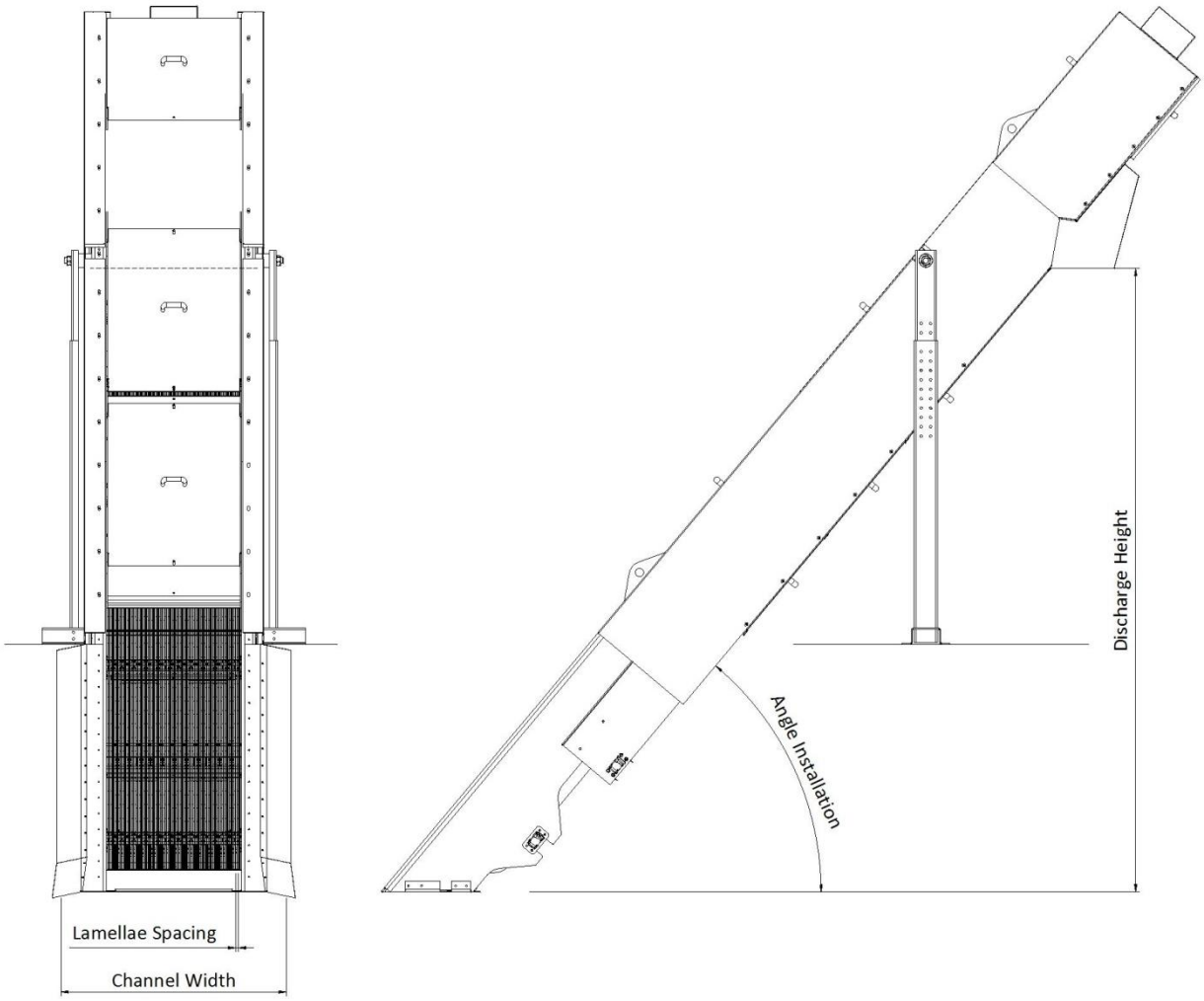
The machine has been created for an "in channel" installation with a 45° inclination until a 55° maximum and has a unique filtration system made by alternate fixed and mobile serrated lamellae.
These lamellae perform the functions of screening and transport at the same time, and when the wastewater is filtered the resulting effluents are blocked by the lamellae and transported to the discharge.
Thanks to their serration, the transport of the waste to the discharge works step by step with an eccentric movement of the mobile lamellae relative to fixed ones.

SSW1000 – STEP SCREEN

The SSW can be manufactured in Stainless Steel AISI304-316 (L), and is fully customizable according to the customer needs, but anyways we offer a standard range which can help the costumer in his final choose:

Standard Dimensions

MODEL	SSW04	SSW06	SSW08	SSW10	SSW12	SSW14	SSW16	SSW18	SSW20
Channel width (mm)	400	600	800	1000	1200	1400	1600	1800	2000
**Discharge height (mm)	2300	2300	2300	2500	2500	2500	2500	2500	3000
*Standard spacing (mm)	6	6	6	6	6	6	6	6	6
Angle installation	45° - 55°	45° - 55°	45° - 55°	45° - 55°	45° - 55°	45° - 55°	45° - 55°	45° - 55°	45° - 55°



Outfall and lateral supports to fix the unit at the channel always included.

* Available lamellae's spacing: 3-4-5-6mm

** From channel bottom

Figure 7 - SSW step screen

Figure 8 SSW Step screen in channel

FINE SCREEN:

CF – SCREW SCREEN

The **CF – SCREW SCREEN** offers the waste water filtration and the transport of the effluents for the stocking, in a practical and efficient package.
The **CFC – SCREW SCREEN COMPACTOR** is the more complete variant, with a compactor zone next to the discharge, which allows an important reduction in weight and volume of filtered waste (up to 50% less).
The machine can be installed inclined (between 35 ° and 45 ° depending on the needs) into a concrete channel or in a stainless steel tank to receive the wastewaters from a fixed pipe; this version is called **CFT-C -SCREW SCREEN COMPACTOR IN TANK.**

The **CFV – VERTICAL SCREW SCREEN COMPACTOR** is the variant developed for vertical installation and offers the same efficient and durable functions of the *CFC – SCREW SCREEN COMPACTOR*.

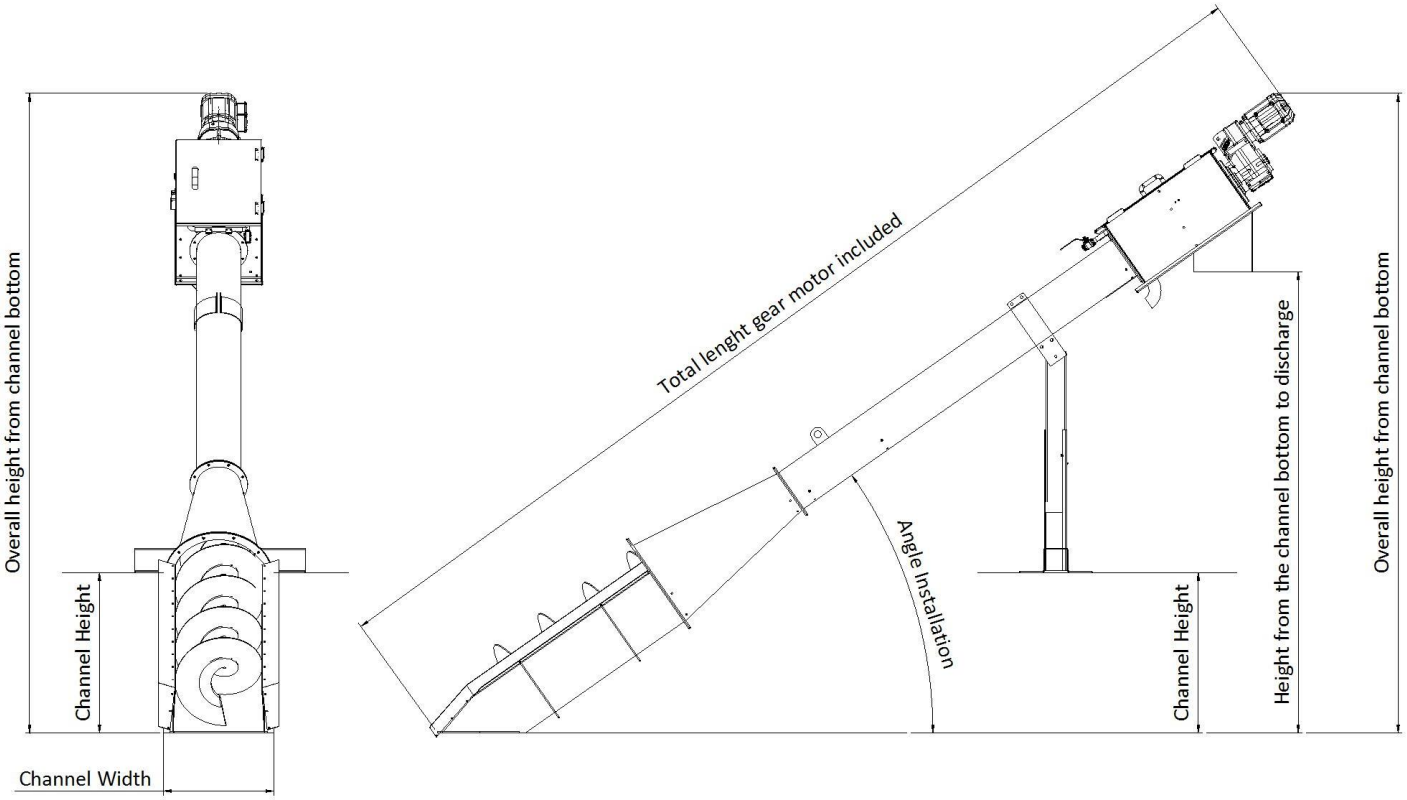
The filtration zone for all the variant of the *SCREW SCREEN* is made up by a holed sheet (circular holes from 2 to 6mm) or in trapezoidal profile Wedge Wire net (spacing 0.25mm – 2mm) which filters the wastewater holding back the waste.
Into this zone, the shaftless screw is equipped with brushes for the cleaning of the filtration. There is also a washing system activatable by a manual valve or through solenoid valve (optional).
The transport zone is composed by an auger and the continuation of the shaftless screw.
The screw, when activated by gear motor, rotates on itself picking and transporting waste until the discharge outlet.

CF200 – SCREW SCREEN

All the models of the CF series can be manufactured in Stainless Steel AISI304-316 (L), and are fully customizable according to the customer's needs, but anyways we offer a standard range which can help the costumer in his final choice:

Standard Dimensions

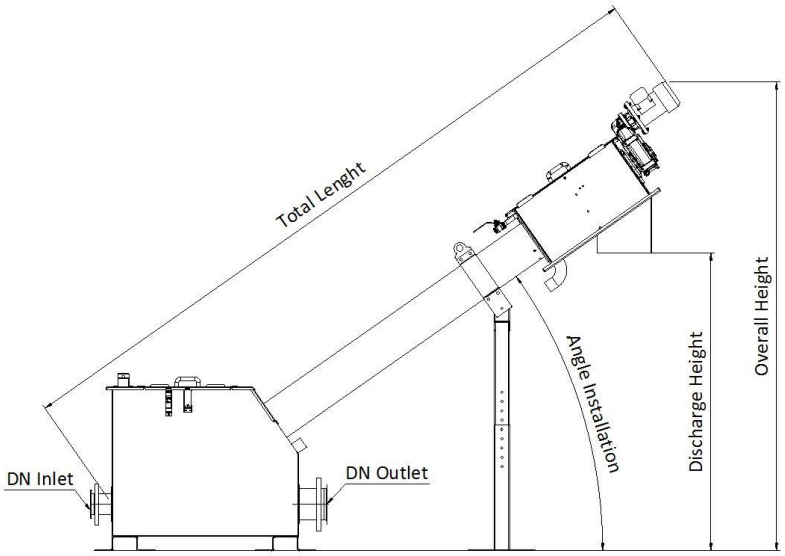
MODEL	CFC200	CFC300	CFC400	CFC500	CFC600	CFC700
Total Length gear motor included (mm)	5360	5355	5410	5420	5825	6165
Channel height (mm)	800	800	800	800	800	1000
Ideal channel width (mm)	250	350	460	560	660	760
Height form the channel bottom to discharge (mm)	2300	2300	2320	2325	2350	2550
Overall height from channel bottom (mm)	2990	3305	3325	3330	3740	3940
Angle Installation	35° - 45°	35° - 45°	35° - 45°	35° - 45°	35° - 45°	35° - 45°

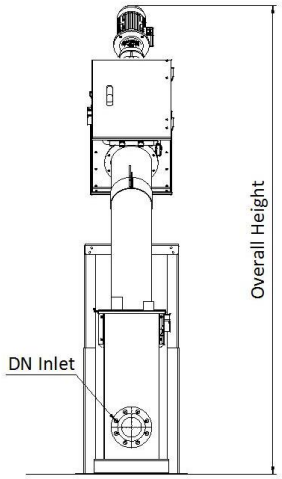


Outfall and lateral flaps always included.

CFT-C – Standard Dimensions

MODEL	CFT-C200	CFT-C300	CFT-C400	CFT-C500	CFT-C600	CFT-C700
Total Length gear motor included (mm)	5360	5355	5410	5420	5825	6165
Inlet DN	100	150	200	250	300	350
Outlet DN	150	200	250	300	400	500
Height form the bottom to discharge (mm)	2300	2300	2320	2325	2350	2550
Overall height from bottom (mm)	2990	3305	3325	3330	3740	3940
Angle Installation	35° - 45°	35° - 45°	35° - 45°	35° - 45°	35° - 45°	35° - 45°

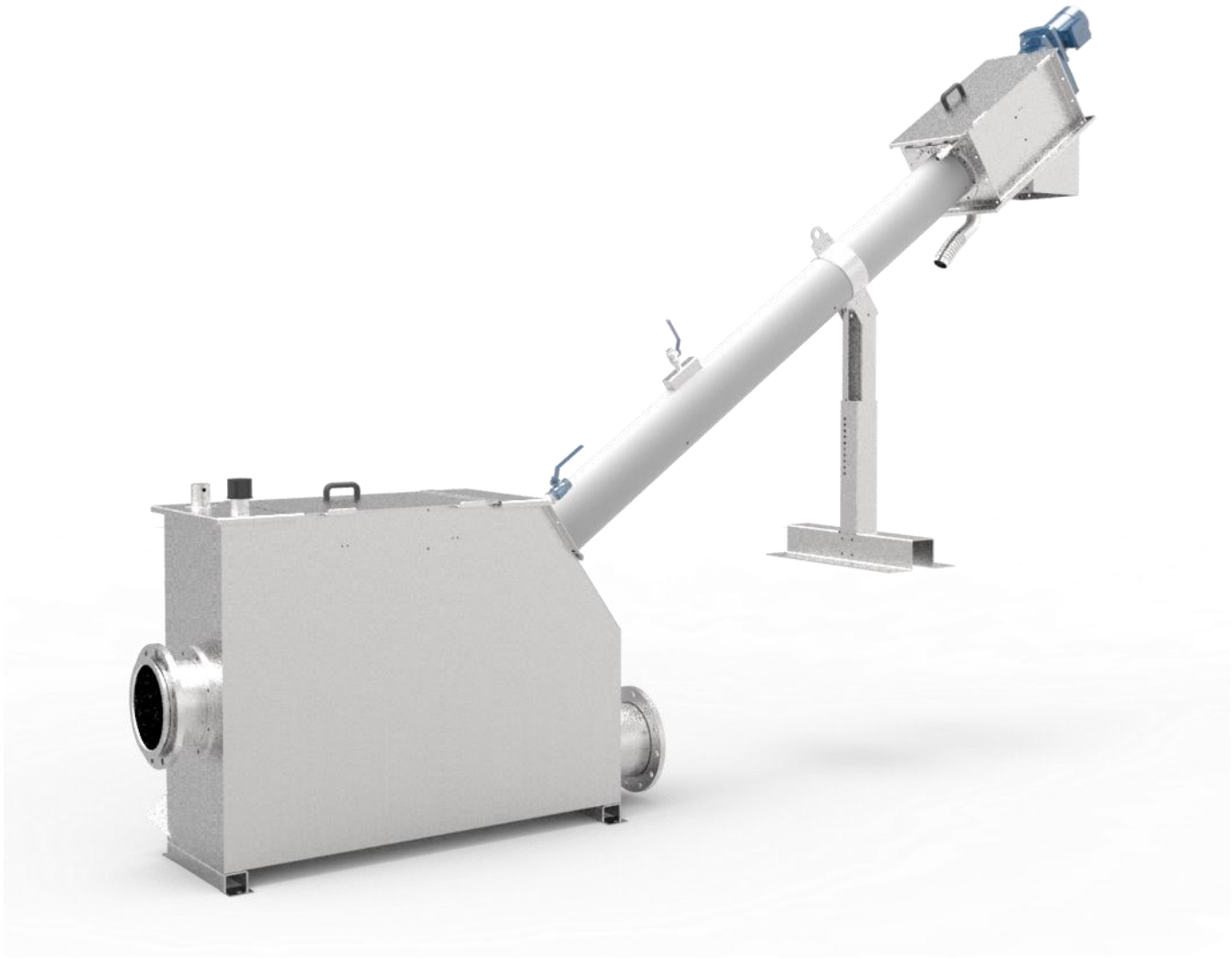




CF/CFC/CFT-C - Theoretical flowrates

MODEL	200	300	400	500	600	700
Type of meshes and spacing	M³/h					
0,25mm Wedge Wire	20	35	55	120	200	290
0,50mm Wedge Wire	45	60	85	190	275	370
1,00mm Wedge Wire	75	90	120	265	360	530
2,00mm Wedge Wire	85	105	150	310	415	670
3,00mm Holed	100	125	180	320	465	740
5,00mm Holed	140	162	268	396	590	950
6,00mm Holed	160	198	300	435	600	980
8,00mm Holed	180	220	350	480	650	1000

