

DECANTER CENTRIFUGES & PLANTS FOR SOLID/LIQUID SEPARATION



DECANTER VS. SCREW PRESS A COMPETITION WITH A CLEAR WINNER

Dry substance content in the sludge: Improvement of +5% DS (absolute) with a solids capture efficiency of $\geq 99\%$ are repeatedly achieved and proven with HILLER high performance decanter centrifuges.

Many operators of municipal wastewater treatment plants are faced with unnecessarily high sludge disposal costs due to the dewatering technology applied. However, the dewatering result can almost always be optimized and the disposal costs thus be reduced. A multitude of tests with our mobile plants show

a significant potential for savings if a decanter is used, compared to other dewatering technologies.

The experience with alternative systems, for example screw presses, not only shows their significant shortcomings with regards to throughput and dewatering results, but also that their poor separation efficiency over some time leads to further problems in the plant. Solids capture rates of just 90-96% cause an enormously high solids content in the centrate fed back to the plant. This is problematic because it leads to a

steady build-up of fine particles which are hard to remove from the system.

Consequently almost all operators decide in favour of a modern decanter technology once a well-founded comparison of the two systems has been made.

This comparison we can offer to you.

With very little effort you will quickly see the operating cost savings by using a decanter. And on top of that the high solids capture efficiency of the decanter leads to improvements for your entire wastewater treatment process.

DEWATERING RESULT

+ Up to 5% DS (absolute) better

SEPARATION EFFICIENCY

+ Consistently >99%

MOBILE TEST PLANTS

+ Available in all sizes

OPTIMIZATION-FRIENDLINESS

+ Easy to adjust in case of changes of sludge characteristics

ECONOMY

+ Well-founded direct technology comparisons confirm clear economic advantages

POWER CONSUMPTION

- Higher power consumption

MAINTENANCE

- Higher maintenance costs

- Significant disadvantages in particular with sludge with "difficult" dewatering properties

- Considering the periodic filter cleaning cycles, over a day averaging at only 90-95%; thus substantial solids load returned to the plant

- No screw presses available as mobile plants for throughputs >20m³/h; scale-up based on smaller models is often the reason for subsequent differences

- Very limited flexibility as changing the settings mostly lead to immediate deterioration of operating performance

- In a direct economical comparison of technologies, the results cannot compete with a decanter

+ Lower power consumption

+ Lower maintenance costs

CALCULATION EXAMPLE*:

	HILLER DP484	Screw Press
Sludge quantity (anaerobically digested sludge with 70% L.O.I.)	35.000 m ³	35.000 m ³
Feed DS (average)	2,2 %DS	2,2 %DS
Solids mass flow	770 t	770 t
Polymer dose rate	13 kg/tDS	20 kg/tDS
Polymer active substance	50	50
Polymer costs	2,20 €/kg	2,20 €/kg
Total polymer costs	44.044,00 €	67.760,00 €
Output DS (guaranteed minimum value)	24,75 %DS	17 %DS
Disposal costs	65 €	65 €
Total disposal costs	202.222,22 €	294.411,76 €
Power consumption	1,7 KW/m ³	0,25 KW/m ³
Power costs	0,17 €/KW	0,17 €/KW
Total power costs	10.115,00 €	1.487,50 €
Average maintenance costs p.a.	5.200,00 €	2.200,00 €
Total costs	261.581,22 €	365.859,26 €
Reference value costs p.a.	261.581,22 €	
Additional costs p.a.		104.278,04 €
Additional costs for 5 years		521.390,21 €

*Data shown in this calculation is typical only and not binding

