

# Backers



## Recovering valuable materials from industrial waste streams

People have been finding better ways to 'separate the wheat from the chaff' for as long as humans have been growing and eating grain. Today, of course, the metaphor can be applied to many different situations where useful materials mixed with dirt, waste or other undesired contaminants need to be recovered economically.

Backers Maschinenbau of Twist, Germany has been building sophisticated machines utilising starscreen technology to separate and recover valuable materials that would otherwise be wasted since 1989. Some of the materials that can be successfully processed on Backers systems include: waste, pre-shredded waste wood, ash, railway ballast, mixed construction waste, building rubble, biomass, soil, soil with stone mixture, substitute fuel, soil, fluff, river gravel, fresh wood, shredded tyres, rock, industrial waste, track ballast, wood chips, blast furnace residues, gravel or crushed stone, coal, compost, clay soil, pipeline construction refuse, topsoil, renewable raw materials, recycled material, bark, slag, peat, rootstocks and root wood.

### Key Facts

Customer  
**Backers Maschinenbau GmbH**

Location  
**Twist, Germany**

Engine model  
**Perkins® 904 and  
Perkins® 1200 Series**

Application  
**Backers 2-hta starscreen,  
Backers 2-ta starscreen**

Distributor  
**BU Power Systems**

OEM website  
**backers.de**





### Starscreen technology

The screening process of the 'two fraction starscreen machine' begins on the starscreen with the screen stars all rotating in one direction and loosening up the material. The fine screened material falls between the stars onto a collecting belt. This then conveys the screened material on a fine-grain belt to the discharge point.

### Compact, reliable Perkins power

Several of Backers most popular machines depend on reliable, compact Perkins engines to supply the necessary power while meeting EU Stage V emission standards.

"When building starscreen machines with two fractions, we rely on Perkins engines, among others," explains Christian Backers, managing director of Backers. "We were particularly convinced by the compact design of the Perkins® 904 and 1204 Series engines. In addition, the engines are robust and well suited for off-road use."

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### Flexible recovery solutions

One of the popular Perkins powered machines is the Backers 2-ha starscreen which is available in both hook liftable and track-mobile configurations. The highly flexible two fraction machine has a 5.4 m<sup>2</sup> screening area, a separation cut from 6/8 mm to 80 mm and a maximum throughput of 120 m<sup>3</sup>/h (with 16 mm screening).

The Backers 2-ha starscreen is powered by a compact, power-dense 4-cylinder Perkins® 904J-E36TA industrial open power unit (IOPU). Meeting Stage V emission standards, the IOPU delivers 74.5 kW while providing efficient, reliable power for the most demanding applications of the Backers 2-ha starscreen.

The larger Backers 2-ta starscreen machine is intended for use on construction sites and difficult terrain. It has an 8 m<sup>2</sup> screening area, a separation cut from 6/8 to 80 mm and a maximum throughput of 200 m<sup>3</sup>/hr. The 2-ta starscreen can be track-mounted and manoeuvred on-site by wireless remote control. Typical applications include road construction, civil engineering, structural engineering, pipeline construction and dike construction.

The 18,000 kg 2-ta starscreen is powered by an efficient, 4-cylinder Perkins® 1204J-E44TTA IOPU meeting Stage V emission standards and producing 140 kW.



The **Perkins® 904J-E36TA** industrial open power unit (IOPU) meets Stage V emission standards, and delivers 74.5 kW while providing efficient, reliable power for the most demanding applications of the Backers 2-ha starscreen.