HAAS®
Recycling-Systems

Shredder
Shredding - Breaking - Chipping



TYRON

The strong Viking!

TYRON

www.haas-recycling.de



Always your partner!

Reliable. Competent. Flexible.

If you are challenged to recycle a few thousand tons of material every day, you may not need a machine initially - but you will need the best possible advice! With a team of highly qualified specialists, and over 30 years experience, we are at your disposal for exactly this purpose. Avoid mistakes early in the planning stage and invest for the long term - product loyalty is the key to your success!

We are available for project consulting in both the planning and design phases, for new projects, as well as for existing operational processes with potential for improvement. The most suitable machines for your individual requirements are the products of every consultation.
We have the competence to plan and install your recycling plants ATEX-compliant. In addition, we can give you important ideas on how to optimise the workflow, efficient machine use and the design of recycling plants. In addition - besides achieving maximum performance - aspects of efficiency and environmental protection also play an important role.
For individual advice, please contact your HAAS sales contact or info@haas-recycling.de

HAAS® Recycling-Systems







HAAS guarantees...

Quality

- „Made in Germany“
- High-quality materials and components
- Processing at a consistently high level
- Particularly robust construction
- Long service intervals
- Minimised downtime
- Readily available spare parts

Customer focus

- **„HAAS customised“** - tailor-made machines and plants
- With our **„HAAS Roadshow“** we are regularly on demo tour. Your desired HAAS machine on your input material and in your location. During a live demonstration at your site, you can convince yourself of the exceptional performance of HAAS machines.



Shredder

Shredding - Breaking - Chipping



Screening

& Separating Technology

Screening - Sifting -Separating



Loading

& Unloading Systems

Docking - Filling - Emptying

In the world of primary shredders the Viking convices with efficiency, reliability and flexibility!

1999 was the launch of the first HAAS TYRON.
The „New Edition 2.0“ was first produced in 2015. Since 2019, all TYRONs are delivered in this version.



30 years of know-how

TYRON‘S POWER:

- Intelligent 2-shaft shredding
  HAAS Standard for 20 years
  - Powerful and aggressive
  - Dynamic shredding programs
  - Self-cleaning, no wrappage/blockages
  - Shaft speed infinitely variable
  - Rotating direction and reversing times variable
- Reliable, minimised downtimes, highest up-time
- Solid construction for longer life
- Highly effective sound insulation
- Maintenance-friendly access
- Uniquely low operating cost

Telematic data
receiving and analysing

The HAAS Tracking Portal is the easiest way to get all telematic data of the HAAS shredder onto the screen. The system allows access from any PC, tablet or smartphone connected to the Internet, anywhere in the world.
You can check performance, status and operating data of each machine in a compact way, from the start of operation to the present moment.

Painting
in your company colour

Do you want your HAAS TYRON to come to in your corporate colours? We would be pleased to paint your machine according to your requirements and desires. All we need is your RAL numbers and the service is free!



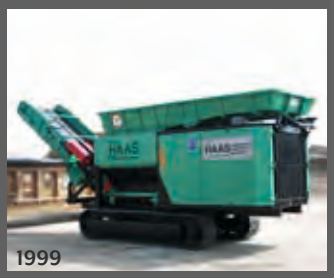
combined in one machine!

XL-Power Upgrade
for even more power

Reach your target in the shortest possible time. If you wish, we can fit even more power and performance into your TYRON. With a dynamically reinforced hydraulic system, the machine achieves a significantly higher throughput capacity. The more powerful machines can be identified by the marking „XL"!

Energy Efficiency
thanks to HES

The latest exhaust emission standard Stage V has already been integrated into our system. All HAAS TYRON'S are fitted with engines of the latest generation. However, that was not enough for us. In addition, all machines are equipped with „HES" HAAS Energy Saving. Whenever you give your Viking a break, the intelligent control system reacts. The power of the machine is reduced, fuel consumption and noise pollution are minimised, as a result.


1999

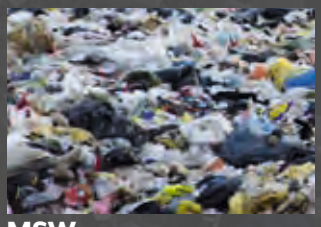

2008


TYRON 2.0

Quality permanently improved!

A close and trustful cooperation with dealers and customers is the basis for the continuous development of HAAS machines and plants. We always have an ear for ideas and suggestions from our customers. New HAAS machines therefore always include realised customer requirements and are the foundation of long-standing, trusting partnerships!

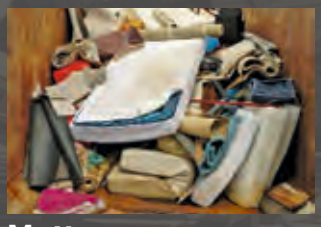
Shreds even the most difficult materials



