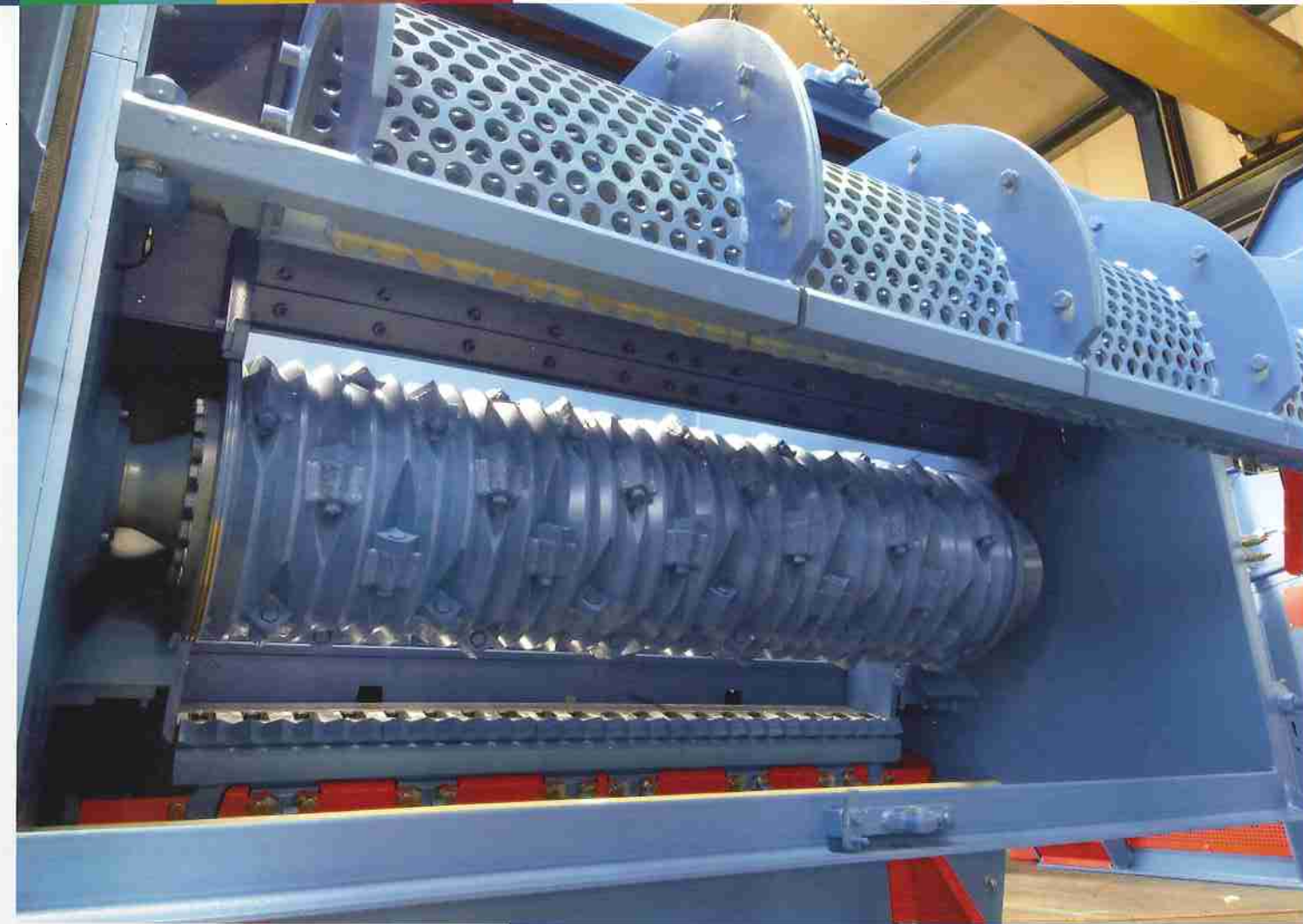


# Vecoplan

sustainable technology



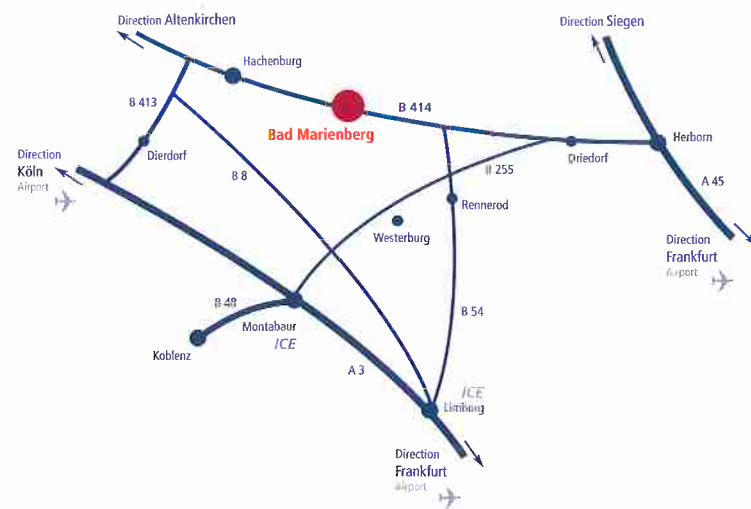
\_Shredding\_Conveying\_Screening\_Separating\_Storing

## Shredders

VAZ

VNZ

VVZ



# Vecoplan

sustainable technology

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Individually tailored VECOPLAN concepts  
for maximum shredding efficiency

## The right machine for every application

### Shredder with conveyor

As a system supplier, VECOPLAN uses conveyors manufactured in-house for transporting materials. The tried and trusted drag chain conveyors are frequently used for this.

01

### Shredder with both screw and drag chain conveyors

A combination of screw conveyor and drag chain conveyor with a common drive is used to transport materials: the optimum solution for achieving large discharge heights without wasting valuable space.

02

### Shredder with belt and overbelt magnet

In many VECOPLAN plants an overband magnet is used after the shredding process to recover steel and iron parts. This makes it possible to minimise the ferrous content in the shredded material. A conveyor with a magnetic drum is used for smaller throughput quantities.

03

### Shredder with tilting hopper

VECOPLAN machines with an attached tilting hopper are ideal for large-sized parts, especially for large material lengths. Thanks to the large hopper, one of the machines from the smaller series can frequently be used, with the associated price benefit.

04

### Double-shaft shredder with conveyor belt

Many of the VECOPLAN plants are equipped with the tried and tested conveyor belts which have been specially designed in-house. The picture shows the discharge from a double-shaft shredder for high throughput capacities.

05

