



Ballistic separator
Trommel screen
Conveyor technology
Label Remover

STADLER

Technik von ihrer besten Seite

Contents

Ballistic separators	4
STT2000	8
PPK2000	10
STT5000	12
STT6000	14
Trommel screens	16
Conveyor technology	20
Type GG	24
Type MF	24
Type SO	25
Type BU	25
Type PX	26
Type EH	28
Type KF	29
Type DK	30
Label Remover	32

Philosophy

Keeping our promises

The origins of today's STADLER Anlagenbau GmbH date back to the 18th century. Today, just as it was back then, the company's success is based on a philosophy of intrinsic values and mutual appreciation.

As a specialist in the design, manufacturing and assembly of automated sorting systems and machines for the recycling industry, still family run and now in its seventh generation with Willi Stadler at the helm, business is in demand all over the world.

Keeping customers' desires and requirements in mind at all times, STADLER represents the very best "Made in Germany" quality combined with advanced engineering expertise. In all of this, STADLER relies on traditional values.

Honesty and trust - these are what set STADLER apart and are the foundations of its success, both past and future.

STADLER Ballistic separators



As a global market leader in ballistic separators, we are conscious of our pioneering role.

We are always listening to our customers all over the world – we offer a wide range of intelligent solutions for a huge variety of infeed materials.

Ballistic separators overview

Model shown
STT5000

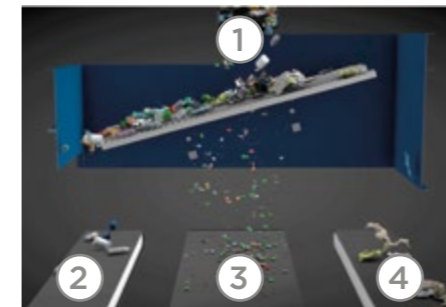


Our robust selection

STADLER ballistic separators stand out from the crowd thanks to a whole series of exclusive performance features.

- The pivoting frame with tilt adjustment means there is no need to tilt the entire machine. There is no longer any need to adjust the conveyors – saving time and money.
- Bolt-on screens, which can be replaced individually when they are worn
- Particularly robust construction
- Shafts with protective covers
- High energy efficiency
- Convenient features such as large maintenance openings – both above and below the working area.
- A real highlight is the stacking function of our STT2000 and STT5000 ballistic separators. This facilitates multi-level sorting of different particle sizes.
- The first of its kind – the STT6000 ballistic separator is the powerhouse for very special infeeds. It is able to efficiently sort construction, industrial and bulky waste, even if it has not been pre-sorted or shredded.

Type overview	Infeed material	Tilt adjustment
STT2000	<ul style="list-style-type: none"> · Paper/cardboard · Films and mixed hollow body products · Lightweight packaging · Plastic · Plastic fraction from domestic waste 	Manual 0° - 25°
PPK2000	<ul style="list-style-type: none"> · Paper · OCC · Cardboard 	Cannot be adjusted (pre-set to optimum value) 10°
STT5000	<ul style="list-style-type: none"> · Pre-sorted MSW · Mixed industrial and bulky waste · Mixed construction waste 	Hydraulic 7.5° - 25°
STT6000	<ul style="list-style-type: none"> · Unsorted and unshredded construction waste · Industrial waste · Bulky waste with individual pieces up to 100 kg 	Manual 17.5° - 20°



1. Infeed material
2. Rolling fraction
3. Screened fraction
4. Flat fraction

Extracted fractions	Typical components
Rolling ②	Hard, heavy and typically 3D materials such as plastic containers, plastic bottles, wood, tins, stone
Screened ③	Materials smaller than the diameter of the paddle perforations
Flat ④	Soft, light and typically flat materials such as films, paper, textiles



STT2000 ballistic separator

PIVOTING FRAME

- With manual tilt adjustment between 0° and 25° for fast adjustment of sorting quality

EASY MAINTENANCE AND ADJUSTMENT

- Bolt-on screens
- Easy access to all areas of the machinery thanks to maintenance doors

