

# WASHING EQUIPMENT







## MAITEK SRL

### Technological innovation and ease of application to service quality and convenience

MAITEK SRL was born in 1999 with the aim to develop new technologies in the field of quarries. The company's activity is run by a staff of engineers and experts with a thirty-year experience in industrial and mining sectors for aggregate production and specialized in ecological plants such as sludge treatment and dust suppression systems.

Our main office is located in the Marche, in the centre of Italy, a region rich in little and medium enterprises working in the field of aggregate production.

Our markets are: Italy, Europe, the Mediterranean Area the Middle East Area. The raise of an environmental sensitivity leading the public administrations in Italy and in Europe to new restrictions in quarry exploitation and the environmental problems such as shortage of water, sludge treatment and dust emission in atmosphere have made MAITEK propose his customers a range of products wide and innovative to solve these problems and give new advanced answers to the new needs of the market.

These products include complete plants for sludge treatment, centrifugal extractor (decanters), plate filter press, polyelectrolyte preparation, sludge tank, water clarification plant, dust suppression system for mining and plants and machinery for crushing and selecting aggregates.

In addition to this, MAITEK provides its customers with the following services: Consulting, Engineering, After-sale Technical Support, Import-Export facilitations.





## Aggregates



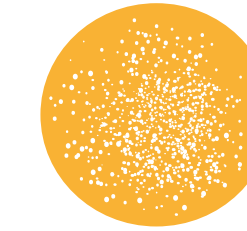
Maitek Srl has developed a wide knowledge in the aggregates sector, as our machines for the water treatment were born to work with aggregates, materials which are not easy to handle. This is why we created a range of machines for the washing of aggregates, to manage the whole process and guarantee the best output both from the washing system and the water treatment plants.



## Recycling



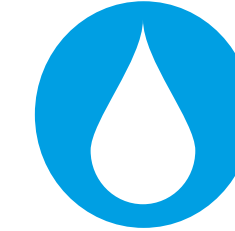
Recycling, C&D recycling especially, is a fast-growing sector. The concern for re-using materials to respect the environment and comply with laws has led to a development of technologies, systems and plants for which Maitek can exhibit great experience.



## Industrial sands



We look forward to the industrial sand production sector, as the demand of silica materials is constantly increasing. A treatment which can reduce contaminants and precision in the separation of material are the requirements we face from our customers and that our machines are able to fulfill.



## Water treatment



According to the new trends concerning building raw-material quality, environmental protection and water recycling, we are more focusing in the sand and aggregates washing systems completed with water clarification plant and sludge dewatering system which help customer save and recover water. Through our dewatering machines and our clarifier, you will be able to reuse up to 95% of the water. Cutting down costs is essential for a washing system and our equipment will deliver it, maximizing the return of your plant.





## SW200 - SEMI-MOBILE WASHING UNIT

It is an innovative semi-mobile washing machine that combines together feeding, wet screening, sand washing and stockpiling on a single compact chassis allowing the production of four or five aggregate

products type in accordance to customer's request. It is ideal for working in construction and demolition sites, providing to be equally effective in applications with raw material.

### FEATURES AND BENEFITS

- Easier to move from site to site
- Simpler and cheaper concrete works
- Greater ease in obtaining the installation permits from the relevant authority and shorter procedure time
- Lower installation and commissioning time
- Longer life of the residual second-hand value
- Easier to get funding by the relevant institutions

Model	Vibrating screen (model)	1st washing		2nd washing		Dryer screen (model)	Capacity max (t/h)	Final selections (n°)	Max required power (kW)
		Type of pump	Type of cyclone (Ø)	Type of pump	Type of cyclone (Ø)				
SW200-4.2	VVO 1600 X 5000 4 P	WGR 150	800 mm	WGR 100	600 mm	VA 1600 X 3500	300	3 - 4	140