### Shredder with storage bunker

A large shredder from the tried and trusted VAZ series and a storage bunker for the interim storage of chips. In addition to automatic chip input, trucks can also be loaded automatically.

06





Since the company was founded in 1969 VECOPLAN has specialised in shredding technology. From the outset we have consistently developed our machines, perfected the underlying technology and

revolutionised the international market. Thus, our customers around the world benefit from VECOPLAN know-how.

## Benefit from the combination of innovative strength and expertise



Shredders for  
Wood/old timber · Biomass · municipal, industrial and bulky waste · Paper shredding, files and documents destruction · Plastic · Textiles · Packaging · Alternative fuel (RDF)

### Single-shaft shredders

Universal machines for shredding wood, paper, plastic, textiles, packaging and many other materials. Can be used on a single-stage basis or as pre- or re-shredders.

- Drive capacity of 11 to 250 kW
- Throughput capacity of 200 to 25,000 kg/h
- Load-controlled feed slide on the machine base
- Large, free space for unproblematic feeding and high throughput capacity

### Double-shaft shredders

Robust machines for municipal, industrial and bulky waste as well as old timber and biomass.

- Drive capacity of 2 x 75 kW to 2 x 250 kW
- Throughput capacity of 10,000 to 100,000 kg/h
- Machine with 2.10 to 3.10-metre-long rotors for the direct feed of the up to 20 m<sup>3</sup> large feeding hopper.
- Accessories such as „post-pressers“ and tilting hoppers are not required

### Re-shredders

Efficient machines for pre-shredded materials. Particularly economical if noise, dust or obstructions make the operation of a hammer mill (or similar) difficult. Direct feed with a wheel loader, for example, is also permitted. If necessary, non pre-shredded materials can also be fed in.

