



# STARSCREEN MACHINES

Screening. Separating. Mixing. Crushing.



## 2-FRACTIONS STARSCREEN

Starscreen machines with two fractions can screen oversized grain and fine grain from the input material.



### 2-ha | Hooklift mobile

The super-compact unit. Very mobile and therefore ideal for frequently changing operation. Suitable also as pre-screener for crushers.



### 2-hta | Hooklift and crawler tracks

The flexible unit. For maximum flexibility with smaller applications. Crawler tracks position with hopper towards the pile of material.



### 2-ma | Wheel mobile

The all-rounder. For changing operating locations on the plant premises. Can be transported by road without needing a special permit.



### 2-sa | Skid mobile

The semi-mobile unit. The stationary machine is placed on skids. This allows for subsequent repositioning.



### 2-ta | Crawler tracks

The self-propelled unit. Remote controlled starscreen can be manoeuvred at the operating site. Can be employed on difficult or hilly terrain, at the material ditch or at construction sites through crawler tracks.



### 2-tb17 | Crawler tracks

The top performer. Top for building rubble and quarry. Extended screen width (1.7 m) for 40% more output compared to the standard.

## 3-FRACTIONS STARSCREEN

The 3-fractions starscreen machines from Backers are ideal for processing building rubble, compost, top soil, biomass or wood chips. They are able to screen oversized grain, medium grain and fine grain from the input material.



### 3-ma | Wheel mobile

The Jumper. As 3-axle trailer or semi-trailer. Straightforward transport in case of alternating sites.



### 3-mal | Wheel mobile

The precise unit. Longer coarse screen allowing for very exact granularity. Just right when screening oversized grain between 30 and 45 mm.



### 3-mal17 | Wheel mobile

The screen monster. With a screen area of 22 m<sup>2</sup> this is the worldwide largest, fully utilised starscreen. With road traffic registration acc. to the German Highway Code Art. 70 StVZO.



### 3-mtb | Wheel and crawler tracks

The unique unit. Maximum flexibility through patented wheel-crawler combination. Road transported without special permit.



### 3-tale | Crawler tracks

The electrical unit. Meets any challenge also on difficult, hilly terrain. Also features a longer coarse screen.



### 3-tb | Crawler tracks

The terrain specialist. Starscreen on crawler chassis. Masters terrain operation without problems.

## STARSCREEN TECHNOLOGY FOR ORGANIC MATERIAL

Innovative, efficient screen solution for screening organic materials such as old wood, biomass, soil, fresh wood, wood chips, compost, top soil, renewable raw materials, bark, peat, root material and sugar beets.

Screening of bark mulch



Compact screening with 1.7 m screen width



Screening of old wood after upstream coarse crusher



Screening of mulch in 3 fractions

Screening of root material, oversized grain 150 x 250/300 mm



Finest starscreen technology: Wood chips screening with fine fraction 0 - 5 mm



Screening of compost in 3 fractions

# STARSCREEN TECHNOLOGY FOR MINERAL MATERIAL

Innovative, efficient solutions for screening of mineral materials, such as ashes, railway ballast, mixed building waste, building rubble, soil-rock mixture, substitute fuels (ESB), fluff, river gravel, shred tyres, industrial waste, blast furnace residues, pebbles, clay soil, top soil, recycling material (pre-shred) and slag.

Screening of clay portions



Use in pipeline construction with direct filling of the fine grain



Can also be operated in winter – here screening of top soil



Starscreen with 2 long screen decks in soil with clay portion

Soil screening with hauling away the fine grain by external conveyor



Starscreen and mixing machine as screen machine in soil with rock portions



## STARSCREEN AND MIXING MACHINE

- ✿ **Earth recycling** – reprocessing unusable soil.
- ✿ **Homogenisation** – creating new construction material directly on site in road construction.
- ✿ **Soil stabilisation** – for creating stabilised soil in road construction and underground engineering.
- ✿ **Immobilisation** – contaminated soil and construction materials demand a precise binding agent dosage in order to allow recycling or decontamination in a controlled manner.
- ✿ **Creating transport capability** – materials such as slurry from drilling, which cannot be transported due to their consistency, are converted to a state that allows their troublefree transport.
- ✿ **Liquid soil production** – using excavation material as liquid soil. This saves time and labour costs.

### Producing liquid soil on site according to the demand

The mobile starscreen units 3-mtac and 3-mtbc produce excellent screening results with high daily output, even with extreme materials such as loamy or clayey soils. This is one of the basic prerequisites for the exact fabrication of stabilised ground, hydraulically-bound base layer and liquid soil.

When producing liquid soil by the batch with deposit into a concrete mixing unit a daily output of 300 to 400 m<sup>3</sup> is achieved. Daily outputs from 1000 to 1500 m<sup>3</sup> are possible for the production of stabilised soil and hydraulically-bound base layer.



