



## DSP 205





## SCREW PRESS DSP 205

### Clean feedstock for biogas production

The Doppstadt Screw Press separates source separated organic waste, overlaid packaged food stuff as well as kitchen and catering waste into a solid and liquid phase. The bioavailable components are concentrated in the liquid phase and can be used as biogas substrate in a wet fermenter.

The input is fed into the mixing hopper by wheel loader or other handling equipment. Two counter-rotating mixing screws gently open

up the packaging by shear stress without producing small shreds of plastic.

The disintegrated waste is then taken over by the pressing screw which conveys the material against the hydraulically activated pressing cone and thus builds up pressure in the process chamber. If the pressure rises above the pre-set value, the cone opens accordingly and more material gets discharged. Since the cone rotates with the screw shaft,

the circumferential gap is always in motion and clogging is prevented.

Due to the careful disintegration and pressing, the liquid biogas substrate does not require any further treatment and already contains less than 0.5% contamination based on dry matter prior to the fermenter. The solid phase mainly consists of packaging material and other solids.

### ALLRECO. KOMPLETT. DURCHDACHT.

It all started in Niederberg in the "Bergisches Land" region. Hedwig, Werner, and Josef Doppstadt established the "Doppstadt" agricultural contractor company. Today the passion for technical innovations, inventiveness and the perception of market requirements are still the fundamental motive forces for the successful creativeness of the Langenberger Innovation

Group (LIG) with the 2<sup>nd</sup> generation of shareholders. ALLRECO, with a long Doppstadt history, is directly owned by the LIG since 2021.

Our core business includes machines and plants for the processing and separation of waste wood, MSW, commercial and industrial waste, biomass processing and refuse-derived fuel production.

We are a team of highly qualified and experienced employees, and we can offer our customers tailor-made high-quality machines and completely thought-out plant solutions to meet their requirements.

With a lot of flexibility and inventiveness, we are ready to move great things with you!



## THE PROCESS RESULT

The process-related focus of the Doppstadt Screw Press is not to extract as much biogas potential as possible from the feed material, but rather to provide a clean biogas substrate with a single machine. Neither pre-treatment of the input nor post-treatment of the biogas substrate is necessary. In consequence, residual moisture and bio-available matter within the solid fraction may need to be reduced via biological post-treatment. The pictures above and below show

feed material as well as solid and liquid products in that order from left to right. It is not necessary to add water to the input. But it does reduce the viscosity of the liquid phase and thus ensures better drainage within the process chamber, resulting in a drier solid fraction.





### PRESSING CONE

Due to the cones rotation the annular gap through which the solid phase extrudes is always in motion. That results in a continuous discharge without clogging.

### PRESSING SCREEN

The screens surrounding the screw are divided into four parts for precise and easy assembly. Different opening sizes can therefore be combined with one another in longitudinal direction.



### SUBSTRATE PUMP

The pump is controlled by means of three level sensors. The rotor speed is automatically reduced in order to increase pump intervals and reduce on-off-frequency.



