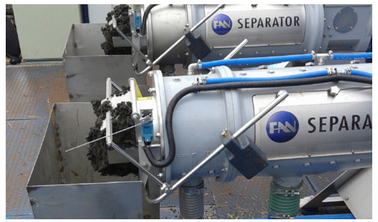
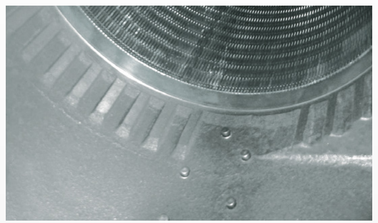
Special features

Flushing device in PSS for separation of waste water e.g. in slaughterhouses

The FAN PSS machines are equipped with a flushing device inside the PSS between screen and housing for separating waste water from the slaughtering process in abattoirs. With this device the screen will be flushed with hot water under pressure at intervals, which are adjustable for individual applications. Therefore the screen is kept clean and prevents grease blocking the screen when the machine is not in operation.





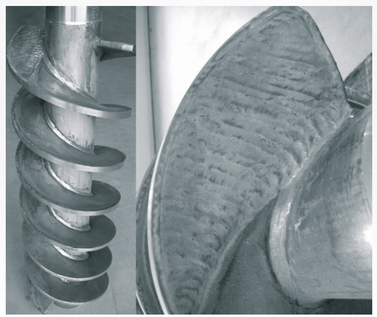


Specially designed augers for various application

The augers of the FAN PSS are equipped with a hard coating on their outer diameter. In addition to the standard coating, there are also special coatings available specifically suited for use with abrasive materials, or an acid-resistant coating for use with wastewater having a low ph-value. In the area with the highest pressure at the front of the auger, the flights are completely wear-protected.

Augers with a larger distance between flights are also available. When separating the paunch manure of cattle for instance, which can sometimes contain medication tubes, an auger is available which allows the tubes to be transported through the PSS without clogging inside of the machine.

For sticky materials, augers can be equipped with a teflon coating which prevents such material from rotating together with the auger and blocking the machine.



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PRODUCTS FROM OUR SLURRY PROGRAM



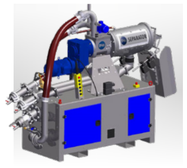
MSXH
Submersible motor mixer



SEPARATOR SPS
Sludge press for municipal and industrial waste water



SEPARATOR PSS
Press screw separator for solid-liquid separation



SEPARATOR PLUG & PLAY
System for portable slurry separation



MAGNUM CSPH
Submersible motor pump gear unit design



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Bedding Recovery Unit produces fresh bedding from slurry

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› **SEPARATOR PSS 1.1**
› SEPARATOR PSS 1.2
› SEPARATOR PSS 3.2
› SEPARATOR PSS 3.3
› SEPARATOR PSS 5.2

SEPARATOR
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EN

WASTE WATER TREATMENT

SEPARATOR PSS

SEPARATES SEWAGE INTO ITS SOLID AND LIQUID COMPONENTS





WWW.FAN-SEPARATOR.DE

SEPARATOR
PSS 1.1

FAN Press Screw Separator PSS

Features:

- The FAN PSS can handle thick (20% solids) as well as thin slurries (down to 0.1% solids)
- Dryness of the separated solids can be adjusted between 25% and 60% TS (depending on application and model)
- High capacity and production of very dry solids
- Minimal maintenance, no special training required
- Very low power consumption
- The FAN PSS is optionally equipped with an oscillator unit (patented) for improved performance and higher capacity
- Main components are constructed out of stainless steel
- Auger of the PSS is hard coated for longer life
- Body available in cast iron, stainless steel or cast stainless steel
- Screen will be cleaned continuously by the auger because of very tight tolerances
- The FAN PSS is optionally equipped with a flushing device inside the body

The PSS is fed by pump or gravity from a holding tank. It is also possible to feed the PSS by hopper. The optimal feeding method depends on the raw material consistency and the site conditions.

Inside of the inlet section, an oscillator unit (patented) inducts oscillating pressure into the liquid. This leads to an improved performance and a higher capacity, especially with viscous liquids.

