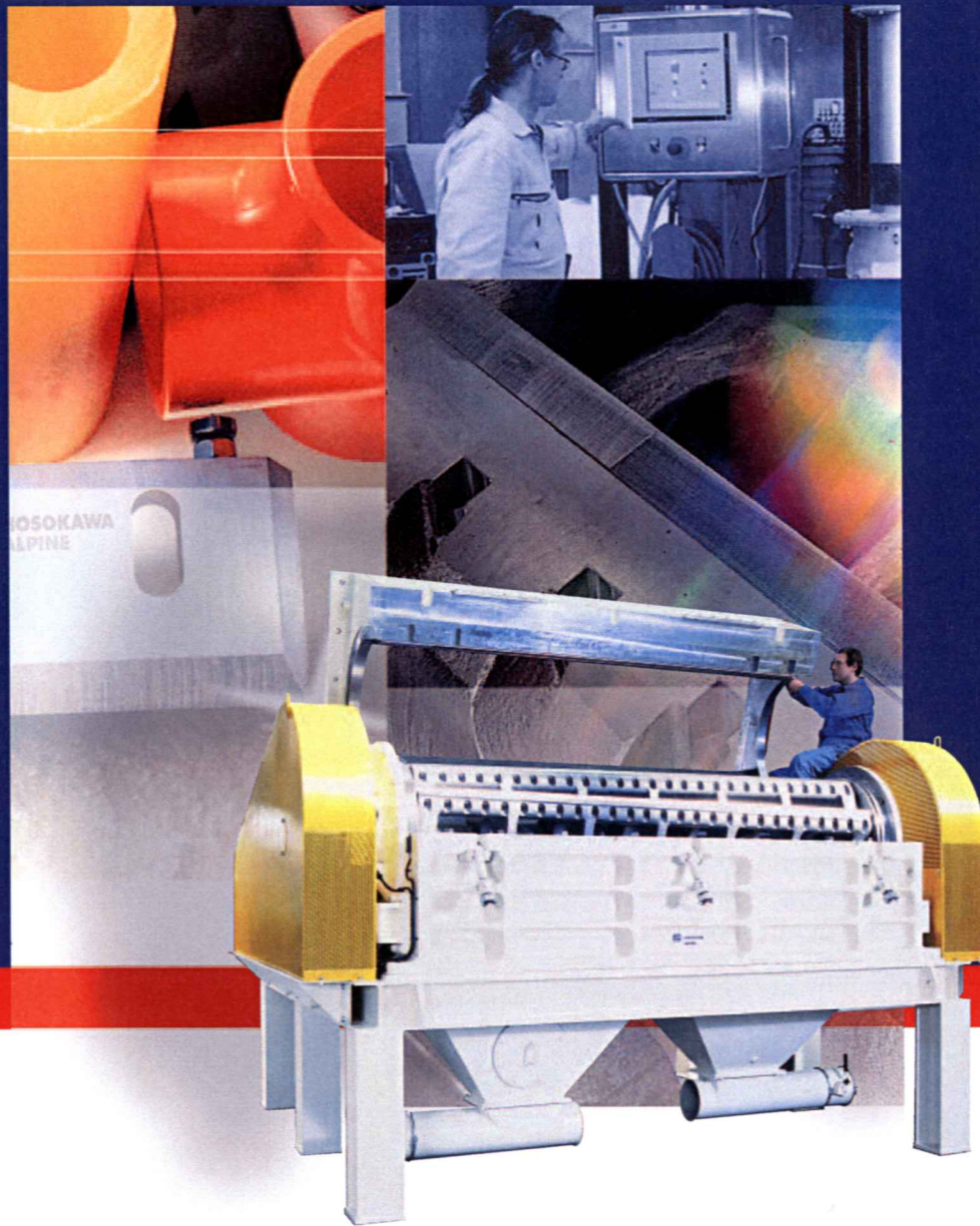


# GRANULATORS

for the Plastics Industry



## HOSOKAWA ALPINE

PROCESS TECHNOLOGIES FOR TOMORROW<sup>SM</sup>

# PARTICLE PROCESSING OUR GRANULATOR PRODUCT LINES



## ECO LINE

The machines of this modular product line all have the same rotor diameter of 150 mm and cutting widths of between 160 and 320 mm. The main application area is as a low-speed auxiliary machine installed right next to the injection moulding or blow moulding machine.

### FEATURES

- 3 sizes ( 2.2 – 4 kW)
- Modular rotor design
- Slow-speed machine
- Compact and sturdy
- Flexible in use because mobile
- Ingenious handling
- Easy to clean
- Attractive purchase price



## POLYMER LINE

When it comes to the low-dust and cost-effective comminution of mouldings, blow mouldings and sprues and flashes, Polymer Line granulators are the right choice. They are a synonym for a wide range of different mill designs intended for use as auxiliary and main mills.

### FEATURES

- 3 different product lines
- Drive power 5.5 – 55 kW
- Double scissor-cut rotor
- Optimal product feed
- Compact design
- Integrated noise insulation
- Attractive price:performance ratio

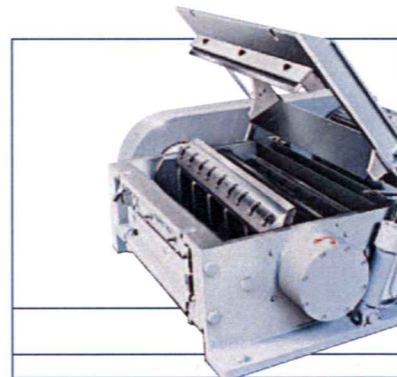


## COMPACT LINE

This product line is absolutely ideal for the central comminution of all kinds of plastics, film and other cuttable products. It is characterised by a modern and user-oriented machine design as the starting point for custom-designed complete systems.

