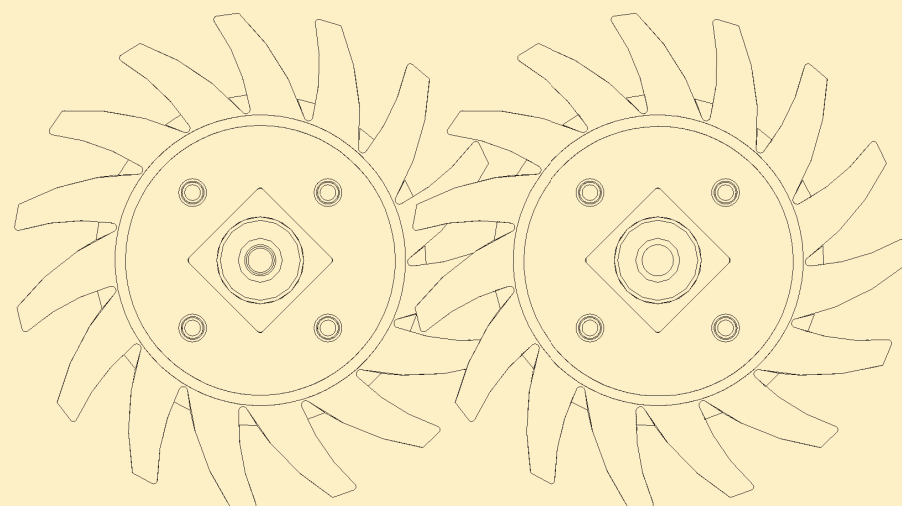


## STARSCREEN TECHNOLOGY

Mineral or organic material is usually part of a mixture, for example earth, gravel, wood chip, compost etc. The respective material can be used only if the different fractions are separated according to size. Starscreen technology is a particularly reliable and efficient solution for such problems.

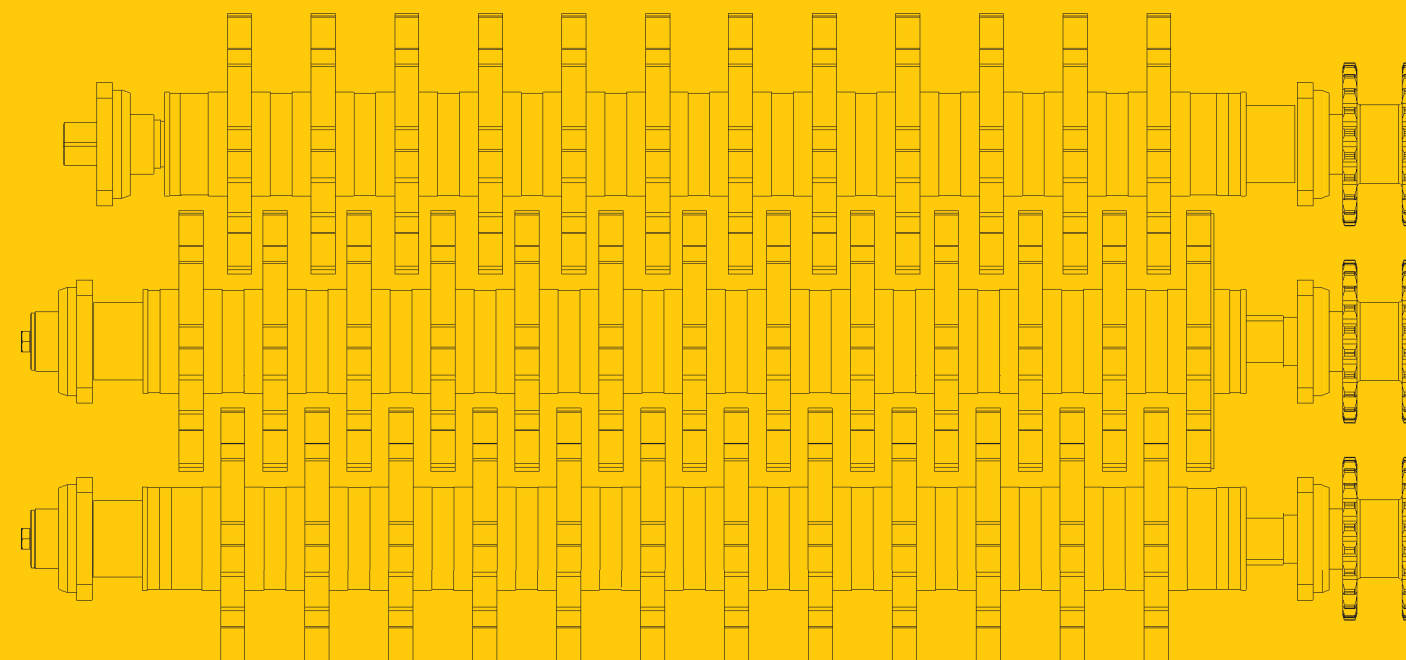


Starscreens consist of screening stars with elastic fingers fitted to star-screen shafts. During the screening process the shafts rotate in one direction. They draw the material to be screened evenly over the screening stars and loosen it. Fine material turns in the free space between the fingers and falls onto a conveyor belt below. To some extent screens and hubs automatically clean themselves by combing the front and rear shafts with the stars. The elasticity of the screening fingers helps with the self cleaning.

