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+ SEPARATOR PSS 1.1

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+ SEPARATOR PSS 1.2

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+ SEPARATOR PSS 3.2

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+ SEPARATOR PSS 3.3

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+ SEPARATOR PSS 5.2

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**SEPARATOR**

A **BAUER GROUP** COMPANY



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WASTE WATER TREATMENT

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# SEPARATOR PSS

SEPARATES SEWAGE INTO ITS SOLID AND LIQUID COMPONENTS

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[WWW.FAN-SEPARATOR.DE](http://WWW.FAN-SEPARATOR.DE)

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# SEPARATOR PSS

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



## ECONOMICALLY PARTICULARLY VALUABLE



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).

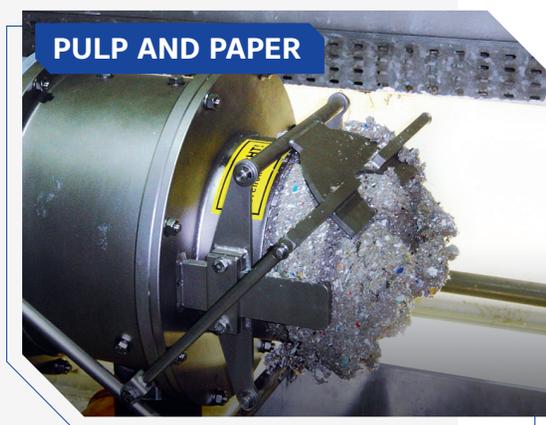




BIOGAS



FOOD



PULP AND PAPER



AGRICULTURE

## WHY SEPARATE?



Up to 30% reduction of storage



Optimised nutrient utilisation



Odour of both liquid and solid fraction is hugely reduced



No formation of floating or sinking layers in the lagoon



Ideal for modern tanker distribution systems



Easier transportation



Lower energy requirements for mixing and pumping

## APPLICATIONS

### SEPARATOR MARKET



Slurry from cattle, pigs, chicken and poultry in agriculture



Separation before or after fermentation in biogas plants



Separation of plant waste in the Food Industry



Separation of solids from vinasse in Distillery Disposal and breweries



Separation of Rumen Content in Slaughterhouses



Separation of plant waste in the Paper Industry

# SEPARATOR MODELS



PSS 1.1 – 300



PSS 1.2 – 520/780



PSS 3.2 – 520/780/1040

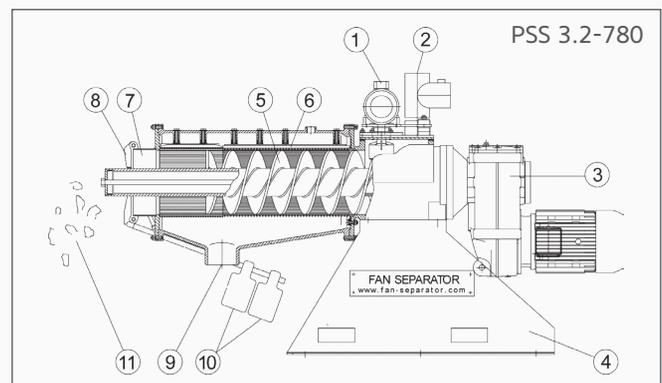
## MAJOR PATENT RIGHTS

### 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





**PSS 5.2 – 520/780/1040**



**PSS8 / GREEN BEDDING™ PSS8**

#### **SEPARATOR PSS8**

**DRY MATTER CONTENT**  
up to 34%

**SCREEN SIZE (mm)**  
0.5 – 0.75 – 1.0

#### **GREEN BEDDING™ PSS8**

**DRY MATTER CONTENT**  
up to 36%

**SCREEN SIZE (mm)**  
0.75 – 1.0

- 01 Oscillator
- 02 Inlet, 4"
- 03 Gear motor
- 04 Stand
- 05 Auger
- 06 Screen
- 07 Mouthpiece
- 08 Output regulator
- 09 Exit for separated liquid, 5"
- 10 Counterweight
- 11 Separated solids

#### **TECHNICAL DATA**

<b>Model</b>	<b>Power kW</b>	<b>Max. Capacity m<sup>3</sup>/h*</b>
PSS 1.1 – 300	2.2	up to 16
PSS 1.2 – 520	4.0	40
PSS 1.2 – 780	5.5 – 7.5	60
PSS 3.2/5.2 – 520	5.5	50
PSS 3.2/5.2 – 780	5.5 – 7.5	75
PSS 3.2/5.2 – 1040	7.5 – 11.0	100
Green Bedding™ 3.3 – 780	7.5 – 11.0	up to 20
Separator PSS8	22.0	up to 250
Green Bedding™ PSS8	30.0	up to 180

\* 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.