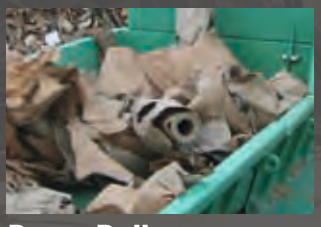
MSW
Municipal Solid Waste



Domestic Waste



Mattresses



Paper Rolls



C&D Construction
& Demolition Waste



Commercial waste



Industrial Waste



Bulky Waste

Easily up to
100 t/h throughput


Railway Sleepers

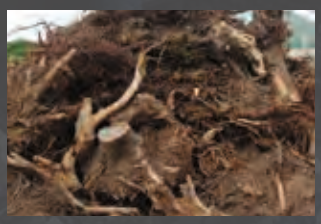

Pallets


Green Waste


Aluminum


Waste Wood


Cable Drums


Roots


End of life PVC frames


TYRON
2000-E XL 2.0
505



mobile / diesel

TYRON 1500



- 350 HP / 257 kW
- XL-Power 400 PS / 294 kW

TYRON 2000



- 350 HP / 257 kW
- XL-Power 400 PS / 294 kW

TYRON 2500



- 770 HP / 566 kW

stationary / electric

TYRON 1500-E



- 2x 90 kW
- XL-Power 2x 110 kW

TYRON 2000-E



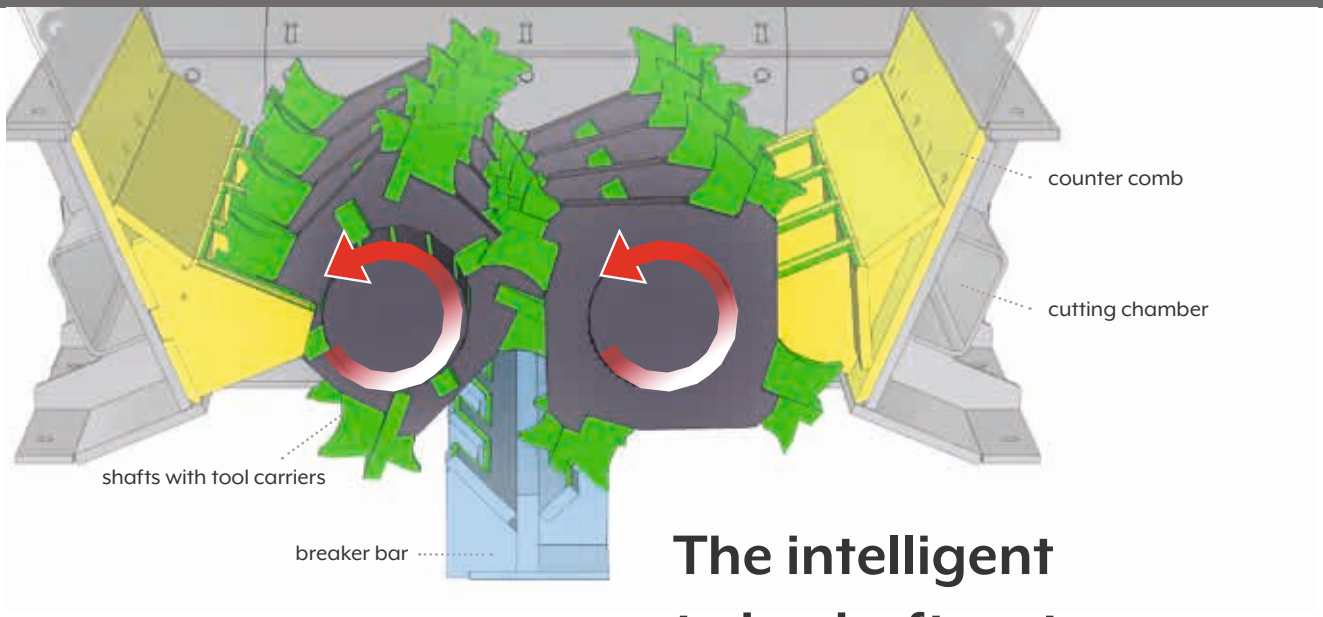
- 2x 110 kW
- XL-Power 2x 132 kW

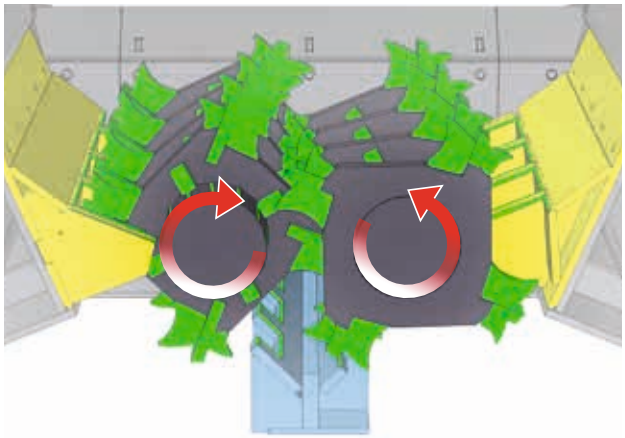
TYRON 2500-E

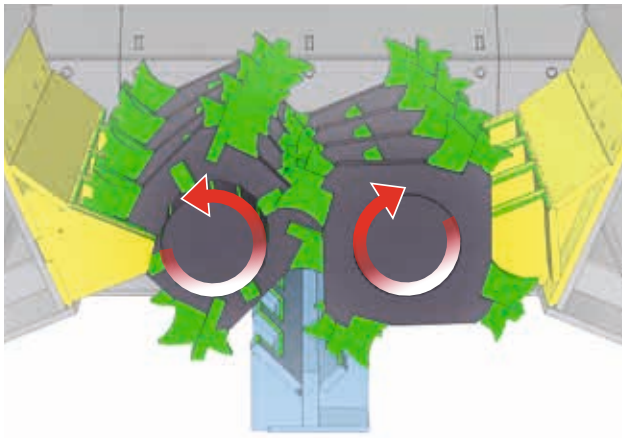


- 2x 160 kW

The core







The intelligent twin-shaft system

...makes the HAAS TYRON to the ideal solution for the effective shredding of the most difficult materials.

Two independently driven shafts ensure highest flexibility and keeps the infeed material continuously in motion.

Shaft speed, rotating direction and reversing times can be flexibly adjusted by the customer.

