

# PRODUCT DATA SHEET

## Dewatering Screw Press (DSP)

water | wastewater | sewage



### OVERVIEW

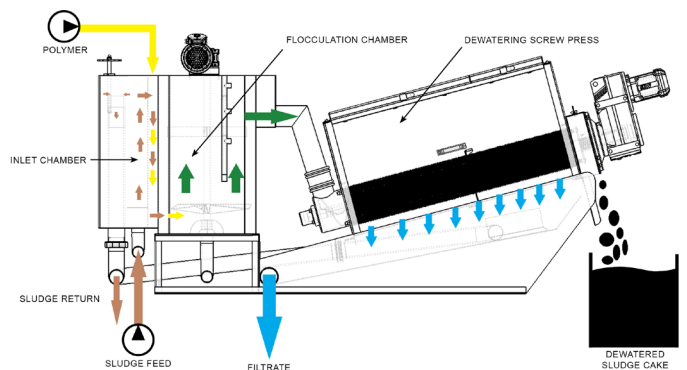
MAK Water's Dewatering Screw Press (DSP) is designed for efficient thickening and dewatering of liquid sludges that emanate from municipal wastewater treatment processes.

Typical applications for wastewater treatment plants include dewatering of thickened or unthickened waste activated sludge (WAS), digested sludge from aerobic or anaerobic processes, and dissolved air flotation (DAF) sludges.

Our Dewatering Screw Press is also suitable for dewatering of liquid sludges from a wide range of industries, including food & beverage, chemical, manufacturing, infrastructure development and resource industries.

For municipal WWTP sludge applications, our Dewatering Screw Press typically produces dewatered sludge cake of 15% to 20% dry solids content.

For industrial projects, depending on the specific application, cake of >20% dry solids content is possible.



### STANDARD SPECIFICATIONS

Parameter	Unit	Dewatering Screw Press Model							
		DSP-131	DSP-201	DSP-301	DSP-302	DSP-303	DSP-401	DSP-402	DSP-403
Solids Handling Capacity	kg/h	For Feed Sludge Concentration of 2 g/L to ~4 g/L of solids							
		6	20	40	80	120	100	200	300
Solids Handling Capacity	kg/h	For Feed Sludge Concentration of 6 g/L to ~35 g/L of solids							
		10	30	60	120	180	140	280	420
Typical Dewatered Cake Dry Solids Content <sup>1</sup>	%DS	15 – 20%							
Number of Screws		1	1	1	2	3	1	2	3
Screw Diameter	mm	130	200	300	300	300	400	400	400
Screw Gear Motor Make (Type)		SEW-Eurodrive (Front-Transmission Gearbox)							
Mixer Gear Motor Make (Type)		Motive (Worm-Transmission Gearbox)							
Screw Motor Power, each	kW	0.12	0.55	0.75	0.75	0.75	1.5	1.5	1.5
Mixer Motor Power	kW	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37
Total Power Draw	kW	0.5	0.9	1.1	1.9	2.6	1.9	3.4	4.9
Wash Water Requirement		Per Screw: 10 L/h at minimum 2 bar							
Inlet pipe	mm	DN 50	DN 50	DN 50	DN 50	DN 50	DN 50	DN 80F	DN 80F
Filtrate pipe	mm	DN 80	DN 80	DN 150F	DN 200F	DN 200F	DN 200F	DN 200F	DN 200F
Sludge Return Pipe	mm	DN 80	DN 80	DN 80	DN 100F	DN 100F	DN 100F	DN 100F	DN 100F
Flocculation Chamber Drain	mm	DN 50	DN 50	DN 50	DN 50	DN 50	DN 50	DN 65F	DN 65F
Net Weight	kg	300	580	980	1,350	1,700	1,350	2,250	2,950
Overall Length	mm	2,200	2,900	3,600	3,800	3,950	4,200	4,850	4,850
Overall Height	mm	1,100	1,350	1,750	1,800	1,750	1,750	2,200	2,300
Overall Width	mm	600	800	1,000	1,300	1,750	1,750	1,820	2,400
Materials of Construction		304 Stainless Steel Machine, 316 Stainless Steel Screw(s) with Tungsten Coating, 316 Stainless Steel Rings and Control Panel							