- Drive capacity of 2 x 75 kW to 2 x 200 kW
- Throughput capacity of 6,000 to 30,000 kg/h
- Rotors 2.0 to 3.0 metres long



Our expertise:  
**VECOPLAN**  
shredders



## From large, bulky feedstock to the smallest required particle

Our patented rotors ensure homogeneous product qualities suitable for transport and further processing – ideal for recycling resources, materials or energy.



### Rotor cooling

Rotors with a diameter ranging from 370 mm can be fitted with an optional water cooling feature. Rotor cooling is recommended if materials with a low melting point have to be shredded or if a very fine grain is required.

### Shaped solid steel rotor

The shaped rotor with four-sidedly applicable rotor tools, a VECOPLAN patent. These rotors are used in both single and double-shaft machines and offer the following benefits:

- very homogeneous and easily transportable grain structure
- low material warming
- the counter-knife combing in the rotor section keeps the screening area free of coarse material. This increases the screen service life and reduces energy consumption
- no time-consuming resetting of rotor and counter-knife
- tools are easy to replace and fit securely
- low noise development
- insensitivity to obstructions

### Solid steel rotor

Two rugged solid steel rotors in the pre-shredder with four-sided applicable, easy-to-replace rotor knives are the prerequisite for high cost-efficiency. Large open areas in front of the shredding tools absorb fine material and therefore increase the throughput, particularly when shredding municipal waste. Contaminants collected in the shredding chamber run through the shredder without any great resistance. Thus, wear and tear is reduced and availability is increased.

### Film and fibre rotor

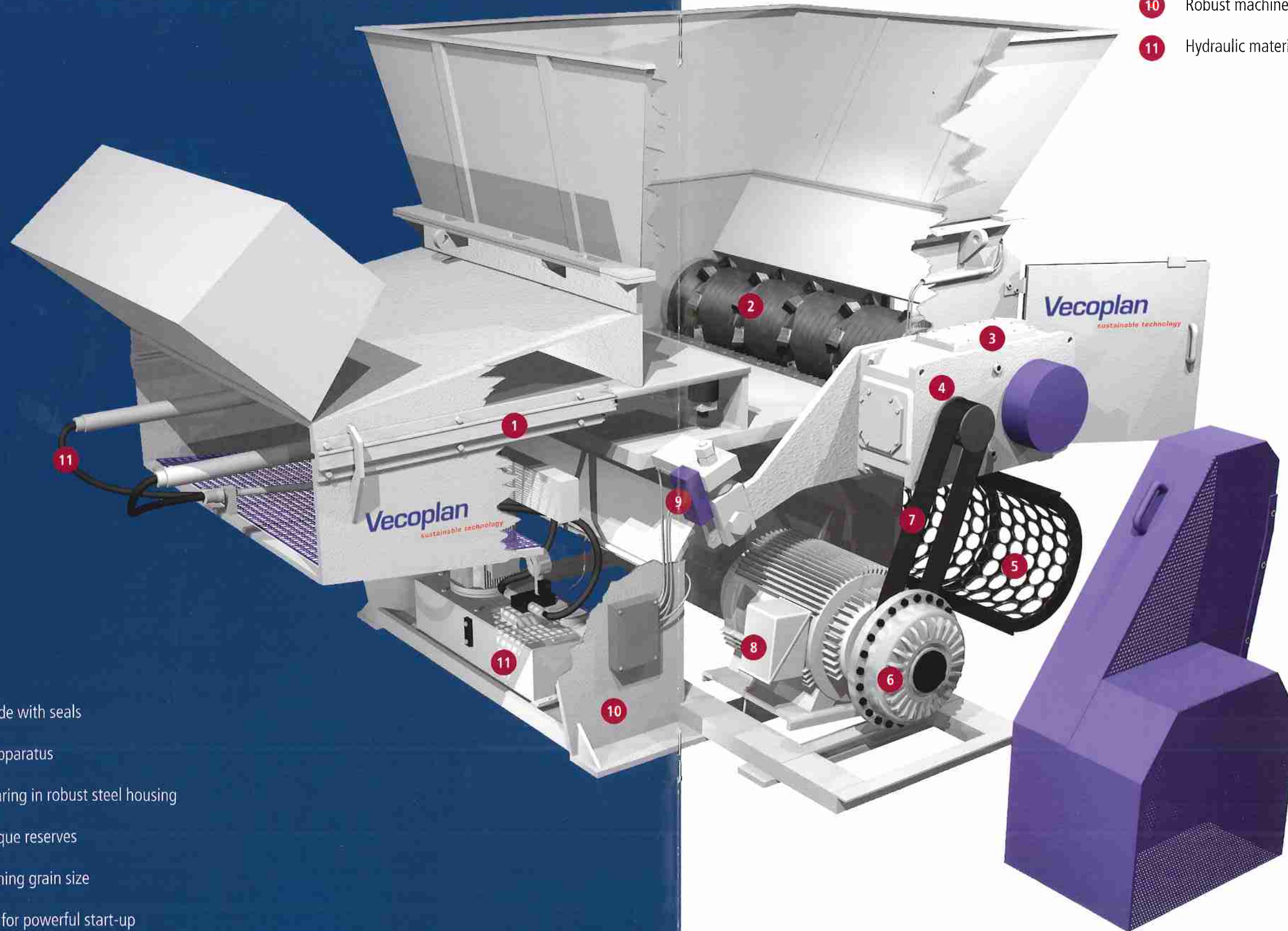
For shredding highly tear-resistant plastic fibres and textiles, airbags, carpet, big bags, ropes and cords. Only with this unique cutting apparatus is it possible to shred difficult materials efficiently.