The material is shredded in the forward and additionally in the reverse rotation. This ensures **maximum throughput** even when reversing!

The shredding process is sensor-monitored. In case of overload, e.g. due to an impurity, an automatic reversal is initiated and the tools are protected against damage. The wrapping of wires and long-fibre materials is avoided. Wear and down-time are therefore minimized compared to synchronous running shredders and costs are significantly reduced.



In the standard package... Hardfaced tools ex works!

Preventive wear protection, that saves you costs and working time compared to tools that are subsequently hardfaced!

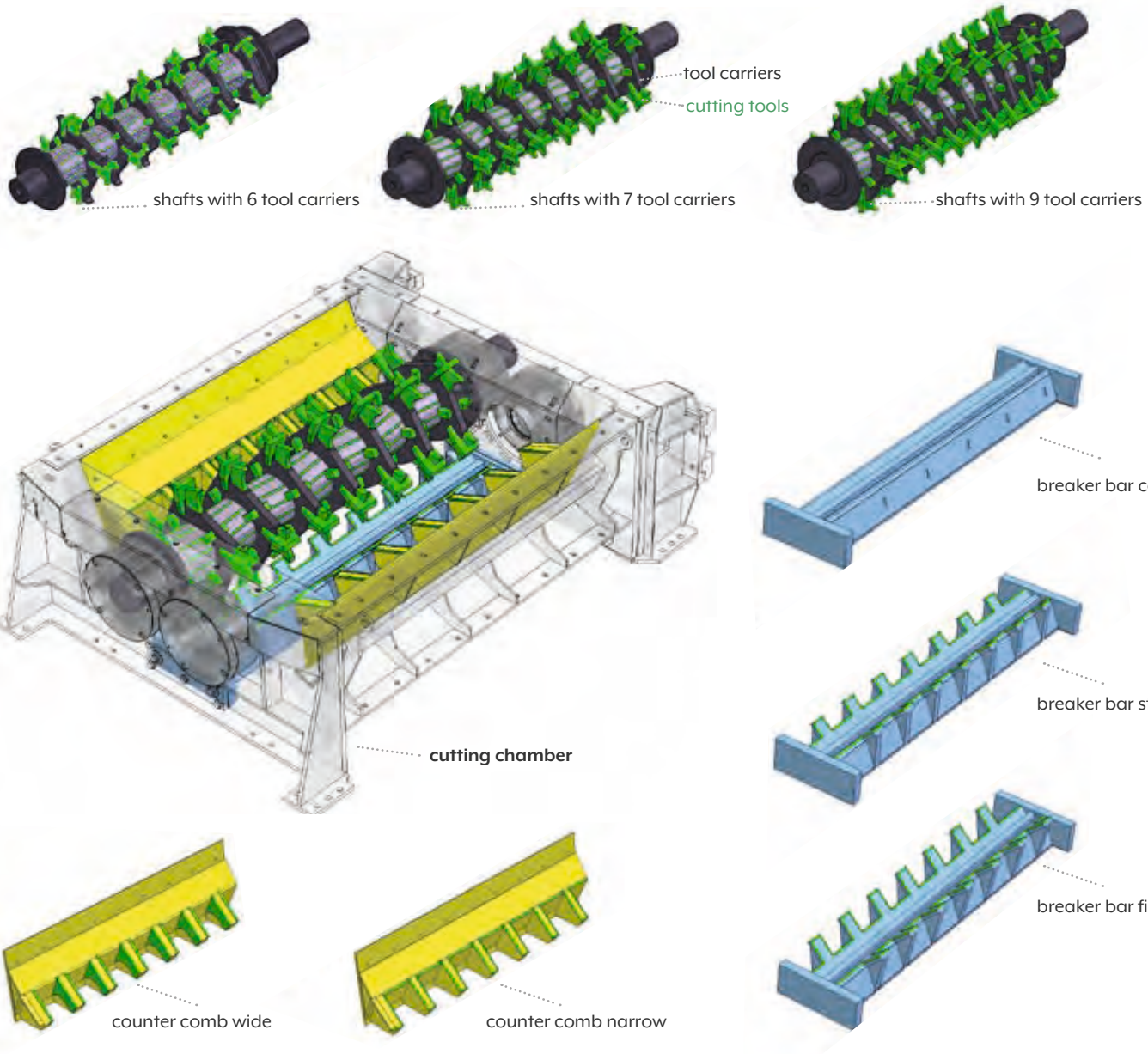
# of our TYRON

The appropriate tool - for every application

We can match the tool configuration optimally to your specific requirements and thus maximise the potential of your TYRON!

The particle size of the shredded material is defined by the number of **tool carriers** and **cutting tools** on the **shredding shafts**.
The **particle size can be varied** depending on the number of carriers on the cutting tools and the distance to the **counter combs**.
In addition to the shredding tools and counter combs, the **breaker bar** determines the particle size. This bar is located below the shredding shafts and is individually configured according to the specific task. The breaker bar also protects the downstream conveyor belt from damage.

Tool configuration TYRON 2000























SENNEBOGEN























Exclusive features...

TYRON Mobile

HAAS Tracking Portal

With this online platform you have a clear overview of the machine data and operating conditions of your HAAS machines and plants.

TYRON Hybrid Version

With this mobile version you get a modern and sustainable machine concept. The electro-hydraulic power reduces your energy costs by up to 70% compared to diesel-powered mobile machines..

XL-Power Upgrade

The upgrade with reinforced hydraulic system convinces with 30 % more power and through-put!