## SCREENING AND MIXING WITH A SINGLE MACHINE

Backers has developed a mixing unit for the stabilisation of soils with limestone, cement or other additives especially for road construction and underground engineering. The nice feature: You can use these machines either as screening and mixing unit or a 3-fractions starscreen. Changeover is quite simple: The mixing container is replaced by a second fine screen deck. **Added flexibility!**

### Patented wheel-crawler combination

The wheel-crawler chassis of our starscreen and mixing machine is unique. The machine thus equipped can be moved on the terrain (crawler chassis) and during transportation using a truck with semi-trailer, without needing a special permit.



## ADVANTAGES OF LIQUID SOIL PRODUCTION

- ✿ The excavated material is actually converted into liquid soil and installed on site.
- ✿ The flowing capability of the liquid soil is optimally utilised because of the short transport distance.
- ✿ The produced liquid soil can be matched perfectly to the particular consumption.

## THE PIPELINE PADDER: EFFICIENCY IN PIPELINE CONSTRUCTION

The Pipeline Padder is a starscreen machine, running on crawlers, with material pick-up by an elevator chain. The machine can be employed on inclines up to 15 - 20 degree (approx. 30 - 40%).

The angle of the starscreen is adjustable and allows screening in horizontal or inclined position. The fine grain belt is coupled with starscreen and collecting belt and discharges the screened material to the side. It is moved to the side and can deliver both to the left and the right. Material discharge takes place at a rapid speed from a height of 1.5 - 2 m. The screened material is thus delivered 1 - 5 m next to the machine into the pipe trench.



▲ At the pipe trench: Pick up material, screen it and transport it directly into the pipe trench. Maximum efficiency with the Pipeline Padder.

