



GSD (China) Co., Ltd.

SDP Series

Sludge Dewatering Screw Press



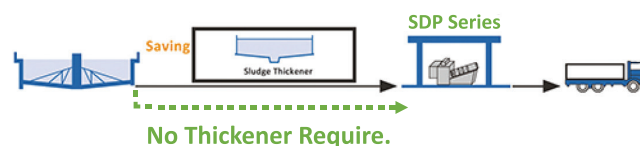
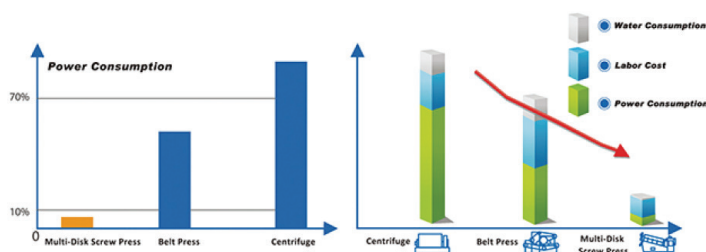
Advantages

- 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)

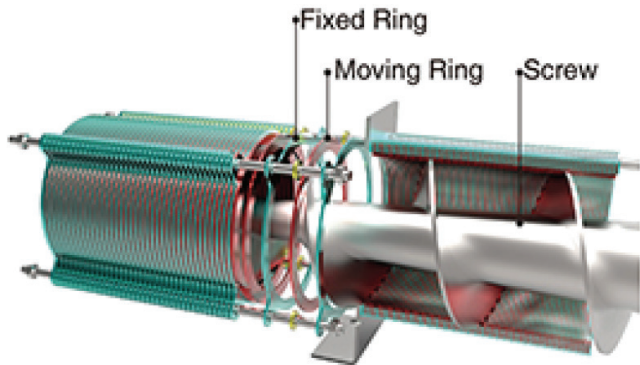
Model Description

SDP - 10 1

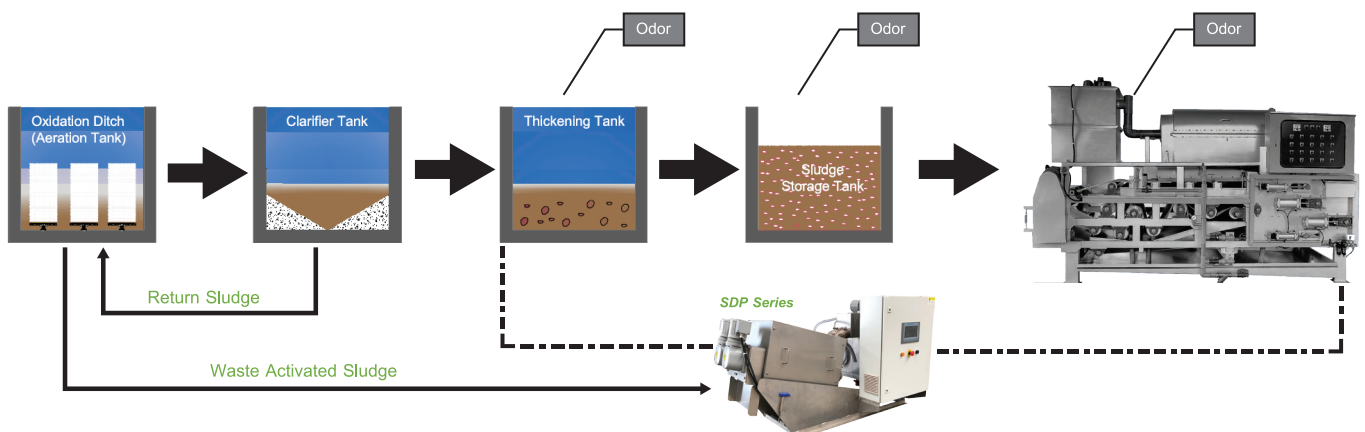
Number of screw shaft
Cylinder diameter x 10 (mm)
Sludge Dewatering Screw Press

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.