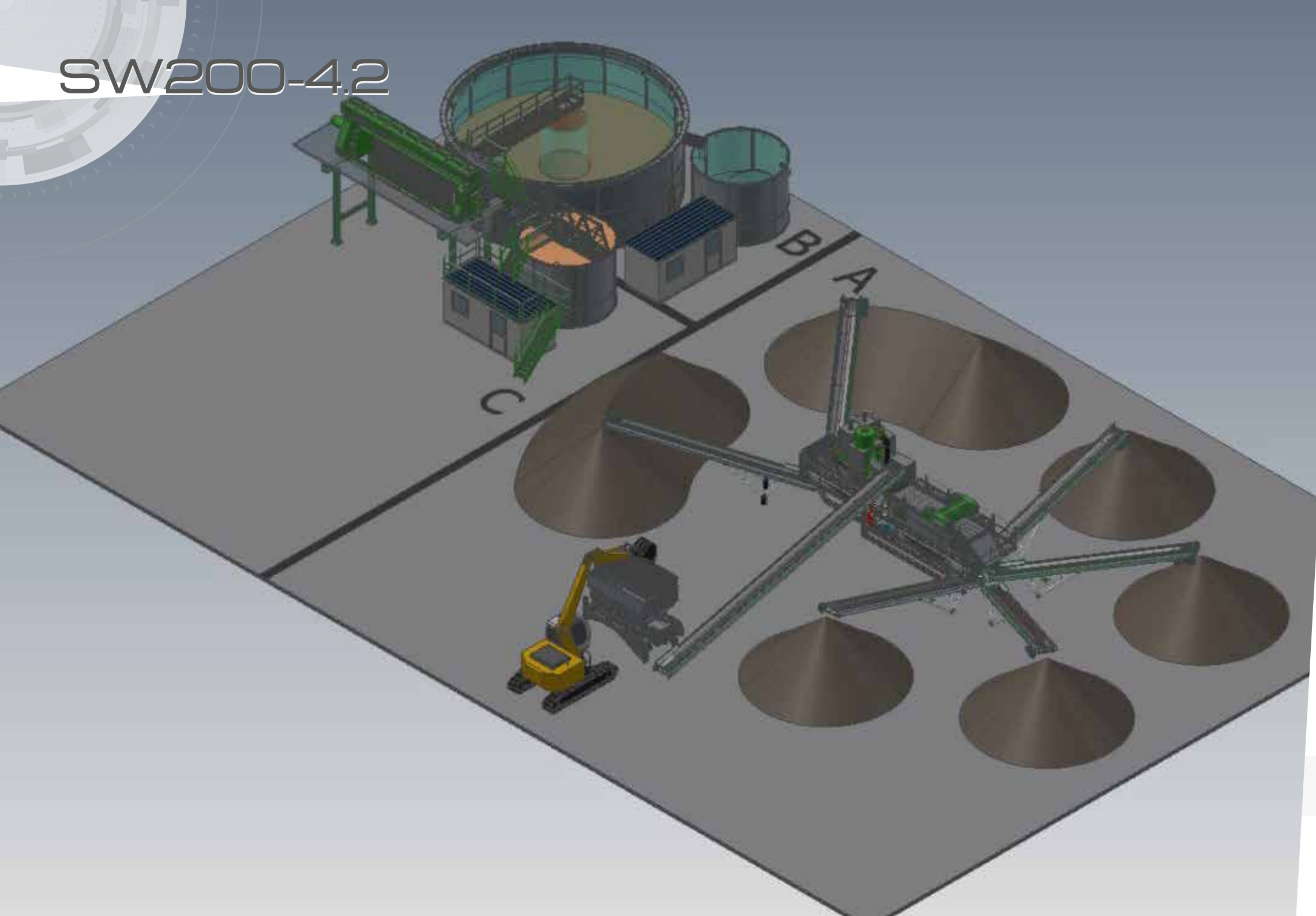
It can be equipped with clarification plant and with sludge dewatering plant according to the customer's needs. For the correct dimensioning of these plants we need to know the following technical data: m³/h of waste water and tons of dry solid. We can supply different models for the best technical/economical solution.

# SPIDER

### APPLICATIONS

- Aggregates
- Recycling
- Industrial sands
- Water treatment

SW200-4.2



# ACCESSORIES TO COMPLETE SW200

SW 200-4.2	
<b>IC11</b>	Water clarification plant with dynamic decanter diam. 11 mt.
<b>IDFP15T</b>	Sludge dewatering plant with filter-press type FP 15-70

## APPLICATIONS



Aggregates



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# MSW - MOBILE SAND WASHING UNIT WITH WATER CLARIFICATION PLANT

This unit arises from the need to have high quality construction material, according to the current regulations. A lot of quarries today again have a DRY - PROCESS for aggregates production, but the new rules in force concerning construction raw materials to be used for the production of concrete sets ever higher and restrictive levels on the quality and the cleanliness of these products. In addition, it is difficult in some cases to have large amounts of clean water to be used for washing the aggregates produced.

This machine, encloses in a very compact way loading, transporting, sand washing with hydro-cyclone, drying ,

stocking on piles and water clarification process and allows, in a very simple and effective way as well as with significantly reduced costs and installation times, to wash the sand (size 0-5 mm), that it's the fraction in which are concentrated the impurities (silt) to be removed, minimizing at the same time the quantity of water requirement for this purpose thanks to a complete water treatment system that is able to reuse up to 85-95% of the processing water in a close circuit.

An automated management system controls all the process, from the sand loading to the evacuation of the sludge resulting from the clarification tank.