VECOPLAN  
rotor  
technology



# How shredders are constructed



- 7 V-belt drive
- 8 Main drive motor with temperature-monitoring feature
- 9 Gear fixing device with obstruction shut-off feature
- 10 Robust machine housing
- 11 Hydraulic material feed

- 1 Load-controlled slide with seals
- 2 Patented cutting apparatus
- 3 Spherical roller bearing in robust steel housing
- 4 Gear with high torque reserves
- 5 Screen for determining grain size
- 6 Hydraulic coupling for powerful start-up





### Compact drive

The direct drive with the slip-on gear motor is a functional and particularly cost-effective solution for drive sizes up to 11 kW drive capacity – even for starting with load.

01

### Standard drive with belt drive

The drive concept with electric motor, hydraulic coupling, belt drive and gear is a proven solution for drive capacities from 15 to 160 kW. The hydraulic coupling ensures a smooth start-up and reduces load peaks and energy costs significantly.

02

### Standard drive with propeller shaft

This drive variant with a propeller shaft and hydraulic coupling offers the same advantages as the standard drive described above and is used for driving powers from 90 to 200 kW. The propeller shaft allows the advantage of a space-saving construction and reduces maintenance costs.

03

### Standard drive with hydraulic coupling and direct drive

When re-shredding material, energy requirements are reduced and the life of wear items is increased with higher operating RPMs. Vecoplan's direct belt-drive design with hydraulic coupling makes start-up easier, reduces load peaks and provides high throughput with a homogeneous, high quality end product. these drives are available for motor sizes from 15 to 250 kW.

04

### Hydraulic drive

For high torques of approximately 40,000 Nm to 63,000 Nm VECOPLAN also uses electro-hydraulic drives from well-known manufacturers in addition to electric gear drives. These are mainly used for double-shaft pre-shredders in the field of municipal and industrial waste.

05

### Speedmaster drive

VECOPLAN has developed a drive system that significantly increases shredder throughput, yet dramatically reduces power consumption for motors from 22 to 250 kW. Energy savings, reduced peak loads, improved stopping and reversing action and improved protection for the shredder were all goals achieved with the Speedmaster drive, eliminating all of the well known problems of conventional drive systems.

06

### HiTorc drive

This revolutionary gearless drive with a water-cooled HiTorc motor is suitable for all requirements. It is built in sizes 75 to 250 kW with an infinitely variable speed of 0 to 360 r.p.m. (alternatively from 0 to 420 r.p.m. speedcontrol allows synchronisation with downstream equipment and higher throughput).

Particularly in the case of larger drive capacities the additional costs can be partially paid off in the first year of operation as a result of the energy saving. Depending on the machine utilisation, energy savings of up to 60% are possible!