CFC 500 – SCREW SCREEN COMPACTOR



CFT-C 500 – SCREW SCREEN COMPACTOR WITH TANK

CFV-C 200 – VERTICAL SCREW SCREEN COMPACTOR

Figure 9 - *CFT*-C screw screen compactor in tank

Figure 10 - CFC screw screen compactor in channel

Figure 11 - CFC screw screen compactor in channel

Figure 12 - CFC screw screen compactor in channel

FINE SCREEN:

CF/S – SMALL SCREW SCREEN

The CF/S – SMALL SCREW SCREEN gives the same features of the *CF – SCREW SCREEN* in a compact package. It features a screen basket in with a perforated sheet or wedge wire, that acts as a filter, followed by the transport section and a discharge spout that can be provided with a chute or a bagging system.
Screenings are conveyed by a shaft provided in the screen basket section with bolted plastic brushes to keep the basket clean. The machine is usually installed with an inlet pipe.

CF/S150 – SMALL SCREW SCREEN

CF/S - Theoretical flowrates

MODEL	CF/S150	CF/S200
Type of meshes and spacing	M^3/h	
0,25mm Wedge Wire	1	1,9
0,50mm Wedge Wire	1,8	3
1,00mm Wedge Wire	2,3	4,9
2,00mm Wedge Wire	3,8	8
3,00mm Holed	6	14
5,00mm Holed	15	34
6,00mm Holed	20	49
8,00mm Holed	23	68

The CF/S can be manufactured in Stainless Steel AISI304-316 (L), and is fully customizable according to the customer's needs, but anyways we offer a standard range which can help the costumer in his final choice:

Standard Dimensions

MODEL	CF/S150	CF/S200
Nominal Diameter	DN150 – 168mm	DN200 – 219mm
Total Length gear motor not included (mm)	1450	2240
Transport Length (mm)	980	1500
Filtration Length (mm)	470	740
Inlet	DN100	DN150

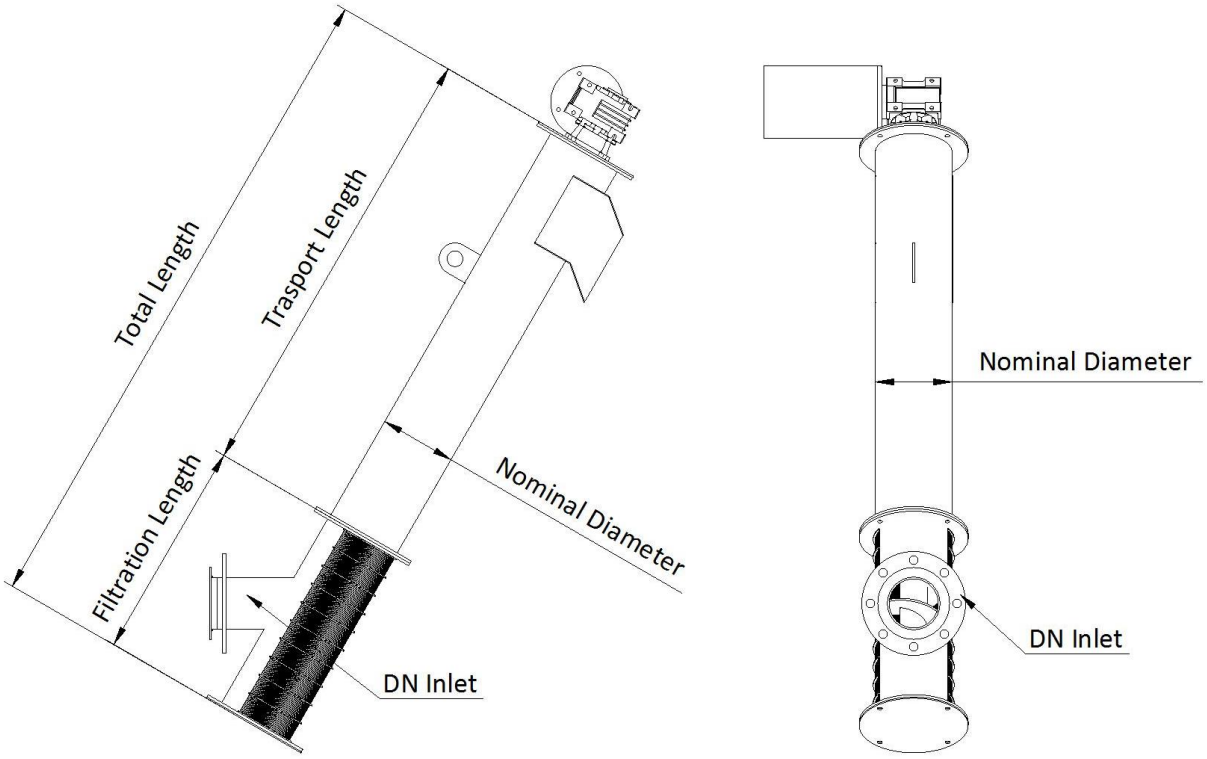


Figure 13 - CF/S mini screw screen

Figure 14 - CF/S mini screw screen

FINE SCREEN:

EFD – ROTARY DRUM STRAINER

The EFD – ROTARY DRUM STRAINER the ideal machine for the separation of suspended particles present in wastewater.

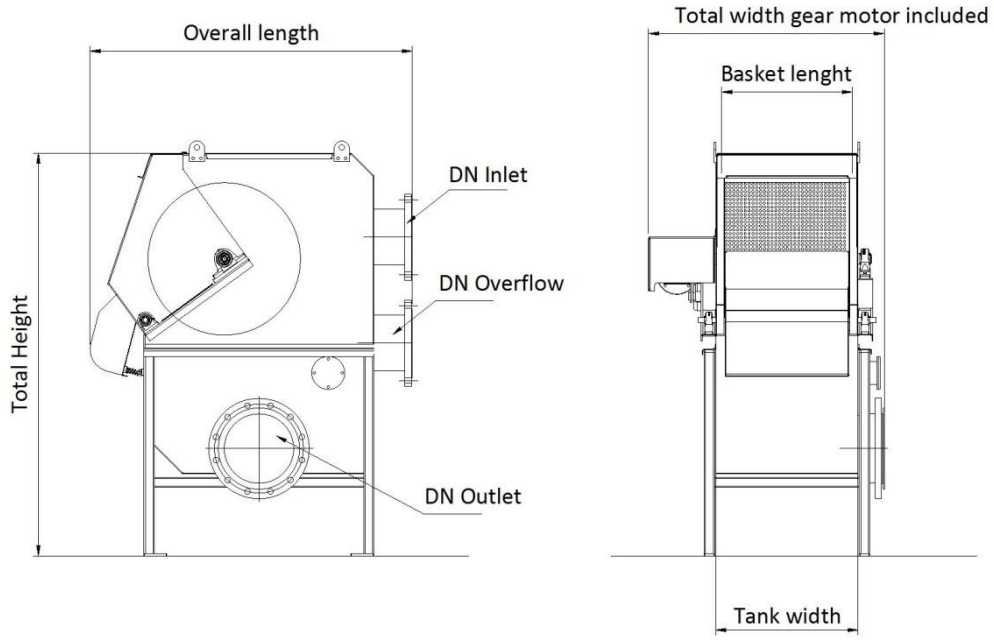
The slurry that need to be treated enters the tank through the entrance and is distributed over the entire length of the drum. The slow rotation of the drum separates the material in suspension in the water and is transported in front of the machine and discharged by a scraper.
While the waste remains in the external part of the drum water it is filtered by the sieve and passes through the drum and is collected in a tank, positioned below the machine.
The drum is kept clean by the double passage of water and by high pressure wash, and consists of perforated networks in wedge wire profiles and two side closures and inspected made of stainless steel.

EFD500 – ROTARY DRUM STRAINER

The EFD can be manufactured in Stainless Steel AISI304-316 (L), and is fully customizable according to the customer's needs, but anyways we offer a standard range which can help the costumer in his final choice:

Standard Dimensions

MODEL	EFD40	EFD50	EFD70	EFD100	EFD130
Total width gear motor included (mm)	1100	1100	1250	1550	1850
Basket lenght (mm)	400	500	700	1000	1300
Total height (mm)	1300	1300	1300	1300	1300
Tank width (mm)	600	700	800	1115	1420
Total length (mm)	1250	1250	1250	1250	1250
Inlet and overflow	DN100	DN200	DN200	DN200	DN250
Outlet	DN150	DN250	DN250	DN250	DN300



EFD - Theoretical flowrates

MODEL	20	40	50	70	100	130
Type of meshes and spacing	M^3/h	M^3/h	M^3/h	M^3/h	M^3/h	M^3/h
0,25mm Wedge Wire	8	36	44	60	90	115
0,50mm Wedge Wire	14	62	68	110	150	205
0,75mm Wedge Wire	17	85	92	148	215	275
1,00mm Wedge Wire	20	102	110	186	265	345
1,25mm Wedge Wire	23	115	120	205	300	385
1,50mm Wedge Wire	26	134	155	230	340	435
1,75mm Wedge Wire	30	140	185	250	365	465
2,00mm Wedge Wire	33	160	205	265	375	480