### Main advantages of starscreen technology:

- excellent screening
- low exhaust emissions
- cleaning effect on coarse fraction
- minimizes agglomerates
- fine grain portions length limit
- height gain when screening

Since 1989 Backers Maschinenbau has built up comprehensive know-how in starscreen technology. Equipment is manufactured by the experienced Backers team in our own factory in Twist. Our future product program will be characterised by quality and innovation.



### STARSCREEN 2 FRACTION TECHNICAL DATA

Machine	2-ha	2-hta	2-ma	2-sa	2-ta	2-ma17
Length (Work / Transport)	9,20 m / 6,80 m	9,20 m / 6,80 m	14,16 m / 12,80 m	14,16 m / 12,09 m	14,30 m / 12,83 m	15,90 m / 14,43 m
Width (Work / Transport)	5,45 m / 2,55 m	5,45 m / 2,55 m	5,77 m / 2,55 m	5,77 m / 2,55 m	5,77 m / 2,55 m	4,89 m / 3,0 m
Height (Work / Transport)	2,68 m	2,68 m	3,95 m / 3,87 m	3,80 m / 3,0 m	3,95 m / 3,36 m	3,95 m / 3,87 m
Weight (approx.)	9 t	11 t	18 t	15 t	18 t	20 t
Motor*	74,5 kW Perkins	74,5 kW Perkins	130 kW Perkins	130 kW Perkins	130 kW Perkins	130 kW Perkins
Chassis	Hooklift	Hooklift + Tracks	Semi-Trailer / Trailer	stationary	Tracks	Semi-Trailer / Trailer
Capacity	>120 m <sup>3</sup> /h	>120 m <sup>3</sup> /h	>200 m <sup>3</sup> /h	>200 m <sup>3</sup> /h	>200 m <sup>3</sup> /h	>200 m <sup>3</sup> /h
Hopper	2-ha	2-hta	2-ma	2-sa	2-ta	2-ma17
Volume	2,5 m <sup>3</sup>	2,5 m <sup>3</sup>	5,0 m <sup>3</sup>	5,0 m <sup>3</sup>	5,0 m <sup>3</sup>	8 m <sup>3</sup>
Dimensions (l x w x h)	2,8 x 2,1 x 1,0 m	2,8 x 2,1 x 1,0 m	3,9 x 1,2 x 1,0 m	3,9 x 1,2 x 1,0 m	3,9 x 1,2 x 1,0 m	3,9 x 1,5 x 1,0 m
Loading Height	3,0 m	3,0 m	3,0 m	2,7 m	2,9 m	3,0 m
Screening deck	2-ha	2-hta	2-ma	2-sa	2-ta	2-ma17
Dimensions (l x w)	4,8 x 1,2 m	4,8 x 1,2 m	6,7 x 1,2 m	6,7 x 1,2 m	6,7 x 1,2 m	8,1 x 1,2 m
Grain size	ab >6 mm	ab >6 mm	ab >6 mm	ab >6 mm	ab >6 mm	ab >6 mm
Conveyor belt	2-ha	2-hta	2-ma	2-sa	2-ta	2-ma17
Middle grain	0,65 x 5,1 m (l)	0,65 x 5,1 m (l)	0,65 x 5,1 m (l)	0,65 x 5,1 m (l)	0,65 x 5,1 m (l)	0,65 x 5,1 m (l)
Over grain	1,2 x 2,45 m (h)	1,2 x 2,45 m (h)	1,2 x 2,45 m (h)	1,2 x 3,6 m (h)	1,2 x 3,6 m (h)	1,2 x 2,45 m (h)

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



## 2-FRACTION STARSCREEN

2-ha • 2-hta • 2-ma • 2-ma17 • 2-sa • 2-ta



**backers**  
maschinenbau

## THE COMPANY

Backers Maschinenbau is a 7th generation family-run company based in Twist, in the Ems region of Germany. The trademark, the yellow star, signifies the company's focus: Starscreen technology. Backers has been manufacturing starscreen equipment for over 20 years. Mobile and stationary systems for mineral and organic materials are used nationally and internationally, for example in environmental technology, road building and the construction industry.

The company does not just focus on manufacturing the highest quality screening equipment. Backers experts continue to develop and optimise products and components - starscreens, scrapers, cleaning devices, CAN BUS controllers.