SHAFT QUALITY

- Robust design for sorting dry waste
- Optimum rating of shaft stroke and speed – for maximum throughput and minimum machine vibrations

MODEL VARIETY

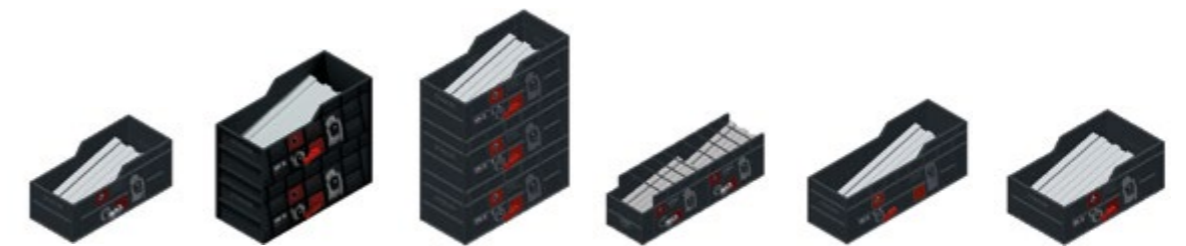
- A choice of various machine widths and lengths for high-efficiency sorting processes in line with the required throughputs

STACKING

- A maximum of three ballistic separators can be stacked to increase the separation quality for different particle size fractions

ADJUSTABLE OUTER SKIN

- For flexible design of the material infeed and plant integration



Type	STT2000_6_1	STT2000_6_2	STT2000_6_3	STT2000_6_2H	STT2000_6L_1	STT2000_8_1
L×W×H**	5.5×2.5×2.3 m	5.5×2.5×4.6 m	5.5×2.5×7.0 m	8.1×2.5×2.4 m	7.4×2.5×2.3 m	5.5×3.2×2.3 m
Drive power	4 kW	2×4 kW	3×4 kW	2×4 kW	4 kW	2×4 kW
Number of paddles	6	2×6	3×6	2×6	6	8
Screen area	8.8 m ²	2×8.8 m ²	3×8.8 m ²	2×8.8 m ²	13.1 m ²	11.7 m ²
Weight	6 t	12 t	18 t	12 t	7 t	8 t
Volume flow*	60 m ³ /h with screen covering 45 mm	90 m ³ /h with screen covering 45 mm bottom and 120 mm top	125 m ³ /h with screen covering 45 mm bottom, 120 mm centre, 120×240 mm top	65 m ³ /h with screen covering 45 mm	65 m ³ /h with screen covering 45 mm	85 m ³ /h with screen covering 45 mm

* The values given are reference values and may vary according to particle size distribution, screen perforation sizes and material composition.

Throughput rates can be calculated exactly based on tests carried out in our Technology Centre.

** Widths without drive motor

PPK2000 ballistic separator



Paddles
Z-shaped with fall stage



Maintenance doors
Easy access to the inside of the separator for maintenance and cleaning



Feature
Special paddle adaptation for optimised separation of cardboard



For separating paper, OCC and cardboard – without 3D fractions

PADDLES

- Z-shaped paddles for effective separation of paper and cardboard
- Bolt-on coverings with different perforations and surfaces for easy maintenance and adjustment

MAINTENANCE DOORS

- For convenient access to all machine areas

SHAFT QUALITY

- Robust design for sorting dry waste
- Optimum rating of shaft stroke and speed – for maximum throughput with minimal machine vibrations

ADJUSTABLE OUTER SKIN

- For flexible design of the material infeed and plant integration

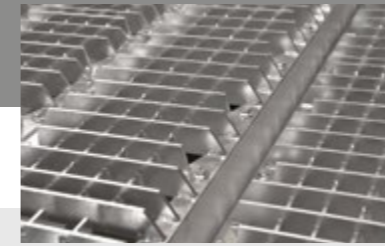
Type	PPK2000_6_1
L×W×H**	5.8×2.5×2.4 m
Drive power	4 kW
Number of paddles	6
Screen area	13 m ²
Weight	6 t
Volume flow*	60 m ³ /h with screen covering 300×250 mm