Figure 15 - EFD external rotary drum screen

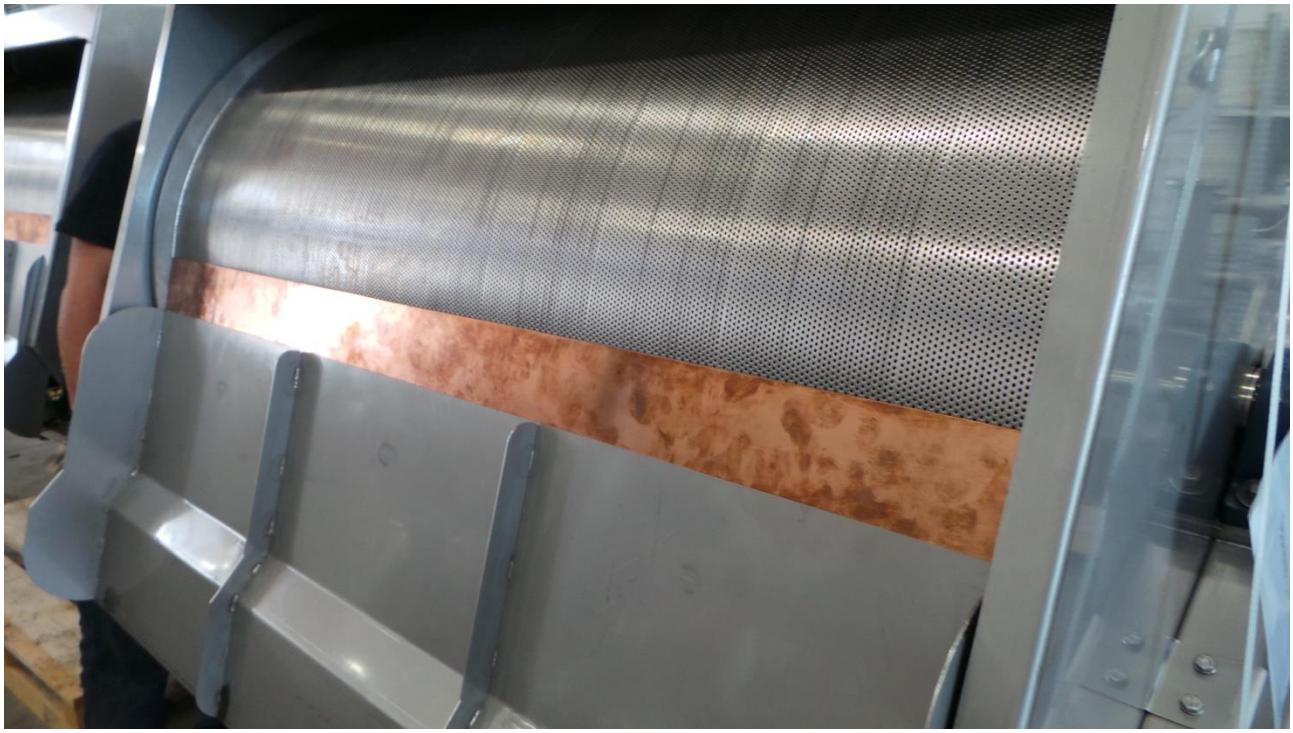


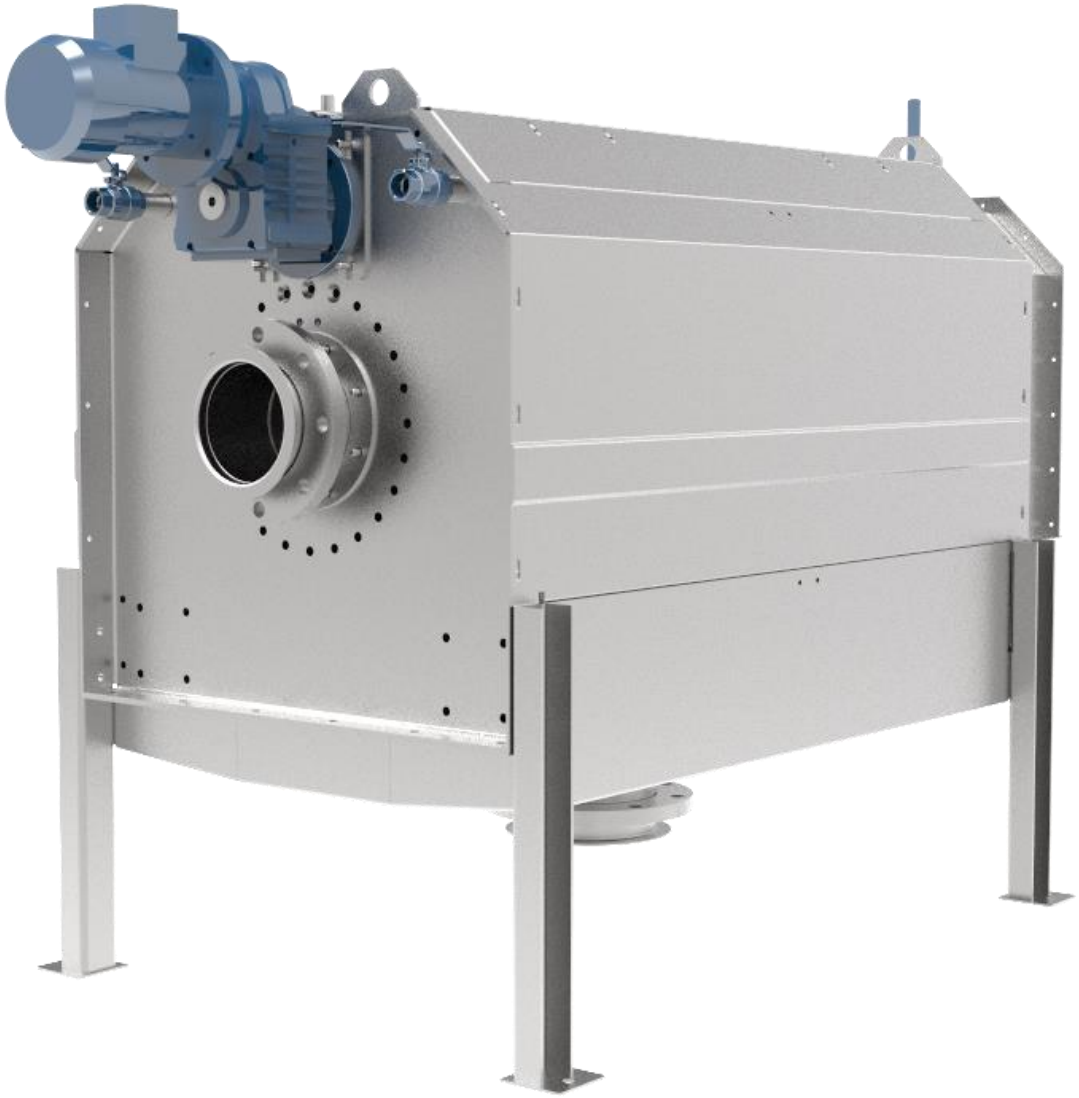
Figure 16 - EFD drum and scraper detail

FINE SCREEN:

IFD – INTERNAL DRUM STRAINER

The IFD – INTERNAL DRUM STRAINER is a machine for wastewater treatment with an interchangeable filtration basket.

The frame is made of stainless steel and the internal drum is made of holed sheets (circular holes from 2 to 6mm) or by a trapezoidal profile Wedge Wire stainless steel net (spacing 0.25mm – 2mm) that filter the water retaining, in the drum , the solid waste in the drum .
The wastewater enters the machine, accesses inside the rotating basket and is filtered. A plate welded to a helix within the basket conveys thanks to the slow rotation of the resulting materials towards the discharge outlet.
The internal or external cleaning system works by following this process: high pressure water sprays and removes all types of stuck material on the surface of the filter screen.
This system can be activated manually or programmed to operate at need.



IFD500 – INTERNAL DRUM STRAINER

The IFD can be manufactured in Stainless Steel AISI304-316 (L), is fully customizable according to the customer's needs, but anyways we offer a standard range which can help the costumer in his final choice:

Standard Dimensions

MODEL	IFD500	IFD700	IFD900	IFD1200	IFD1500	IFD2000
Total length (mm)	1321	1781	1962	2266	1926	2155
Width (mm)	750	900	1200	1300	1650	2200
Height (mm)	1344	1600	1740	1950	1320	1600
Drum diameter (mm)	500	700	900	1200	1500	2000
Drum length (mm)	600-1200	750-1500	1000-2000	1250-2500	1500-3000	2000-3000
Power installed (kw)	0,55	0,75	0,75	1,1	1,5	2,2

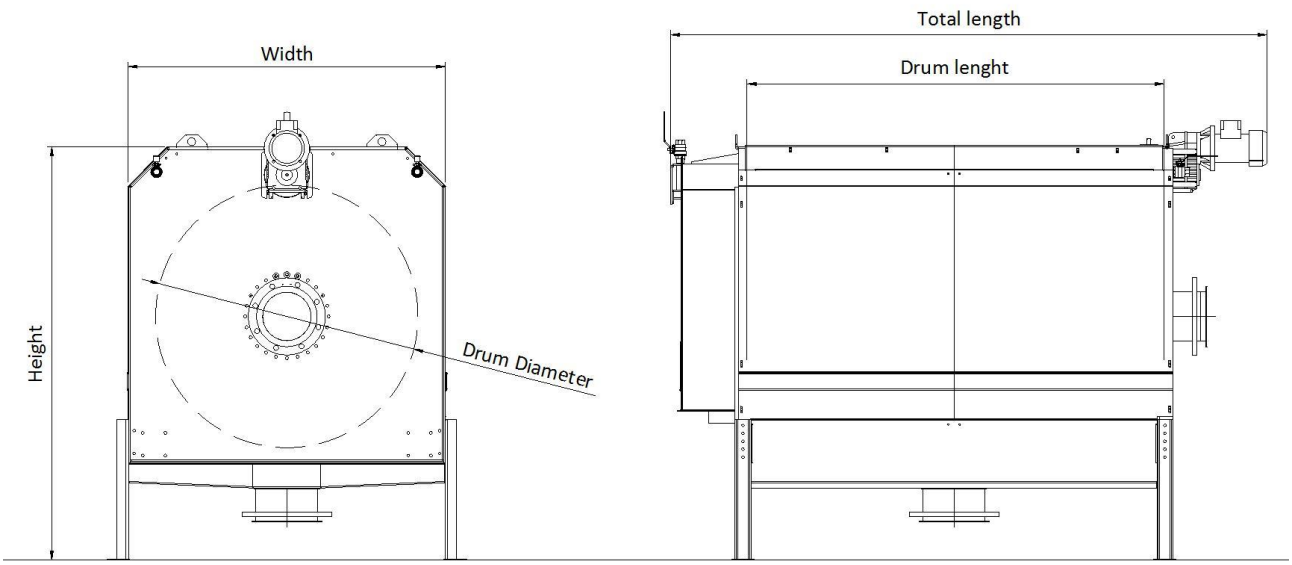


Figure 17 - IFD internal drum strainer

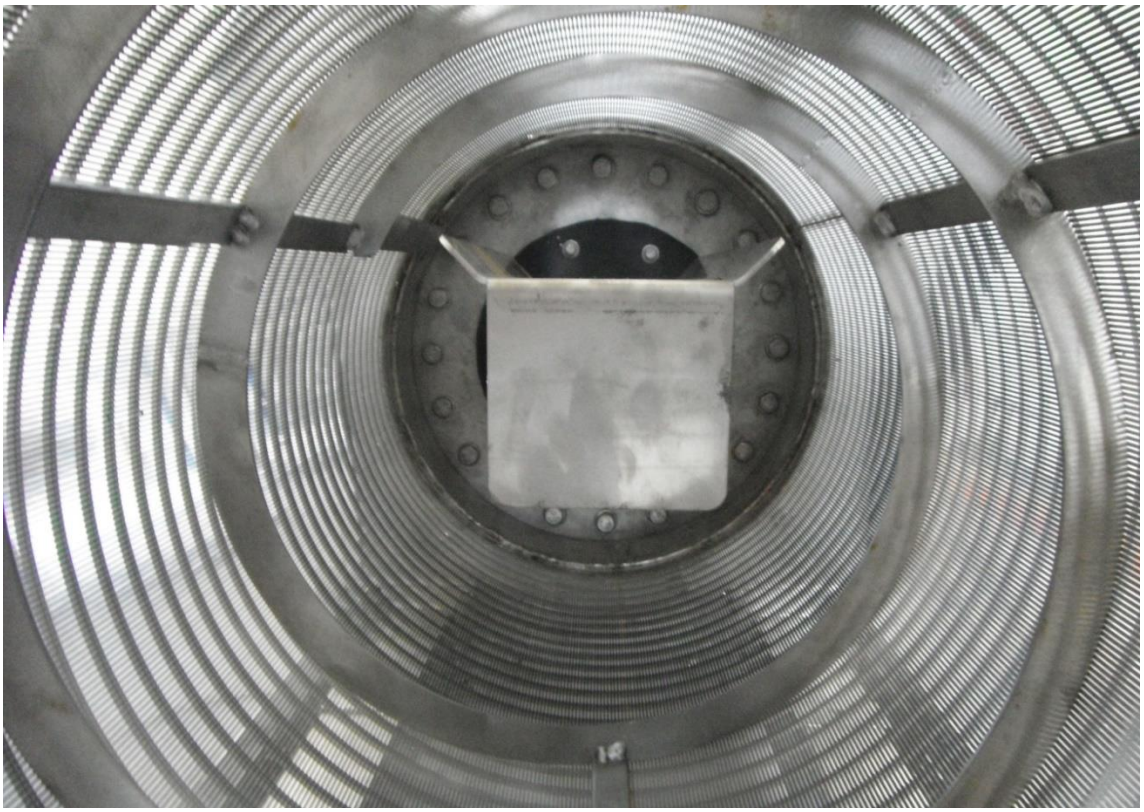
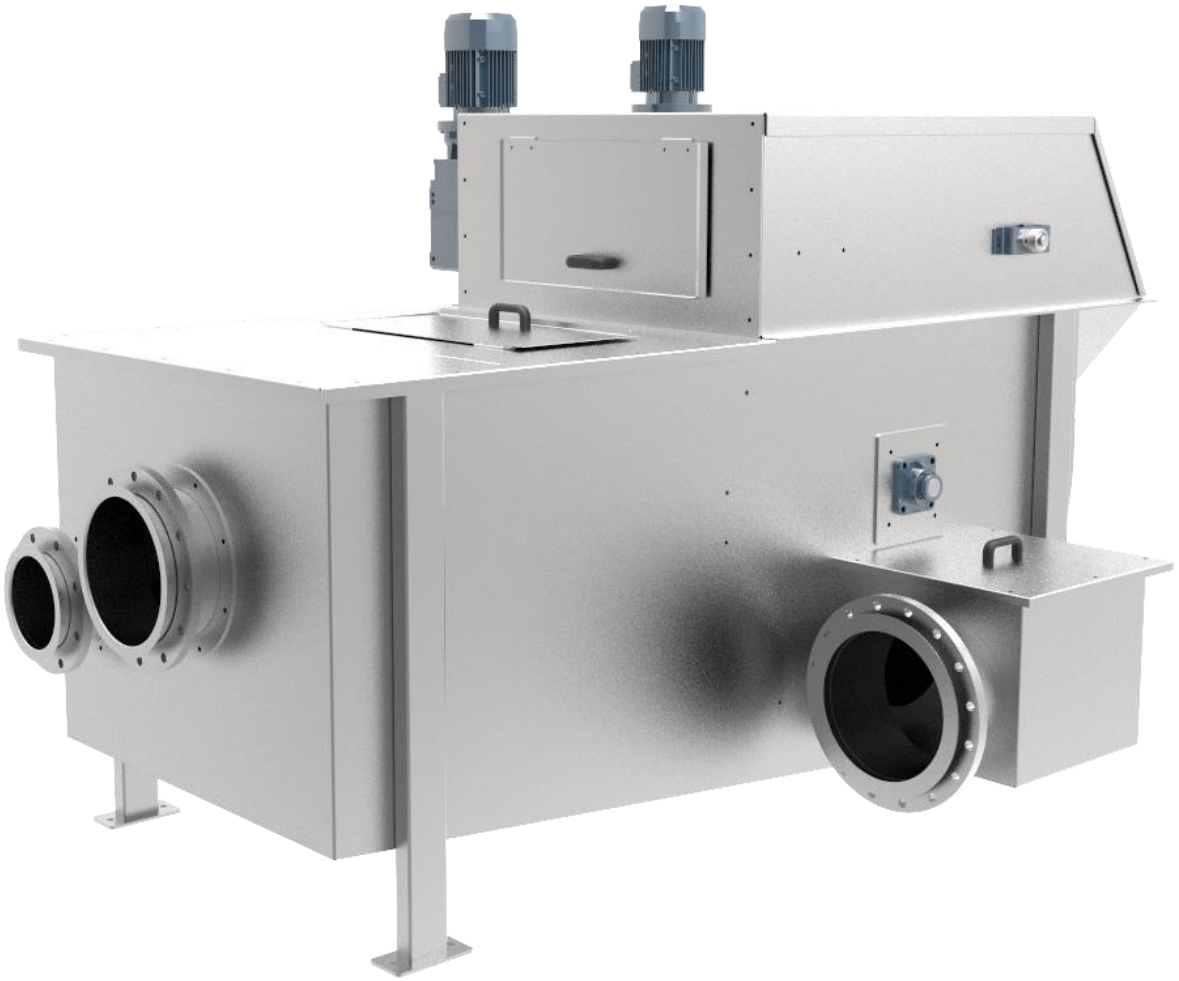


Figure 18 - IFD drum screen view

FINE SCREEN:

FRT – Perforated drum screen

The perforated drum screen **FRT** is designed to use as much as possible surface of the screening drum, reducing the space for the operation.
The FRT is designed to force the wastewater to pass through the whole surface of the drum, as to maximize the efficacy of the filtration.
The screening is discharged from the upper area and can be directly collected in a bin or in a compactor, if a higher dryness is necessary.



FRT1200 - PERFORATED DRUM SCREEN

FINE SCREEN:

GTR – ROTRARY DRUM SCREEN

The GTR – ROTARY DRUM SCREEN with or without the compactor is a machine usable for solid/liquid separation in case of a big water flowrate.

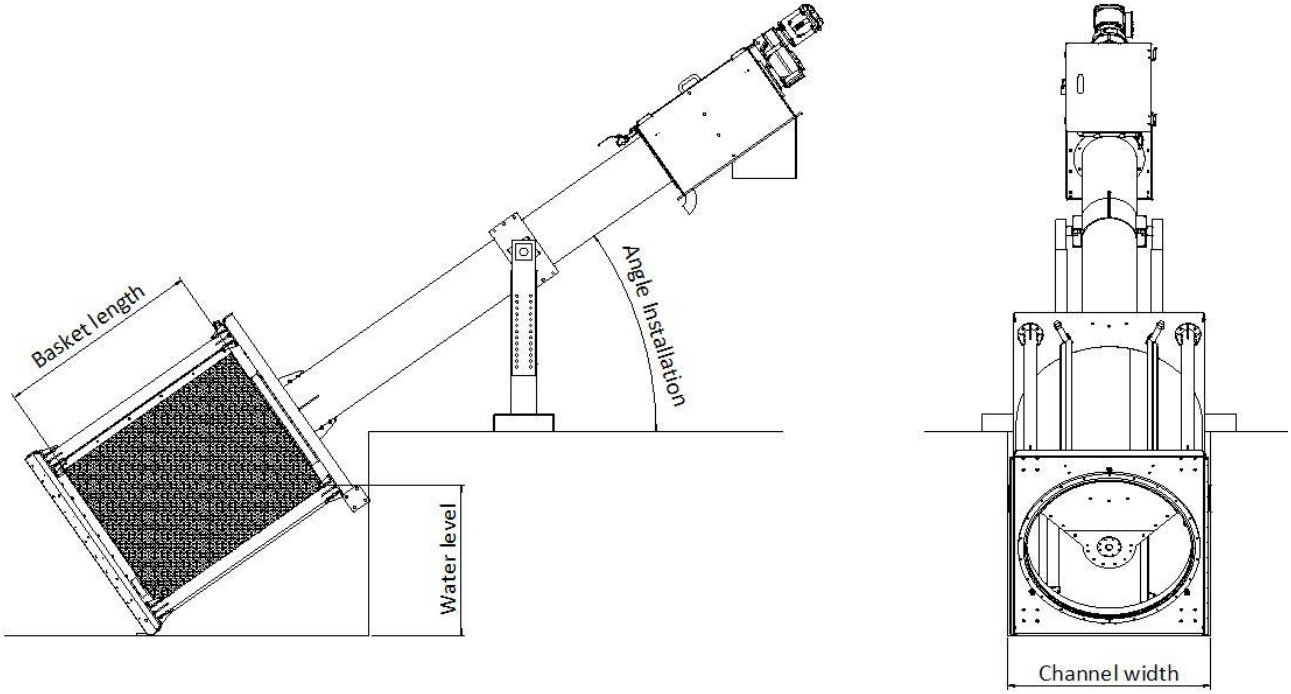
This machine is composed by a screen basket in a holed sheet (circular holes from 2 to 6mm) or in a trapezoidal profile Wedge Wire stainless steel net (spacing 0.25mm – 2mm) which filter the water holding back the solid particles.
This sieve rotates together with the transport screw and moves the resulting materials up to the compaction and dehydration zone where they'll be discharged allowing a reduction of volume and weight of that waste by over 40%.
The machine can be installed inclined (between 35 ° and 45 ° depending on the needs) into a concrete channel or in a stainless steel tank to receive the waste waters from a fixed pipe; this version is called GTR-T – ROTARY DRUM SCREEN IN TANK.
The GTR – ROTARY DRUM SCREEN is supplied with a single gear motor which moves the screw and the sieve together, but it can be equipped with two separate gear motors (one for the screw rotation and one for the sieve rotation); this version is called GTR-D – DUAL ROTARY DRUM SCREEN.
This version is particularly recommended when in the wastewater a large amount of solid waste to be filtered is present. The double motorization guarantees the independence of the two rotary elements of the machine (screw and sieve) and consequently a greater reliability and sturdiness of the entire system.

