



VariPond®

Reliably controlling solids
concentration



Westfalia Separator VariPond® thinks automatically

Efficiency – how to achieve maximum benefit with minimum cost – is one of the main objectives of technical systems. Their purpose is to provide specific solutions for the applications for which they were designed. Decanters from Westfalia Separator Umwelttechnik occupy a leading position in the world in this respect. The question: is it possible to achieve a further improvement in performance in the processes?

Westfalia Separator has extensively considered precisely this point. It has developed a control and regulating system which automatically searches for the most efficient way of meeting the required objective: Westfalia Separator VariPond®!

Westfalia Separator VariPond® is a patented control and regulating system that guarantees and precisely ensures a constant concentration for downstream processes when decanters are used. For instance, to achieve a maximum gas yield when thickening sludge in digestion towers it is advisable for them to be supplied with a precisely defined concentration. This process is regulated by Westfalia Separator VariPond®.

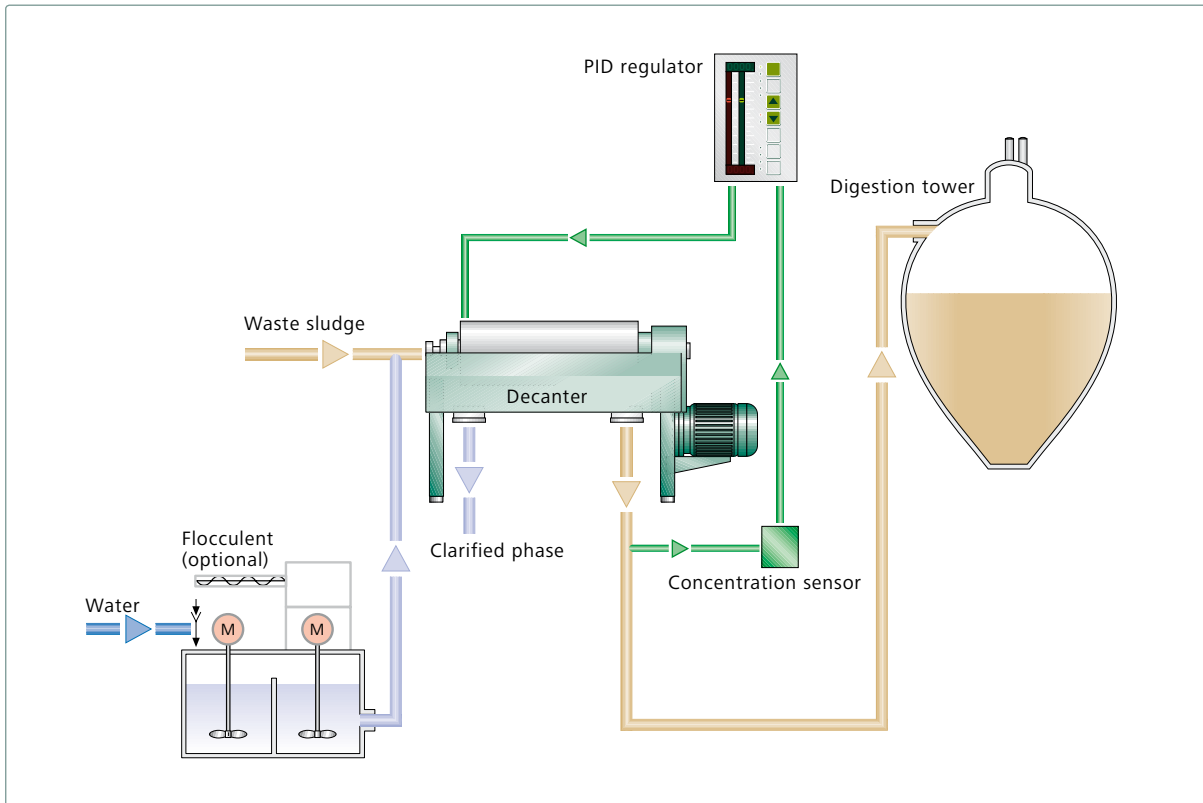
Rapid response is required

It's half time during an exciting game at the football world cup. Water consumption rises rapidly and large

numbers of cisterns are flushed simultaneously, as any employee of municipal waste water treatment plants can confirm. A sudden cloud-burst, the sewers can scarcely contain the volumes of water, pumps and dewatering systems have to work at full speed to cope with the flood of water which carries considerable volumes of solids such as sand and other residues. This is precisely where there is a need for systems with an immediate response which can adjust to changed conditions in an instant. This is where the strength of the leading technology of Westfalia Separator VariPond® is evident.