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

** Widths without drive motor



STT5000 ballistic separator



Paddles
The paddles are made of special profiles that are 10 mm thick



Maintenance doors
Easy access to the inside of the separator for maintenance and cleaning



Hydraulic adjustment
Tilt angle of the paddles can be adjusted



Pivoting frame
Extremely robust materials and construction

PIVOTING FRAME

- With hydraulic tilt adjustment between 7.5° and 25° for easy adjustment of sorting quality

PADDLES

- Bolt-on coverings with different perforations and surfaces for easy maintenance and adjustment.
- Very robust design for processing flows of moderately heavy and heavy materials

MAINTENANCE DOORS

- For convenient access to all areas of the machinery

SHAFT QUALITY

- Robust design for sorting moist waste.
- Optimum rating of shaft stroke and speed – for maximum throughput and minimum machine vibrations

MODEL VARIETY

- A choice of various machine widths and lengths for high-efficiency sorting processes in line with the required throughputs

MODULAR STACKING

- A maximum of two ballistic separators can be stacked to increase separation quality for different particle size fractions

ADJUSTABLE OUTER SKIN

- For flexible design of the material infeed and plant integration



Type	STT5000_4_1	STT5000_6_1	STT5000_6_2	STT5000_8_1
L×W×H**	6.9×1.8×3.2 m	6.9×2.5×3.2 m	6.9×2.5×5.8 m	6.9×3.2×3.2 m
Drive power	9.2 kW	11 kW	2×11 kW	2×9.2 kW
Number of paddles	4	6	2×6	8
Screen area	7.5 m ²	11.3 m ²	2×11.3 m ²	15 m ²
Weight	10 t	13 t	26 t	17 t
Volume flow*	45 m ³ /h with screen covering 50 mm	70 m ³ /h with screen covering 50 mm	100 m ³ /h with screen covering 50 mm bottom and 130 mm top	95 m ³ /h with screen covering 50 mm

* The values given are reference values and may vary according to particle size distribution, screen perforation sizes and material composition. Throughput rates can be calculated exactly based on tests carried out in our Technology Centre.
** Widths without drive motor



STT6000 ballistic separator



Shafts
280 mm for extreme stability



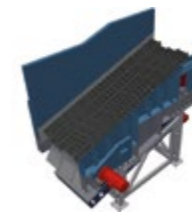
Lubrication
Central lubrication during operation



Two drives
Unique drive solution for prolonged shaft service life

Specially designed for large material

Thanks to generously sized material outlets and completely smooth contours in the screen outlet, the STT6000 can sort individual particles that are up to two metres long.



SHAFT QUALITY

- Single-piece cast shafts with an extra-large diameter provide extremely good stability without the need for additional supports inside the machinery

LUBRICATION

- Since the labyrinth sealing gaps are filled with grease during operation via the lubricant holes in the shafts, the multi-sealed shaft bearings do not require any additional lubrication

PADDLES

- The special layout of five paddles and very thick materials ensure low-vibration operation and maximum stability – even if the materials being sorted are incredibly heavy

PROTECTION AGAINST WEAR

- The side walls around the paddles feature replaceable wear protection plates

MAINTENANCE DOORS

- For convenient access to all areas of the machinery



Landfill extraction
2-stage separation:
screen 90–200 mm



Landfill extraction
Rolling > 200 mm



Landfill extraction
Large-surface fraction

Type	STT6000_5_1
L×W×H**	6.1×3.0×6.1 m
Drive power	2×18.5 kW
Number of paddles	5
Screen area	14.2 m ²
Weight	25 t
Volume flow*	200 m ³ /h with screen covering 200 mm

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

** Widths without drive motor

STADLER trommel screens

Durable STADLER quality - it pays for itself in the long run

The use of 10-mm Hardox steel results in robust and incredibly strong, torsion-resistant trommel screens. What's more, the drive, support and guide wheels feature double bearings for extremely low-vibration operation.



