BEEYOND
NEXT-GEN SLUDGE PROCESSING

OVAL-DISC SEPARATOR
THICKENING · DEWATERING · SCREENING

WAVE®

BW Series® · Oval-disc separator
One machine, three duties



Separation. Simplified.

Oval discs turning in sync, filtering gaps that never clog, no backwash system. Thickener, dewatering unit or screen.

POWERED BY

ECOIMPIANTISUD
water treatment solutions

BEEYOND.IT

[01 — INTRODUCTION]

Where experience becomes technology.

Beeyond was born from nearly four decades spent designing, building and operating municipal and industrial wastewater treatment plants.

Working in this sector every day, Ecoimpianti Sud identified sludge and solids management as one of the biggest drivers of a plant's efficiency and running costs. The WAVE Separator was selected by people who run treatment plants for a living.

The **BW Series® oval-disc separator** separates solids from water without any filter cloth or mesh. The same technology can work as a **thickener**, a **dewatering unit** or a **screen** for raw wastewater.

No backwash and minimal power consumption: it runs continuously and unattended, with reduced maintenance.

3
Possible configurations: thickening, dewatering, screening

300 kg-DS/h
Maximum thickening capacity

167 m³/h
Maximum screening flow, per unit

≥25% DS
Minimum cake dry solids

0.1–2.9 kW
Installed power across the range

8
Patents on the disc geometry

Engineered for continuous operation.

No clogging
The discs clean themselves on every turn. Fat, hair and fibre pass through; the filtering gaps stay clean.

No backwash
Water consumption kept to a minimum.

Low-speed operation
From 0.1 kW. Low vibration and noise, reduced dynamic loads.

Automatic operation
Start-up and operation unattended, day and night.



COMPLETE SKID UNIT


DISC DECK


CONTROL PANEL

[02 — OPERATING PRINCIPLE]

One technology, three duties.

Special **oval discs** mounted on parallel shafts rotate in continuous, synchronised motion. Solids travel along the disc deck, while liquid passes through the filtering gaps between the discs.

Because neighbouring discs are always moving relative to each other, the filtering gap is cleaned on every turn: the structure is self-cleaning, with no spray bar and no filter media to replace. The low rotation speed eliminates vibration and noise.



DUTY 01

Thickener

Reduces sludge volume ahead of storage, digestion or a dewatering step.

up to 300 kg-DS/h

DUTY 02

Dewatering

Takes the sludge through to a shovelable, transportable cake, with the pressure plate fitted.

≥25% cake DS

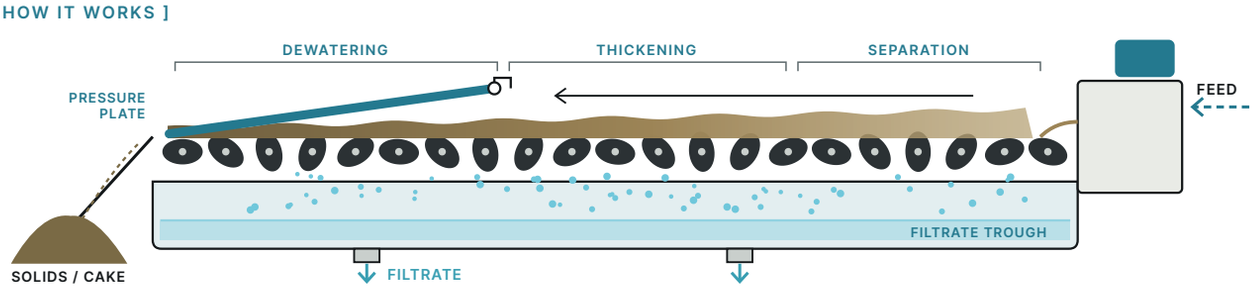
DUTY 03

Screening

Primary screening of raw wastewater, without clogging.

up to 167 m^3/h per unit

[HOW IT WORKS]



01
Feed
Raw wastewater or sludge is fed onto the disc deck.

02
Separation
Liquid passes through the gaps between the oval discs; solids stay on top.

03
Thickening / dewatering
Disc rotation carries the solids along while water keeps draining out.

04
Discharge
Solids leave the disc deck; filtrate leaves the trough underneath.

[PROCESS LINE]

Feed	Conditioning	Oval-disc deck	Solids & filtrate
Raw wastewater or sludge	Polymer dosing, if required	Synchronised rotation	To discharge · back to headworks

Six good reasons to choose the Wave.