Flexible mobility



TYRON on tracks

- high mobility on site
- additional rubber shoes provide best mobility on hard ground while protecting your concrete floor

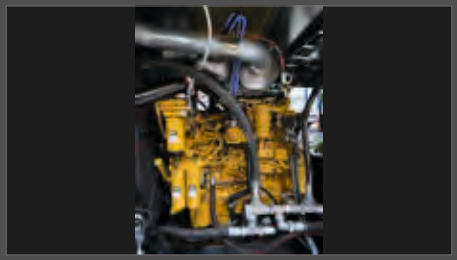


TYRON on trailer

- the option for the frequently moved machine
- incl. road approval
- maximum speed up to 80 km/h

Efficient Drive







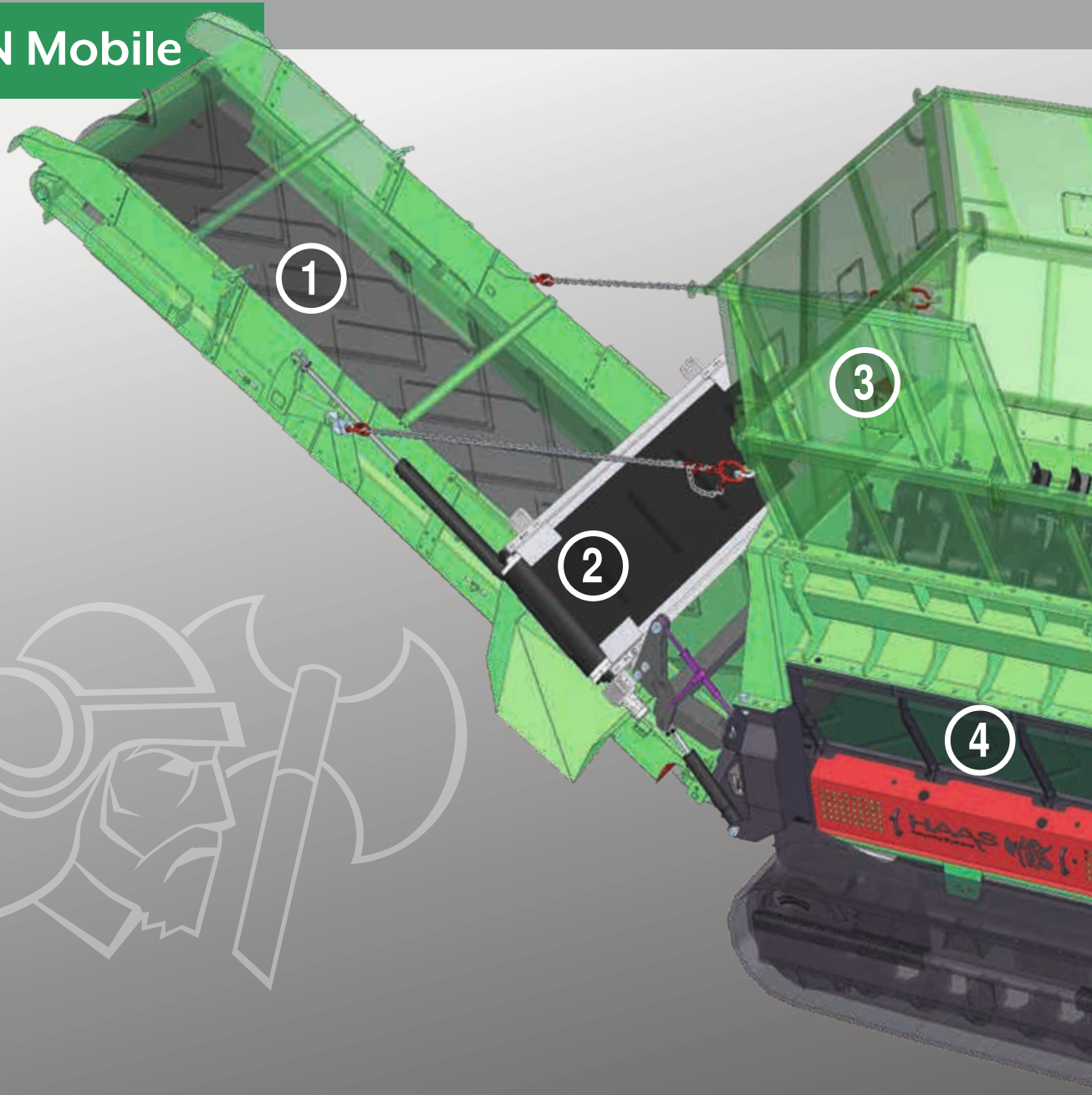
Scania diesel engines

- from 257 kW up to 566 kW
- low fuel consumption
- only 1750 rpm
- latest exhaust emission technology (Stage II version and stage III version on request)
- HES- HAAS Energy Saving

CAT engines on request

... individually configured

TYRON Mobile





Discharge Conveyor

- 1400 mm wide
- individual discharge height up to 5.1 m
- with steel core or MOR conveyor belt
- conveyor speed adjustable
- adjustable tilt angle
- with stainless steel head drum (for use with magnet)