GTR1200 - ROTARY DRUM SCREEN

The GTR series can be manufactured in Stainless Steel AISI304-316 (L), and are fully customizable according to the customer's needs, but anyways we offer a standard range which can help the costumer in his final choice:

Standard Dimensions

MODEL	GTR800	GTR1000	GTR1200	GTR1400	GTR1600	GTR1800	GTR2000	GTR2400	GTR2600
Channel width (mm)	800	1000	1200	1400	1600	1800	2000	2400	2600
Basket length (mm)	800	1000	1200	1400	1600	1800	2000	2400	2600
Water level (mm)	580	760	930	1050	1200	1400	1600	2000	2100
Angle installation	35°	35°	35°	35°	35°	35°	35°	35°	35°



Outfall and lateral flaps always included.

GTR – GTR-D - Theoretical flowrates

MODEL	GTR800	GTR1000	GTR1200	GTR1400	GTR1600	GTR1800	GTR2000	GTR2400	GTR2600
Type and spacing	M³/h								
0,50mm Wedge Wire	108	235	290	430	580	790	940	1460	1820
1,00mm Wedge Wire	270	400	470	720	970	1480	1750	2420	2998
2,00mm Wedge Wire	290	490	720	936	1420	1840	2010	2780	3310
3,00mm Holed	325	400	550	890	1200	1550	1867	2450	2710
6,00mm Holed	690	990	1310	1890	2980	3490	4510	5620	7120
8,00mm Holed	810	1020	1910	2460	3110	3900	4950	5990	7510

GTR-D1000 – DUAL ROTARY DRUM SCREEN

Figure 19 - GTR-D dual rotary drum screen

Figure 20 - GTR-D screen motor gear view

Figure 21 - GTR-D drum screen detail

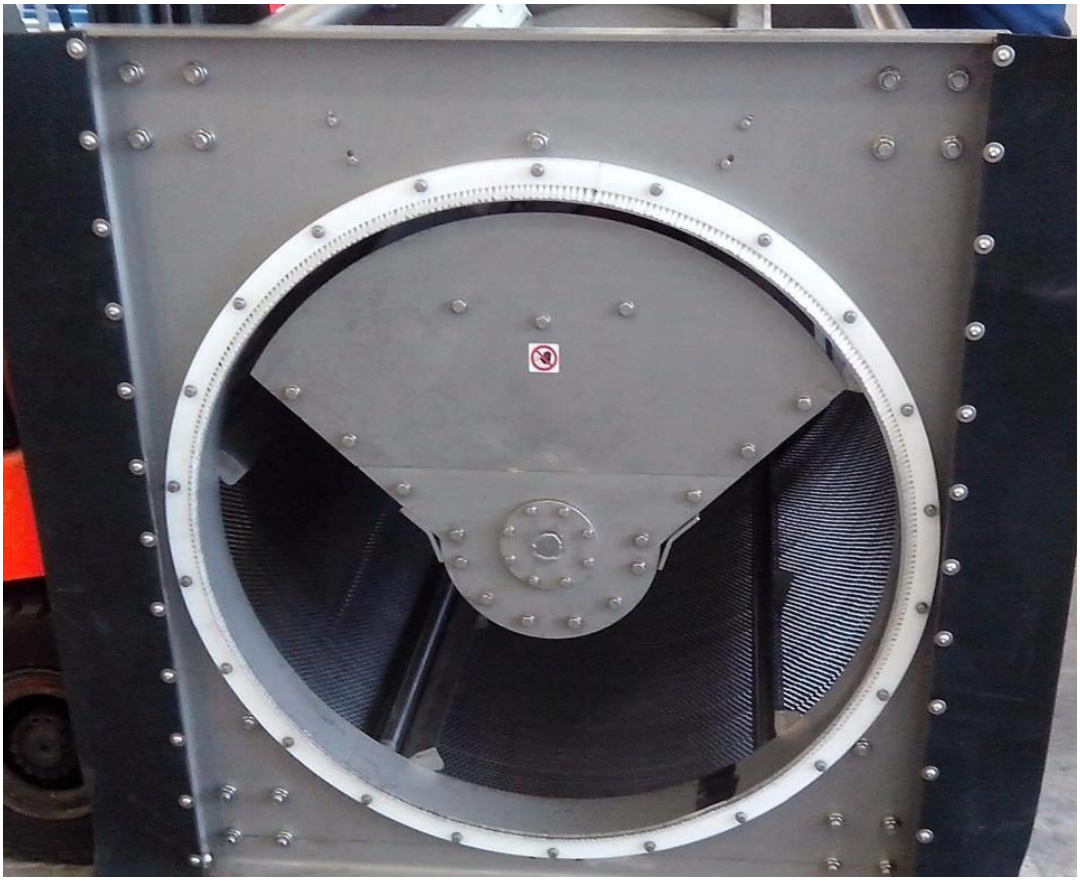


Figure 22 - GTR-D drum screen and hopper view

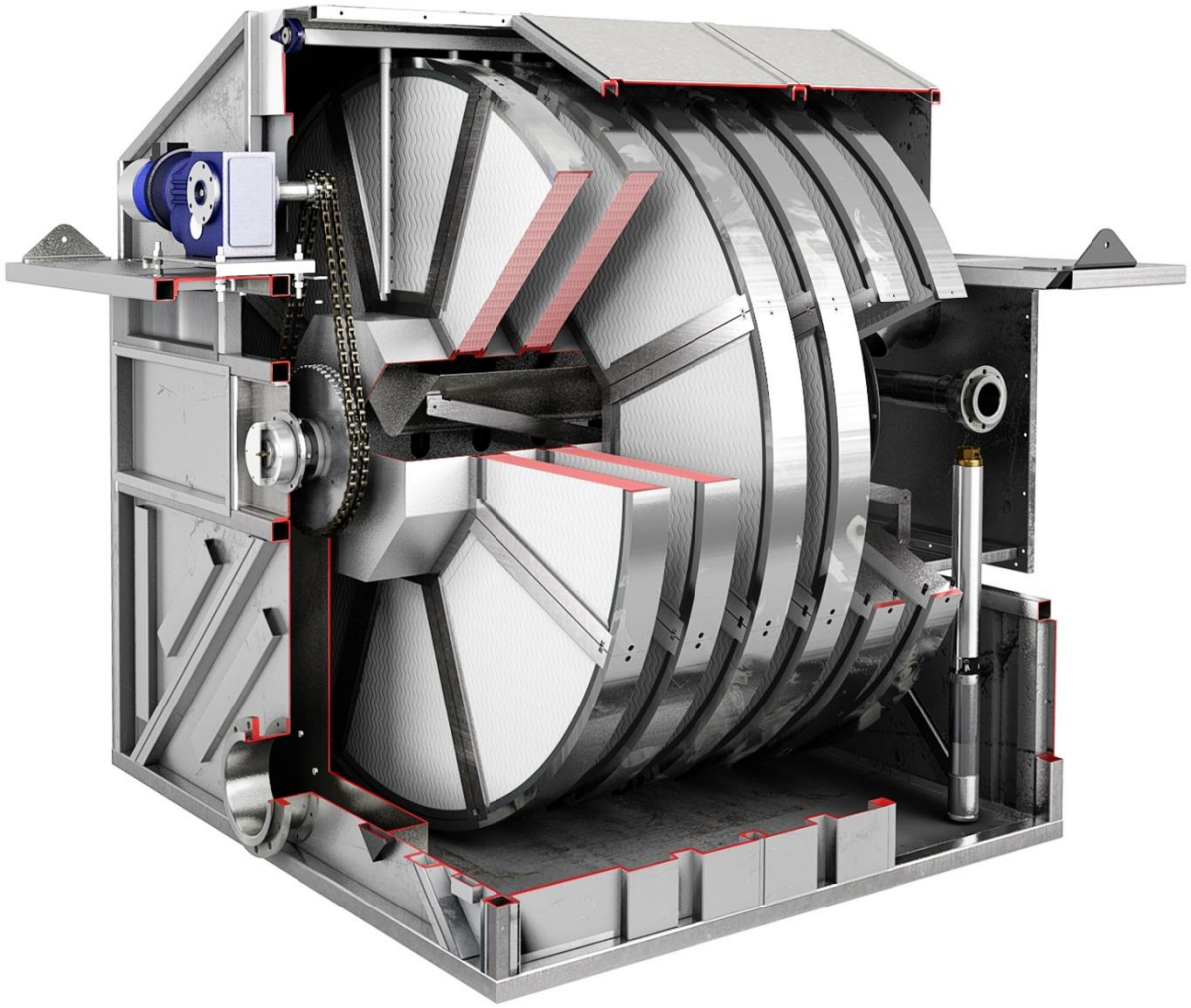
FINE SCREEN:

DFH – DISK FILTER

The **DFH – DISK FILTER** is one of the most technologically advanced filtration solutions on the market and is the latest step in a modern system of waste water filtration.

Every disc is composed by eight plastic looms with 20 microns filtering frame in stainless steel, and every loom is fixed at the central octagonal pipe.
The wastewater, once has entered, falls into the discs by gravity and is filtered by the frame.
The filtered water is collected in the stainless steel tank.
In a first moment the disks are in rest position (immobile) until their filter is occluded, causing a water level increase into the disks and the pipe.
This water level increase is detected by a sensor which activates the gear motor and therefore the disks rotation.
This rotation, together with the high pressure washing, cleans the frame by the materials which falls down into an inclined discharge hopper which transfers the material to the outside thanks the dedicated outlet.

The DFH can be manufactured in Stainless Steel AISI304-316 (L), and are fully customizable according to the customer's needs. We, however, provide a standard version to help the customer in his choice.



DFH22-6 – DISK FILTER

Figure 23 - DFH disk filter

Figure 24 - DFH disk filter

Figure 25 - DFH disk filter

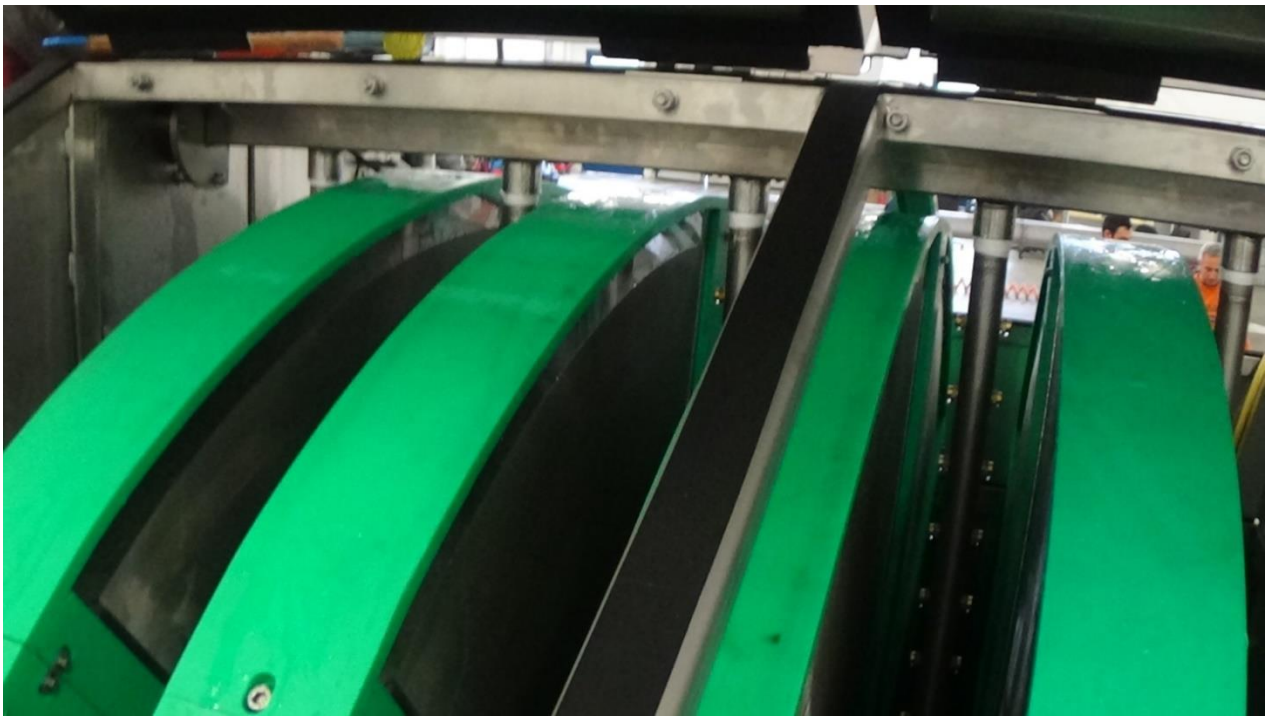


Figure 26 - DFH disks detail

SCREENING CONVEY:

CCS – SHAFTLESS SCREW CONVEYOR

The CCS – SHAFTLESS SCREW CONVEYOR is our highly customizable solution for the waste conveyor.
It is constituted by a shaftless screw which, once actuated by the motor gear, rotates on its own transporting the loaded material towards one or more discharge outlets (eventually equipped with a guillotine closing).
The machine can be supplied in two different configurations:

- On pull: where the spiral that pulls the material towards the discharge outlet in the vicinity of the geared motor.
- On push: where the material is pushed towards the outlet at the opposite side of the gear motor.

The drive can be executed via direct connection of the spiral to the gear motor, or by a geared motor transmission system - chain - flange of the spiral shaft.
The absence of the central shaft makes these machines suitable for the transport of sticky materials, typically sludge and sediment, which would otherwise tend to stick to the shaft of the loop. The machine's working range is between 0 ° and 30 ° of tilt, with a carriage return that falls with increasing inclination.

Our conveyors can be manufactured in vertical installation version called CCS-V – VERTICAL SHAFTLESS SCREW CONVEYOR .
This solution has the great advantage to reduce system footprint necessary and to lift up screenings/sludge until 20mt height. Execution can be made with shaftless spiral rotating inside an external pipe or two U troughs bolted together.