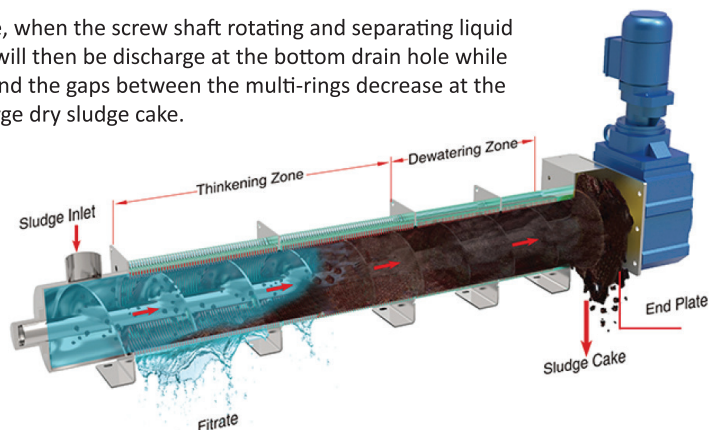


The traditional sludge treatment required a lots of pre-treatment process before the dewatering of sludge begin. With SDP, the dewatering process can now be processed a low concentrated sludge from Oxidation ditch (Aeration tank) which provide the advantages in removing odor from sludge, reduce investment 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.

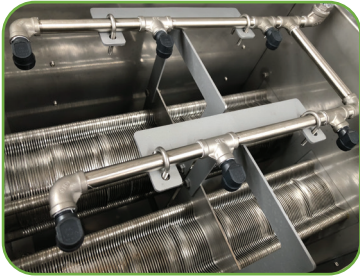
Working Principle

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.

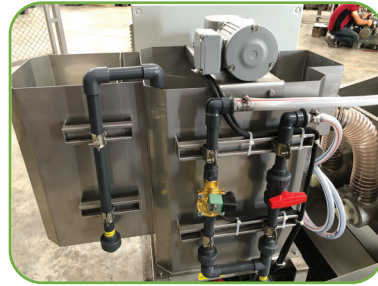
- The structure of Fixed and Moving rings provided a clog-free feature in which the Moving rings are mobilizing by the screw and continuously cleans the sludge out of the gaps to prevent clogging.



Features



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



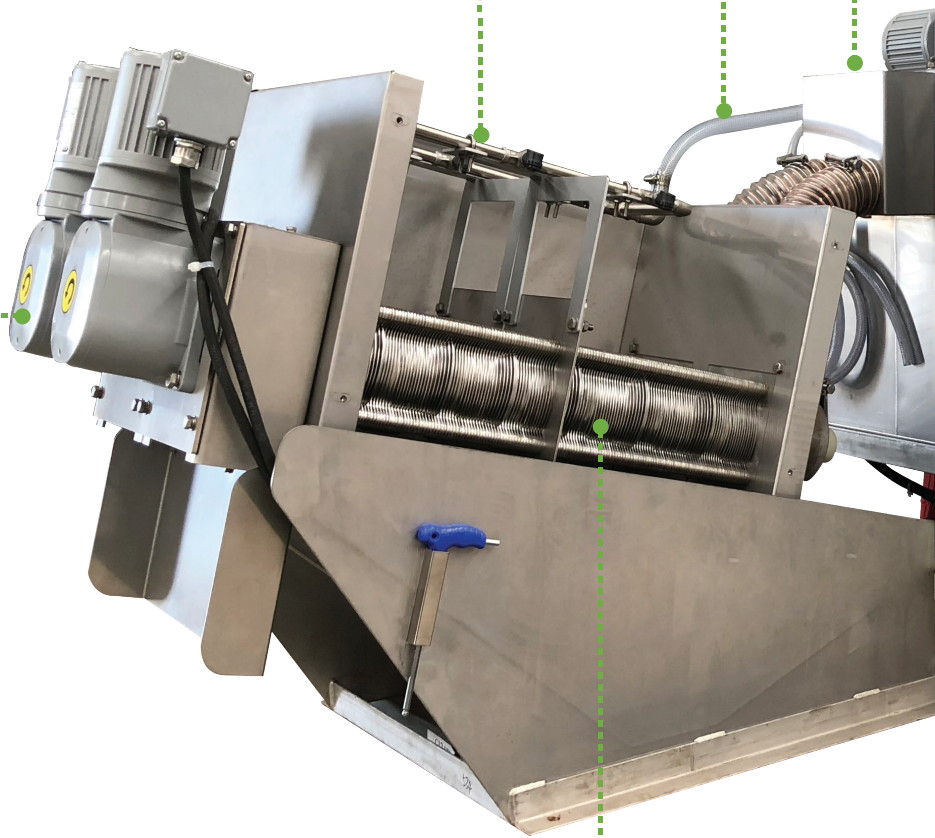
Pipe line allocated for polymer dosing and cleaning system, both automatic and manual operation.