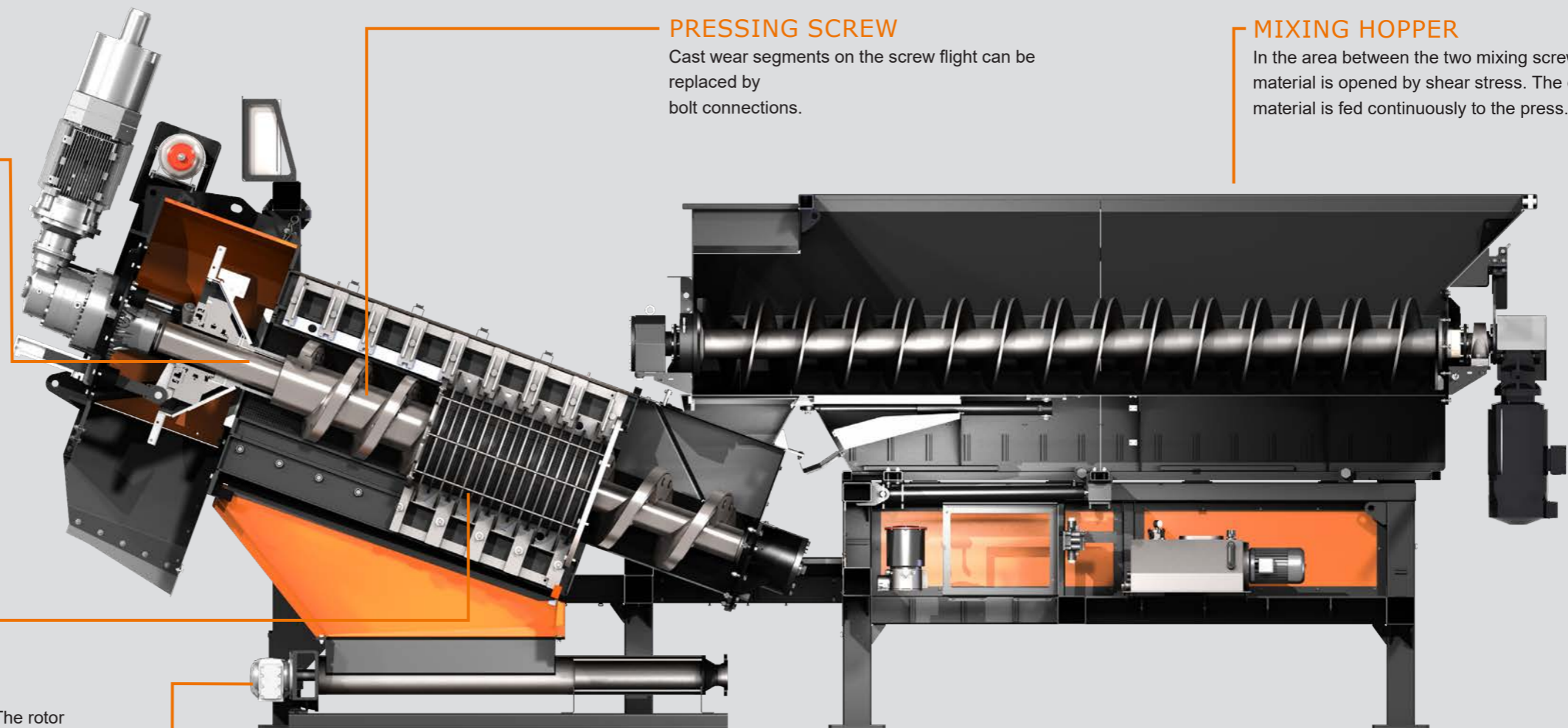
### PRESSING SCREW

Cast wear segments on the screw flight can be replaced by bolt connections.



### MIXING HOPPER

In the area between the two mixing screws, packaging material is opened by shear stress. The disintegrated material is fed continuously to the press.



## Advantages at a glance

The screw press is generously dimensioned in order to ensure that kitchen waste and packaged food stuff can be processed without pre-shredding or pre-sorting and to accept solid bodies of up to 80 mm in diameter.

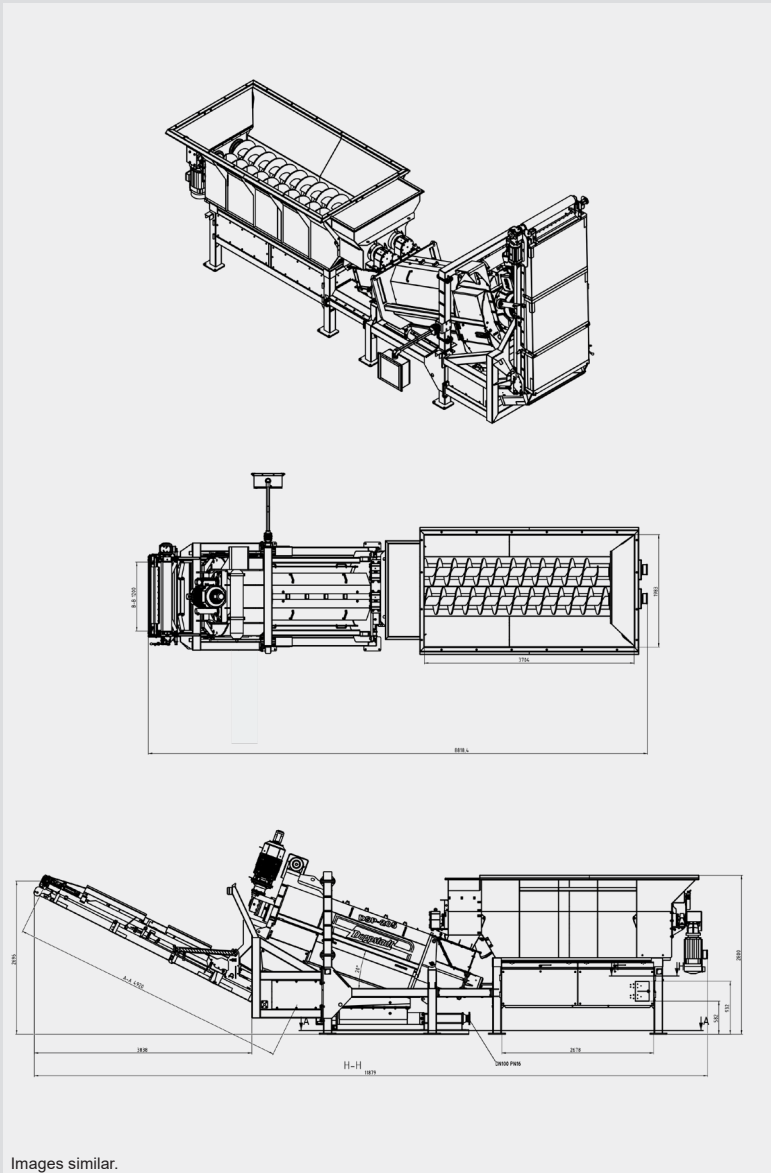
The two mixing screws as well as the pressing screw are designed to prevent wrapping of plastic film or fibrous material.

Disintegration of packaging in the hopper and separation in the press are carried out in a gentle non-destructive way. As a result the filtrate is very low in contamination, especially with regard to deformable plastics.

# TECHNICAL DATA

DSP 205	
Total weight	14,000 kg
Length	8,200 mm
Width	2,200 mm (without swing arm and control panel)
Height	3,600 mm
<b>Mixing Hopper</b>	
Volume capacity	5 m <sup>3</sup>
Number of mixing screws	2
Screw diameter	480 mm
Loading height	2,800 mm
Loading width	3,700 mm
Loading depth	1,980 mm
Drive	2 x 15 kW
<b>Press</b>	
Screw diameter	500 mm
Screw length	2,600 mm
Drive	45 kW
Screen opening size	round holes: 8, 10 and 12 mm, slotted: 2.5 mm
Pressing screens	3 m <sup>2</sup>
<b>Process result (depending on material)</b>	
Liquid phase dry matter content	16 - 23 %
Liquid phase plastic contamination	0.3 % dm

The technical data are approximate and depends on the machine equipment.  
Subject to change without notice!



Images similar.

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