CCS200 – SHAFTLESS SCREW CONVEYOR

CCS – CCS-V – Capacity table for screenings and sludge

MODEL	SCREENINGS		SLUDGE	
	Inclination 0° - 15°	Inclination 16° - 90°	Inclination 0° - 15°	Inclination 16° - 90°
CCS 150	0.5	0.3	1.5	1
CCS 200	1	0.7	3.3	1.5
CCS 250	2.5	1.6	6.5	4
CCS 300	3.7	2	11	6.5
CCS 350	5.2	2.5	16	9
CCS 400	7.5	4	20	12
CCS 500	15	8.2	41	25
CCS 600	20	16	52	35

Figure 27 - CCS shaftless screw conveyor

Figure 28 - CCS shaftless screw conveyor with rotate system

Figure 29 - CCS shaftless screw conveyor

Figure 30 - CCS shaftless screw conveyor in plant with rock trap

SCREENINGS PRESS AND CONVEYING:

CP – SHAFTLESS SREW CONVEYOR AND COMPACTOR

The CP – SHAFTLESS SCREW CONVEYOR AND COMPACTOR is a combined unit used for conveying and compaction of the waste.

It consists of the drainage area, normally placed in front of the loading hopper, which has the function of allowing the evacuation of the liquids contained in the input material; the transport area, consisting of a trough and a spiral without a central shaft, and finally the compaction module, which allows a reduction in volume and weight of waste by over 50%, depending on the type of material transported.
The spiral is normally connected directly to the geared motor by a flanged shaft and seal assembly is present to prevent any leakage of liquids from the gear motor zone. The machine works in a range of inclination 5 ° - 35 °, and, if requested, a washing system can be installed in the transport zone in case of special executions.

CP200 – SHAFTLESS SCREW CONVEYOR AND COMPACTOR

The CP can be manufactured in Stainless Steel AISI304-316 (L), and is fully customizable according to the customer's needs, but anyways we offer a standard range which can help the costumer in his final choice:

CP - Standard Dimensions

MODEL	CP200	CP300	CP400
Drainage length (mm)	350	550	700
Transport length (mm)	1000 - 7000	1000 - 9000	2000 - 12000
Compaction length (mm)	500	700	930
Inclination	5° - 30°	5° - 30°	5° - 30°
Nominal flowrate (mc/h)	2	5	8
Motor power installed (kw)	1,5	3	5

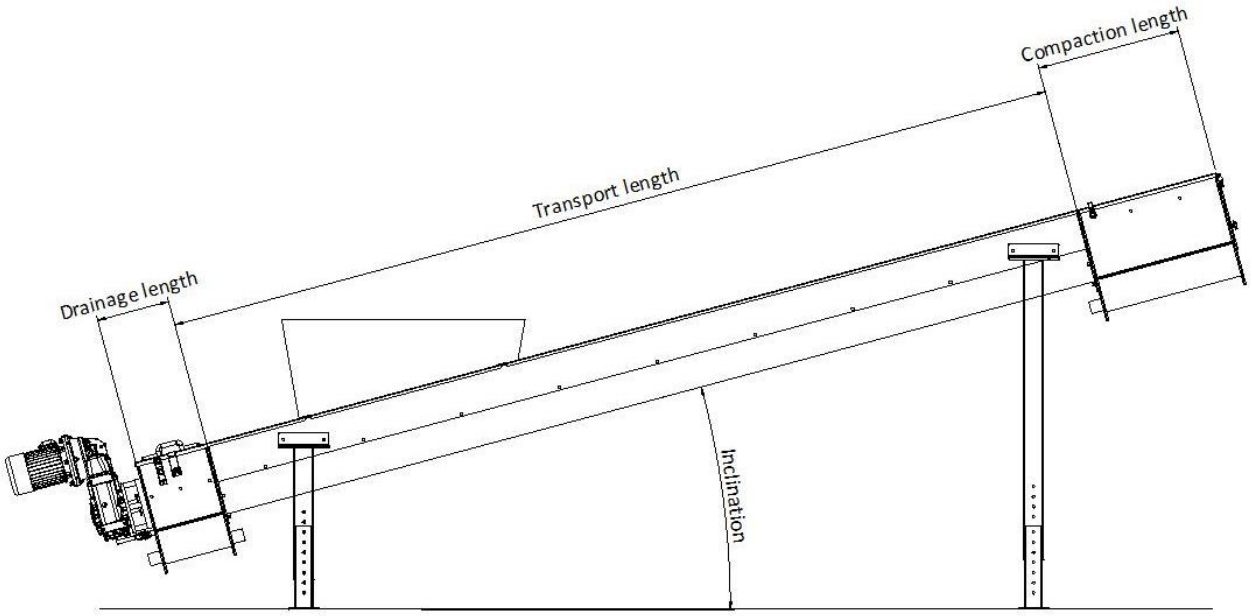


Figure 31 - CP shaftless screw conveyor and compactor

Figure 32 - CP shaftless screw conveyor and compactor

Figure 33 - CP shaftless screw conveyor and compactor vertical hoppers view

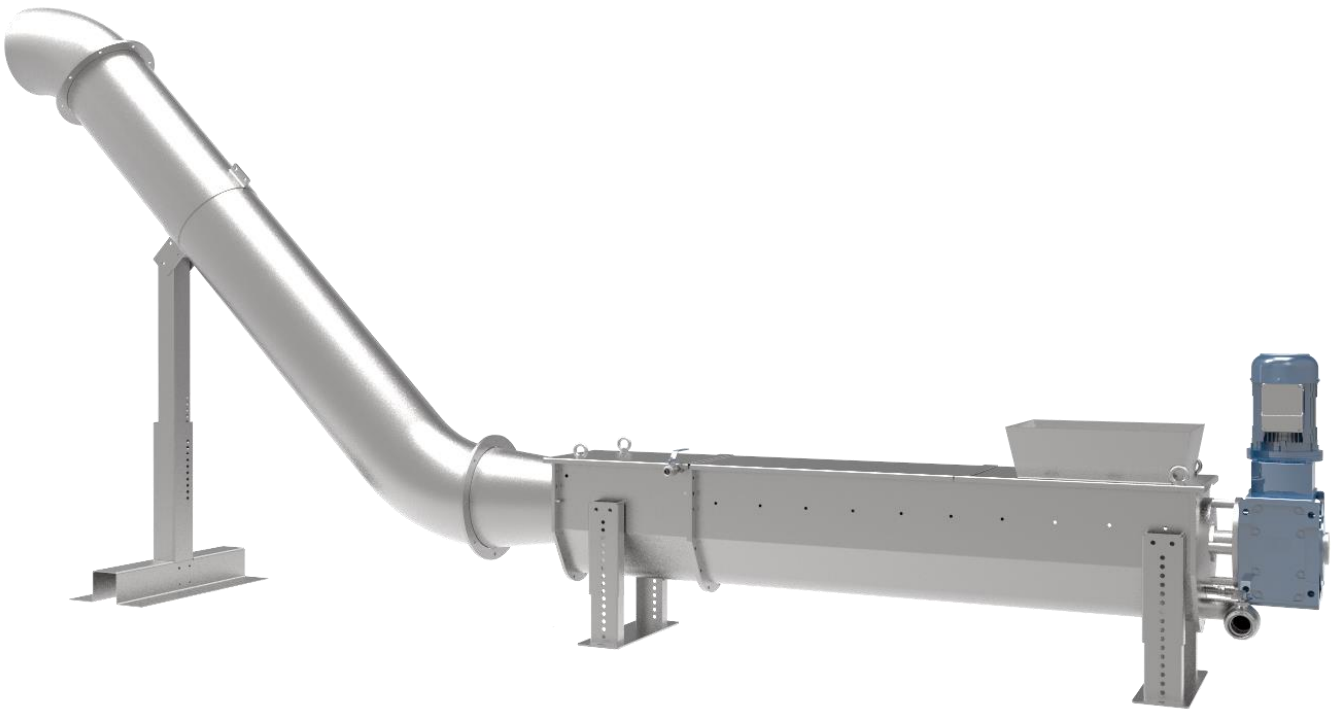
Figure 34 - CP shaftless screw conveyor and compactor axial outlet view

SCREENINGS PRESS AND CONVEYING:

CPP – SCREW SCREEN PRESS

The CPP - SCREW SCREEEN PRESS simultaneously provides the function of drainage and waste compaction. The compactor can be placed directly below the output of a coarse filtration machine or it can be fed by a conveyor.

The machine is composed of an input hopper connected to a tubular trough that makes up the waste drainage area and it's equipped with a washing system to ensure a higher removal of organic substances contained in the waste materials.
The compacting zone is realized by a discharge pipe shaped "proboscis" which gives the machine a great dewatering performance.
The excellent cleaning of the gratings and the high degree of compaction (up to 60%) reached implies a reduction of odor problems and disposal costs.



CPP300 – SCREW SCREEN PRESS

The CPP can be manufactured in Stainless Steel AISI304-316 (L), and is fully customizable according to the customer's needs, but anyways we offer a standard range which can help the costumer in his final choice:

CPP - Standard Dimensions

MODEL	CPP200	CPP300
Drainage length (mm)	1500	1500
Compaction length (mm)	500	700
Inclination	0° - 5°	0° - 5°
Nominal flowrate (mc/h)	2	3
Motor power installed (kw)	3	5

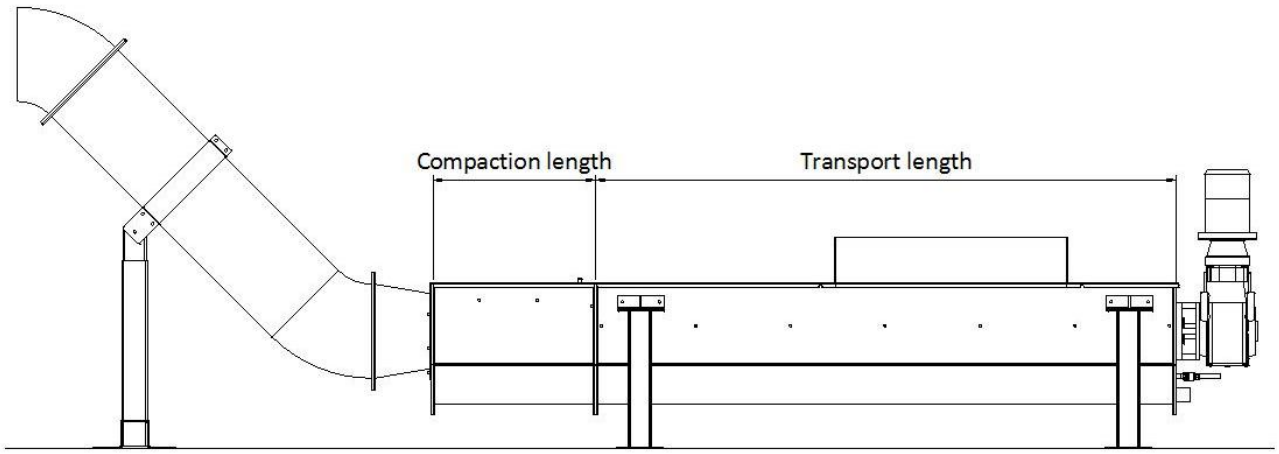


Figure 35 - CPP screw screen press

Figure 36 - CPP hopper detail

Figure 37 - CPP outlet pipe

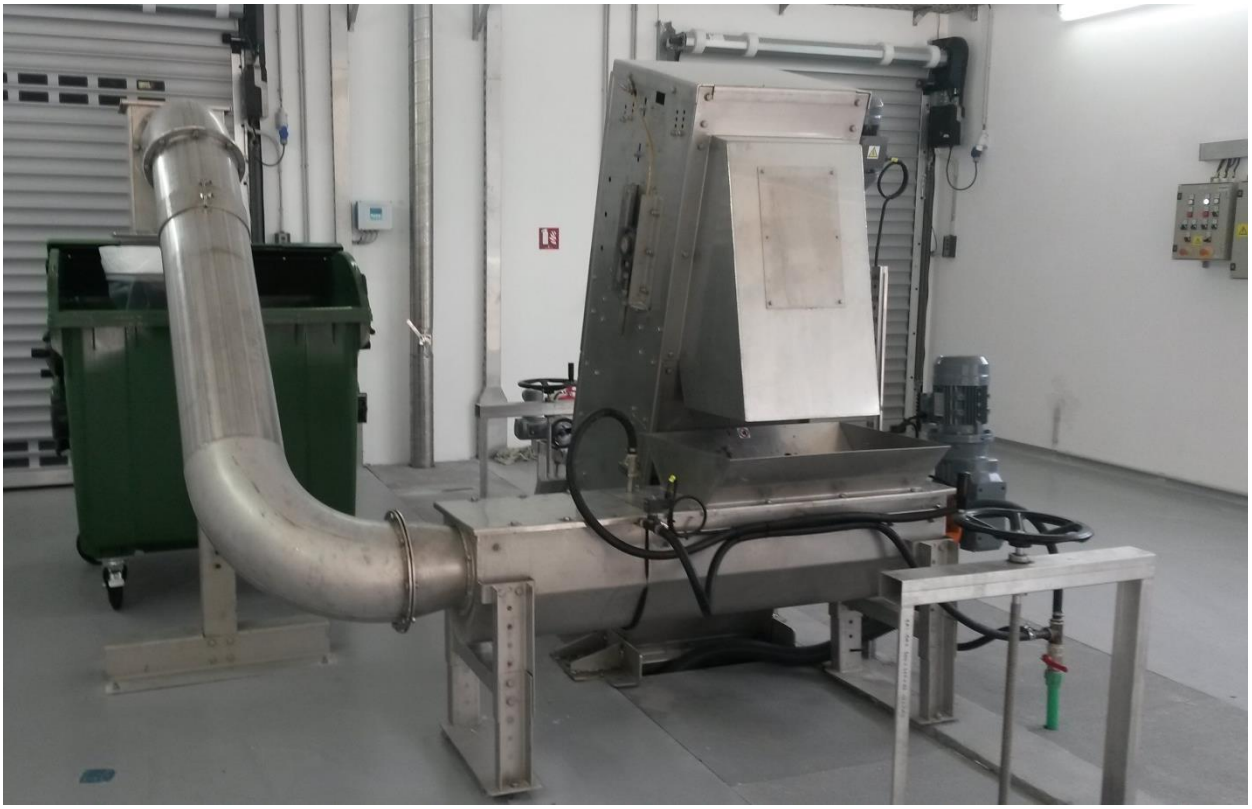


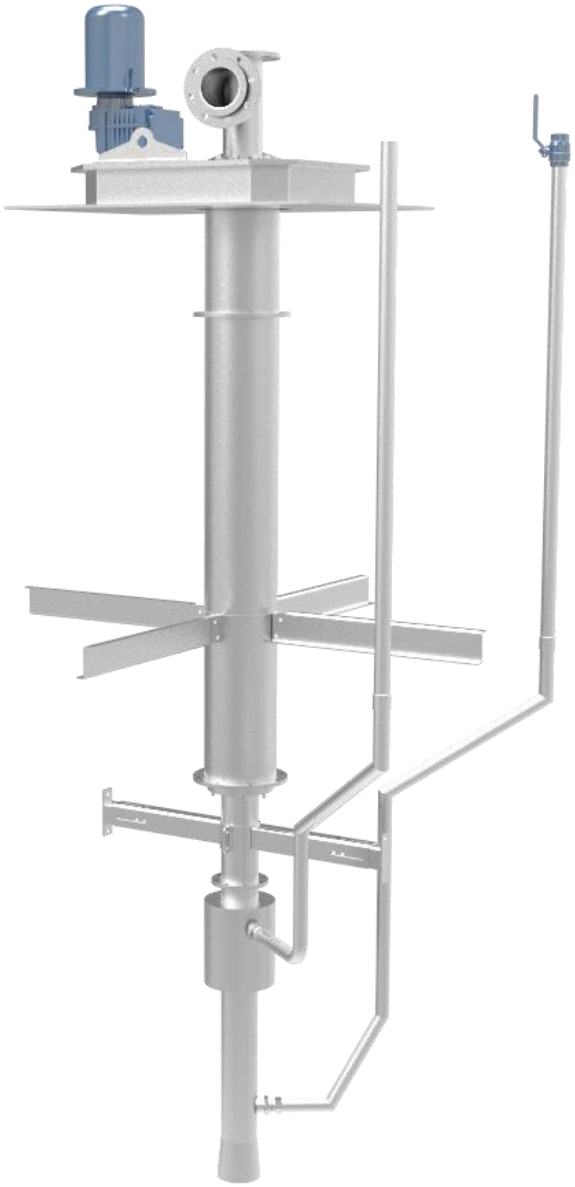
Figure 38 - CPP screw screen press in plant with an SMC multi raked bar screen

GRIT SEPARATION AND WASHING:

VXGR – VORTEX GRIT SEPARATOR

The VXGR – VORTEX GRIT SEPARATOR essentially consists in a system of mixing shovels inserted into a concrete tank of generally realized before the installation in the plant.
The machine can also be provided with a stainless steel tank; This version is called VXGR-T – VORTEX GRIT SEPARATOR WITH TANK.

