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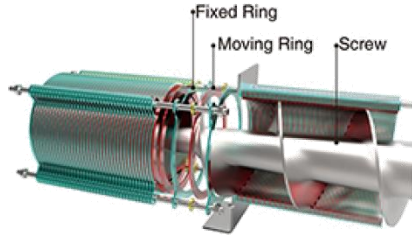
SDP Series

Sludge Dewatering Screw Press

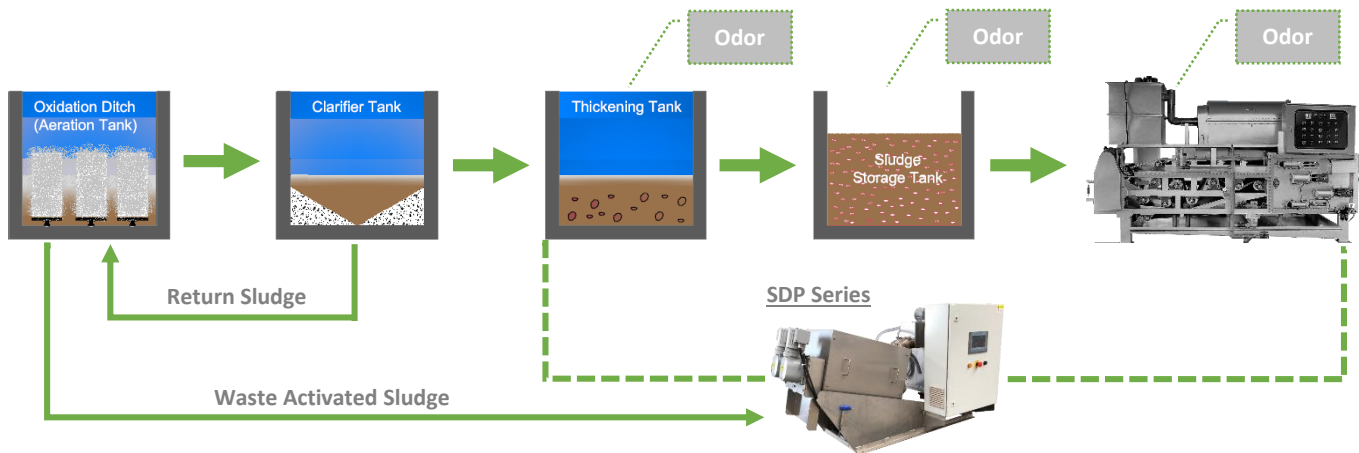


Description

SDP Series introduced a new solution for sludge treatment with a new cutting-edge technology, streamline and automatic programmed design to make the operation much more convenient and accurate while provide a simple process, low system investment, high efficiency as well as energy-saving.



The core structure of SDP screw press is consisted of multiple layers of Fixed and Moving ring made by stainless steel SUS304 which secured in place by a tie rod while the inner diameters of the Moving rings are relatively smaller than the outer diameter of screw and Fixed rings.

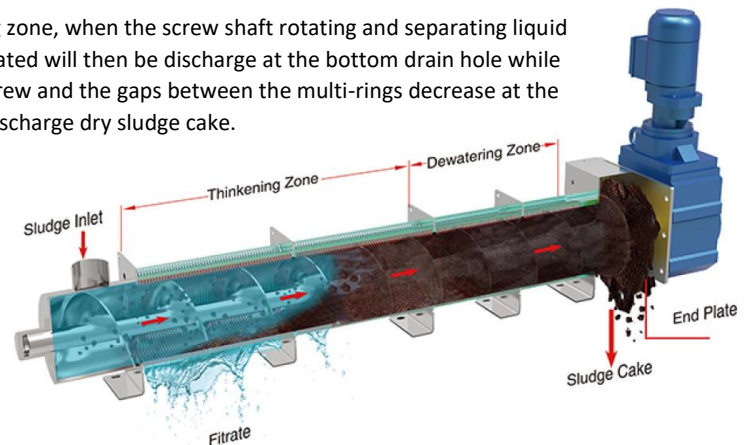


The traditional sludge treatment required a lots of pre-treatment process before the dewatering of sludge begin. With SDP, the dewatering process can now be processed a low concentrated sludge from Oxidation ditch (Aeration tank) which provide the advantages in removing odor from sludge, reduce investment cost for Thickener tank and other related equipment as well as help in stabilizing the amount of phosphorus return into oxidation ditch which further implement a stable dewatering process.