Trommel screens



Material is graded into different particle sizes with simultaneous material homogenisation and break-up of material compounds.

The aim is to create order

Reliable break-up of material compounds. Even distribution of the materials being sorted. Optimum sizing of materials into different particle sizes. This is what our trommel screens do.

STADLER trommel screens can be manufactured in lengths of up to 24 metres. This table shows an overview of the most common screen lengths and diameters.

BASE FRAME

- Robust design for smooth operation

SUSPENSION

- Plastic-coated drive, support and guide wheels ensure low-vibration operation even at high speeds

SIZING

- Different screen plates are available with perforations in various shapes and sizes – including winding protection

EASY MAINTENANCE

- STADLER trommel screens feature large access walkways, multiple maintenance openings, generously sized and monitored safety doors and interior lighting

TRANSPORT

- STADLER trommel screens are also available in a bolted version – making extra-large designs easier to transport

Drum body	3,000 x 12,000	3,000 x 10,000	2,500 x 14,000	2,500 x 12,000	2,500 x 10,000	2,500 x 8,000	2,500 x 6,000	1,800 x 5,000
Total length (mm)	16,450	14,345	19,740	16,893	14,893	12,570	10,492	9,144
Screen length (mm)	12,005	10,000	6,992 + 6,992	12,000	10,000	8,000	6,000	5,000
Screen diameter (mm)	3,000	3,000	2,500	2,500	2,500	2,500	2,500	1,800
Total width (mm)	4,350	4,350	3,800	3,750	3,750	3,750	3,400	2,450
Total height (mm)	3,727	3,727	3,661	3,663	3,663	3,664	3,640	2,790
Weight (t)	35	33	18 + 18.5	27	24	21.7	16.2	10.3
Inclination (°)	3°	3°	3°	3°	3°	3°	3°	3°
*Throughput (m³/h)	161	135	161	135	112	90	67	56

* Assumption based on typical industrial/MSW waste with a screening grade of 80%.