# SEPARATOR PLUG & PLAY

## PLUG & PLAY SEPARATOR-SYSTEM: PLUG IT IN – GET SET – GO!

- + Flexible, compact design incorporates all components in a small unit
- + Disconnect, load, and you're off to the next application
- + Multiple uses in agriculture, industry and biogas plants
- + Low energy requirement
- + Very high dry matter content
- + Optimal price-performance ratio
- + Long service life due to carefully matched components

## FAN SEPARATOR PLUG & PLAY

FOR FLEXIBLE USE

## FAN SEPARATOR PLUG & PLAY ELEVATOR

FOR APPLICATIONS  
AT GREAT HEIGHTS



## EQUIPMENT

- + Separator
- + Eccentric spiral pump
- + Centrifugal discharge pump (with PP 300 optional)
- + Automatic pressure control with optional manual operation
- + Tubing, cables
- + Mounted on a sturdy frame with forklift device or hydraulic lifting device up to max. 4,3 m

# FAN SEPARATOR PLUG & PLAY 300

THE STARTER MODEL



## TECHNICAL DATA

Separator Model	Total Weight (kg)	Throughput* (m³/h)	Suction Height* (m)	Pressure effluent pump* (bar)	Power Requirements (kW)	Dry matter content* (%)	Slot size (mm)
FPP 1.1 – 300	appr. 700	up to 15	up to 5	up to 1.8	min. 7	up to 32	0.25 – 0.50 – 0.75 – 1.00
FPP 1.2 – 520	appr. 1700	up to 30	up to 5	up to 2.0	min. 15 – 18	up to 32	0.25 – 0.35 – 0.50 – 0.75 – 1.00
FPP 1.2 – 780	appr. 1730	up to 40	up to 5	up to 2.0	min. 15 – 18	up to 32	0.25 – 0.35 – 0.50 – 0.75 – 1.00
FPP 3.2 – 520	appr. 1760	up to 35	up to 5	up to 2.0	min. 15 – 18	up to 32	0.25 – 0.35 – 0.50 – 0.75 – 1.00
FPP 3.2 – 780	appr. 1840	up to 45	up to 5	up to 2.0	min. 17 – 20	up to 32	0.25 – 0.35 – 0.50 – 0.75 – 1.00
FPP 3.3 – 780	appr. 1900	up to 25	up to 5	up to 2.0	min. 17 – 20	up to 36	0.75 – 1.00

\* Depending on the medium, dry matter content, viscosity, screen size, temperature, age of raw material, counter-weights.

# SEPARATOR GREEN BEDDING™

## BENEFITS

- + Dry matter content up to 36% in solids when separating cattle slurry
- + Production of cheap, harmless bedding by using the slurry existing on the farm. No additional bedding has to be bought
- + High dry matter content even at high throughput rates
- + Low energy consumption
- + Press screw and screen basket made of stainless steel
- + Long life of the auger due to hard metal coating
- + Housing made of cast iron
- + Permanent cleaning of the screen by the auger
- + Easy to maintain

**FAN  
SEPARATOR  
GREEN  
BEDDING™**

HIGHLY ECONOMICAL





# FAN SEPARATOR – YOUR SPECIALIST FOR SEPARATION TECHNOLOGY AND MANURE MANAGEMENT

## PRODUCE YOUR OWN BEDDING

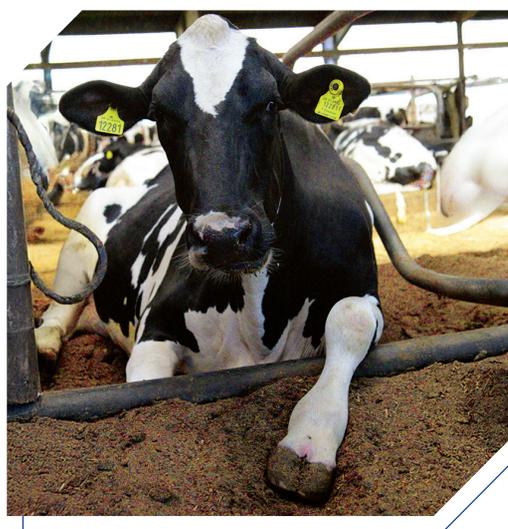
The FAN Separator Green Bedding™ turns raw manure into fresh bedding of consistent quality every day-directly on the farm. Long-term studies have shown no increased risk of mastitis compared to other types of bedding material, with proper handling and a dryness of over 34% in the Green Bedding™ which is produced.

## ECONOMIC BENEFITS FROM THE USE OF GREEN BEDDING™

Using Green Bedding™ provides numerous economic advantages in comparison with typical bedding materials such as straw and wood chips. In addition to the disappearing costs of purchasing outside bedding materials, no additional nutrients or unknown germs are imported into the dairy. A large storage area is unnecessary because the bedding material can be produced fresh daily. The liquid fraction is thinner after separation, can be distributed easily, and is more readily absorbed by the soil, reducing the overall volume of the slurry on the farm.