Heinz Christian Backers has been managing the company since 1989.

### The family firm's historical milestones:

- 1816 Backers forge established in Twist
- 1956 Development and production of a white turf cutting machine
- 1989 Starscreen technology for the turf cutting industry and foundation of the limited company
- 1991 Mobile 2 fraction starscreen
- 1996 Mobile 2 fraction starscreen with rising screen deck
- 2003 Mobile 3 fraction starscreen - coarse and fine screening
- 2004 Mobile 3 fraction starscreen with wheels / crawler tracks
- 2005 Starscreen and limestone/cement mixer
- 2006 Starscreen with hook lift
- 2008 Starscreen 2-ta with adjustable inclination
- 2009 Stationary screening equipment



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maschinenbau

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## BACKERS 2 FRACTION STARSCREEN MACHINE FUNCTIONALITY

Starscreen machines with a screening deck classify material into 2 fractions and can sort out oversized grain and fine grain from the input material. In addition, the 2 fraction starscreen machines can optionally be equipped with a gridded or vibrating grid.

The material to be screened is put into the respective screen type hopper. Depending on the material, the hopper can also be fitted with a dosage screw in order to regulate supply of the material to the starscreen. The screening process begins with the screening stars rotating in one direction and transporting the material over the screening shafts to the end of the screening deck. This loosens the material. The fine material falls through the stars onto a gathering conveyor.

This conveyor transports the material on a fine grain belt away to the side.

The over-sized grain is transported to the end of the star-screen and then returned on the over-sized grain belt.

The optimum particle size for screening is  $>6$  mm.



### STARSSCREEN 2-ha

Requires less space.

Suitable for frequently changing applications as well as a pre-screener for crushers.

The starscreen 2-ha is extremely mobile, particularly the 2-hta version. This is also beneficial when changing location

### STARSSCREEN 2-hta

To be positioned via standard three-axle roll vehicle system.

Material loading with the help of telescopic loader, small wheel loader, midi bucket excavator or bucket excavator with rotor blade, as a license for road use is not required.



### STARSSCREEN 2-hta

For use where space is limited  
Crawler tracks position the starscreen 2-hta with hopper by the pile of material.



### STARSSCREEN 2-hta + impact crusher

Starscreen 2-hta as pre-screener for the crusher.  
The fine fraction is screened so that only the material to be crushed is brought to the crusher. This reduces the wear and tear on the crusher.



### STARSSCREEN 2-ma

Can be supplied as semi-trailer or central trailer.  
Designed for defined screening of mineral or organic material or mixed material in two fractions in different locations on site.  
The hopper has higher walls for screening lightweight fraction.  
The semi-trailer version can be transported by road without needing a special permit!



### STARSSCREEN 2-ma17

Screening deck width 1.7 m, screening deck length 8.1 m with floor space for a drive assembly.  
With electric drive and longer screening deck. This version is 2.99 m wide

Precise packing of the load material in two screening fractions, particularly in difficult conditions.



### STARSSCREEN 2-sa

This stationary machine is placed on a rail frame. Therefore subsequent relocation is still possible. Operated independently from within the site.



### STARSSCREEN 2-ta

Positioned at the edge of the heap to be screened, fine grain and over-sized grain conveyors directly load the 4 m high truck (without needing long discharge or entry belts). Alternatively, the cleaned over-sized grain can be directly fed into a crusher. The crusher works more effectively and suffers less wear thanks to the clean pre-screening.

Especially designed for construction sites with difficult terrain.



Used to separate debris into 3 fractions by using a vibrating grid to pre-separate large volumes of material