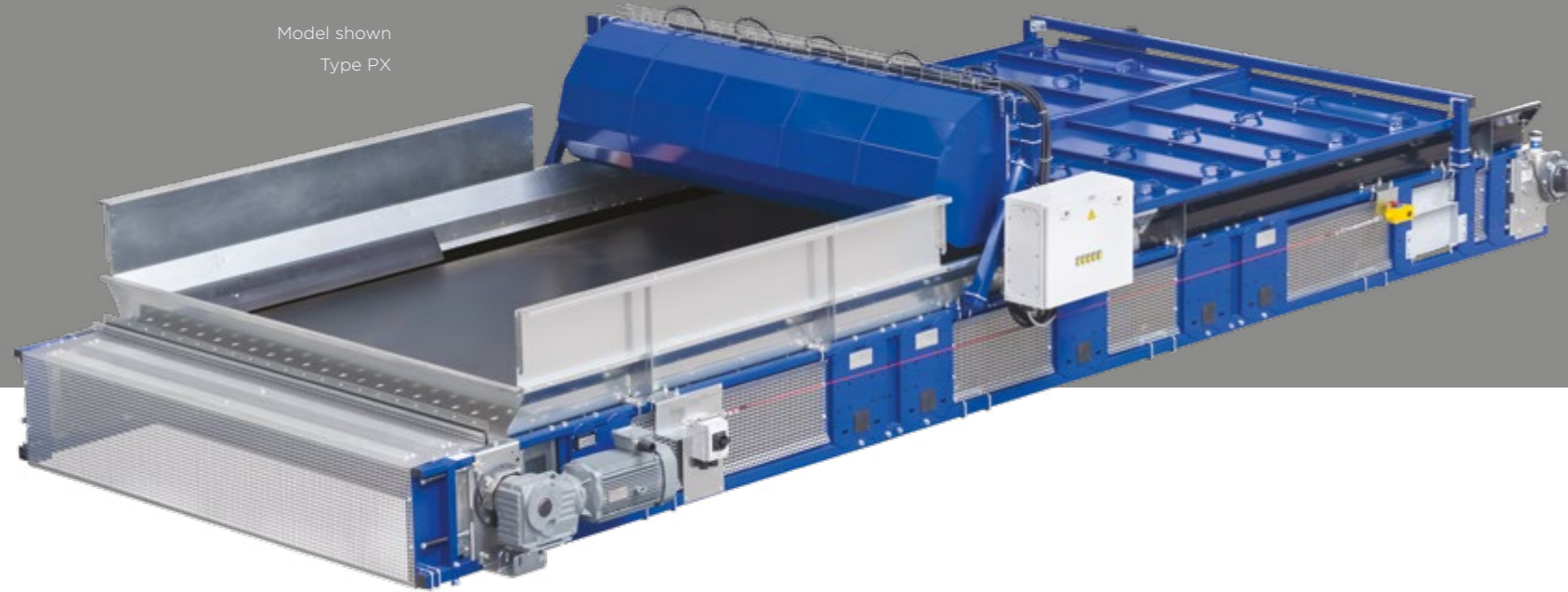
STADLER conveyor technology

Well-thought-out down to the smallest detail - for maximum flexibility

A lightweight, high-quality and torsion-free metal framework with modular construction allows flexible configuration of sorting plants.

Conveyor technology overview

Model shown
Type PX



Literally leading the way

STADLER conveyor technology shows how it's done: thanks to their modular design, these conveyors are suitable for every application and all site conditions.

Our modular solution not only impresses with fast on-site installation, it also keeps transport costs down with smaller packaging dimensions.

STADLER conveyors are available in several different widths, as well as up to four different side-wall heights.

The length can be freely selected in increments of 100 mm.



Smooth seal between side wall and belt



Scrapers keep belt surface clean



Return run – support rolls
(image shows anti-entanglement design)



Drives with shaft-mounted bevel gear box

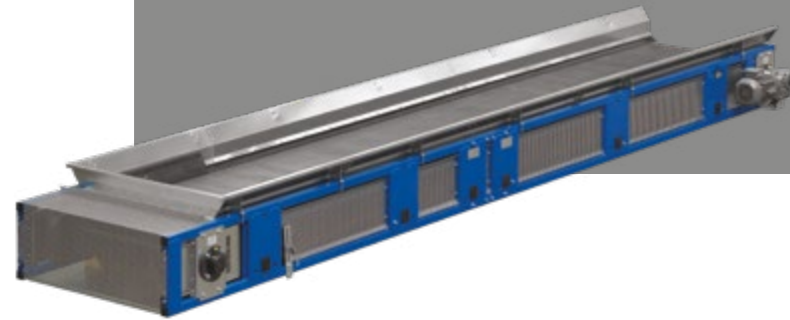


STADLER conveyors – equipped with a premium-quality frame body

- Welded body with anti-corrosion surface coating
- Available in various finishes – from a high-quality powder coating to hot-dip galvanised
- Lightweight and extremely torsion-resistant
- Frame suitable for all belt versions

Conveyor type GG

For flows of light to moderately heavy materials and average centre distances, together with compact design.

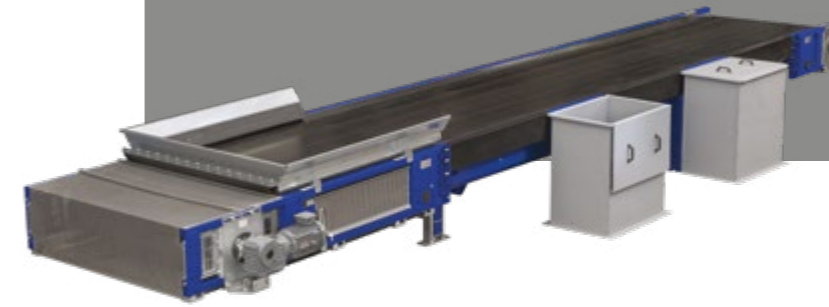


- Robust steel table and sliding belt support
- Available with four different side-wall heights and seals
- Robust scraper made of steel or vulcanised rubber – depending on the flight design
- Space-saving SEW bevel gear motors

Centre distance	up to 58 m with a belt width of 600 mm; up to 15 m with a belt width of 2400 mm
Belt widths	600/800/1000/1200/1400/1600/1800/2000/2400 mm
Drum diameter	220 mm
Belt type	EP400/3 2+0 MOR/OR

Conveyor type SO

The side wall and belt position have been specially designed to sort material as efficiently as possible directly on the conveyor.