Working Principle

The dewatering process begin at the initial section called Thickening zone, when the screw shaft rotating and separating liquid from solid sludge by the gaps between the multi-disc rings. The filtrated will then be discharge at the bottom drain hole while sludge will moving on to Dewatering zone where the pitch of the screw and the gaps between the multi-rings decrease at the end of drum, thus increasing internal pressure at the end plate to discharge dry sludge cake.

- The structure of Fixed and Moving rings provided a clog-free feature in which the Moving rings are mobilizing by the screw and continuously cleans the sludge out of the gaps to prevent clogging.



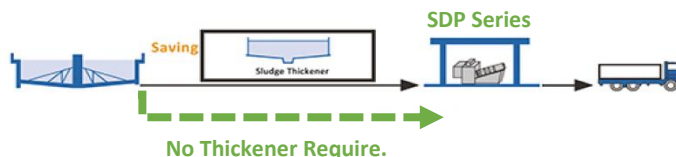
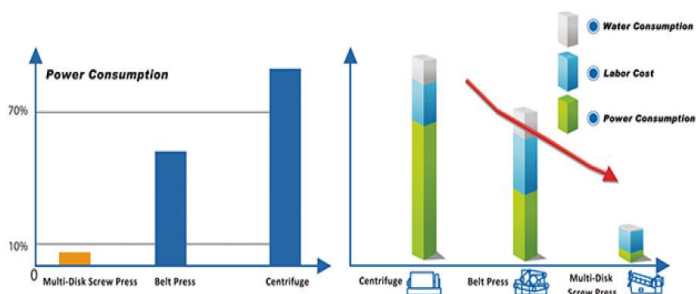
Advantages

- Widely used in many industries sludge treatment including municipal sewage, food, slaughtering breeding, printing, dyeing, oil chemical, paper industry, leather, pharmaceutical, etc.
- Oily sludge handling capability.
- Ability to handling low concentration sludge from 2,000 mg/l up to 50,000 mg/l
- Rotating ring and automatic spray cleaning system provide self-cleaning ability during process and prevent clogging, allowing a continue operation for 24 hour without user assist.
- Control panel equipped with inverters and PLC for automatic and manual function.
- Wear free structure, long service life and utilizing a small footprint for installation.





Cost efficiency

With innovation and working principle of SDP allowing it to leverage a cost efficiency in energy consumption for wastewater treatment system, due to its low speed running (2-4 rpm) while operating, provide SDP to consume energy at low rate (average energy consumption at 0.1-0,01 kwh/kg-DSO, low water consumption for cleaning as well as generate minimum noise.

By using multi-disc technology, the sludge can be draw directly from aeration tank and secondary sedimentation tank without establishing a sludge thickeners process, thus, enhancing phosphorus removal effect in wastewater treatment system as well as decreasing a total investment cost as a whole.



Comparison Chart

Machine Type				
	Sludge dewatering screw press	Frame filter press	Belt press	Centrifugal dewatering
Low concentrated sludge dewatering	✓	⊗	⊗	⊗
Thickener requirement	⊗	✓	✓	✓
24 Hr automatic operation	✓	⊗	⊗	⊗
Installation area	●	●●●	●●●	●●
Labor intensity	●	●●●	●●●	●●●●
Noise	●	●●●	●●	●
Energy consumption	●	●●●	●●	●●●●
Operating cost	●	●●	●●●	●●●
Maintenance	●	●●●	●●●	●●●●

*Symbol: ● (Low) ●● (Moderate) ●●● (High) ●●●● (Very High)

Model Description



Features



Automatic self-cleaning system control by solenoid valve for disc cleaning and maintain operation efficiency.