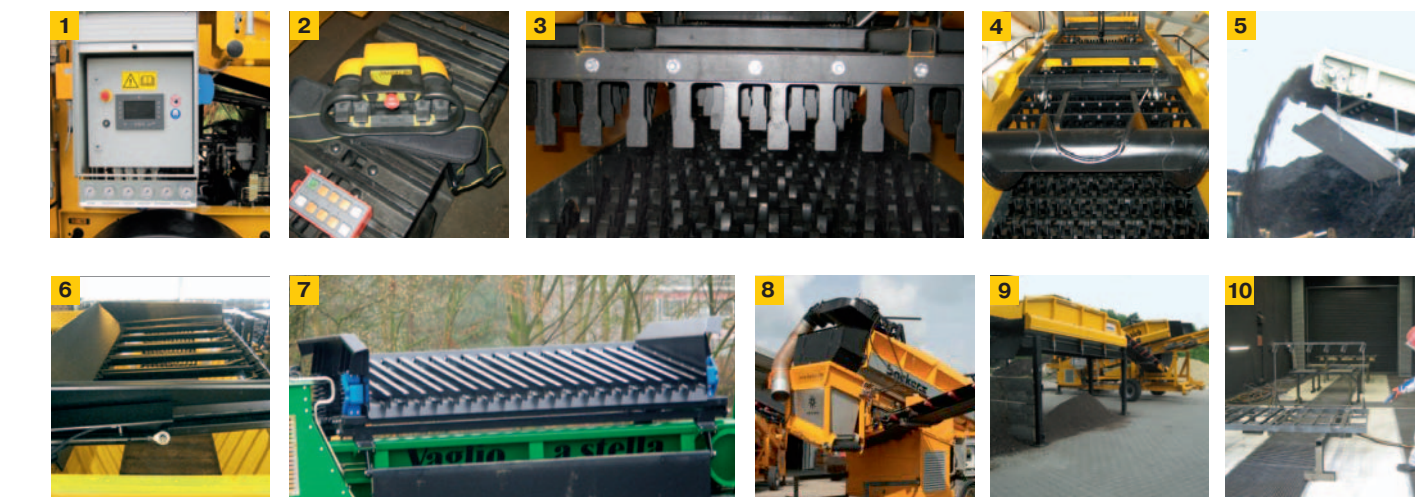
### STARSSCREEN 2-ta

Suitable for use in pipeline construction in hilly terrain with slopes up to 10°. Therefore much valued in pipeline and channel construction.



Radio controlled on site from a distance.

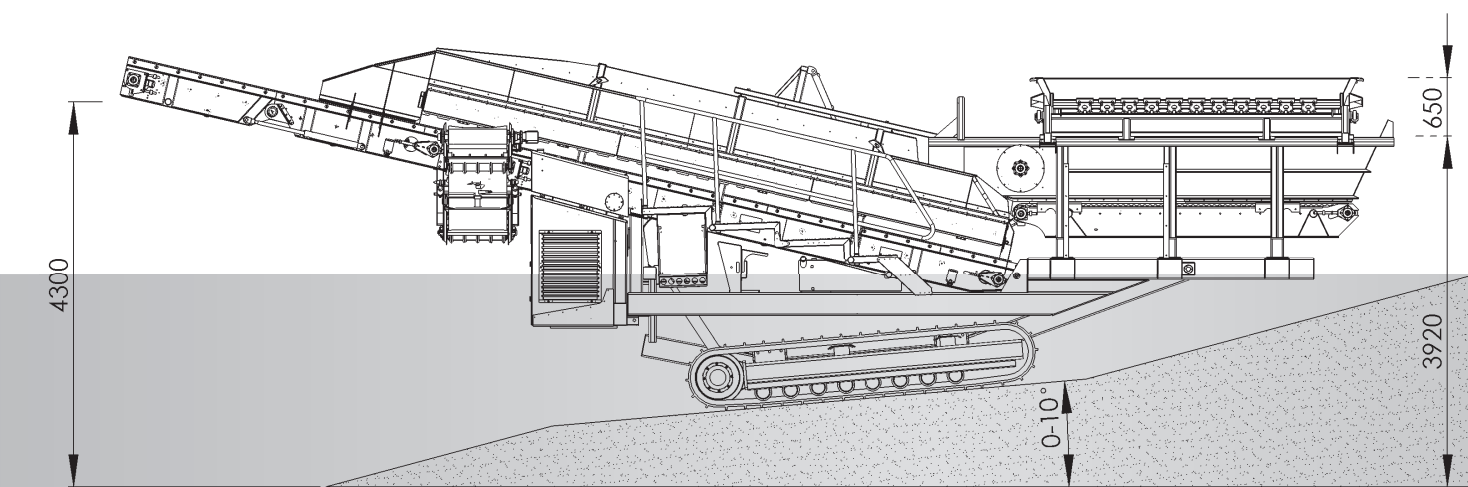
## ADDITIONAL COMPONENTS



1. Control cabinet, 2. Remote control, 3. Cleaning system, 4. Dosage screw and cleaning system, 5. Magnetic roll, 6. Gridded grid, 7. Vibrating grid, 8. Air separator, 9. Auxiliary screener, 10. Sand blasting + 2-K paintwork are standard

## ADVANTAGES OF BACKERS STARSSCREEN MACHINES

- Service and maintenance friendly components.
- Service friendly and centrally arranged engine compartment. This means short hydraulic distances + wiring which leads to optimal operating temperatures.
- Integrated, large hydraulic system, additional optional finishing with Cleanfix-ventilator for very dirty materials can be provided.
- Motor and hydraulics from Rexroth and Danfoss. Press and return filter with level shut-off.
- Specifically developed CAN BUS system for monitoring and programming working processes.



Starscreens with crawler tracks have the advantage that they can be moved to the heap of material to be screened. This means short distances. When finished the starscreen is moved and then the place can be cleaned (even with large wheel loaders).