



# STADLER®

## Products for tomorrow's world

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# STADLER®

Engineering at its best

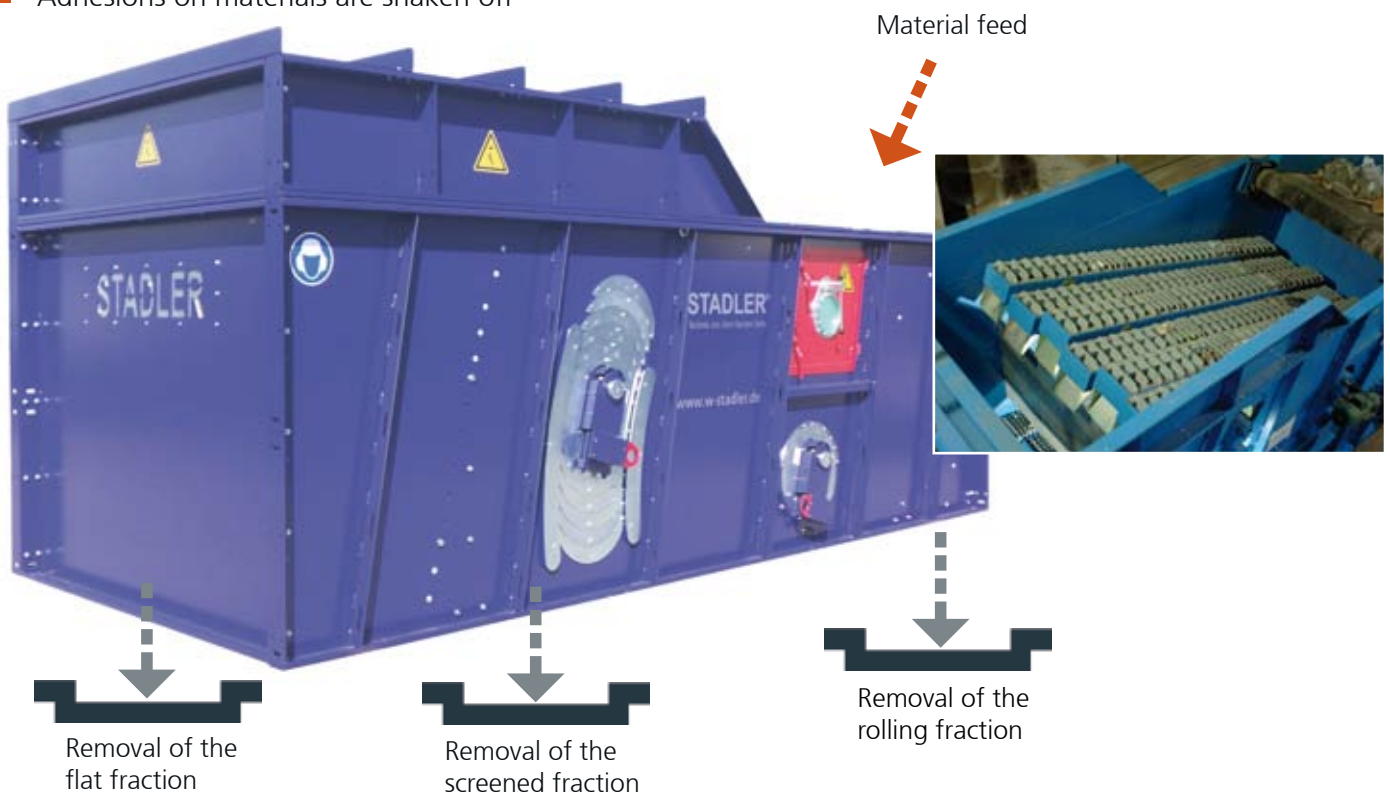


 Ballistic  
separators

## Capabilities:

### Effective sorting of a material flow into various fractions

- Rolling and heavy materials, e.g. containers, plastic bottles, stones, wood, cans and other metal items
- Flat and light materials, e.g. films, textiles, paper, cardboard and fibrous products
- Screen fraction – various grain sizes can be separated depending on paddle perforation
- Gives an even distribution on NIR (near-infrared) acceleration belt positioned directly downstream
- Early removal of any glass present
- Adhesions on materials are shaken off



## Areas of application

Sorting of various commingled materials into different fractions

Light packaging as well as mixed paper, film and containers	STT2000
Paper and cardboard separation	PPK
Industrial waste sorting	STT5000
Bulk waste processing	STT5000
Household waste systems – organic separation	STT5000
Construction and demolition	STT5000

Material recycling and energy recovery

## Possible adjustments

### Function and flexibility

Manual angle adjustment



The basic principle:

The machine consists of a set

of six paddles rotating offset against

each other. The angle of the complete set of

paddles can be adjusted manually (hydraulically with the STT5000). With the adjustment of the

inclination of the paddle surface the ballistic separator can be adapted to suit the incoming material.

The greater the angle of inclination of the screen surface the more the material will fall into the rolling fraction and the cleaner the flat fraction is and vice versa.

