


wima.

LAMELLA SEPARATORS



**WATER TREATMENT
THROUGH
SEDIMENTATION**



Treatment and recycling of process water not only reduces operating costs but also protects the environment.

Lamella Separators made by WIMA are part of the solution.

A wide variety of process water is treated with Lamella Separators. They reduce the use of fresh water and disposal costs for waste water.



Lamella Separators for the treatment of process water

Lamella Separator

LA-Series

Lamella Separators of the LA series effectively separate particles from liquids and are used for the treatment of waste water coming from density separation processes.

With a compact design, WIMA Lamella Separators are characterized by low-maintenance and low-energy operation. Apart from the central agitator unit, no moving parts are used in the

clarification process. Units up to size 40 have their own extendable legs which makes them very flexible and mobile. Combinations with WIMA HDS series or integration into existing plants can be realised easily and quickly.



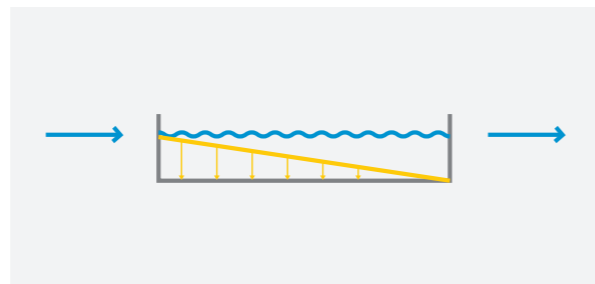
View from above
the Lamella Separator

Operating Principles of Lamella Separators

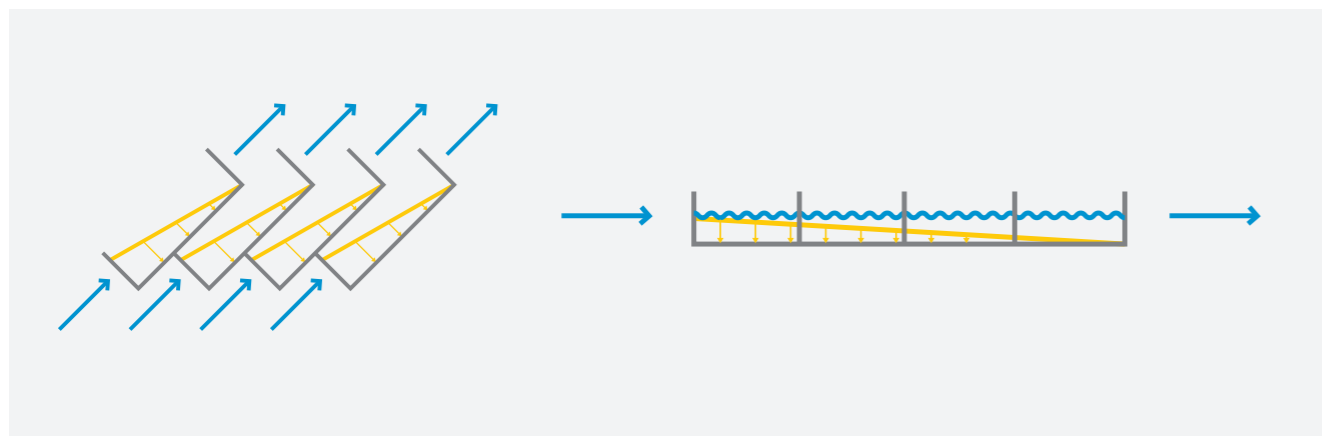
Sedimentation is used in the Lamella Separator to separate the particles contained in the waste water. Compared to conventional sedimentation tanks or circular thickeners, Lamella Separators allow significantly smaller footprints to be realised for the treatment of wastewater volume flows.

For this purpose, several stacked sedimentation zones (area between two lamellas) are created. These sedimentation zones can be regarded as (fictitious) sedimentation basins (1). As the water flows through the sedimentation zones, the particles sink and eventually make contact with the „bottom“ (lamella). The inclined arrangement of the individual lamellae causes the particles to slide down. The separated particles are collected in the hopper of the Lamella Separator.

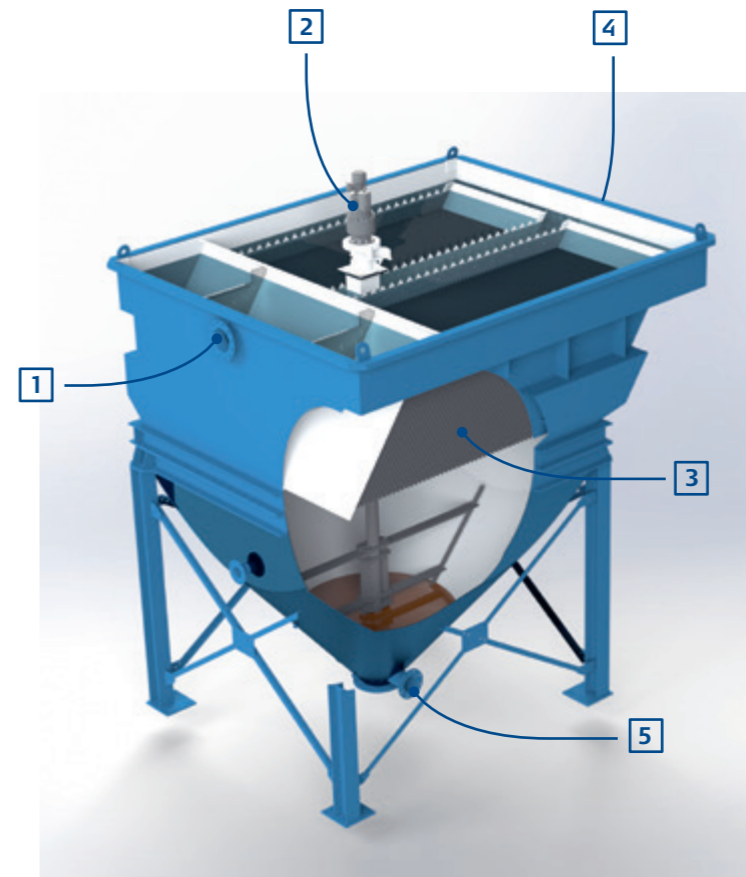
The discharge for the formed sludge layer is located at the bottom of the hopper. The sludge layer is permanently kept in motion by an agitator, ensuring continuous or discontinuous discharge (depending on the application).