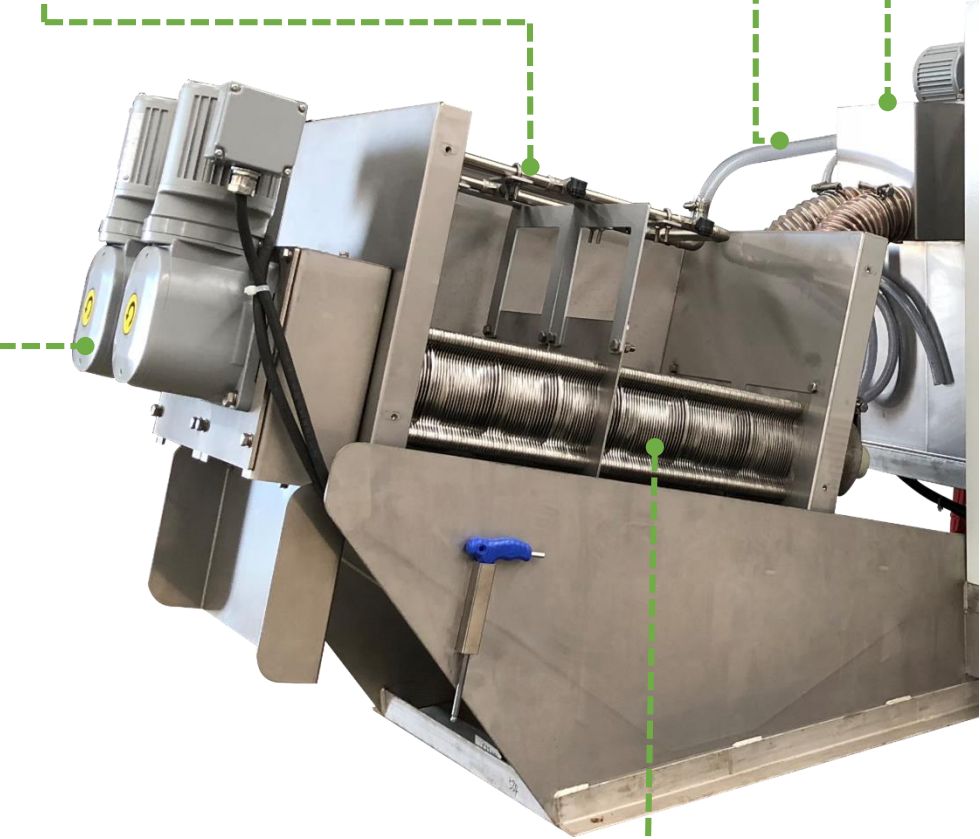
Pipe line allocated for polymer dosing and cleaning system, both automatic and manual operation.



Screw end plates are available with various size and number, up to 4 screws shaft.



Multi-disc composed of fixed and moving rings are secured in place by a tie rod between the screw shaft which will continuously rotating and filtering liquid from sludge.



Tungsten carbide coating screw shaft.



Laser cutting stainless steel SUS304 for Sludge water tank and Polymer mixing tank.



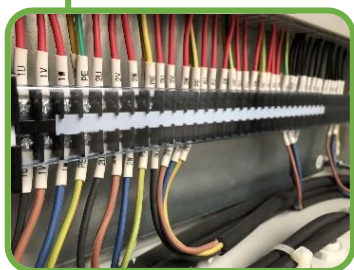
Stainless steel SUS304 Mixing agitator for polymer mixing and prevent coagulation of sludge.



Touch screen control panel with user friendly interface for convenient operation in both automatic and manual function.



Inverter controller for Screw shafts and Mixing agitator speed adjusting.



Available terminals for collaborate with external equipment including sludge pump, dosing pump and conveyor.



Programmable Logic Controller (PLC) provides flexible operation and overall controlling of machine according to the user needs.