Once the gear motor is activated, the shovels create a vortex inside the tank full of effluents.
This vortex facilitates the sedimentation on the bottom of the tank of the sands, also of particle extremely small (up to 100 microns).
These sands are then sucked out of the tank by a pneumatic said "air-lift" system, or by a pump sands; the machine can also be provided with devices for the separation and for the suction of oil and grease.



VXGR20 – VORTEX GRIT SEPARATOR

VXGR – VXGR-T - Theoretical flowrates

MODEL	VXGR20	VXGR25	VXGR30	VXGR35	VXGR40	VXGR50	VXGR60
Inlet flow (mc/h)	430	760	1220	1870	3160	5000	8300
Hopper capacity (mc)	3	5	8,5	13	20	34	55
Motor power installed (kw)	0,37	0,55	0,75	0,75	1,1	1,5	2,2
Air Lift diameter (mm)	80	80	80	80	100	100	100

The VXGR series can be manufactured in Stainless Steel AISI304-316 (L), and is fully customizable according to the customer's needs, but anyways we offer a standard range which can help the costumer in his final choice:

Standard Dimensions

MODEL	VXGR20	VXGR25	VXGR30	VXGR35	VXGR40	VXGR50	VXGR60
Max diameter - ØD (mm)	2000	2500	3000	3500	4000	5000	6000
Lower diameter – ØDf (mm)	1000	1000	1500	1500	1500	1500	1500
Hd (mm)	1300	1350	1450	1550	1700	1850	1950
S (mm)	300	400	450	600	800	1000	1300
Hdf (mm)	700	700	1000	1300	1300	1600	1600
Sf (mm)	600	600	800	1000	1000	1200	1200

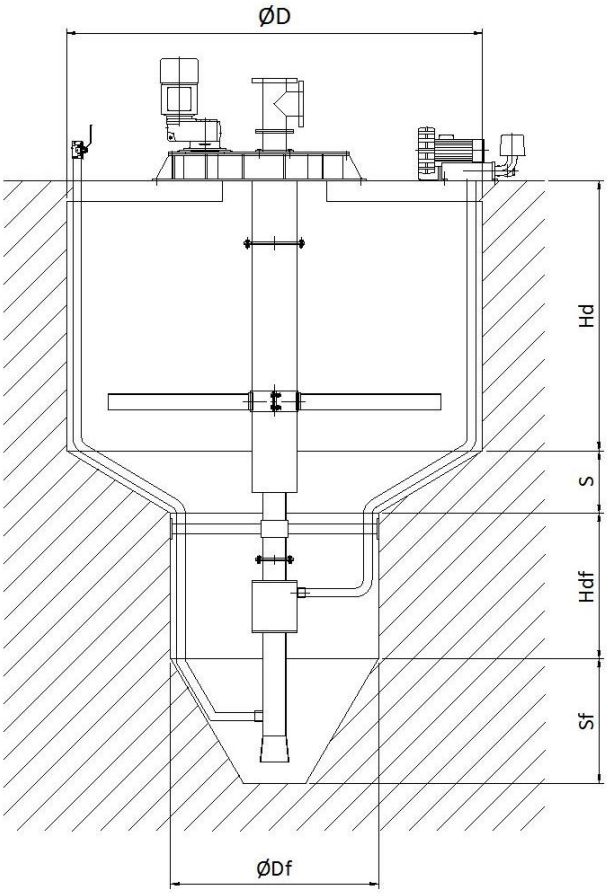


Figure 39 - VXGR vortex grit separator in plant

Figure 40 - VXGR vortex grit separator in plant

GRIT SEPARATION AND WASHING:

CDS – GRIT CLASSIFIER

Our CDS – GRIT CLASSIFIER is a machine with the task of separating the sandy materials from the water.
It consists in a suitably shaped decantation hopper, with a screw for the sedimented materials' extraction.
The spiral is normally of the type without a central shaft (shaftless),but is also provided for the version with a central shaft (shafted).
The spiral auger is normally connected directly to the motor via flanged shaft.

The operation of the machine is simple but extremely effective:
the water that needs to be treated enters the hopper and while the sands remain inside the tank because of their weight, they go to the bottom.
Meanwhile, the extraction screw proceeds with the removal of the sand from the bottom of the machine which, by rotating at low speed, avoids the turbulence and increases the efficiency of the process.
The trough of the extraction auger is protected by a wear-resistant coating HDPE or in stainless steel bars.

CDS30– GRIT CLASSIFIER

CDS - Theoretical flowrates

MODEL	CDS20	CDS30	CDS60	CDS80	CDS100
Liquid flowrate (mc/h)	20	30	60	80	100
Hopper capacity (mc)	0,4	0,9	1,5	2	3
Sand removing (mc/h)	0,25	0,4	0,4	0,4	0,4

The CDS can be manufactured in Stainless Steel AISI304-316 (L), and is fully customizable according to the customer needs, but anyways we offer a standard range which can help the costumer in his final choose:

CDL - Standard Dimensions

MODEL	Lt	H	W	Ht	Ho	Hs	Inlet
CDS20	3710	1995	1220	1390	1275	1500	DN80PN10
CDS30	4475	2145	1065	1330	1150	1585	DN100PN10
CDS60	4845	2310	1155	1375	1200	1755	DN150PN10
CDS80	5330	2455	1530	1690	1540	1900	DN150PN10
CDS100	6260	2890	1530	2090	1870	2330	DN200PN10

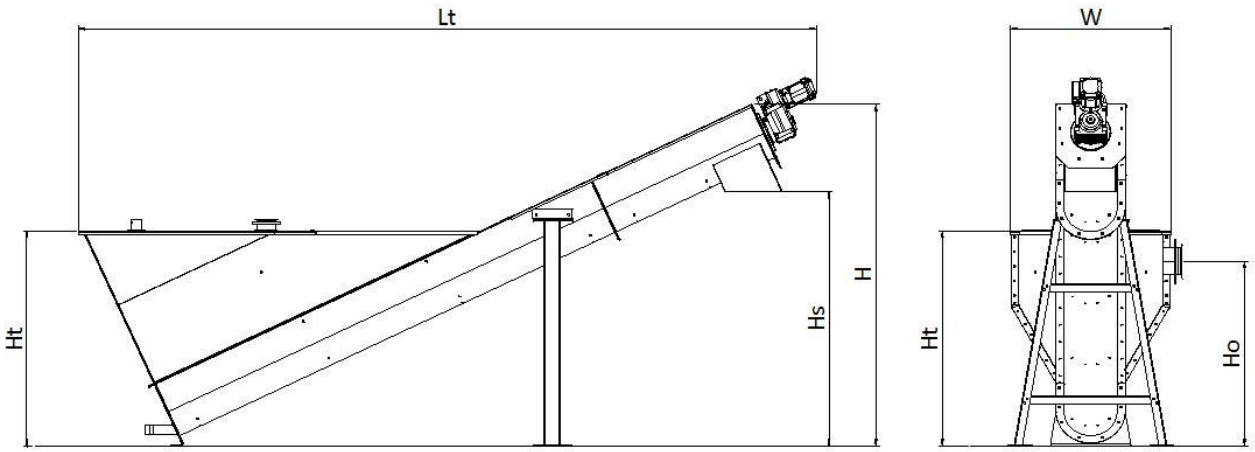


Figure 41 - CDS grit classifier in plant

Figure 42 - CDS grit classifier in plant

GRIT SEPARATION AND WASHING:

CDL – GRIT WASHER

The CDL – GRIT WASHER is used for the separation of sandy materials contained in waste water, and for the simultaneous washing of the organic substances.

It is constituted by a conical hopper decantation equipped with a stirring system, connected to a spiral for extracting solid with central shaft.
The spiral auger is normally connected directly to the motor via flanged shaft. In the bottom of the hopper is a clean water inlet system in countercurrent which has the purpose of removing the organic substances present in the sands.
The water entering into the hopper, through the inlet spiral, is kept in motion by the agitator central with a rotational movement. This has the purpose to facilitate the sedimentation of the sand and at the same time to maintain suspension of the organic material.
The sand, in its journey towards the bottom, is further distant from the clean water wash fed in countercurrent, to then be that will then be extracted from the cochlea.
The counter flow water also has the task of facilitating the ascent of the organic substances, which are then evacuated at regular intervals by dedicate exhaust duct.
The clarified water is instead evacuated by a second duct placed in the upper part of the conical hopper. The continuous rotational motion of the water mass allows the sand to pass from the hopper to the discharge auger, which conveys towards the output.

CDL30– GRIT WASHER

CDL - Theoretical flowrates

MODEL	CDL30	CDL60	CDL90
Wastewater flowrate (mc/h)	30	60	90
Hopper capacity (mc)	0,65	0,9	1,5
Sand removing (mc/h)	0,4	0,4	0,4

The CDL can be manufactured in Stainless Steel AISI304-316 (L), and is fully customizable according to the customer needs, but anyways we offer a standard range which can help the costumer in his final choose:

CDL - Standard Dimensions

MODEL	Lt	H	Wp	W	C	Hs	Hin	Ho	DN Outlet
CDL30	4210	2915	1380	2025	2295	2255	1980	1600	DN150PN10
CDL60	5265	3610	1360	2125	2630	2980	2295	1870	DN200PN10
CDL90	5260	3610	1360	2125	2930	2980	2595	2170	DN200PN10

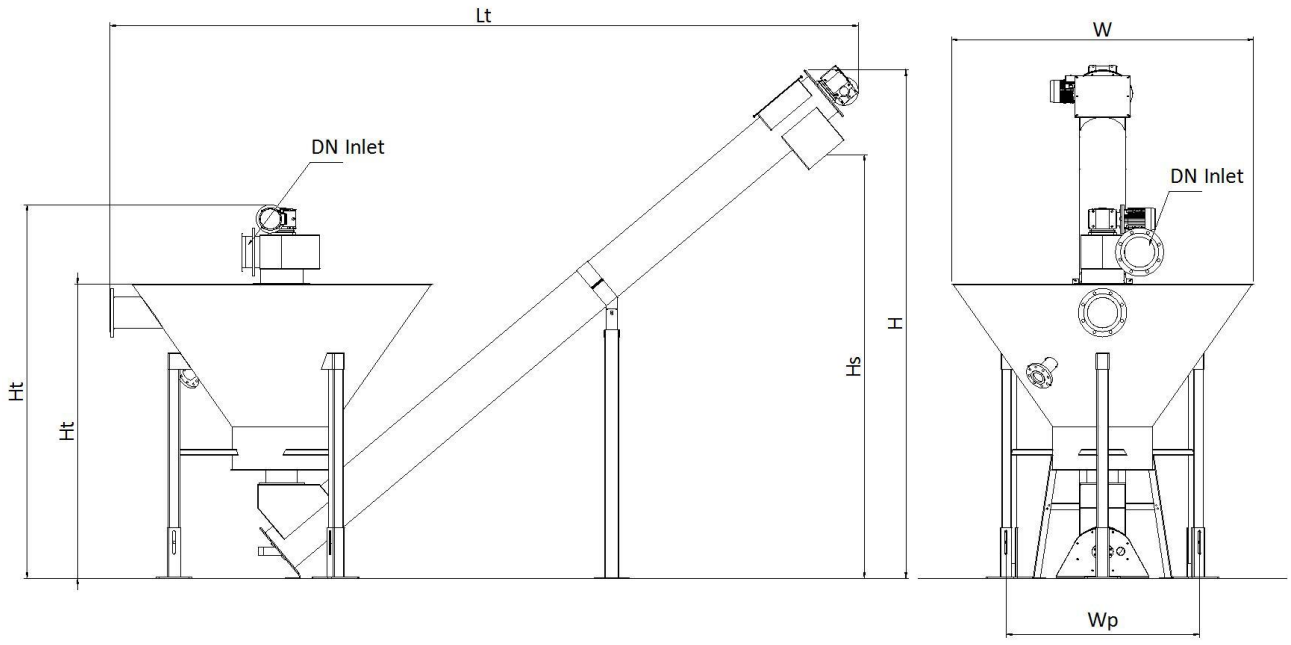


Figure 43 - CDL grit washer in plant

Figure 44 - CDL grit washer in plant

COMPLETE MECHANICAL PRETREATMENT STATIONS:

WAU – COMBINED PRETREATMENT UNIT

The system WAU – COMBINED PRETREATMENT UNIT is the answer to the intrusive and too costly in concrete pretreatment stations.

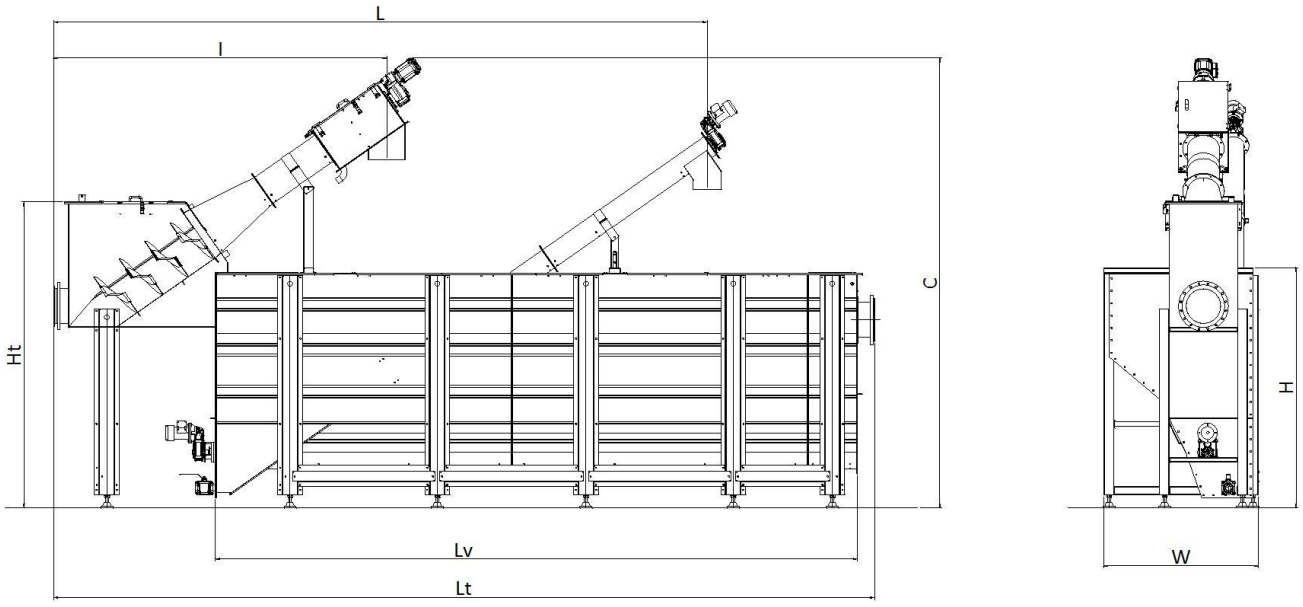
Our WAU3 – COMBINED PRETREATMENT UNIT is a “state of the art” combined unit of wastewater pretreatment, designed to fulfill three functions at the same time (filtration, sand removal and grease removal) into a single, convenient and reliable stainless steel machine.
The same machine is also available in two function version called WAU2 – COMBINED PRETREATMENT UNIT which possesses filtration and sand removal or degreaser and sand removal only.
The filtration on the WAU system is normally performed by a *CFC-T SCREW SCREEN COMPACTOR WITH TANK* but, in case of special needs, the system can be supplied with a *GTR-T*, with a *SSW*, With a *SMC* or with a *SMCH*.
The work of the WAU begins when the flow of wastewater leads to the tank of the filtration area: inside the tank, the water is filtered and the sands of greater size are immediately removed.
The wastewater, after the first filtration stage, enters within the sedimentation tank where the finer solids settle to the bottom, and with an horizontal shaftless screw, which functions as a way of transport (located along the bottom of the hopper) conveys the sand towards the extraction zone. In this area the inclined auger also called "extractor" transports the sand out of the tank.
The screw can be provided with or without shaft, depending on the type of material that needs to be treated.
The WAU may, as described previously, be equipped with a grease trap system.
This system works in two phases:
The first phase begins once the blower (optional) activates by separating the oily particles from those of sand through a pipe with nozzles placed into the tank.
The sands fall down on the bottom of the tank through gravity while fat, oil and grease rise up to the water surface thanks to the action of the air injection.
The second phase is instead performed from by a cart degreaser with a scraper, which, along the entire length of the tank, removes the waste substances placed on the water surface and finally conveys them into dedicated output.