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.



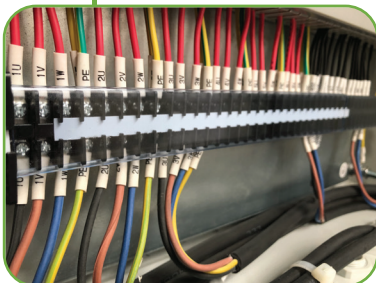
Stainless steel SUS304 Mixing agitator for polymer mixing and prevent coagulation of sludge.



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

Capacity Concentration Model	Dried Sludge (kg-DS/h)		Sludge Treating Capacity (m3/hr)					
	0.2 ~ 0.4%	1 ~ 5%	0.2%	0.4%	1.0%	2.0%	2.5%	5%
SDP-101	3	6	1.5	0.75	0.6	0.3	0.24	0.12
SDP-131	6	12	3	1.5	1.2	0.6	0.48	0.24
SDP-132	12	24	6	3	2.4	1.2	0.96	0.48
SDP-201	12	20	6	3	2	1	0.8	0.4
SDP-202	24	40	12	6	4	2	1.6	0.8
SDP-301	30	60	15	7.5	6	3	2.4	1.2
SDP-302	60	120	30	15	12	6	4.8	2.4
SDP-303	90	180	45	22.5	18	9	7.2	3.6
SDP-351	60	120	30	15	12	6	4.8	2.4
SDP-352	120	240	60	30	24	12	9.6	4.8
SDP-353	180	360	90	45	36	18	14.4	7.2
SDP-354	240	480	120	60	48	24	19.2	9.6
SDP-401	100	170	50	25	17	8.5	6.8	3.4
SDP-402	200	340	100	50	34	17	13.6	6.8
SDP-403	300	510	150	75	51	25.5	20.4	10.2
SDP-404	400	680	200	100	68	34	27.2	13.6