Rapid response times are extremely important not only in municipal areas, but also in waste water treatment plants that are responsible for waste water quality. Wherever sewage sludges have to be processed with centrifugal separation technology perfect functionality also has to be guaranteed, even under a wide range of conditions.

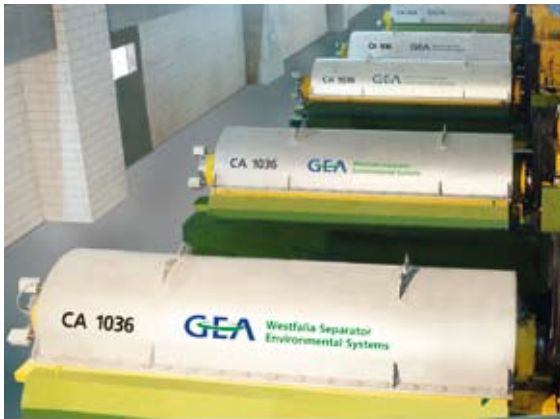
Westfalia Separator VariPond®, which means 'variable pond depth with a running machine', regulates the liquid level in the decanter bowl so precisely, even in conjunction with strong fluctuations in feed concentration, that the concentration of the thickened solids is adjusted to a constant level and can be met precisely. Reliable optical sensors measure the solids content of the thickened sludge, compare it with the preset value and the regulating facility ensures that the concentration is kept constant – completely automatically!



Block diagram of the principle of Westfalia Separator VariPond®

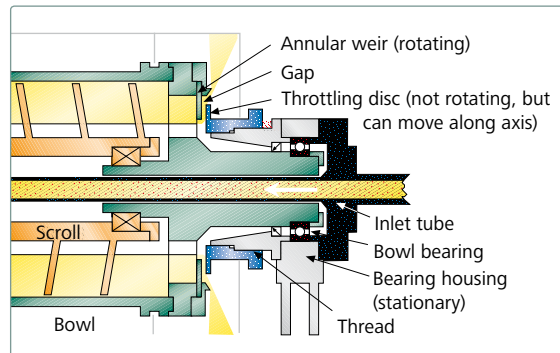
Reduce energy input by up to 30 percent

The solids concentration remains constant even at peak times, the disposal, storage and energy costs of incineration can be kept at a low level without processing quality being affected. On the contrary, Westfalia Separator VariPond® utilises existing capacities so precisely that maximum results can be achieved with minimum input. The logistical and financial benefit is obvious, particularly for operators of municipal waste water treatment plants. Westfalia Separator VariPond® permits operation with much lower energy, because the adjustment of the g-force to the feed conditions and the related speed reduction can reduce electrical energy by up to 30 percent. Component wear is reduced and the service lives of the components are extended. In brief, Westfalia Separator VariPond® verifies the equation: the larger the machine, the greater the energy savings.



How it works

Whenever the clarified liquid is discharged from the decanter bowl a throttling ring moves along its axis and determines the gap width of the aperture. Intelligent sensor technology recognises the throughput volume necessary at any specific time and regulates the gap width as a function of the liquid level in the decanter bowl by moving the throttling disc to the optimum position while the machine is running. With Westfalia Separator VariPond®, decanters always operate with optimum efficiency and with much lower operating and maintenance costs. All downstream processes are thus optimised too.



Operation of the control in the decanter

Upgradeable at all times

The control and regulating technology of Westfalia Separator Umwelttechnik can be integrated smoothly in existing installations. This means that Westfalia Separator VariPond® provides a customisable improvement in efficiency for all areas of application. No need to purchase new decanters, no long downtimes, no complete conversion.

With relatively low costs, upgrading with Westfalia Separator VariPond® provides solutions to problems which in the past were only possible with a major financial and labour-intensive investment. Also more precise concentrate values with simultaneous cost reductions means the solution is definitely worthwhile.



Innovation award for the liquid adjustment facility Westfalia Separator VariPond®



All advantages at a glance

- Stable discharge concentration
- Accuracy $\pm 0,3\%$ DM
- Thickening possible without polymers
- Adjustable to 4%, 5%, 6%, 7%, 8% DM
- Maximum throughput capacity of the decanter
- Regulation while machine is running
- May be combined with advanced automation algorithms
- Energy savings of up to 30%
- Optimising of all downstream processes
- Low wear, long life
- No maintenance
- Upgradeable at all times

- Beverage Technology
- Dairy Technology
- Oils and Fats Processing
- Chemicals, Pharmaceuticals and Biotechnology
- Oils and Fats Recovery
- Starch Technology and Industrial Biotechnology
- Environmental Technology
- Marine
- Energy
- Oilfield
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- Engineering
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