## “COW-COMFORT BEDDING”

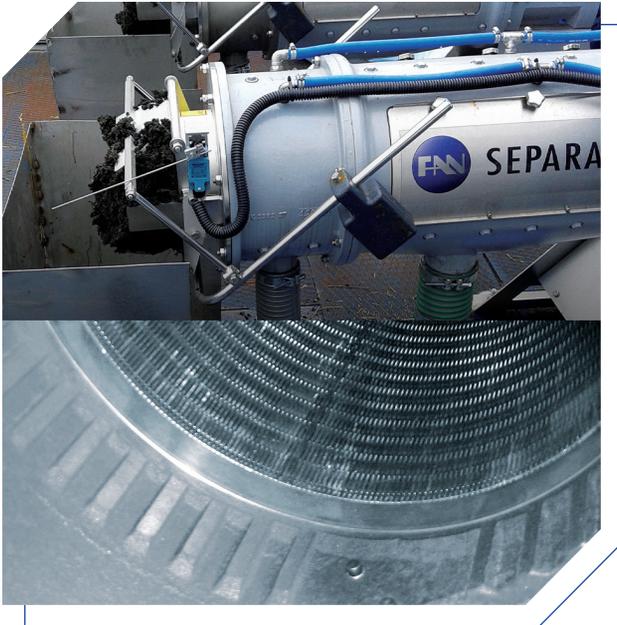
The well-being of the animals is also positively influenced by the use of Green Bedding™. The loose, soft material is readily accepted by the cows and preferred by them over bedding such as sand or rubber mats. Moisture retention is higher than that of straw and there is also less generation of dust. Hock abrasions and injuries to the animals' joints are minimized, and the cows are also very clean. The result of these beneficial aspects of Green Bedding™ is that the cows spend more time lying comfortably on the material and have a correspondingly high milk production.



## TECHNICAL DATA

Throughput (m <sup>3</sup> /h)	Dry matter content (%)	Input power (kW)	Screen sizes (mm)
up to 20	36	7.5 - 11kW	0.75 – 1.0

# 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.

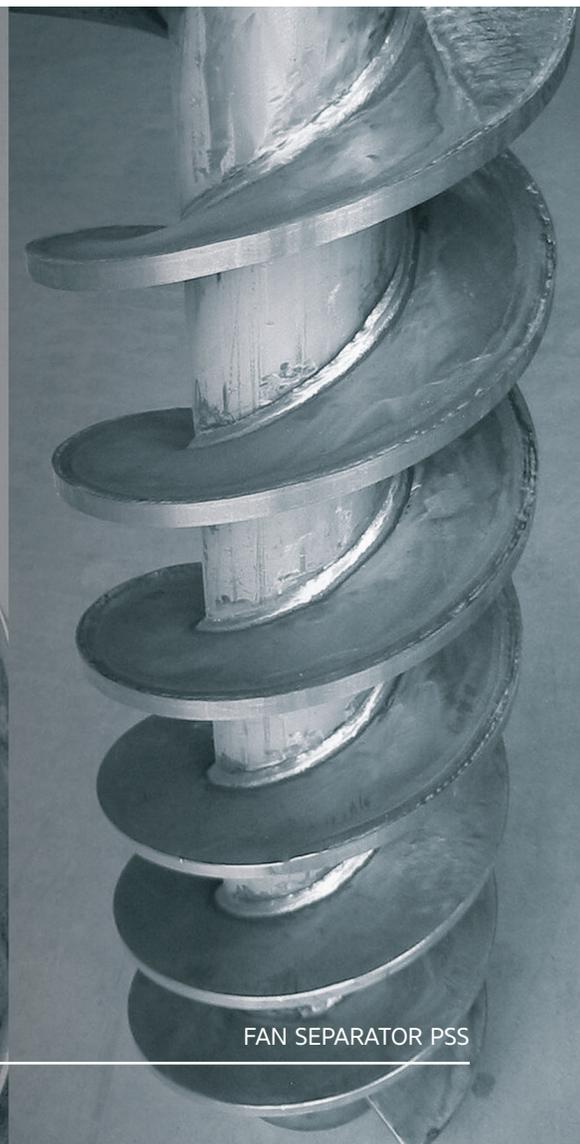
With this device the screen will be flushed with hot water under pressure at intervals, which are adjustable for individual applications. Therefore the screen is kept clean and prevents grease blocking the screen when the machine is not in operation.

## 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 waste water 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.



# PRODUCTS FROM OUR SLURRY PROGRAM



**MSXH**  
Submersible motor mixer



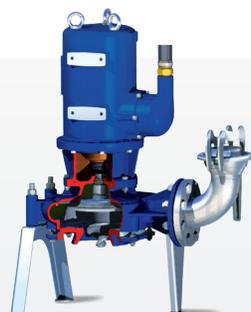
**SEPARATOR SPS**  
Sludge press for municipal and industrial waste water



**SEPARATOR PSS**  
Press screw separator for solid-liquid separation



**SEPARATOR PLUG & PLAY**  
System for portable slurry separation



**MAGNUM CSPH**  
Submersible motor pump



**HELIX DRIVE**  
Eccentric screw pump



**BRU**  
Bedding Recovery Unit produces fresh bedding from slurry

# WE GO BEYOND.



**SEPARATOR**

A **BAUER GROUP** COMPANY

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