Model	Drier screen (model)	Type of pump	Type of cyclone (Ø)	Capacity (t/h)	Power required (kW)
MSW-075	MVA 120-300	6/4 D-AH	650 mm	60-80	70 - 110
MSW-150	MVA-150-360	8/6 E-AH	800 mm	120-150	100 - 150

\*Silt removal capacity (minus 0,075 mm) : 15%

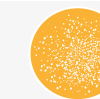
## APPLICATIONS



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## MSP - LOG WASHER UNIT

This kind of log washer is ideal for scrubbing very difficult materials. Tough insoluble clays, conglomerates and soft stone, and certain cemented aggregates are too difficult to clean properly in normal screw machines.

The log washer thoroughly scours, breaks down and cleans the toughest materials thanks to the very high friction created between material and material and material and internal blades.

Model	Dimensions Ø x L (mm)	Number of shafts	Max feeding size (mm)	Capacity (t/h)	Power (kw)
MSP-080-5	5000 x 800	2	0-80	120	2 x 22
MSP-095-7	7000 x 950	2	0-80	180	2 x 37
MSP-120-7	7000 x 1200	2	0-100	220	2 x 45

\*The units have different configurations according to customer's need



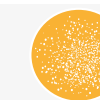
### APPLICATIONS



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## MVI - FREE OSCILLATION VIBRATING SCREEN with washing system

The range of the free-oscillation vibrating screens is designed and built to ensure excellent performance even in extreme conditions. All models are built to meet the everyday needs even of the most demanding produ-

cers. All the decks of the machines are complete with a washing system made of water sprinkler nozzles. This system allows the washing of medium-easy dirty materials (clay-free materials).

Model	Capacity (t/h)	Power (kw) 2 decks	Power (kw) 3 decks	Power (kw) 4 decks
MVI-150-400	50-150	7,5	11	11
MVI-150-500	50-200	11	15	15
MVI-180-500	50-280	18,5	18,5	18,5
MVI-180-600	50-330	22	18,5	18,5
MVI-210-600	100-330	18,5	22	30
MVI-210-700	100-330	22	30	37
MVI-240-600	100-380	37	45	55
MVI-240-700	120-380	37	45	-
MVI-240-800	140-450	45	55	-

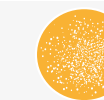
### APPLICATIONS



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## MPU - PUMPING UNIT

Flexible waste water transfer unit to be used for pumping water and sand in case of existing plants with lack of height or distance to locate sand recovery unit with hydro-cyclone or waste water transferring to clarification plants and / or lakes.

Model	Sand output		Wastewater flow		Power (Kw)	Tank capacity (m <sup>3</sup> )
	t/h	m <sup>3</sup> /h	l/min	m <sup>3</sup> /h		
M 6-4 M UNIT	40	25	3000	180	22	4
	60	40	4000	240	30	
	90	55	6000	360	45	
M 8-6 M UNIT	90	55	8000	480	55	8
	150	90	8000	480	75	
M 10-8 M UNIT	220	140	8000	480	90	8
	180	110	14000	840	90	
M 12-10 M UNIT	250	160	14000	840	110	13
	350	220	16000	960	132	

### APPLICATIONS

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# URS - SAND RECOVERY UNIT WITH HYDROCYCLONE

The Sand Recovery Unit has the function to receive the mixture of sand and water (dirty water) and return washed dry sand. The sand and dirty water are collected in a tank and injected, by means of a pump, to a cyclone where the sand is cleaned by friction produced in the

contact with the inner surfaces and separated from the water thanks to the centrifugal force. The sand is conveyed to a screen for a further drying treatment. The water coming out from the cyclone must be fed to a water treatment.

Model	Sand output		Wasterwater flow		Pump (kw)	Cyclone diameter n x Ø (mm)	Screen dimensions (mm)	Power (kw)
	t/h	m³/h	l/min	m³/h				
URS-40/3000	40	25	3000	180	M 6-4_M	1 x 500	900 x 1800	22+(2x1,8)
URS-65/3000	65	40	3000	180	M 6-4_M	1 x 650	1200 x 2700	22+(2x2,2)
URS-65/4000	65	40	4000	240	M 6-4_M	1 x 650	1200 x 2700	30+(2x2,2)
URS-90/4000*	90	55	4000	240	M 6-4_M	1 x 650	1500 x 2700	30+(2x3,2)
URS-40/6000	40	25	6000	360	M 6-4_M	1 x 650	1200 x 1800	45+(2x2,2)
URS-65/6000	65	40	6000	360	M 6-4_M	1 x 650	1200 x 2700	45+(2x2,2)
URS-90/6000	90	55	6000	360	M 6-4_M	1 x 800	1500 x 2700	45+(2x3,2)
URS-65/8000	65	40	8000	480	M 8-6_M	1 x 800	1200 x 2700	55+(2x2,2)
URS-90/8000	90	55	8000	480	M 8-6_M	2 x 650	1500 x 2700	55+(2x3,2)
URS-120/8000	120	75	8000	480	M 8-6_M	2 x 650	1800 x 3000	55+(2x6,0)
URS-150/8000	150	90	8000	480	M 8-6_M	1 x 800	1800 x 3000	75+(2x6,0)
URS-180/8000	180	110	8000	480	M 8-6_M	2 x 800	1800 x 3000	75+(2x7,5)
URS-220/10000	220	140	10000	600	M 8-6_M	2 x 800	1800 x 4000	90+(2x7,5)
URS-180/14000*	180	110	14000	840	M 10-8_M	2 x 800	1800 x 3000	90+(2x7,5)
URS-250/14000*	250	160	14000	840	M 10-8_M	2 x 800	1800 x 4000	110+(2x7,5)
URS-350/16000*	350	220	16000	960	M 12-10-M	2X1000	2100 X 4500	132+(2x10,6)