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

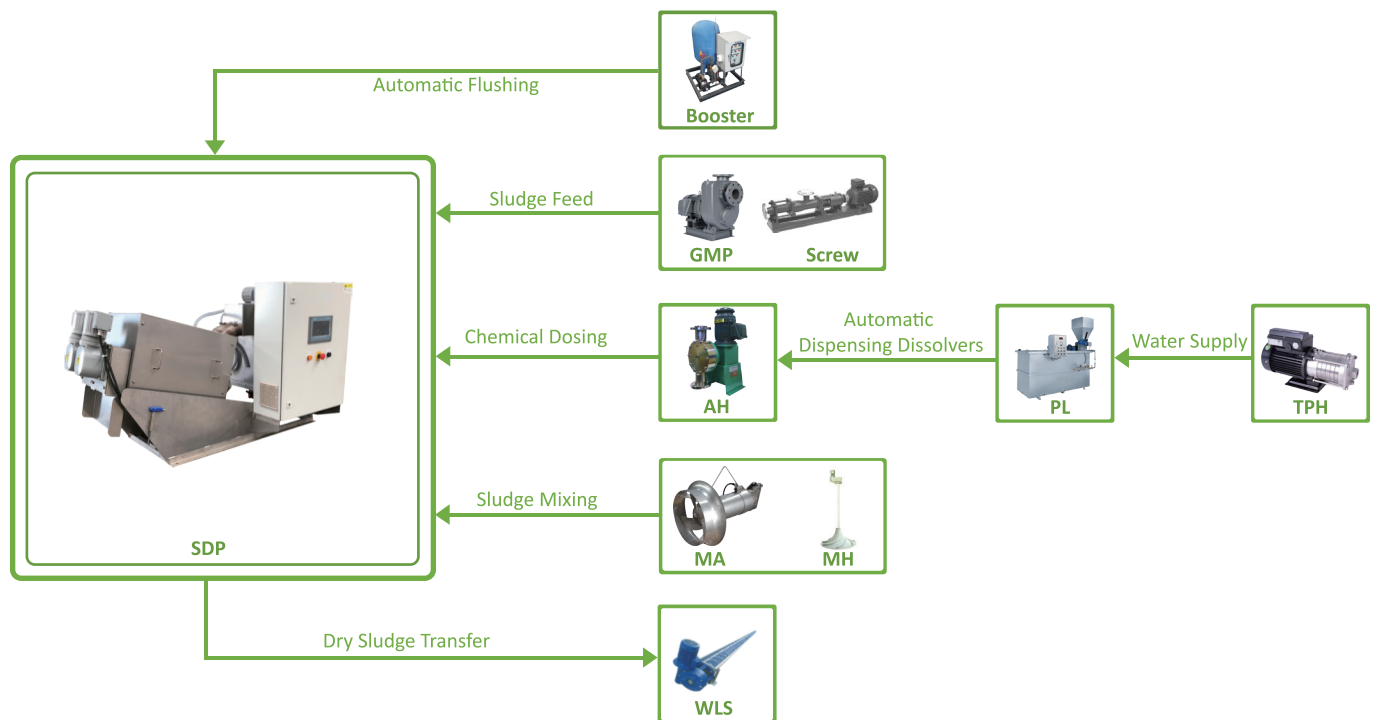
Operating Condition

Model	Shaft Power (kW)			Rinsing Water Pressure (MPa)	Rinsing Water (l/h)
	Screw	Mixer	Total	0.4%	2.5%
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

System Composition



System Introduction

Equipment Name	Function
"GSD" Automatic Dispensing Dissolvers, PL3 Series (3 Tanks continuous operation Type)	Which consisted mixing tank, equalization tank, and storage tank. Provide fully automatic processing polymer solutions continuously, for preparation of a ready-to-use polymer solutions to screw press system.
"NIKKISO" Chemical Diaphragm Type Metering Pump, AH Series	Transfer polymer solutions prepared by Automatic Dispensing Dissolvers from its storage tank to screw press.
"GSD" Submersible Mixer, MA Series "GSD" Hyperboloid mixer, MH Series	Mix sludge equalized before be transferred into screw press system. Improve flocculation efficiency for dewatering process.
"GSD" Shaftless spiral conveyor, WLS Series	Transfer dry-sludge out of screw press after finished dewatering process.
"GSD" Sludge Self-Priming Pump, GMP/KMP Series "PTMP" Single screw pump, G Series	Pump sludge to screw press to start process dewatering, depend difference SS concentration provide centrifugal pump type and screw pump type for selection.
"WALRUS" Multistage Centrifugal Pump, TPH Series	Clear water sourcing. Supply water for automatic dispensing dissolvers and booster pump unit.
Package Booster Pump Set, BTP1D Series	Provide clean water to flush screw cylinder as screw press machine requested.