Notes:  
<sup>1</sup> Typical polymer consumption for feed sludge concentration 2 to ~4 g/L is 4-8 kg/tonne dry solids processed, and for feed sludge concentration 6 to ~35 g/L is 10-25 kg/tonne dry solids processed.  
 F denotes flanged connection

# STANDARD INCLUSIONS + OPTIONS

✓ = Standard Supply, o = Optional Supply

Equipment	Dewatering Screw Press Model							
	DSP-131	DSP-201	DSP-301	DSP-302	DSP-303	DSP-401	DSP-402	DSP-403
Skid Mounted Plant	✓	✓	✓	✓	✓	✓	✓	✓
Machine in 316 Stainless Steel	o	o	o	o	o	o	o	o
Containerised Plant	o	o	o	o	o	o	o	o
Container Non-Slip Floor Coverings	o	o	o	o	o	o	o	o
Container Insulation (walls & ceiling)	o	o	o	o	o	o	o	o
Sludge Feed Pump	o	o	o	o	o	o	o	o
Polymer Dosing System - Manual	o	o	o	o	o	o	o	o
Polymer Dosing System - Automatic	o	o	o	o	o	o	o	o
Dewatered Cake Conveyor (standard length 3m)	o	o	o	o	o	o	o	o

Instrumentation & Controls	Dewatering Screw Press Model							
	DSP-131	DSP-201	DSP-301	DSP-302	DSP-303	DSP-401	DSP-402	DSP-403
MAK Water Control Panel Compliant with AS/NZ 3000	✓	✓	✓	✓	✓	✓	✓	✓
PLC Control System with HMI Touch Screen	✓	✓	✓	✓	✓	✓	✓	✓
Variable Speed Drives in Control Panel for Screw(s) and Mixer Drives	✓	✓	✓	✓	✓	✓	✓	✓
Integrated Thermistor per Screw Motor for Thermal Overload Protection	✓	✓	✓	✓	✓	✓	✓	✓
Electric Solenoid Valves (2x per screw) for Wash Water	✓	✓	✓	✓	✓	✓	✓	✓
Conductive Probes for Level Sensing in Inlet and Flocculation Chambers	✓	✓	✓	✓	✓	✓	✓	✓
Flow meter on Dewatering Screw Press Inlet	o	o	o	o	o	o	o	o

## MODEL SELECTION

- 131** Capacity – up to 10 kg/h (for feed sludge 6 – ~35 g/L)
- 201** Capacity – up to 30 kg/h (for feed sludge 6 – ~35 g/L)
- 301** Capacity – up to 60 kg/h (for feed sludge 6 – ~35 g/L)
- 302** Capacity – up to 120 kg/h (for feed sludge 6 – ~35 g/L)
- 303** Capacity – up to 180 kg/h (for feed sludge 6 – ~35 g/L)
- 401** Capacity – up to 140 kg/h (for feed sludge 6 – ~35 g/L)
- 402** Capacity – up to 280 kg/h (for feed sludge 6 – ~35 g/L)
- 403** Capacity – up to 420 kg/h (for feed sludge 6 – ~35 g/L)

- 4** Machine in 304 Stainless Steel
- 6** Machine in 316 Stainless Steel
- XX** Skid Mounted Plant
- CX** Containerised Plant, Standard
- CF** Containerised Plant with Floor Coatings
- CP** Containerised Plant with Floor Coatings & Insulation
- X** Sludge Feed Pump – without
- F** Sludge Feed Pump – included
- X** Polymer System – without
- M** Polymer System – manual
- A** Polymer System – automatic
- X** Sludge Cake Conveyor – without
- S** Sludge Cake Conveyor – with standard length 3m
- C** Sludge Cake Conveyor – custom length (client specified)
- X** Inlet Flow Meter – without
- F** Inlet Flow Meter – included



DSP

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SAL-PDS-000 | APR-2019