## Variability

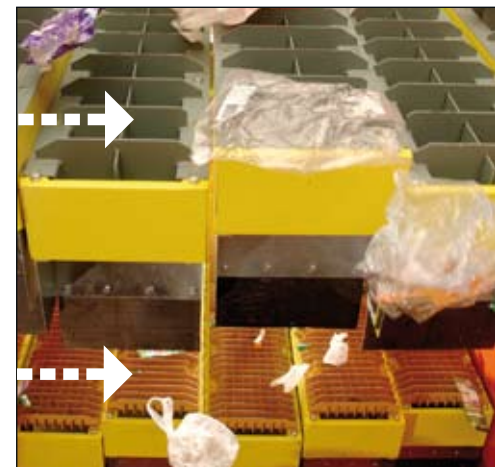
### Multi-stage systems

The areas of application of the ballistic separator are very variable with quick and easy integration into a wide variety of large and small plants.

By combining several screen surfaces above or behind each other, the ballistic separator can cope with a wide variety of challenges. Higher material throughputs and exact degrees of separation can be easily achieved with multi-stage systems. Depending on requirements, various material flows can be produced.

Stage 1

Stage 2



Optimum separation quality with multi-stage screening processes!

## Various screen size



Further fractions can be screened in various grain sizes according to customer's requirements. Organic material in domestic waste is separated by the oscillating movement and is screened off through the paddle perforations.

## Model STT2000

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### Features

- One set of paddles per screen surface consisting of 6 screen paddles (4 mm steel plate with Hardox plating)
- The angle of the sets of paddles can be adjusted manually
- The standard screen perforation is square 45 x 45 mm
- The outer casing of the machine is made of 6 mm steel plate



### Areas of application

Model	STT2000_101	STT2000_102	STT2000_103
Area of application	Light packaging, all mixed paper, film and containers	Light packaging, all mixed paper, film and containers	Light packaging, all mixed paper, film and containers
Task	Separation into 3 fractions (fine, flat and rolling)	Separation into 4 fractions (fine, flat large, flat small, rolling)	Separation into 4 fractions (fine, flat large, flat small, rolling)
Positioning in the system	Directly after the feeding hopper	Directly after the feeding hopper	Directly after the feeding hopper
Results	<p>The rolling fraction contains containers (plastics, FE, NE)</p> <p>The flat fraction contains paper, cardboard and films in an even flow.</p>	<p>The rolling fraction is cleaned again on the second screen surface</p> <p>The flat large fraction contains paper, cardboard and films in an even flow. The flat small fraction contains high proportions of paper and plastics in small dimensions. Depending on the composition it can be used as mixed paper or RDF.</p>	<p>The rolling fraction is cleaned again on the second screen surface</p> <p>The flat large fraction contains paper, cardboard and films in an even flow. The flat small fraction contains high proportions of paper and plastics in small dimensions. Depending on the composition it can be used as mixed paper or RDF. With the third stage higher tonnages or better qualities are achieved.</p>

## Model STT 5000

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### Features

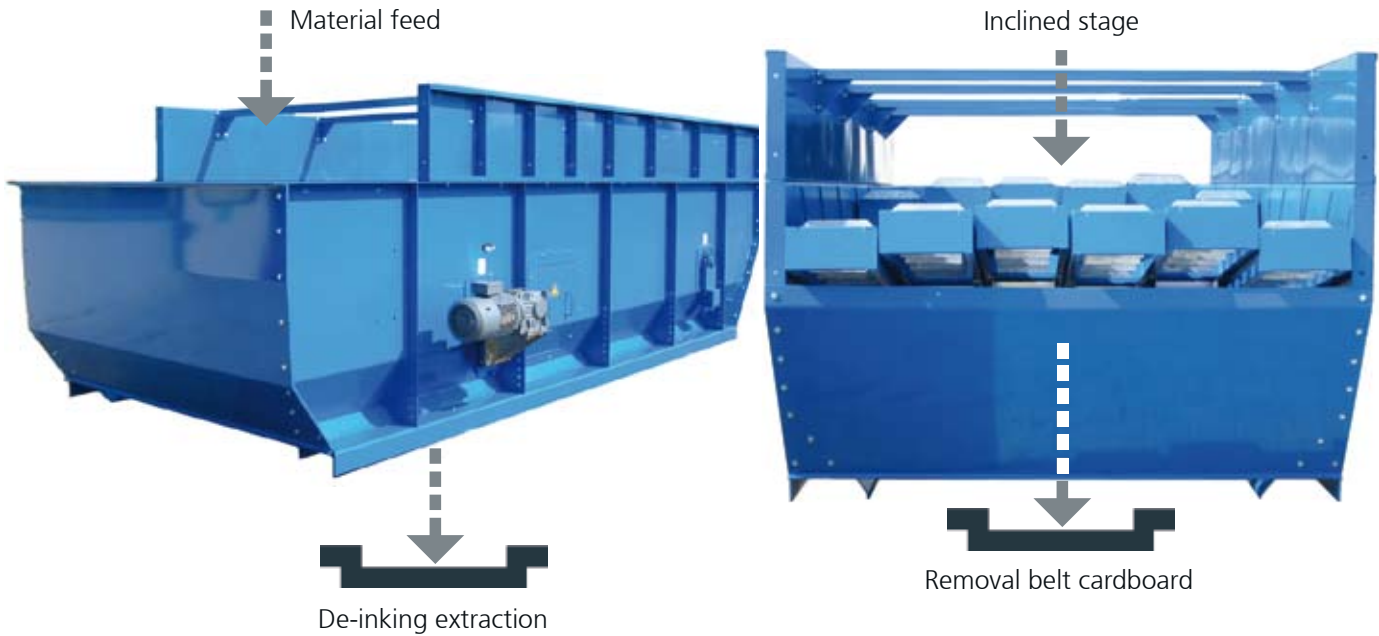
- This machine model was specifically developed for use on construction and demolition material as well as domestic and industrial waste
- An extremely robust steel construction with a support frame made of 40 mm thick steel plate and 10 mm thick side walls gives the ballistic separator sufficient stability for screening materials
- The screen paddles are made of 10 mm thick special profiles
- The screen coverings are made of highly wear resistant steel
- Adjustment of the paddles is possible through a hydraulic system (see picture above)
- A new, modular shaft design reduces costs for replacement and wear parts
- Achieves higher throughputs