- Discharge chutes that can be flexibly positioned allow sorting of different fractions
- The ergonomic design of the frame enables a comfortable working position
- Adaptable belt speeds for optimum sorting results
- Space-saving SEW bevel gear motors

Centre distance	up to 48 m with 600 mm belt width
Belt widths	600 /1000/1200 mm
Drum diameter	320 mm
Belt type	EP400/3 2+0 MOR/OR

Conveyor type MF

For flows of moderately heavy to heavy materials and long centre distances – with low drive powers at the same time.



- Rolling belt support on three-part support units
- Available with three different side-wall heights
- Robust scraper made from various steel grades or vulcanised rubber – depending on the flight design
- Space-saving SEW bevel gear motors

Centre distance	up to 93 m with a belt width of 600 mm; up to 28 m with a belt width of 2000 mm
Belt widths	600/800/1000/1200/1400/1600/1800/2000 mm
Drum diameter	320 mm
Belt type	EP400/3 4+2 MOR/OR

Conveyor type BU

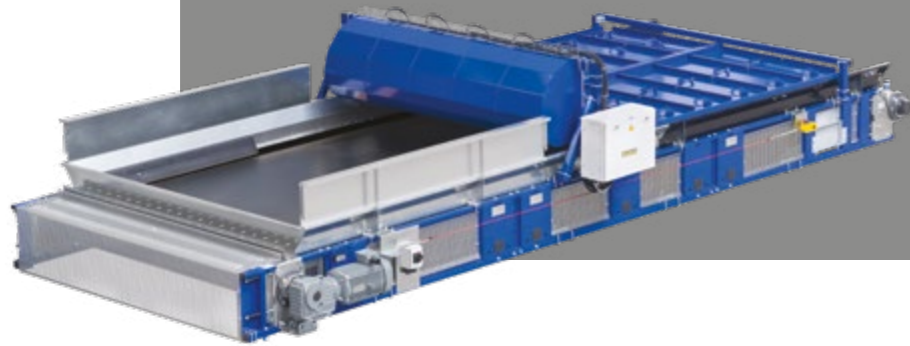
Developed for temporary storage of sorted material fractions, the STADLER storage conveyor has side walls up to 2.5 metres tall.



- Rolling belt support means heavy materials can be accommodated in the storage area
- Thanks to robust doors made of steel segments, the entire storage capacity can always be fully utilised
- Space-saving SEW bevel gear motors

Centre distance	up to 25 m
Belt widths	1200/1400/1600/1800/2000/2200/2400 mm
Drum diameter	320 mm
Belt type	EP400/3 2+0 MOR/OR

Conveyor type PX



The STADLER conveyor PX has been specially designed for use with sensor-based sorting technology. Thanks to conveyor speeds that can be precisely controlled, it efficiently spreads the flow of material.

With the stabilizer (optional), the air flow produced by the fans, keep the material evenly distributed across the belt, even at high speed.



Grease cartridge for continuous lubrication



Slot for additional sensor



Stackable for lower transport costs from width of 2100 onwards



Drive mounted on tail end with maintenance switch



Frequency-controlled three-phase fans



Light barrier for operation monitoring



Lip seal with infeed protection



Return run - support rolls



Scrapers in various designs; carbide PU



Drive and tail drum are dynamically balanced



Easy maintenance accessibility in open state



Easy maintenance accessibility in closed state

- Special side wall sealing for operation at high conveyor speeds
- Expansion hood with integrated maintenance platform available as an option
- Special support rolls and balanced drums for low-vibration operation
- Higher speeds for film/paper with the use of the optional stabilizer
- The standard version includes a slot for a sensor under the belt; optionally an optical sensor can also be used
- Space-saving SEW bevel gear motor with sliding movement to create space in the area of the conveyor's head end