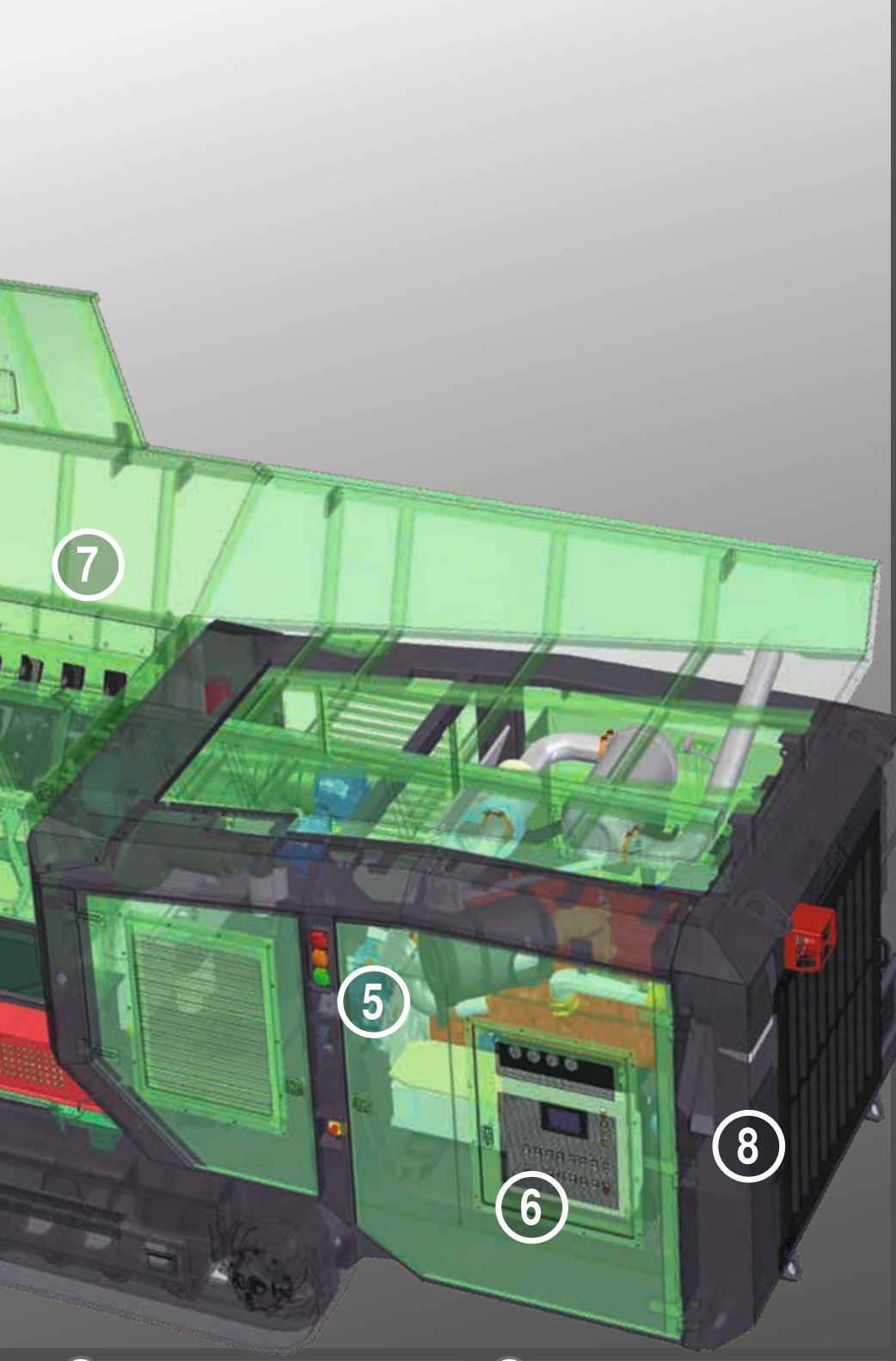
Powerful overband magnet

- hydraulically height adjustable
- tilt angle additionally manually adjustable
- extra strong neodymium magnet available



Dust minimisation

- minimise dust emissions in the areas:
  - feed hopper
  - discharge conveyor
  - material discharge





Big feeding area

- tilting hopper with load dependent control
- extended feeding area due to additional hopper extension



Remote control

- start/stop automatic mode
- moving the machine
- magnet height adjustment
- reversing the shafts
- operating the tilting hopper
- emergency stop button



Maintenance friendly shredding compartment

- wide opening side doors
- easy access
- highest safety standard secured with key transfer system



Generously sized engine compartment

- integrated acoustic insulation
- Cleanfix® reversible fan
- electric pump for hydraulic oil
- heating (display, hydraulic tank)
- traffic light system for operating status
- fire extinguishing system



Multifunctional control

- control board and management of the machine data
- configuration of dynamic shredding programs
- input/output test electrical system
- all languages available
- diagnosis via HAAS Tracking Portal
- WIFI access (machine data on tablet/mobile phone)

TYRON hybrid

POWERFUL & EFFICIENT:

- No exhaust emissions during operation
- Minimal maintenance
- Significant CO_2 reduction
- Low energy costs
- High energy efficiency



The hybrid version of the TYRON pre-shredder extends the HAAS product range with a mobile, electric version. The innovative new development – an electric motor replaces the diesel engine – combines the flexibility of a mobile machine with the energy efficiency of a stationary machine. Mobility is ensured by a tracked chassis in combination with a small diesel power unit.

HAAS Tracking Portal

With this online platform you have a clear overview of the machine data and operating conditions of your HAAS machines and plants.

XL-Power Upgrade

The upgrade with reinforced hydraulic system convinces with 30 % more power and throughput!

Flexibility of a mobile machine



For the shredding process, the hybrid TYRON is connected to the power grid via a quick-connect coupling. The new TYRON hybrid offers maximum efficiency and mobile flexibility with an environmental bonus.





Connection system
The TYRON can be conveniently connected to the mains.

Efficient drive - without exhaust emissions during operation



Our hybrid TYRON is designed for maximum shredding performance. The electric motor offers a clear advantage in energy efficiency compared to the diesel engine due to its high efficiency. With constantly high throughput rates, up to 70% of energy costs can be saved compared to diesel-hydraulic driven versions.