Specification



"GSD" Automatic Dispensing Dissolvers, PL3 Series (3 Tanks continuous operation type)

Model	Capacity	Dried powder	Feeder power	Agitator	Machine Dimensions			Weight	Tank Material
	(L/hr)	(L)	(Hp)	(Hp)	L	W	H	(Kg)	
PL3-500	500	55	1/4	1/4 x 2	1750	840	1720	300	SUS304
PL3-1000	1000	55	1/4	1/2 x 2	2020	940	1970	430	
PL3-1500	1500	55	1/4	1/2 x 2	2280	1100	1970	520	
PL3-2000	2000	110	1/4	3/4 x 2	2670	1130	2100	550	
PL3-3000	3000	110	1/4	1 x 2	3140	1310	2100	700	
PL3-5000	5000	200	1/4	1 x 2	3230	1620	2570	990	
PL3-7000	7000	200	1/4	2 x 2	4070	1760	2570	1100	
PL3-10000	10000	350	1/4	3 x 2	4780	1850	3035	1430	



"PTMP" Single Screw Pump, G Series (Mechanical variable speed drive type)

Model	Speed	Capacity	Max.Pressure	Motor		Material
	(rpm)	(m3/hr)	(Bar)	Power (kw)	Pole	
G20-1	125 ~ 1250	0.1 ~ 1.5	3.0	1.1	4, 6, 8	Pump Casing : Cast Iron Rotor : SUS+Chroming coating Stator : NBR or FPM
G25-1	125 ~ 1250	0.1 ~ 3	3.0	1.5	4, 6, 8	
G30-1	125 ~ 1250	0.2 ~ 4	3.0	2.2	4, 6, 8	
G35-1	125 ~ 890	0.3 ~ 5	3.0	3	4, 8	
G40-1	125 ~ 890	0.3 ~ 10	3.0	4	4, 6	
G50-1	80 ~ 750	1 ~ 18	3.0	5.5	4, 6	
G60-1	63 ~ 630	1 ~ 20	3.0	11	4, 6	
G70-1	56 ~ 560	1 ~ 22	3.0	11	4, 6	
G85-1	37 ~ 370	2 ~ 24	3.0	15	4, 6, 8	
G105-1	29 ~ 290	3 ~ 50	3.0	22	4, 6, 8	
G135-1	18 ~ 180	3 ~ 56	3.0	45	4, 6, 8	



"GSD" Submersible Mixer, MA Series

Model	Motor power (Kw)	Rated Current (A)	RPM of propeller (r/min)	Diameter of propeller (mm)	Thrust (N)	Weight (Kg)
MA0.37/6-220-960	0.37	1.3	960	220	138	45/50
MA0.55/4-220-1400	0.55	1.6	1400	220	145	45/50
MA0.85/8-260-740	0.85	3.2	740	260	163	55/65
MA1.5/6-260-960	1.5	4	960	260	290	55/65
MA2.2/8-320-740	2.2	5.9	740	320	582	88/93
MA4/6-320-960	4	10.3	960	320	609	88/93
MA1.5/8-400-740	1.5	5.2	740	400	600	74/82
MA2.5/8-400-740	2.5	7	740	400	800	74/82
MA3/8-400-740	3	8.6	740	400	920	74/82
MA4/6-400-960	4	10.3	960	400	1200	74/82
MA4/12-620-480	4	14	480	620	1400	190/206
MA5/12-620-480	5	18.2	480	620	1800	196/212
MA7.5/12-620-480	7.5	28	480	620	2600	240/256
MA10/12-620-480	10	32	480	620	3300	250/266