The WAU system can be manufactured in Stainless Steel AISI304-316 (L), and is fully customizable according to the customer needs, but anyways we offer a standard range which can help the costumer in his final choose:

WAU2 (filtration and sand removal version) - Standard Dimensions

MODEL	First Filtration	Lt	H	C	W	Ht	l	L	Lv	IN/OUT
WAU2-15	CFT-C 300	4100	1605	3425	668	2035	2630	4170	3000	DN200
WAU2-30	CFT-C 400	7635	1605	3290	668	2220	3215	5155	6000	DN200
WAU2-45	CFT-C 500	10560	1605	3600	668	2220	3210	5115	9000	DN250
WAU2-60	CFT-C 500	7740	2325	4570	1025	2920	4335	6260	6000	DN250
WAU2-100	CFT-C 700	10475	2650	5845	1540	3550	4320	7875	9000	DN300
WAU2-130	CFT-C 700	12150	2300	5000	1025	3200	3915	6230	10500	DN400
WAU2-150	CFT-C 700	13550	2300	5000	1800	3200	3915	6455	12000	DN400

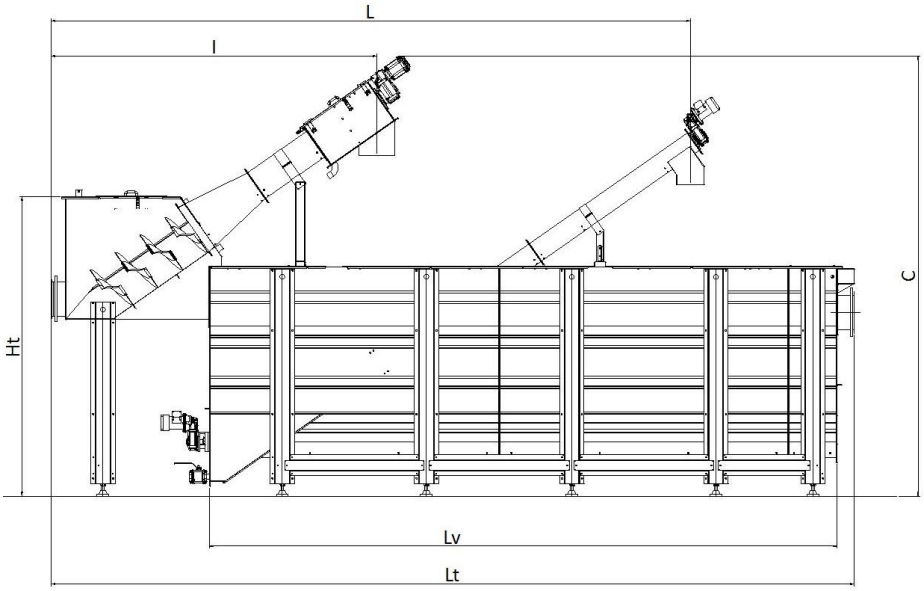
In special execution, the combined unit WAU can be executed to treat a flow until 400 lt/sec

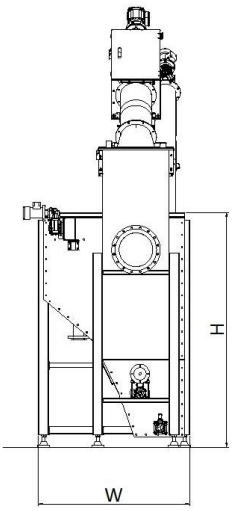


WAU3 - Standard Dimensions

MODEL	First Filtration	Lt	H	C	W	Ht	l	L	Lv	IN/OUT
WAU3-15	CFT-C 300	4120	1920	3750	1250	2385	2630	4650	3020	**DN200**
WAU3-30	CFT-C 400	7595	1920	4025	1250	2535	3215	5920	6000	**DN200**
WAU3-45	CFT-C 500	10600	1920	4025	1250	2535	3210	5915	9000	**DN250**
WAU3-60	CFT-C 500	7560	2350	5245	1675	2965	4335	7180	6000	**DN250**
WAU3-100	CFT-C 700	10560	2350	5180	1675	2965	4320	7180	9000	**DN300**
WAU3-130	CFT-C 700	10500	2350	5165	1825	3250	3915	6835	9000	**DN400**
WAU3-150	CFT-C 700	12000	2350	5160	1825	3250	3915	6835	10500	**DN400**

In special execution, the combined unit WAU can be executed to treat a flow until 400 lt/sec





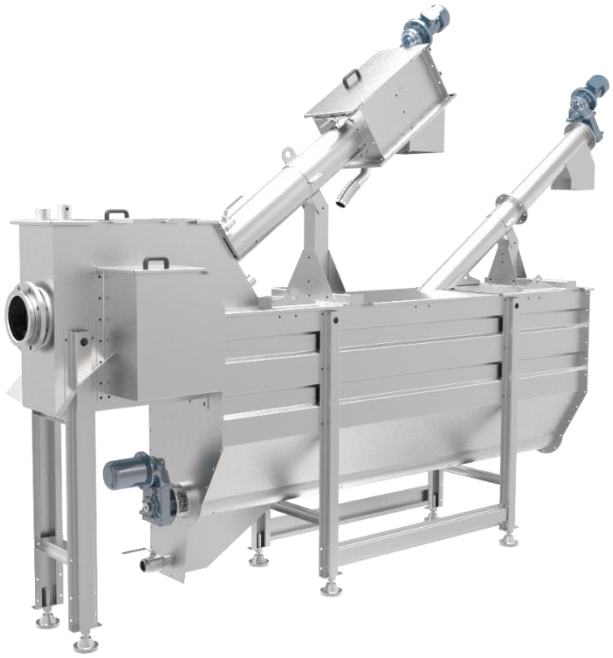


Figure 45 - WAU3 combined pretreatment unit in plant

Figure 46 - WAU3 combined pretreatment unit in plant

Figure 47 - WAU2 combined pretreatment unit with 2 functions (screen and grit)

Figure 48 - WAU3 combined pretreatment unit with 3 functions (screen, grit and de-greaser)

COMPLETE MECHANICAL PRETREATMENT STATIONS:

MCB – MICRO COMBINED PRETREATMENT UNIT

The MCB – MICRO COMBINED PRETREATMENT UNIT is a combined compact machine for filtration and sand removal and it represent the most efficient and cheapest solution for small wastewater flowrate (until 10 m3/h).
This solution, even if small, has the same strength and extraordinary ease of maintenance of all other FLUITECO machines, while maintaining the highest performance.
The operation is entirely similar to the WAU2: the incoming water is filtered through a filtrococlea type CF/S to then go into the settling tank where the internal baffle system allows an efficient separation of sand that is collected on the bottom of the bath and expelled by manual or solenoid valve.

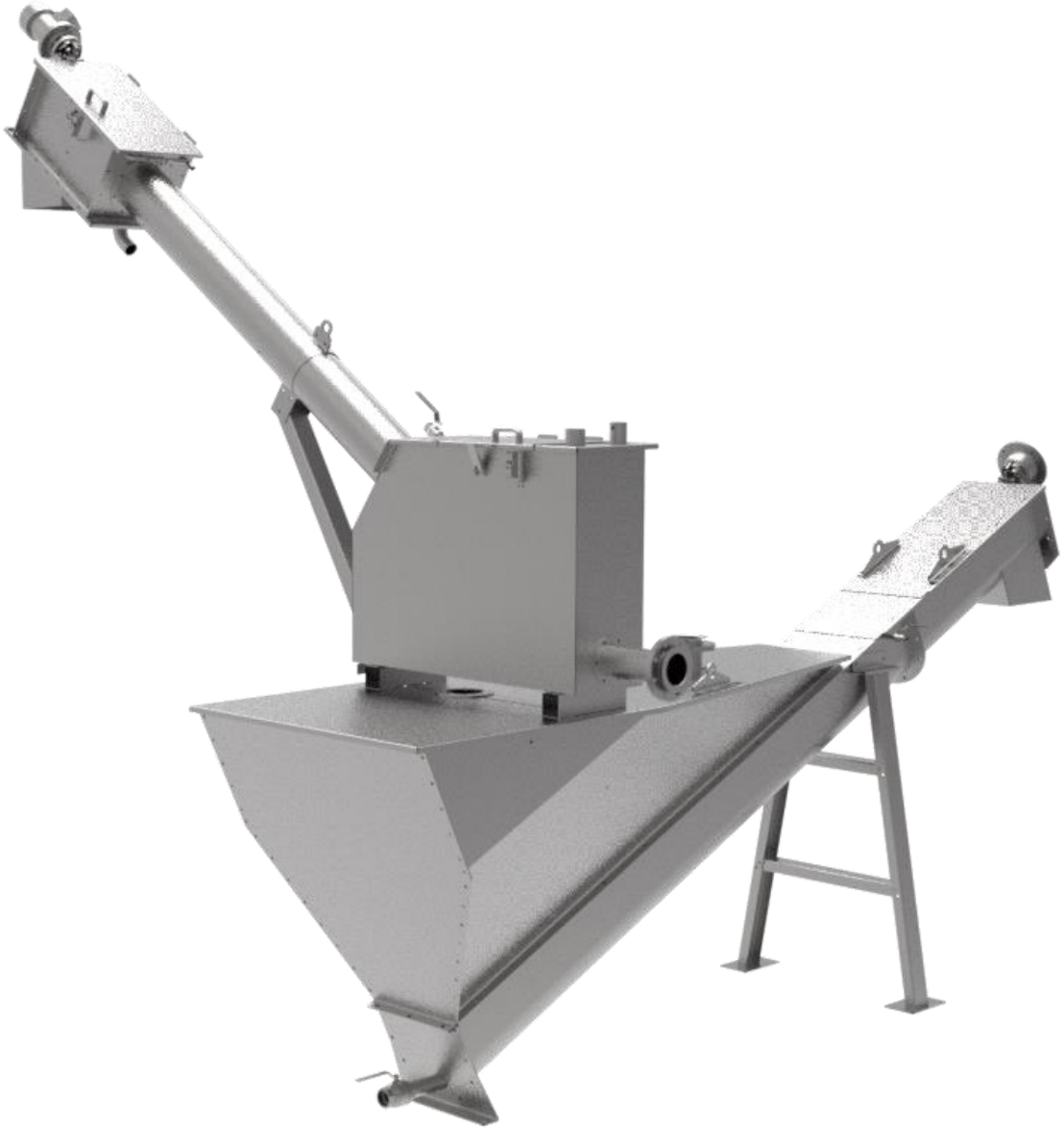
Figure 49 - MCB micro combined pretreatment unit

Figure 50 - MCB micro combined pretreatment unit

COMPLETE MECHANICAL PRETREATMENT STATIONS:

SERIES – COMBINED PRETREATMENT UNIT

Combined pretreatment stations **SERIES** are specifically designed to treat flows up to30 m3/h. These solutions feature the same robustness and remarkable maintenance simplicity characteristic of FLUITECO equipment.
The performance quality remains unchanged: screenings capture ratio of 70%, grit removal efficiency up to 90% for grain size>200microns, and a FOG removal efficiency of no less than85%.



SERIES 2 – COMBINED PRETREATMENT UNIT

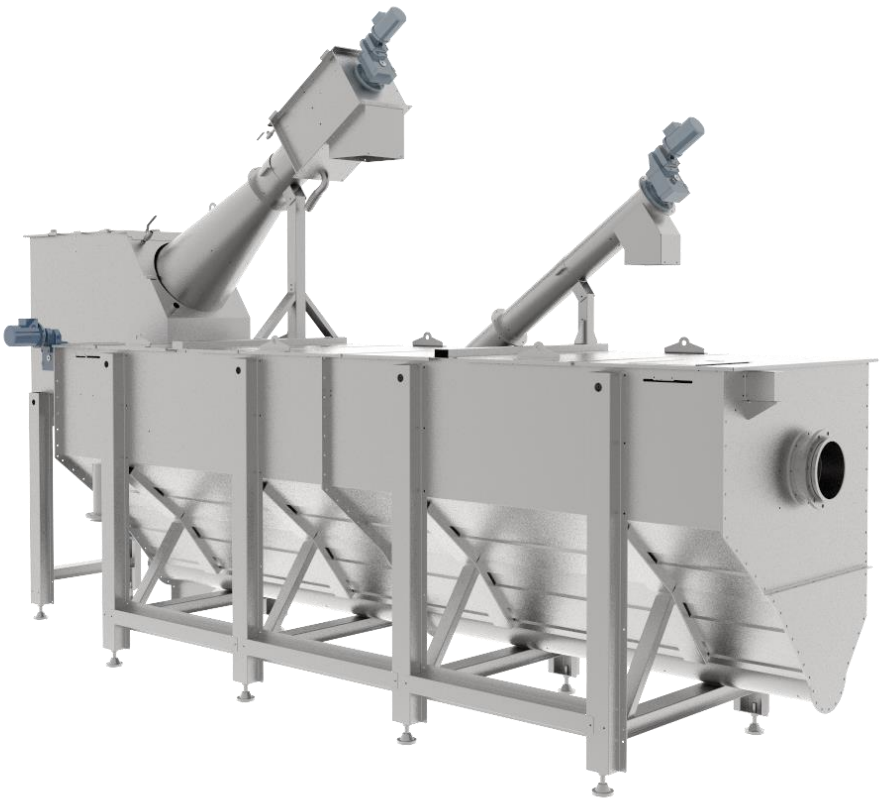
SEPTIC COMPLETE MECHANICAL PRETREATMENT STATIONS:

SAU – SEPTIC COMBINED PRETREATMENT UNIT

The SAU – SEPTIC COMBINED PRETREATMENT UNIT system is a fully customizable unit for the pretreatment of the wastewater coming from septage truck.
This unit has been developed by FLUITECO to offer the costumer the best possible performance in terms of separation solid/liquid, keeping unchanged the durability, the resistance and the customizability typical of our products.