### Areas of application

Model	STT5000_101	*STT5000_102
Area of application	Industrial waste systems with or without pre-shredding, bulk waste processing, domestic waste systems – organic separation, processing of construction and demolition waste	
Task	Creation of 3 sub-flows (fine, flat, rolling) *with STT5000_102 four sub-flows possible	
Position in the system	<ol style="list-style-type: none"> <li>1. Directly after the feeding hopper</li> <li>2. Directly after pre-shredding</li> <li>3. In medium grade range (&lt;300 mm) after a possible screen drum</li> </ol>	
Results	The rolling fraction contains containers, metals, stones, wood and solid plastic. The flat fraction contains paper, cardboard, textiles and films in an even flow.	

## Model PPK

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### Areas of application for paper sorting systems

Separation of cardboard (>DIN A4) from collected waste produces a directly pressable cardboard fraction. With smaller screen perforations, additional separation of mixed paper from a news and pams fraction can be achieved.

### Special features

Due to the drop step in the machine, the mixture is turned over. This ensures a very good separation.

### All models at a glance

Specifications	STT2000_101	STT2000_102	STT2000_103	STT5000_101	PPK
LxWxH	5,5 x 2,5** x 2,3 m	5,5 x 2,5** x 4,0 m	5,5 x 2,5** x 5,7 m	5,8 x 2,5** x 2,5 m	6,5 x 2,5** x 2,0 m
Drive output	4kW 400V	2 x 4kW 400V	3 x 4kW 400V	11 kW 400V	4kW 400V
Working area	8,4 m <sup>2</sup>	2 x 8,4 m <sup>2</sup>	3 x 8,4 m <sup>2</sup>	10,9 m <sup>2</sup>	12,6 m <sup>2</sup>
Weight	4t	8t	12t	13t	4t
Angle adjustment	10 - 25 °	10 - 25 °	10 - 25 °	15 - 25 °	-
Throughput rate	up to 60 m <sup>3</sup> /h*	up to 90 m <sup>3</sup> /h*	up to 125 m <sup>3</sup> /h*	up to 140 m <sup>3</sup> /h*	up to 15t/h ~ 56 m <sup>3</sup> **
<p>* The values given are reference values and may vary according to grain size distribution, screen perforation sizes and material composition Throughput rates can be exactly calculated based on tests carried out in our technology centre (see next page) ** Widths without motor</p>					



## STADLER® technology centre

### STADLER® Technikum

In Stadler's testing centre in Altshausen, we offer customers the opportunity to test their material on our machines. Here waste is run through a particular machine and the resulting fractions are weighed and analysed. This is also where new machines and standard units are continually tested for function, wear resistance, flexibility and efficiency.

### Examples of test results: mass throughputs STADLER® ballistic separators

Machine model	Material	Screen perforation L x W mm	Material density kg/m <sup>3</sup>	Grading mm	Volume flow m <sup>3</sup> /hr	Mass flow t/hr
STT2000_101	LVP	45 x 45	50	< 220	60	3
STT2000_102	LVP	top 120 x 120 bottom 45 x 45	65	Refuse bags ≤ 120 l	90	6
STT2000_103	Co-mingled (films, paper, containers, cans)	top 120 x 240 middle 120 x 120 bottom 60 x 60	80	Refuse bags ≤ 120 l	125	10
STT5000_101	Co-mingled	50 x 50	100	Refuse bags ≤ 120 l	70	7
STT5000_101	Industrial waste	50 x 50	180	< 300	80	15
STT5000_101	Industrial waste (pre-shredded)	130 x 130	200	< 300	140	28
PPK	Mixed paper	300 x 250	270	Material ≤ DIN A1	56	15

\* The values given are reference values and may vary according to grain size distribution, screen perforation sizes and material composition. Throughput rates can be exactly calculated based on tests carried out in our technical centre.