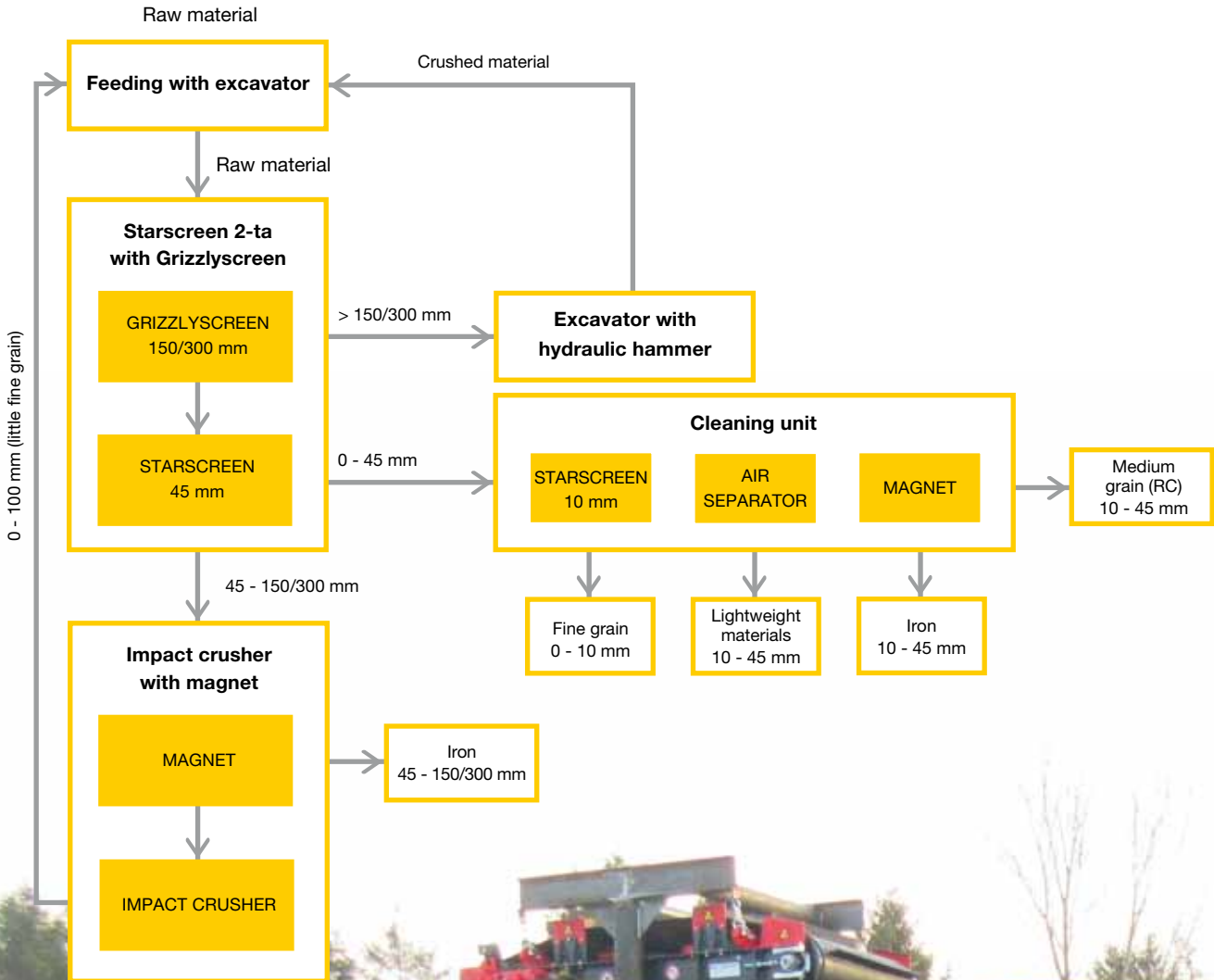
## THE GRIZZLYSCREEN: MADE FOR THE ROUGH STUFF

The rotating tubes of the new Grizzlyscreen work continuously and at optimal throughput, even with cohesive material. Because of the rotation, working with smaller separating cuts than, e.g. with the vibrating or grilled grid, is possible. Another benefit: Agglomerates and softer materials are broken down by the rotation.

Thanks to the heavy-duty rotating tube support, the feed material may contain larger chunks (up to 300 kg). The oversizes are separated by the Grizzlyscreen.



# BETTER QUALITY AND EFFICIENCY IN BUILDING RUBBLE RECYCLING: SCREENING FIRST, FOLLOWED BY CRUSHING





When crushing different materials in combination with fine portion they will be mixed. Screening first is therefore beneficial, especially when treating contaminated soils and building rubble. The Backers concept “Grizzlyscreen + Starscreen + Impact crusher” represents an interesting alternative for the treatment of building rubble, mineral soil as well as rocks with adhering clay when it comes to quality and economy!

### Screening

The Grizzlyscreen separates coarse material directly when fed. The fine portion of 0 to 150/300 mm is already loosened up and transferred to the starscreen from the hopper. The starscreen screens, e.g. at 45 mm. The cleaned portion of 45 to 150/300 mm can then be transferred to the impact crusher 1010 with electric drive.

### Crushing

Iron is separated by a suspension magnet before entering the impact crusher. Coarse crushing at 60 to 80 mm is possible since the crushed material is rotated in circular flow. Cohesive and very coarse material cannot enter the crusher.

### Cleaning

The 0 to 45 mm material portion is forwarded to a cleaning unit. Crushed-stone sand is screened at 8 to 10 mm. At the same time, the fine portion in the material fraction is reduced. After the fine screen, an air separator suctions lightweight materials from the material fraction, and iron is removed at the end of the subsequent conveyor.



▲ The fine portion of 0 to 45 mm can be treated with the cleaning unit.



# TECHNICAL DATA

## 2-fractions starscreens

Machine	2-ha	2-hta	2-ma	2-sa	2-ta	2-tb17
Length (Work/Transport)	9.60 m/7.50 m	9.60 m/7.50 m	14.16 m/11.98 m	14.80 m/12.66 m	13.10 m/12.10 m	11.90 m
Width (Work/Transport)	5.35 m/2.55 m	5.35 m/2.55 m	5.35 m/2.55 m	5.35 m/2.55 m	5.65 m/2.55 m	6.55 m/2.99 m
Height (Work/Transport)	2.70 m	2.70 m	4.00 m	3.80 m/3.70 m	3.95 m/3.30 m	3.70 m/2.75 m
Weight (approx.)	9 t	11 t	18 t	16 t	20 t	24 t
Engine*	74.5 kW Perkins	74.5 kW Perkins	158.0 kW Volvo	158.0 kW Volvo	158.0 kW Volvo	158.0 kW Volvo
Chassis	Hook lift	Hook lift + crawler	Semi-trailer/Trailer	Rails	Crawler	Crawler
Throughput	> 120 m³/h	> 120 m³/h	>200 m³/h	>200 m³/h	>200 m³/h	>250 m³/h
<b>Hopper</b>						
Volume	2.50 m³	2.50 m³	5.00 m³	5.00 m³	5.00 m³	8.00 m³
Dimensions (l × w × h)	2.80 × 1.20 × 1.00 m	2.80 × 1.20 × 1.00 m	3.90 × 1.20 × 1.00 m	3.90 × 1.20 × 1.00 m	3.90 × 1.20 × 1.00 m	3.90 × 1.50 × 1.00 m
Loading height	3.00 m	3.00 m	3.00 m	2.70 m	2.90 m	3.00 m
<b>Screen deck</b>						
Dimensions (l × w)	4.20 × 1.20 m	4.20 × 1.20 m	6.70 × 1.20 m	6.70 × 1.20 m	6.70 × 1.20 m	6.70 × 1.70 m
Granularity	> 5 mm	> 5 mm	> 5 mm	> 5 mm	> 5 mm	> 5 mm
<b>Discharge belts</b>						
Medium grain	0.65 × 4.10 m (r)	0.65 × 4.10 m (r)	0.65 × 4.10 m (r)	0.65 × 4.10 m (r)	0.65 × 4.10 m (r)	0.65 × 4.10 m (r)
Coarse grain	1.20 × 2.45 m (h)	1.20 × 2.45 m (h)	1.20 × 2.60 m (h)	1.20 × 2.60 m (h)	1.20 × 2.60 m (h)	0.65 × 4.10 m (l)