01
Multifunctional
The same technology, three possible duties: screening raw wastewater, thickening or dewatering sludge.

02
No clogging
The oval discs turn in phase, cleaning the filtering gaps on every revolution. Fat, hair and fibre ride over the deck instead of clogging it.

03
Large transport load
The discs carry the solids along the deck to the discharge. In dewatering duty a pressure plate holds them back until the cake leaves at ≥25% DS.

04
No backwash
Liquid passes through the 1 mm gaps into the trough and leaves through the flanges. No spray bar, no clean-water line, no nozzles.

05
Energy saving
From 0.1 to 2.25 kW. Slow, synchronised rotation: minimal vibration, low noise, limited dynamic loads.

06
Stable and easy to run
Throughput stays constant because there is no cleaning cycle to wait for. Few moving parts and an open deck make routine maintenance easy.

[GAP AND DUTY]

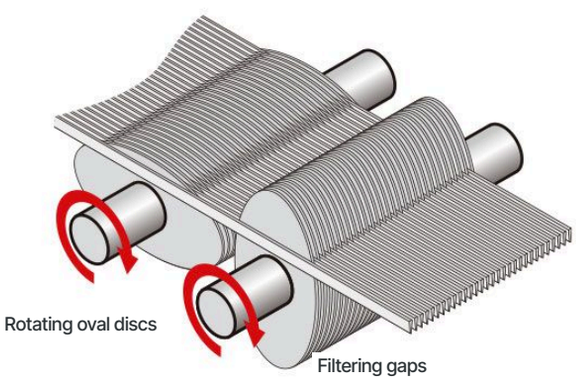
The filtering gap is the setting.

1 mm
Standard gap
Set to the job: screening, thickening and dewatering each need a different gap.

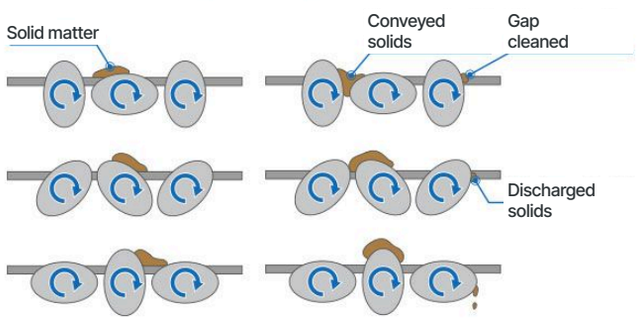
0.5–10%
As a thickener
Takes feed from 0.5% to 10% solids and hands a smaller, richer flow to the next stage.

≥25%
On dewatering duty
With the pressure plate fitted, the cake leaves at 25% DS minimum.

Custom gap widths available on request.



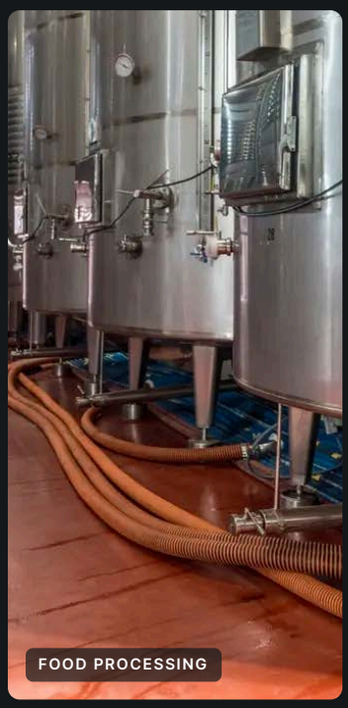
Dewatering and forward conveying
Self-cleaning design

