

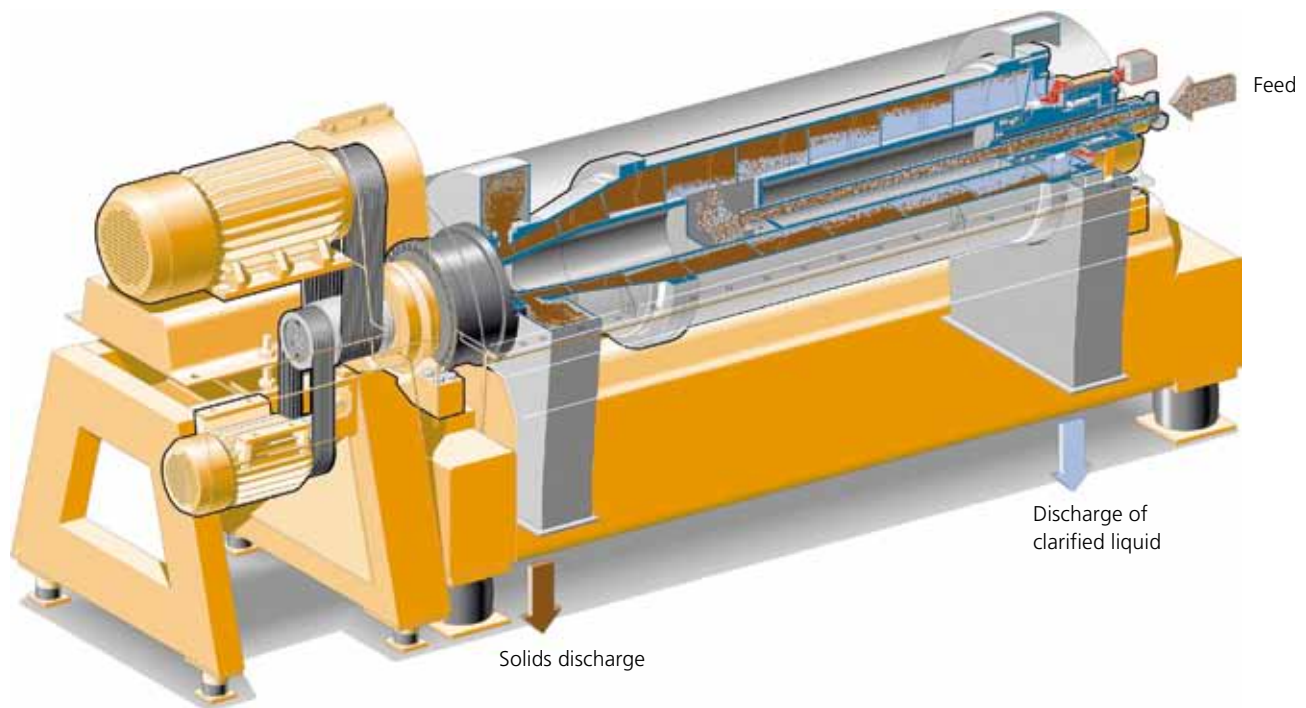
Liquids to Value



Westfalia Separator® **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. Decaners from GEA Westfalia Separator 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?