- 280 kW electric
- 43 kW diesel power unit for mobility
- integrated noise insulation
- reversible fan
- traffic light system for operating status
- fire extinguishing system

HAAS customised

TYRON Stationary

In stationary recycling plants the TYRON is very often used as the first machine of a processing line. The pre-shredded material can be further processed with subsequent machines. We configure your stationary shredder according to your individual requirements and conditions.



HAAS Tracking Portal

With this online platform you have a clear overview of the machine data and operating conditions of your HAAS machines and plants.

XL-Power Upgrade

The upgrade with reinforced hydraulic system convinces with 30 % more power and through-put!

ATEX-Compliant

If required, we can plan and deliver the primary shredder ATEX-compliant for use in potentially explosive areas.

Facilitated service access





Maintenance platforms

- access door to the grinding chamber secured with key transfer system

Flexible heights



Steel support frame

- individual solutions possible depending on local conditions

Efficient Drive



Powerful electric motors

- up to 2x 160 kW
- soft start instead of star-delta circuit (reduction of starting currents by 25%) to avoid peak currents

Customised feeding area



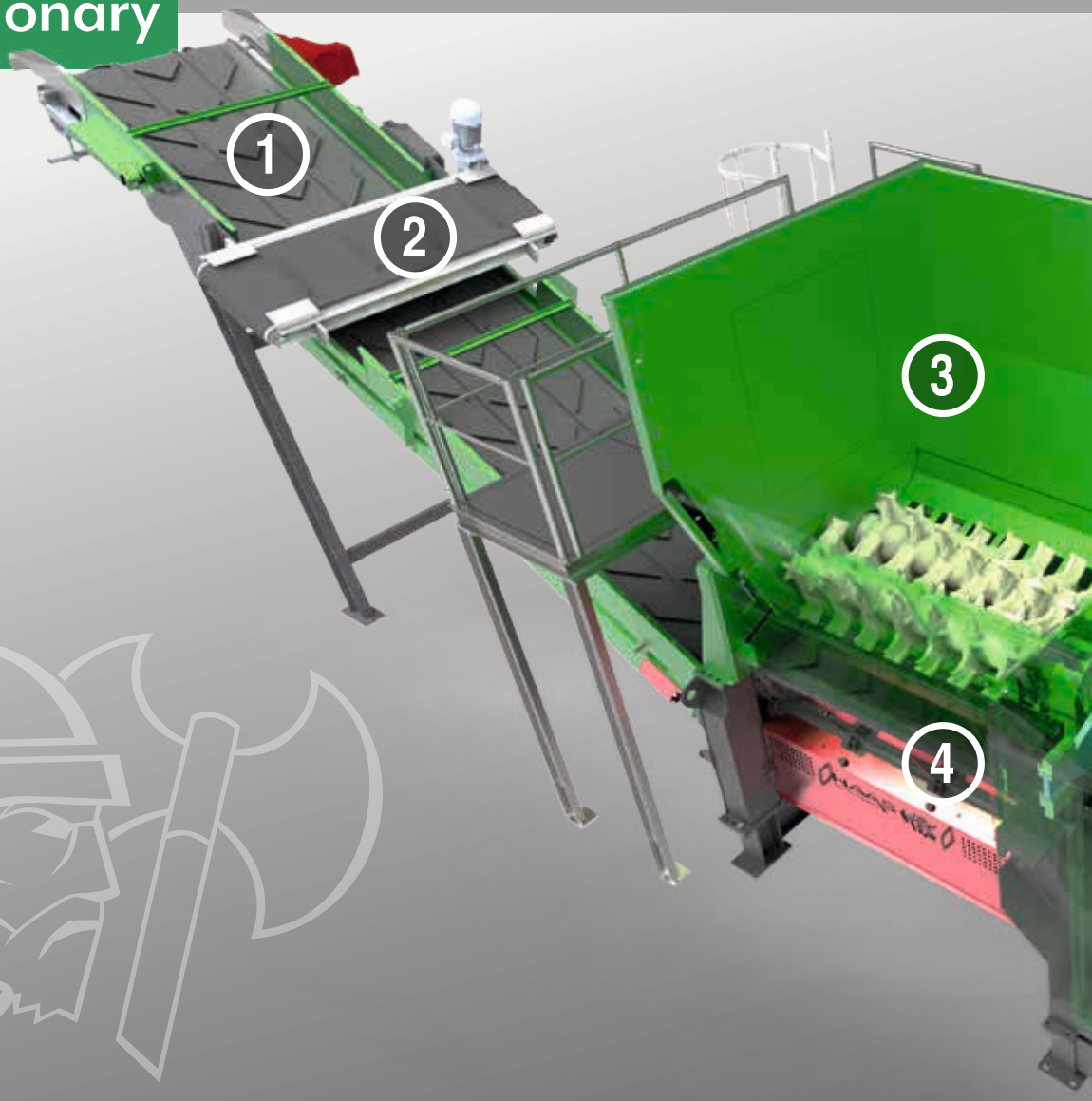
Tailor-made feed hopper

- extended feeding area due to additional hopper extensions
- individual hopper solutions for maximum throughput