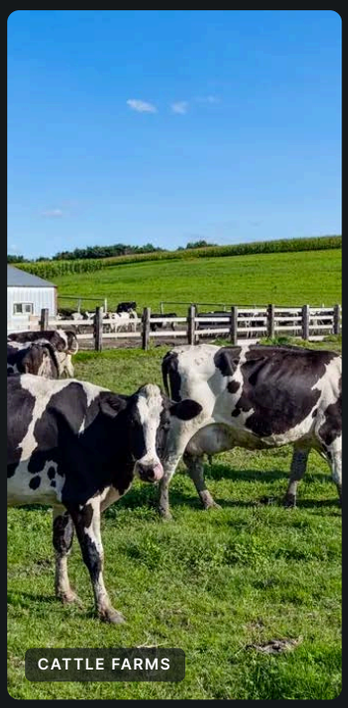


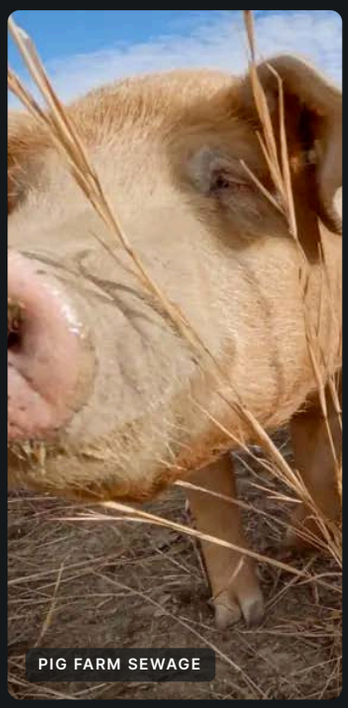
Continuous rotation of the oval discs keeps the filtering zone clean, conveying and thickening the material before discharge.

[04 — APPLICATIONS]

Where it is installed.









USED FOR: ● SCREENING ● THICKENING ● DEWATERING

01 Food processing
SCREENING THICKENING

02 Kitchen & restaurant waste
SCREENING

03 Cattle farms
THICKENING

04 Pig farm sewage
THICKENING

05 Primary screening
SCREENING

06 Raw wastewater
SCREENING

07 Sludge treatment
DEWATERING

08 Workshop wastewater
SCREENING

09 Water-based paint
DEWATERING

10 Grease trap waste
SCREENING

11 Dyeing wastewater
THICKENING

12 Raw manure
THICKENING

13 Milking parlour wastewater
SCREENING

14 Waste oil
SCREENING

15 Plastic recycling
SCREENING

BTECH® or BW®?

In many sectors both machines fit: **your sludge data decides**. Tell us the duty and the load to be treated, and we will indicate the right model for your application.

[04 — INSTALLATIONS]

A closer look.

Photos from plants already running and machine details: from the skid to the cake discharge.



FOUR BW UNITS IN PARALLEL



CAKE DISCHARGE



SKID-MOUNTED UNIT



DISC DECK IN OPERATION



SOLIDS DISCHARGE – SLAUGHTERHOUSE

[05 — TABLE OF SELECTION]

Three configurations. Three different duties.

Dewatering D series

Model	Capacity* kg-DS/h	Flow at 10 g/L m³/h	Flow at 20 g/L m³/h	Dimensions mm			Power kW	Weight kg
				L	W	H		
BW-311D	25–40	2.5–4	1.3–2	2300	1100	1400	1.2	500
BW-411D	40–60	4–6	2–3	2300	1200	1500	1.4	560
BW-611D	50–80	5–8	2.5–4	2400	1400	1500	1.4	630
BW-811D	80–120	8–12	4–6	2540	1650	1500	1.75	720
BW-1011D	100–140	10–14	5–7	3180	2050	1650	2.85	810
BW-1211D	120–160	12–16	6–8	3300	2250	1650	2.85	880
BW-1224D	160–300	16–30	8–15	4633	2078	1862	2.9	1580

Thickening standard series

Model	Flow m³/h	Capacity* kg-DS/h	Dimensions mm			Power kW	Weight kg
			L	W	H		
BW-256	8	18	1100	490	800	0.3	120
BW-312	21	49	2300	1000	1400	0.6	490
BW-412	28	67	2300	1050	1500	0.6	550
BW-612	42	100	2400	1240	1500	0.8	615
BW-812	79	185	2540	1540	1500	1.5	700
BW-1012	98	230	3180	1540	1650	1.5	790
BW-1212	120	280	3300	1740	1650	2.25	850

Screening G series

Model	Flow m³/h	Dimensions mm			Power kW	Weight kg
		L	W	H		
BW-256G	14	1100	490	800	0.1	100
BW-312G	38	2300	1100	1400	0.2	450
BW-412G	55	2300	1200	1500	0.2	500
BW-612G	76	2400	1400	1500	0.4	565
BW-812G	110	2540	1650	1500	0.75	640
BW-1012G	138	3180	2050	1650	0.75	720
BW-1212G	167	3300	2250	1650	1.5	780

(*) Capacity data for reference only. Contact our Technical Department for further information on model selection and configuration. Custom gap widths available on request.

BEEYOND
NEXT-GEN SLUDGE PROCESSING

Your sludge processing partner.

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POWERED BY

ECOIMPIANTISUD
water treatment solutions

Nearly forty years of engineering, construction, revamping, operation and maintenance of water treatment plants.

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