Specification



"GSD" Sludge Self-Priming Pump, GMP/KMP Series

Model	Motor		Pump							Weight
	Power		Speed	Dia		Head	Capacity	Eff	Self-suction height	GMP/KMP
	hp	Kw	r/min	mm	in	m	m ³ /hr	(%)	m	(Kg)
GMP/KMP31-50	1	0.75	1450	50	2"	8	12	46	4.5	60/81
GMP/KMP32-65	2	1.5	1450	65	2.5"	9	25	52	4.5	76/102
GMP/KMP33-80	3	2.2	1450	80	3"	9	42	50	4.5	105/128
GMP/KMP35-80	5	3.7	1450	80	3"	12	45	54	4.5	114/145
GMP/KMP37-100	7	5.5	1450	100	4"	13	72	52	4.5	175/262
GMP/KMP33-50	3	2.2	2900	50	2"	22	12	50	5.5	75/107
GMP/KMP34-50	4	3	2900	50	2"	30	12	50	5.5	90/118
GMP/KMP35-65	5	3.7	2900	65	2.5"	20	30	52	5.5	95/127
GMP/KMP37-65	7.5	5.5	2900	65	2.5"	30	25	52	5.5	115/146
GMP/KMP310-80	10	7.5	2900	80	3"	26	45	52	5.5	170/230



"NIKKISO" Chemical Diaphragm Type Metering Pump, AH Series

Model		Diaphragm Dia. (Mm)	Stroke Length (mm)	Stroke Speed (spm)		Max. Capacity (L/min)		Max. Dis. Pressure	Motor Output	Connection		
				50Hz	60Hz	50Hz	60Hz			Mpa	Kw	Flange
AHA	31	Ø84	8	48	58	0.9	1.1	1.0	0.18 or 0.2	JIS 10K 15A	VP16	Ø9 x Ø15
	32			96	116	1.8	2.2					
	41	Ø120	10	48	58	2.3	2.8	0.5		JIS 10K 20A		
	42			96	116	4.6	5.6					
	51	Ø144		48	58	3.3	4.0	0.3		JIS 10K 25A		
	52			96	116	6.6	8.0					
AHB	41	Ø120	12	48	58	2.8	3.3	0.7	0.37 or 0.4	JIS 10K 20A		
	42			96	116	5.6	6.6					
	51	Ø144	14	48	58	5.0	6.0	0.5		JIS 10K 40A		
	52			96	116	10.0	12.0					
	61	Ø170		48	58	7.0	8.4	0.3				
	62			96	116	14.0	16.8					
	71	Ø214		48	58	10.85	13.02			JIS 10K 50A		
	72			96	116	21.7	26.04					
AHC	51	Ø144	14	48	58	5.0	6.0	0.7	0.75 or 1.5	JIS 10K 40A		
	52			96	116	10.0	12.0					
	61	Ø170	18	48	58	9.0	10.8	0.5		JIS 10K 50A		
	62			96	116	18.0	21.6					
	71	Ø210	20	48	58	15.5	18.6	0.3				
	72			96	116	31.0	37.2					
AHD	81	Ø234	20	48	58	22.5	27.0	0.3	1.5	JIS 10K 65A	VP65	
	82			96	116	45.0	54.0					



"GSD" Shaftless Spiral Conveyor, WLS Series

Model	Capacity (m ³ /hr)			Power	Width of spiral groove	Recommended	
	0°	15°	30°	(kw)	(mm)	Lengh (m)	Angle
WLS260N	2.4	1.5	1.1	1.5 ~ 3.0	260	≤ 15	≤ 30°
WLS320N	4.8	3.6	2.4	2.2 ~ 4.0	320	≤ 20	≤ 30°
WLS355N	8.4	6.4	3.6	3.0 ~ 5.5	355	≤ 20	≤ 30°
WLS420N	12.8	10.2	6.4	4.0 ~ 7.5	420	≤ 30	≤ 30°

Welcome to ask for the following product catalogue



Pump series

- Submersible pump series
- On land pump series
- Special pump series
- Fire fighting pump series



Mixing and flow Propeller series

- Mixer series
- Flow propeller series



Aerating oxygen Inputing series

- Aerator series
- Disc diffuser series
- Diffuser series



Blower series

- Three-lobe roots blower series
- Pressure boost roots blower



Sludge treatment equipment and others

- Solid liquid separation series
- Dissolving equipment
- Conveying equipment



GSD (China) Co., Ltd.

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