Customised Solutions

TYRON Stationary



1





Discharge Conveyor

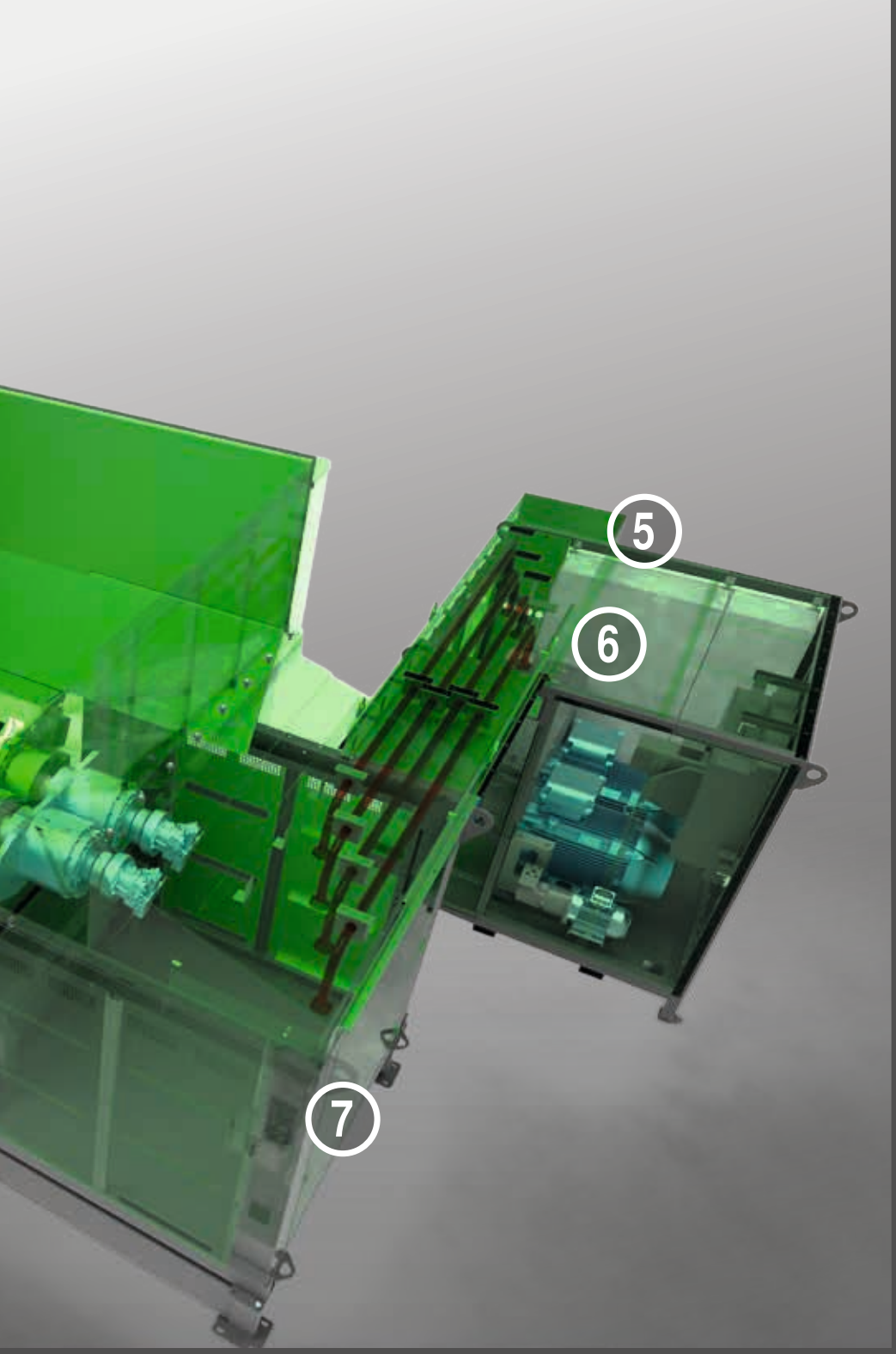
- 1400 mm wide
- individual discharge height
- on request with steel core or MOR conveyor belt
- conveyor speed adjustable
- adjustable tilt angle
- with stainless steel head drum (for use with magnet)

2



Powerful overband magnets

- optional electric or permanent magnets
- installed across or inline







Powerpack

- separate drive unit
- safety plus thanks to the encapsulated hydraulics
- optimal acoustic insulation
- reversible fan
- electric pump for hydraulic oil
- heater for hydraulic oil
- fire extinguishing system



Remote control

- start/stop automatic mode
- magnet height adjustment
- reversing the shafts
- operating the tilting hopper
- emergency stop button



Dust minimisation

- minimise dust emissions in the areas:
  - feed hopper
  - discharge conveyor
  - material discharge



Maintenance friendly shredding compartment

- wide opening side doors
- easiest access
- highest safety standard secured with key transfer system



Multifunctional control

- control board and management of the machine data
- configuration of dynamic shredding programs
- Input/output test electrical system
- all languages available
- diagnosis via HAAS Tracking Portal
- WIFI access (machine data on Tablet/ mobile phone)

TYRON Combinations

TYRON Mobile



TYRON & ARTHOS The mobile hammermill shreds pre-shredded waste wood, green waste, RDF - Refuse Derived Fuel and PVC waste thoroughly and quickly.



TYRON & ALVA The mobile HAAS starscreen is the perfect screening system for green waste, roots or waste wood. The screening of a defined useful fraction takes place with direct return of overlengths into the primary shredder at the same time.



TYRON & HEXTRA Ecostar's patented „dynamic" screen guarantees maximum performance even with materials that are difficult to separate. With this screening machine you can produce either 2 or alternatively 3 fractions.

HAAS recycling plants

TYRON Stationary



Waste wood recycling plant In Cologne the high capacity processing plant for the treatment of approx. 120,000 tons of waste wood per year, includes the stationary TYRON as the first machine of the line, which shreds waste wood of classes A I, A II and A III.