Centre distance	up to 12 m
Belt widths	600 - 2900 mm
Drum diameter	220 mm
Belt type	4,1 - 2,1 mm PU belt 2,4 mm PVC (5 mm PVC) belt EP400/3+2 MOR belt
Speed	3,2 m/s; 4 m/s

Advantages:

- Easy maintenance and cleaning due to good accessibility of the fans and due to the removable duct cover
- Higher purities of the positive ejected fractions
- Can be used with all belt widths and with all sensor types
- Low power consumption

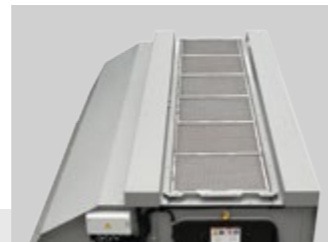
Hood type EH



For material and air control in sorting systems with compressed air discharge of one or two fractions.



Maintenance door and opening with inspection window



Air outlet from inside with washable filter elements



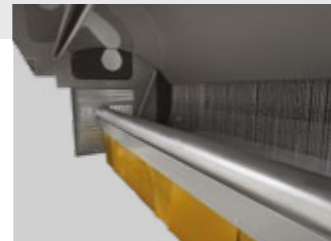
Maintenance platform extended



Cable winch for guiding plate adjustment



Inside view of the separating splitter adjustment mechanism

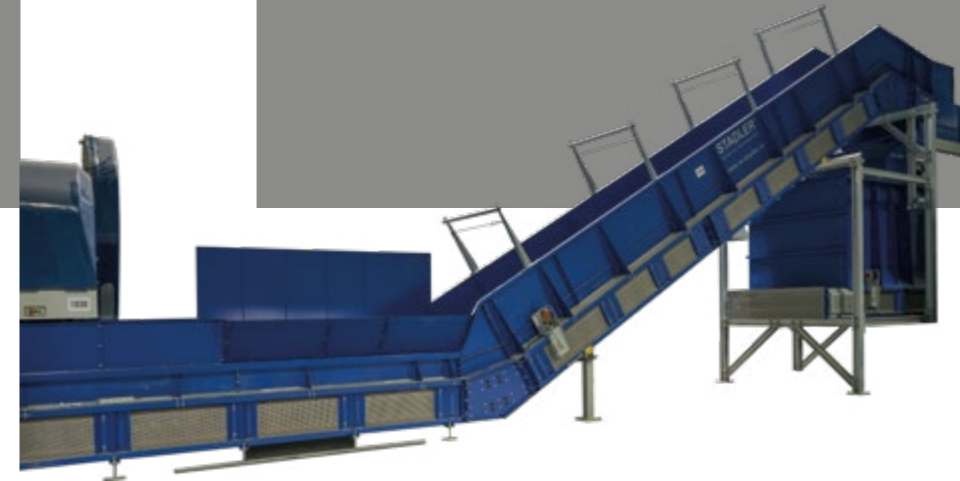


Option: separating splitter with separating drum

- An adjustable separating splitter allows optimisation of the separation precision
- One maintenance access point and one maintenance opening are located on both the left and right side of the hood.
- An inspection window with externally operable glass protection is located on the mounting side of the maintenance opening.
- Integrated maintenance platform with fixed position inside the hood
- Different units and conveyors can be connected to the EH via an adapter.

Belt widths	600 – 3000 mm
Front adapter	PX conveyor
Material cutting	Fixed separating edge Rotary separating drum

Conveyor type KF



Bush conveyor chains allow flows of even heavy and large materials to be transported with ease.



Flights
Variable positioning of the flights is possible. Closed profiles on the belt guarantee maximum stability.