Schematic diagram of sedimentation basin – area between two lamellas

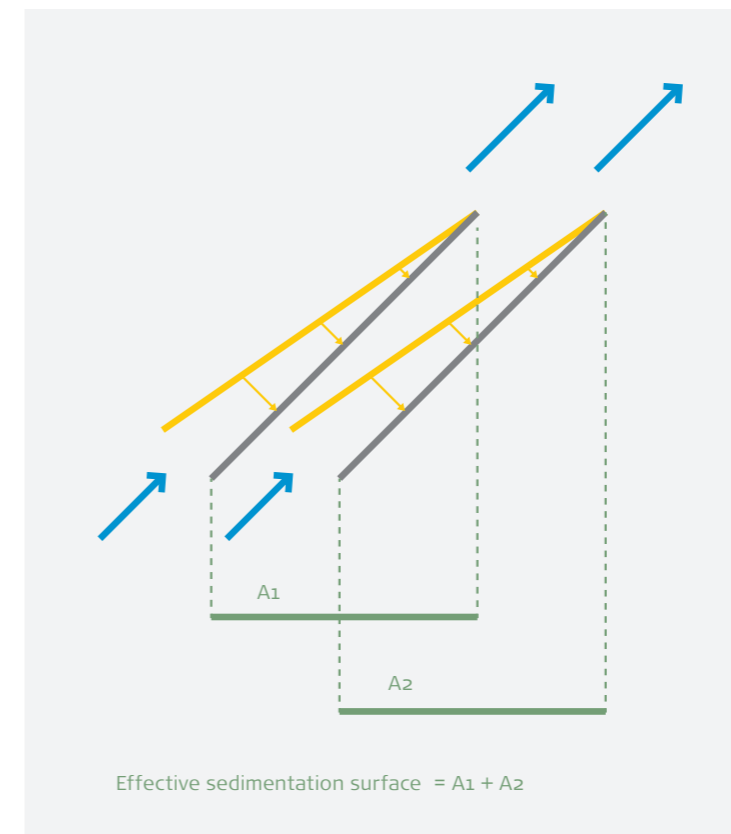


Comparison: Lamella Separator (left) and sedimentation basin (right)



Operating Principles LA

- 1 Inlet for process water to be treated
- 2 Agitator motor
- 3 Lamella
- 4 Outlet for treated process water
- 5 Outlet for sludge



The arrangement of the lamellas creates overlapping sedimentation surfaces. Due to the enlargement of the sedimentation surface and the associated reduction of the flow velocity, the particles in the water can settle more easily.

Effective sedimentation surface (idealised)

Dimensions LA-Series



Nominal flow rate in m³

Technical Data LA-Series

			LA10	LA20R	LA40R	LA50R	LA100R	LA200R	LA300R
NOMINAL VOLUME FLOW		m ³ /h	10	20	40	50	100	200	300
EFFECTIVE LAMELLA SURFACE		m ²	10	20	40	50	100	200	300
DIMENSIONS	Width	mm	900	1,500	2,150	2,500	3,400	3,400	3,500
	Length	mm	1,900	2,350	3,000	3,400	4,200	4,900	6,050
	Height (without motor)	mm	2,100	2,450	2,650	3,700	4,250	5,300	6,100
WEIGHTS	Unladen weight	kg	700	2,000	2,750	5,000	6,000	9,000	14,000
	Working weight	kg	1,900	6,000	8,500	17,000	30,000	48,000	62,000
CONNECTIONS	Inlet		2" (IG)	3" (IG)	4" (IG)	DN 150, PN 10/16 (flange)	DN200, PN 16 (flange)		DN300, PN16 (flange)
	Outlet clean water		3" (IG)	DN 100, PN 10/16 (flange)	DN 150, PN 10/16 (flange)		DN250, PN 16 (flange)		
	Outlet sludge		DN 100, PN 10/16 (flange)			DN150, PN 10/16 (flange)			
POWER SUPPLY	Mains type		3 PH/N/PE						
	Supply voltage	VAC	400						
	Frequency	Hz	50						
	Power input	kW	0.18						
	Backup fuse (CEE plug)	A	16						

The Complete System with WIMA



DENSITY SEPARATORS



SCREENING MACHINES



TWIN SHAFT LOG WASHERS



SAND TRAPS

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SERVICE



LAMELLA SEPARATORS



CONTRACT MANUFACTURING



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