Light Scrap Compact Plant The TYRON -here with separate Power-Pack- is used for shredding aluminium and light scrap. In this way the optimum grain size for the following ferrous and non-ferrous separation is achieved.



Shredding and sorting plant: In Sweden the TYRON „works“ in a combined waste wood and commercial waste recycling plant. The shredding program can be changed at the push of a button and guarantees maximum flexibility.

HAAS Machine Service



Original HAAS Spare Parts

Only with the original, you are on the safe side. Experts choose HAAS because performance and costs are their main concern. HAAS spare parts are high-quality parts from state-of-the-art production and are subject to rigorous testing and continuous quality control.

Customised Service Packages

We provide you with spare and wear parts tailored to your specific needs.
Packages at fair prices guarantee you foreseeable machine costs and, additionally, minimum downtime.

HAAS Tracking Portal

The HAAS tracking platform allows both you and us to check the operating status of HAAS machines and plants. In the event of a malfunction, we can help you by remote diagnosis in a cost-effective, fast and uncomplicated way! No inspection or maintenance is forgotten.

Economical. Reliable. Value stable.

Wear parts of shredders are exposed to enormous loads - therefore, when you purchase your shredder, decide for best quality and thus for the success of your company!
Your satisfaction is our greatest asset, HAAS machines are therefore designed for highest quality!

Contact us:
+49 2661 9865-0

Your advantages with HAAS:

- spare parts shipment on request within 24 hours
- high availability
- qualified, solution-oriented consulting
- highly skilled spare parts experts
- quick help in identifying the required spare part



Powerful 2nd hand machines and demo units

Strong design, heavy-duty construction and durability - HAAS machines convince with their long-term value and are highly sought-after even as used machines.

YOUNG TYRON Demo Maschine

The "Young Vikings" are strictly tested HAAS demo machines in top condition, with very low operating hours and include a comprehensive warranty package".

The "Skilled Vikings" are HAAS pre-owned machines that have already proven themselves extensively in the field. HAAS machines are known for their extreme durability and quality. These very experienced Vikings pass an extensive quality check and a complete overhaul. During this process, all technical and mechanical components are checked, replaced if necessary and, as a rule, body parts are repainted. You will receive a detailed list of the renewed spare and wear parts.



HAAS Machine Refurbishment

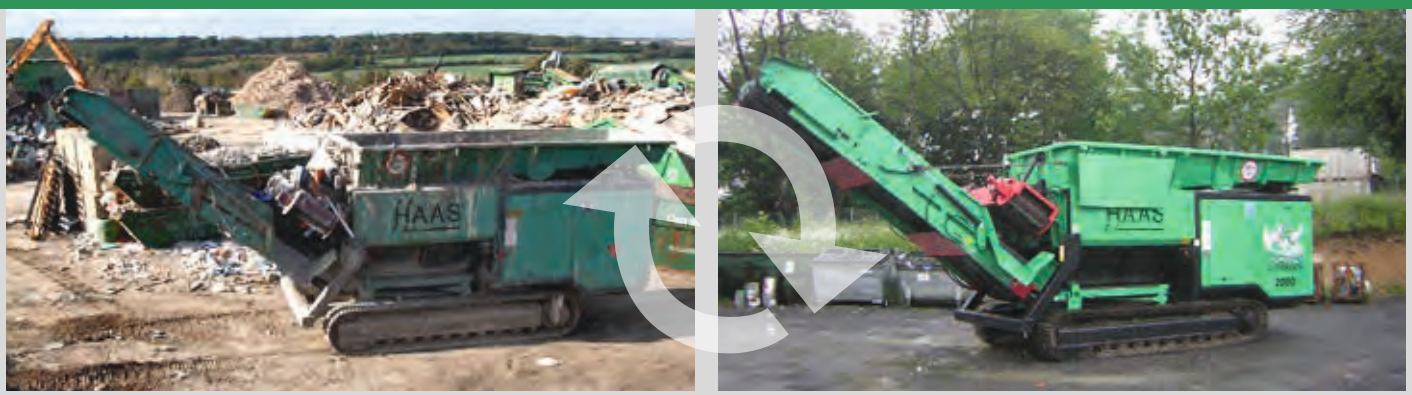
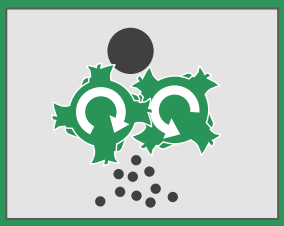
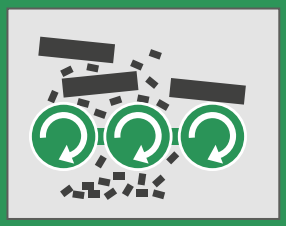


Photo comparison: HAAS TYRON with 15.000 operating hours before and after refurbishment.

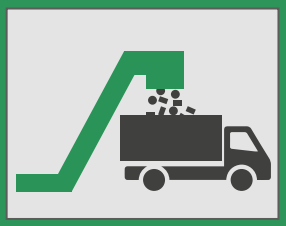
If required, we can offer you a reconditioning of the shafts or even a complete reconditioning of your HAAS machine. All technical and mechanical components are checked, replaced if necessary and body parts are repainted.



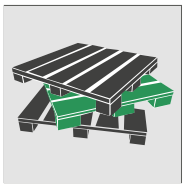
Shredder



Screening & Separating Technology

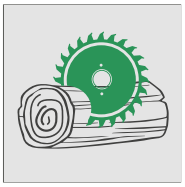


Loading & Unloading Systems









HAAS Recycling-Systems

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