The SAU1 – SEPTIC PRETREATMENT UNIT is the first variant of SAU and it's composed by a screw screen in tank with a rapid connection "Perrot" DN100 and a spherical valve with electrical connection.
Once activated, the basket of the screw screen captures the organic particles and transporting them upper where they are compacted and then discharged for storage. The filtering zone is constantly washed by water because the organic material could stagnate on the sieve, so as to reduce odors.

The SAU2-3 – SEPTIC COMBINED PRETREATMENT UNIT are the other two variant which offer the combination of two and three wastewater treatment operations respectively.
The operation is entirely similar to that of a WAU: the waters, after the coarse filtration generally performed by a screw screen in the filter tank, stagnate in the main tank, where the smaller sized waste is collected by the transport and extraction screw.
The degreaser system normally present only in the SAU3 removes the grease from the water surface thanks to the blower grit/fat separation.

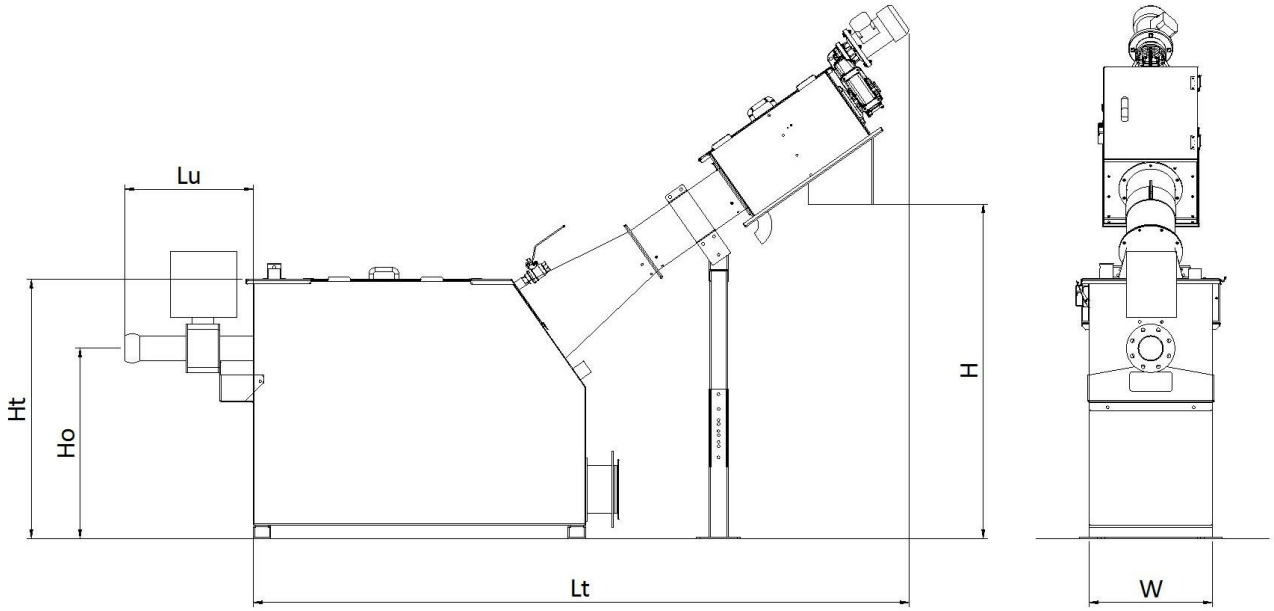


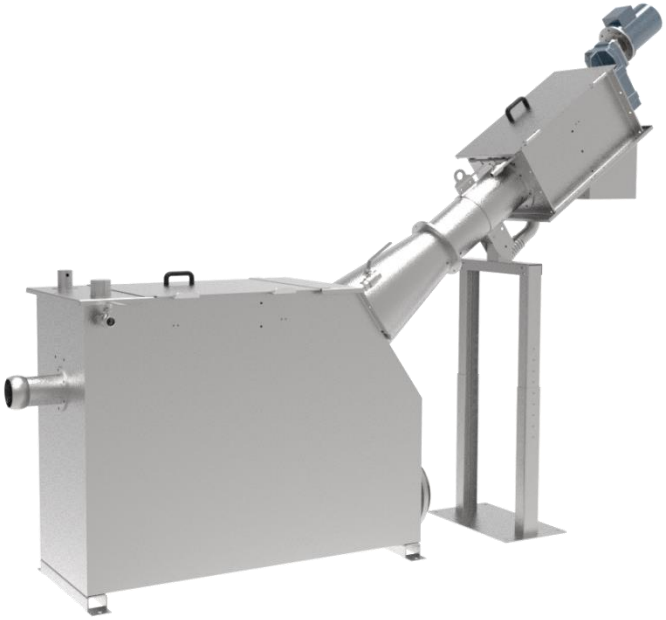
SAU3 – SEPTIC COMBINED PRETREATMENT UNIT

The SAU series can be manufactured in Stainless Steel AISI304-316 (L), and is fully customizable according to the customer needs, but anyways we offer a standard range which can help the costumer in his final choose:

SAU1 - Standard Dimensions

MODEL	Lt	Hd	Lu	H	Ho	W	Flowrate mc/h
SAU1-15	3200	1650	710	1250	800	700	50
SAU1-30	3858	2180	710	1600	1105	956	100

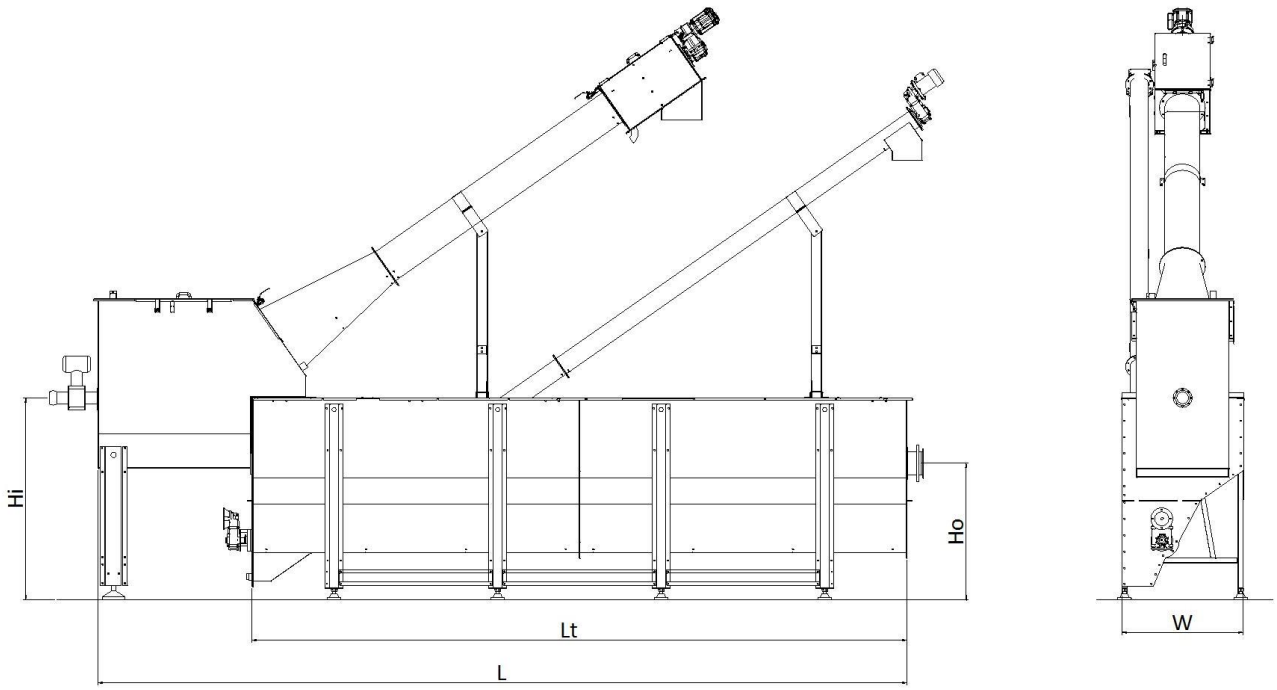




SAU1-15 – SINGLE FUNCTION SEPTIC PRETREATMENT UNIT

SAU2 – SAU3 - Standard Dimensions

MODEL	L	Lt	Hi	Ho	W	Flowrate mc/h
SAU2-15	7400	6000	710	800	700	50
SAU2-30	7400	6000	710	800	700	100
SAU3-15	7650	6000	710	1105	956	50
SAU3-30	7650	6000	710	1105	956	100



SAU2 – SEPTIC COMBINED PRETREATMENT UNIT

Figure 51 - SAU1 single function septic pretreatment unit in plant

Figure 52 - SAU2 septic combined pretreatment unit

Figure 53 - SAU2 septic combined pretreatment unit

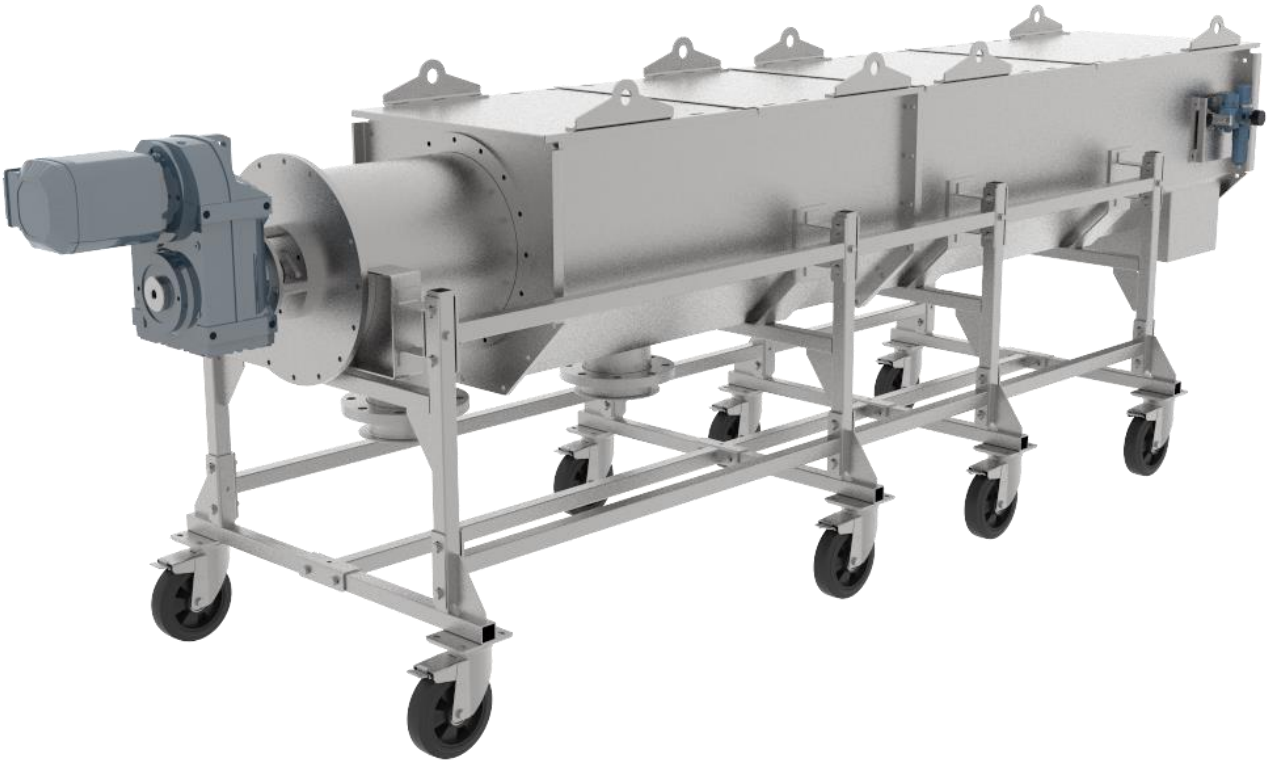
Figure 54 - SAU1 single function septic pretreatment unit

SDH – SLUDGE CLEANER

The sludge with a maximum solids concentration 4% is introduced into the Sludge cleaner with screenings compactor SDH to remove all the screenings present in the sludge before the next process (thickening, digesting and/ or dewatering).

SDH is composed by an external drum perforated with 5 mm holes in the first stage and 2 mm holes in the compaction chamber. The screenings remain into the internal surface of the drum instead of the liquid sludge across the perforation and it is discharged for the next process. The screenings are conveyed by a shafted spiral conveyor and in the last stage they are dewatered with a counterweight pneumatic actuated. The screenings dryness reaches 45%.

Perforated holes 5 mm drum is supplied with a conical section and divided in two parts for maintenance purpose. For the same scope the screw conveyor is also supplied with shaft bolted in two parts to have the possibility to separate the screw for maintenance purpose.
No washing is needed during the process of the SDH Sludge cleaner. No brushes are present to clean the surface of the drum.



SDH400 – SLUDGE CLEANER

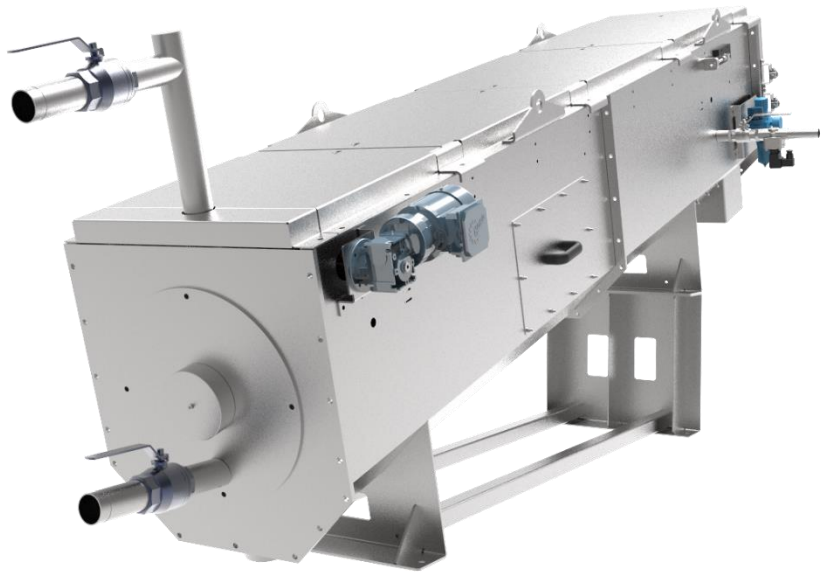
SLUDGE TREATMENT AND CONVEYING:

SD – SLUDGE SCREW PRESS

The SD – SLUDGE SCREW PRESS is was designed to dewater the sludge coming from municipal and industrial process to obtain a result in term of dryness more than 20%.(from 18 to 25%).
The dewatered sludge is pushed by the conveying screw into the discharge chamber, during this phase, the flocculated sludge loses a certain quantity of water and before the outlet, thanks to the adjustable counterweight, provides to dewater the sludge to obtain the best performance.

The water comes out from a wedge wire section drum filter present all around the screw.
The filter maintains the maximum of efficiency thanks to the integrated motorized washing system that with an electric motor of 0,09 Kw provides to wash and consequently to clean the filter for all the external surface.

The range is composed by the Sludge screw press SD– SLUDGE SCREW and SDS – SLUDGE SCREW THICKENER.
To obtain a better performance in term of sludge dewatering, the equipment can be installed in sequence: SDS sludge screw thickener to process the sludge until 6% dryness and SD sludge screw press to reach a dryness from 18 to 25%.
The sludge must be always conditioned with polyelectrolyte in order to obtain the correct flocculation before being processed with SD and/or SDS.
Both equipment SD and SDS work with low energy consumption and low rotation speed.
Consequently, also the wear of the components is very limited.



SD400 – SLUDGE SCREW PRESS

Figure 55 - SD sludge screw press

Figure 56 - SD sludge screw press