In the slotted screen, the fibrous solids are screened out from the liquid. The fibres build up a layer which also acts as a filter to separate finer particles from the liquid. The auger flights convey this layer to the solids outlet. The screen surface is cleaned and a new filter layer is formed.

The design of the screens is not conducive to plugging. The pressure in the first part of the screen is low but increases with the solid consistency to the solid output. The friction of the solid plug in the cylindrical mouthpiece and the double flap of the output regulator provide counter pressure for further dewatering of the solids.

The dryness of the solid cake can be adjusted by the number and position of the weights (patented output regulator).

SEPARATOR

Separation Solutions for Processing Industries and Agriculture

Agricultural applications:
Solid-liquid separation of pig, cattle and poultry manure for:
- Volume reduction
- Odour reduction
- Nutrient reduction
- Easier irrigation
- Reuse of solids for bedding
- Reuse of liquids for flushing
- Cleaning of lagoons
- Composting of solids
- Further slurry treatment possibilities

Slaughterhouse applications:
- Waste water treatment and fibre recovery
- Dewatering of paunch and intestines
- Separation of pig manure, straw, sand, shavings and stomach contents
- Dewatering of truck wash water
- Separation of tannery waste water
- Separation of rendering products
- Separation of coagulated blood products

Pulp and paper applications:
- Rejects of stock preparation
- Sludge from water treatment
- Precleaning of waste water streams
- Water cleaning for reuse
- Dewatering of stock
- Fibres recovery
- Compacting of waste
- Chip wash water
- Pulp washing

Fibres and panel board applications:
- Chip wash water
- Waste water
- Cleaning water circles of filter systems

Plastic recycling:
- Cleaning of wash water
- Dewatering of rejects

Biogas and bio-ethanol plants:
- Solid-liquid separation before and after biological treatment

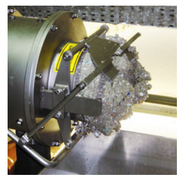
Food industry applications:
- Treatment of vegetable, fruit, cereal, sludge and waste water
- Treatment of olive remaining after 2-phase decanter
- Treatment of distillery and brewery grains



Biogas



Food



Pulp and paper



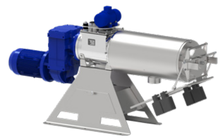
SEPARATOR **PSS 1.1-300**



SEPARATOR **PSS 1.2 - 520/780**



SEPARATOR **PSS 3.2 - 520/780/1040**

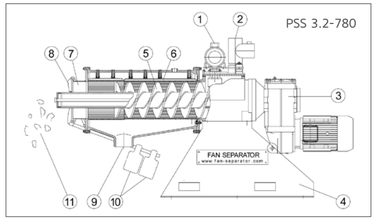


SEPARATOR **PSS 5.2 - 520/780/1040**

Major patent rights

Separation principles (Patent EP 0 367 037 / USA Patent No. 5, 009, 795) consisting of:
- Relationship between of screen diameter and auger pipe diameter is designed that a hollow cylindrical solid plug is produced
- Transfer of tangential force from the screen via guide rails
- Screen construction, made of screen bars
- Output regulation with flaps and weights for regulating dryness of cake

Oscillator system (Patent EP 0 443 385 / USA Patent No. 5, 118, 427):
- Transmits vibrations into the liquid to increase the viscosity



1 Oscillator
2 Inlet, 4"
3 Gearmotor
4 Stand
5 Auger
6 Screen
7 Mouthpiece
8 Output regulator
9 Exit for separated liquid, 5"
10 Counterweight
11 Separated solids

Technical Data

Model	Power HP	Max. capacity yd³/h*
PSS **1.1 - 300**	3	up to 20
PSS **1.2 - 520**	5	52
PSS **1.2 - 780**	7 – 10	78
PSS **3.2/5.2 - 520**	7	65
PSS **3.2/5.2 - 780**	7 – 10	98
PSS **3.2/5.2 - 1040**	10 – 15	130
Green Bedding **3.3 - 780**	10 – 15	up to 26

*) Refers to the hydraulic output with water. The actual output depends on the material that is being separated, the consistency of the inlet and the width of the screen slots.