## Our engineers develop progress itself

### The VECOPLAN drive systems





### Holding-down devices

For increasing efficiency in the case of bulky materials, such as hollow parts, extrusion sections, froth boards, pallets, film bales and packaging material.

01

### Pivotal screen

Pivotal screen for easy removal of obstructions in the case of machines with a pneumatic counter knife and for improved rotor accessibility during maintenance work.

02

### Screen replacement aid

Screen replacement aid for single and multi-part screens to facilitate the easy replacement of screening baskets.

03

### Slide control/slide seal

Slide rails made of highly wear-resistant plastic and robust guide rollers for machines with a rotor diameter of up to 500 mm. With heavy-duty rollers for larger machines. For the high load-bearing, smooth and tilt-free running of the slide. All slide edges with self-adjusting seals prevent material escaping and jams.

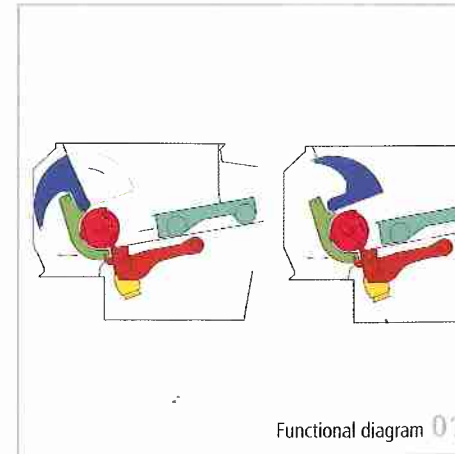
04

### Torque cut-out

As soon as the cutting area detects unshreddable contaminants the machine is automatically switched off via a torque switch on the gear. Consequential damage is thereby limited.

05

## High tech for optimum functionality



*VECOPLAN produces up to 50 tons of heavy individual machines, constructed from components that have undergone stringent under realistic conditions. In order to keep the maintenance requirements as low as possible and therefore to optimise the sequence of operations, VECOPLAN mechanical engineers develop robust machines with long service and maintenance intervals.*





### Pulse detector

Pulse detectors are installed as a standard feature on „Hurricane“ pre-shredders. This pulse detector is recommended on other types of machinery if obstructions can be frequently expected and the machine does not have a flipper or torque cut-out. If a rotor detects unshreddable obstructions, this is immediately recognised by the pulse detector and the rotor is switched off.

01

### Pneumatically lowerable counter knife (flipper)

Pneumatic springs keep the counter knife free from play and centred in the working position. If sudden strokes occur due to obstructions, the crosshead springs down smoothly and without tilting. For easy removal of the obstruction, the counter knife is lowered at the press of a button.

02

The rotor and obstruction are thereby free and easy to access – serious consequential damage is prevented.

### Sliding hub

Belt pulleys with sliding hubs and electronic speed differential measurement are installed in the heavier duty shredders with direct belt drives. The machine shuts down immediately when it detects tramp metal. Consequential damage is largely ruled out.

03

### Cutting crowns

We offer the most cost-effective solution for each application by selecting the optimum geometry, number and size and the optimum material, such as tempering steel, cast steel, tool steel, powder and hard metal.

04

## Product reliability in every detail

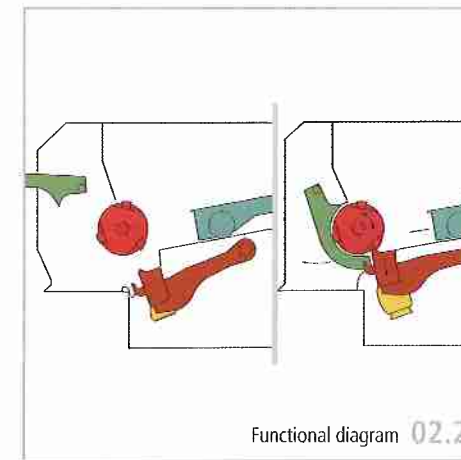
Tramp metal protection made by VECOPLAN



01



02.1



Functional diagram 02.2



03



04

*In addition to the robust construction of our machines, the in-plant safety technology in particular guarantees an exemplary operational flow. Thus, unavoidable contaminants are detected early on and can be remedied at minimal time and expense.*