Chain lubricator
Controlled via 24 V valve



Access platform and pull cord gantries

- The use of sturdy lateral sections and various chain and belt designs enables the STADLER chain conveyor to transport whatever material is required
- The KF can be used as an infeed conveyor, a baler feed conveyor or a feed hopper, depending on how the angular sections are positioned
- Space-saving SEW bevel gear motors
- The drive and return shaft can be removed laterally, forwards or backwards.

Centre distance	up to 50 m
Belt widths	1200 – 2400 mm
Drum diameter	326 mm
Belt type	EP400/3 4+2 MOR/OR EP500/4 5+2 MOR/OR
Belt type	Standard chain up to 87 kN reinforced chain up to 240 kN

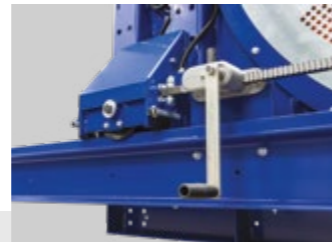
Dosing system type DK



The material is homogenised, ensuring a constant system feed and higher purity.



Positioning unit



Hand crank



Exchangeable flights



Drum height adjustment



Open and closed maintenance access



- The system consists of a combination of metering drum and chain conveyor in the bunker version, which enables the ideal storage and dosing of the feeding material
- Reliable material distribution
- Large maintenance opening via the positioning unit – blockages and wraps can be removed even in the filled state
- The working height of the drum can be adjusted to three different heights (100 mm increments)
- Lateral removal of the rotor body possible

Belt widths	1200 – 2400 mm
Diameter metering drum	1400 mm
Flight	Length 140 Length 190
Volume flow	60 m ³ per m width
Length	up to 40 m
Sidewall-height bunker	2300 mm





STADLER Label Remover

Our powerful label remover processes up to nine tonnes of plastic bottles per hour - achieving a quality standard of up to 80 per cent of labels removed. It features a robust overall construction and is incredibly resistant to impurities.

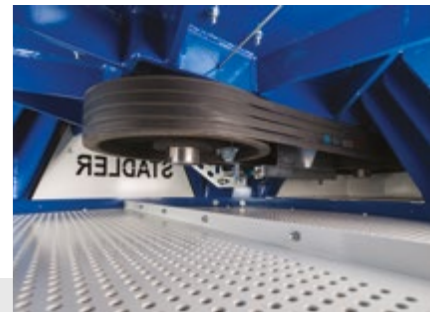
Label Remover



Stator and rotor knife made from high-tensile steel



Rotor with rotating arms



Belt drive with tensioning pulley



Quality motor and gear box from SEW



Maintenance doors with safety lock



Electrical cabinet with frequency inverter



Adjustable rotor speed - from 20 to 60 Hz (80 to 240 rpm)

Type	Label Remover 1600	Label Remover 2000
L x W x H	2522 x 1870 x 2450 mm	3350 x 2220 x 2450 mm
Drive power	37 kW	55 kW
Stator diameter	1620 mm	2020 mm
Weight	4.6 t approx.	7.1 t approx.
Mass flow *	up to 6 t/h	up to 9 t/h

* The stated values are reference values and may vary according to the particle size and material composition. Throughput rates can be calculated exactly based on tests carried out in our Technology Centre.

A shining example of German engineering

Equipped with blades made from high-tensile steel that are attached to the rotor at one end so they can oscillate freely, and to the housing's inner wall at the other, the label remover processes a mass flow of up to nine tons per hour - depending on the particle size and material composition.

STADLER Anlagenbau GmbH

Max-Planck-Straße 21
88361 Altshausen
GERMANY

Phone +49 7584 9226 -0

info@w-stadler.de
www.w-stadler.de

STADLER UK

Leafield Building, Church Road
Ashford TN23 1RD
Kent
UNITED KINGDOM

Phone +44 1233 225 600

Contact: Dr. Benjamin Eule
benjamin.eule@stadler-engineering.com
www.stadler-engineering.com

STADLER AMERICA LLC

P.O. Box 910
Calfax, NC 27235
UNITED STATES OF AMERICA

Phone +1 336 497 4572

Contact: Mat Everhart
meverhart@w-stadler.com
www.w-stadler.com