Specification

Model	Raw Wastewater Waste Activated Sludge Chemically Precipitated Sludge (Concentration 0.2 ~ 1%)		Dissolved-Air Flotation Sludge (DAF) (Concentration 2 ~ 5%)		Mixed Raw Sludge Aerobic Digested Sludge (Concentration 3%)		Power (kW)
	Dried Sludge (kg-DS/h)	Treating Capacity (m ³ /hr)	Dried Sludge (kg-DS/h)	Treating Capacity (m ³ /hr)	Dried Sludge (kg-DS/h)	Treating Capacity (m ³ /hr)	
SDP-101	2 ~ 3	1 ~ 0.3	5 ~ 10	0.25 ~ 0.2	13	0.43	0.2
SDP-131	4 ~ 6	2.0 ~ 0.6	10 ~ 20	0.5 ~ 0.4	26	0.87	0.2
SDP-132	8 ~ 12	4.0 ~ 1.2	20 ~ 40	1.0 ~ 0.8	52	1.73	0.3
SDP-201	8 ~ 12	4.0 ~ 1.2	20 ~ 40	1.0 ~ 0.8	52	1.73	0.3
SDP-202	16 ~ 24	8.0 ~ 2.4	40 ~ 80	2.0 ~ 1.6	104	3.47	0.8
SDP-301	20 ~ 30	10 ~ 2.0	50 ~ 100	2.5 ~ 2.0	130	4.33	0.8
SDP-302	40 ~ 60	20 ~ 6.0	100 ~ 200	5.0 ~ 4.0	260	8.67	1.2
SDP-303	60 ~ 90	30 ~ 9.0	150 ~ 300	7.5 ~ 6.0	390	13	1.95
SDP-351	40 ~ 60	20 ~ 6.0	100 ~ 200	5.0 ~ 4.0	260	8.67	1.9
SDP-352	80 ~ 120	40 ~ 12	200 ~ 400	10 ~ 8	520	17.3	3.75
SDP-353	120 ~ 180	60 ~ 18	300 ~ 600	15 ~ 12	780	26	6
SDP-354	160 ~ 240	80 ~ 24	400 ~ 800	20 ~ 16	1040	35	8.2
SDP-401	66.6 ~ 100	33.3 ~ 10	170 ~ 340	8.5 ~ 6.8	442	14.7	2.25
SDP-402	135 ~ 200	67.5 ~ 20	340 ~ 680	17 ~ 13.6	884	29.5	4.5
SDP-403	200 ~ 300	100 ~ 30	510 ~ 1020	25.5 ~ 20.4	1326	44.2	6.7
SDP-404	266 ~ 400	133 ~ 40	680 ~ 1360	34 ~ 27.2	1768	58.9	8.2

* Throughput sludge cake in each model has water content rate at 75 – 85%.

* Throughput sludge cake from Dissolved-Air Flotation (DAF) sludge is containing with fat, oil and grease.

* Throughput sludge cake of Mixed sludge is containing with 30% of fiber against total solid.

Operating Condition

Model	Shaft Power (kW)			Rinsing Water Pressure (MPa)	Rinsing Water (l/h)
	Screw	Mixer	Total		
SDP-101	0.1	0.1	0.2	0.1 ~ 0.2	24
SDP-131	0.1	0.1	0.2		24
SDP-132	0.2	0.1	0.3		48
SDP-201	0.2	0.1	0.3		32
SDP-202	0.4	0.4	0.8		64
SDP-301	0.4	0.4	0.8		40
SDP-302	0.8	0.4	1.2		80
SDP-303	1.2	0.75	1.95		120
SDP-351	1.5	0.4	1.9		72
SDP-352	3.0	0.75	3.75		144
SDP-353	4.5	1.5	6.0		216
SDP-354	6.0	2.2	8.2		288
SDP-401	1.5	0.75	2.25		80
SDP-402	3.0	1.5	4.5		160
SDP-403	4.5	2.2	6.7		300
SDP-404	6.0	2.2	8.2		320

Dimension

Model	Cylinder Specification (mm)	Sludge Cake Outlet Distance (mm)	Dimension (mm)			Net Weight (kg)	Operating Weight (kg)
			Length	Width	Height		
SDP-101	Ø100 x 1	215	1816	756	1040	200	290
SDP-131	Ø130 x 1	250	1969	756	1040	220	315
SDP-132	Ø130 x 2	250	2069	910	1040	305	450
SDP-201	Ø200 x 1	350	2440	860	1380	320	470
SDP-202	Ø200 x 2	350	2500	935	1380	520	730
SDP-301	Ø300 x 1	495	3255	985	1600	910	1320
SDP-302	Ø300 x 2	495	3455	1295	1600	1530	2230
SDP-303	Ø300 x 3	495	3605	1690	1600	2090	3080
SDP-351	Ø350 x 1	585	3900	1160	2190	1610	2210
SDP-352	Ø350 x 2	585	4140	1550	2250	2450	3400
SDP-353	Ø350 x 3	585	4420	2100	2250	3350	4850
SDP-354	Ø350 x 4	585	4725	3120	2250	5600	7560
SDP-401	Ø400 x 1	759	4356	1170	2400	2500	3400
SDP-402	Ø400 x 2	759	4900	1640	2400	3480	5200
SDP-403	Ø400 x 3	759	5037	2240	2400	4380	6800
SDP-404	Ø400 x 4	759	5350	3240	2400	6550	9660