\*These models can be carried-out with double cyclone for a better cleaning of the material (see picture)

## APPLICATIONS



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## ICH - WATER CLARIFICATION PLANT WITH DYNAMIC DECANTER

The water clarification plant has the function to recover the dirty waters resulting from the washing of aggregates, in order to reuse them in the productive process. The principle of operation of our system is based on the clarification of dirty waters through sedimentation in a tank called "clarifier"; the process is speeded up thanks to some flocculants injected into the liquid, which allow the separation of water from sludge. The clarified water is collected in a specific tank from which it is extracted

by a pump to be recycled; the sludge is extracted from the clarifier and directly evacuated in the environment duly organized or submitted to a further dehydration treatment. This kind of horizontal decanter is ideal for largest water flows. Maitek can supply different models for the best technical/economical solution.

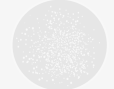
### APPLICATIONS



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## ICS - WATER CLARIFICATION PLANT WITH STATIC DECANter

The water clarification plant equipped with static decanters can clarify solids charged waters resulting from various kinds of production processes.

The operating principle is based on the natural precipitation of the suspended solids particles speeded up by sedimentation with the addition of polyelectrolyte (flocculant).

The cloudy water is fed into the central part of the decanter, rises to the edge of the tank, clarifies and then

overflows into a collection duct running around the perimeter of the tank.

The solid phase deposits by gravity onto the conical bottom and is expelled into a drain controlled by an automatic valve.

Being extremely compact, the clarification plant can be installed in a small area.

Matek can supply different models for the best technical/economical solution.

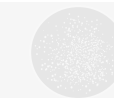
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## IDF-F - SLUDGE DEWATERING PLANT WITH FILTER-PRESS

The plate filter press was developed for the filtration of waste water and slurry in different application sectors, such as mining, aggregates, industrial and agrofood sectors.

Operation: the plates, lined with filter cloths, are pressed together by a hydraulic cylinder and chambers are formed between them where the sludge, fed by a pump, is collected; following the feed phase, the sludge is kept under compression, thus pushing the water through the cloths. The separated water is sent to a collection tank along a system of ducts.

All our filter-presses are fitted with a system for shaking the plates at the end of the cycle to ensure detachment of the dry solid cake, as well as operator safety devices.

Furthermore, all versions can be fitted with an automatic washing system for keeping the plates and cloths constantly clean.

Our supply includes the electrical system equipped with PLC.

Turnkey sludge treatment plant can be offered on demand.

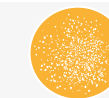
### APPLICATIONS



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## IDF-D - SLUDGE DEWATERING PLANT WITH DECANTER (CENTRIFUGAL EXTRACTOR)

The plants for sludge treatment have the function to further dehydrate the sludge collected through the clarifier in order to reduce the percentage of moisture from about 70% to about 35%.

The principle of operation consists in a decanter exploiting the centrifugal force to separate the two phases solid liquid; the process is speeded by using a polyelectrolyte (floculant) injected in the sludge before entering the machines.

The clean recovered water is conveyed in the clarifier, while the dehydrated sludge is stock-piled by means of belts conveyors.

### DECANTER OPERATION

The decanter separates the sludge components (phases) operating by centrifugation and exploiting their dif-

ferent densities.

The sludge is fed into the drum (pipe with conical end) rotating at high speed and is drawn into rotation.

By centrifugal effect, the liquid mass is pushed against the inside wall of the drum and the phases are stratified: the phase with the greater density forms the outermost layer and vice versa.

In the case of two-phase solid/liquid separation, the heavy solid concentrates on the outer circular crown and is evacuated by the screw contained in the drum, while the lighter liquid spontaneously flows from the opposite side through a series of outlets.

In the case of three-phase separation, the third liquid phase is expelled through suitable draft tubes with which the machine can be equipped.

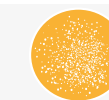
### APPLICATIONS



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