## 3-fractions starscreens

Maschine	3-ma	3-mal	3-mal17	3-mtb	3-tale	3-tb
Length (Work/Transport)	16.40 m/14.90 m	17.45 m/16.05 m	18.80 m/17.58 m	13.93 m	17.60 m/16.09 m	13.66 m
Width (Work/Transport)	4.60 m/2.55 m	4.60 m/2.55 m	4.89 m/2.99 m	6.55 m/2.55 m	4.60 m/2.55 m	6.55 m/2.55 m
Height (Work/Transport)	4.00 m	4.00 m	4.00 m	4.00 m	3.95 m/3.75 m	4.00 m
Weight (approx.)	20 t	22 t	28 t	25 t	26 t	24 t
Engine*	158.0 kW Volvo	158.0 kW Volvo	158.0 kW Volvo	158.0 kW Volvo	Electrical	158.0 kW Volvo
Chassis	Semi-trailer	Semi-trailer	Semi-trailer	Semi-trailer + Crawler	Crawler	Crawler
Throughput	>200 m³/h	>200 m³/h	>250 m³/h	>200 m³/h	>200 m³/h	>200 m³/h
<b>Hopper</b>						
Volume	5.00 m³	5.00 m³	8.00 m³	5.00 m³	5.00 m³	5.00 m³
Dimensions (l × w × h)	3.90 × 1.20 × 1.00 m	3.90 × 1.20 × 1.00 m	3.90 × 1.50 × 1.00 m	3.90 × 1.20 × 1.00 m	3.90 × 1.20 × 1.00 m	3.90 × 1.20 × 1.00 m
Loading height	3.35 m	3.35 m	3.35 m	3.35 m	2.90 m	3.35 m
<b>Screen deck</b>						
Dimensions (l × w) Deck 1	3.20 × 1.20 m	5.10 m × 1.20 m	5.10 m × 1.70 m	3.20 m × 1.20 m	5.10 m × 1.20 m	3.20 × 1.20 m
First granularity	>42 mm	>32 mm	>32 mm	>42 mm	>32 mm	>42 mm
Dimensions (l × w) Deck 2	6.70 × 1.20 m	6.70 m × 1.20 m	6.70 m × 1.70 m	6.70 m × 1.20 m	6.70 m × 1.20 m	6.70 m × 1.20 m
Second granularity	> 5 mm	> 5 mm	> 5 mm	> 5 mm	> 5 mm	> 5 mm
<b>Discharge belts</b>						
Fine grain	0.65 × 4.10 m (r)	0.65 × 4.10 m (r)	0.65 × 4.10 m (r)	0.65 × 4.10 m (r)	0.65 × 4.10 m (r)	0.65 × 4.10 m (r)
Medium grain	1.20 × 2.45 m (b)	1.20 × 2.45 m (b)	1.70 × 2.45 m (b)	0.65 × 4.10 m (l)	1.20 × 2.45 m (b)	0.65 × 4.10 m (l)
Coarse grain	Discharge at 1st deck (f)	Discharge at 1st deck (f)	Discharge at 1st deck (f)	Discharge at 1st deck (f)	Discharge at 1st deck (f)	Discharge at 1st deck (f)

\*Alternatively available with electric, diesel-electric or electric-hydraulic drive.

## FREQUENTLY USED **ADDITIONAL COMPONENTS**



Auxiliary screen



Hopper top add-on



Metering auger



Metering auger, hydr. adjustable



Fine deck slider



Grilled grid



Grizzlyscreen



Height adjustment, hydr.



Hydraulics enclosure



Compressor



Magnetic roll



Cleaning system



Customer colour



Reversible fan



Toolbox



Air separator

Please contact us if the add-on you need is not listed here.

## STARSCREEN TECHNOLOGY MADE IN GERMANY

We have been setting standards in starscreen technology since 1989. We are working daily with comprehensive know-how and keen commitment on engineering and implemented solutions for our customers that combine practical relevance and economy. All machines are exclusively engineered and manufactured at the Twist (Germany) site. Sophisticated technical and reliable quality work Made in Germany.

The yellow screen star is our trademark. The star accompanies the success story of a technology that keeps exciting and inspiring us.

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