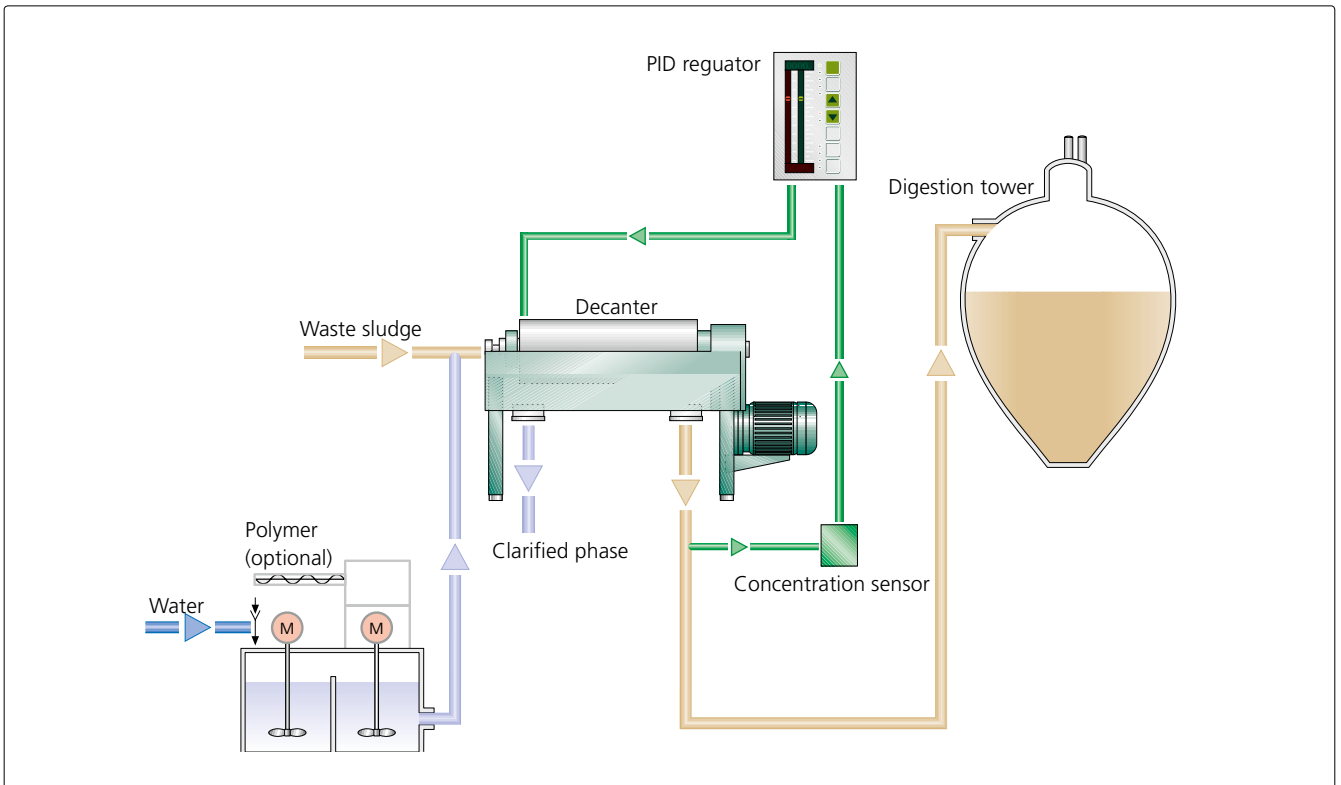
GEA Westfalia Separator has extensively considered precisely this point. It has developed a control and regulating system which automatically searches for the most efficient way of meeting the required objective: Westfalia Separator® **varipond**®!

Westfalia Separator® **varipond**® is a patented control and regulating system that guarantees and precisely ensures a constant concentration for downstream processes when decaners 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 treat-

ment 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.



Block diagram of the principle of Westfalia Separator® varipond®

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!

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.



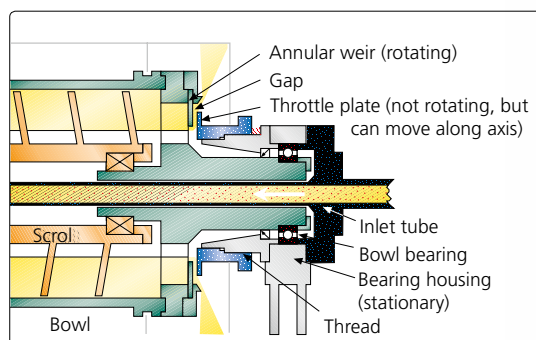
How it Works

Whenever the clarified liquid is discharged from the decanter bowl a throttle plate 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 throttle plate 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.

Upgradeable at all times

The control and regulating technology of GEA Westfalia Separator 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.



Operation of the control in the decanter



Innovation award for the liquid adjustment facility Westfalia Separator® **varipond**®



All Advantages at a Glance

- Stable discharge concentration
- Accuracy $\pm 0,3$ % DS
- Thickening possible without polymers
- Adjustable to 4 %, 5 %, 6 %, 7 %, 8 % DS
- 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 down-stream processes
- Low wear, long life
- No maintenance
- Upgradeable at all times

- Beverage Technology
- Dairy Technology
- Renewable Resources
- Chemical/Pharmaceutical Technology
- Marine
- Energy
- Oil & Gas
- Environmental Technology
- Engineering
- Second Hand Machinery
- Original Manufacturer Service

The information contained in this brochure merely serves as a non-binding description of our products and is without guarantee.

Binding information, in particular relating to capacity data and suitability for specific applications, can only be provided within the framework of concrete inquiries.

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GEA Mechanical Equipment

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