### FEATURES

- Sizes from 30 – 160 kW
- Patented cross-scissor cut
- Optimal accessibility for quick and easy cleaning
- Twofold electrohydraulics for mill and screen
- Standard wear protection measures
- Special designs available

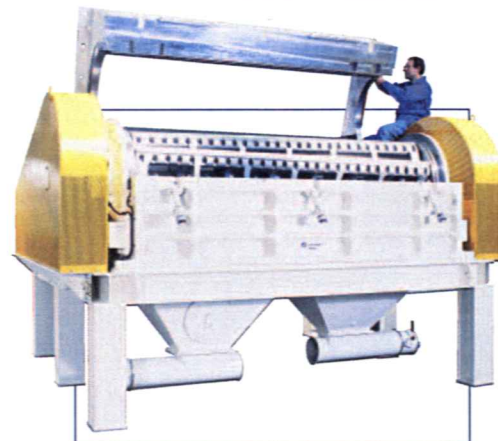


## ROTOPLEX LINE

This product line has almost achieved cult status. The concept and the sturdy machine design make it ideal for any cuttable material – especially if high cutting forces and high throughput rates are required. Although the classic in ALPINE's granulator range, it is upgraded continually to accommodate the latest technology.

### FEATURES

- Sizes from 15 – 500 kW
- Patented cross-scissor cut
- Solid spherulite cast iron design
- High specific cutting capacity for maximum throughputs
- Special designs available
- The exchangeable feed control bars ensure optimal product feeding characteristics



# OUR DUST REMOVAL SYSTEMS



*When comminuting different types of polymer waste, it is difficult to avoid a certain amount of dust, chips and fibrous particles in the end product, in spite of using state-of-the-art granulators.*

## DUST-FREE GRANULES BOOST THE QUALITY

These "powdery" components can adversely affect the quality of the end products and aggravate the whole process, e.g. because of segregation, blocking of filter systems, static charging, lump formation, different melting behaviour, etc. However, with Alpine's dust removal systems, the granulator end product can be made absolutely dust-free with very little effort. The undesirable components are removed from the end product in purpose-built air classifiers. The sum total of all the advantages which result on the one hand from the inexpensive and completely trouble-free operation of the systems, and on the other hand from the optimisation of the whole process, make the systems particularly suitable as an accessory not only for Alpine granulators, but also to upgrade competitor's machines. ALPINE dust removal systems are available with throughput rates of 100 – 3000 kg/h. The modular concept permits a great variety of combination and operation possibilities to match customer-specific requirements. The following page features schematics of the most common variants. Have a chat with one of ALPINE's

specialists or test our dust removal systems with your own product in our application testing centre.

## SYSTEM DESIGN AND PRINCIPLE OF OPERATION

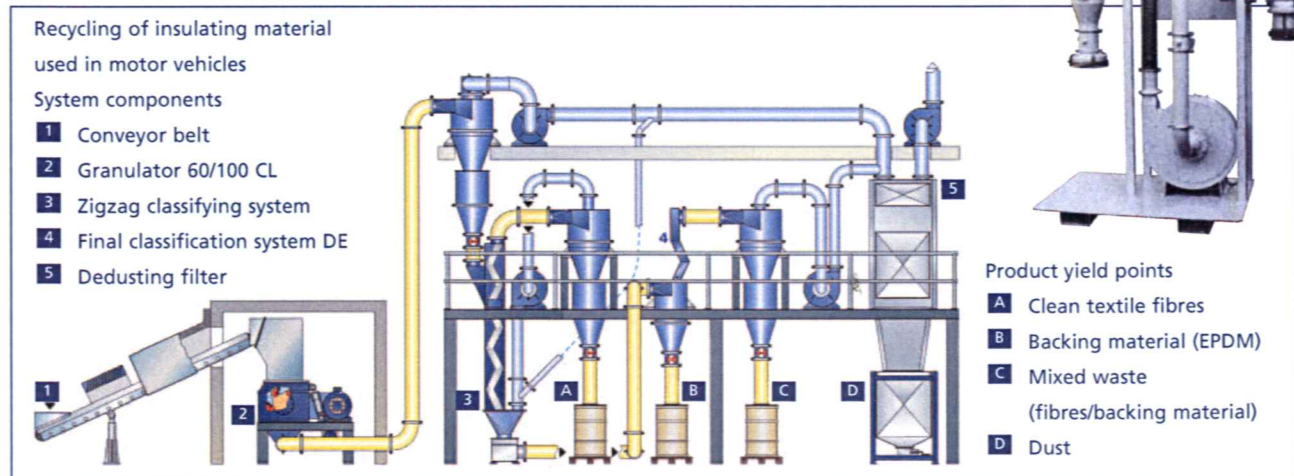
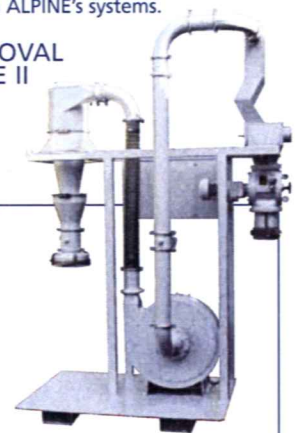
The comminuted material is extracted from the granulator by a fan and transported pneumatically to the classifier. Separation of dust, chips, etc. from the polymer product takes place in a zigzag classifier designed especially for dedusting granules. The dust-free product is discharged from the lower end of the classifier via a sack filling valve or a rotary valve, dependent on the capacity or customer requirements. As an option, an electronic metal separation device can also be fitted in combination with the rotary valve. The dust, chip or fibre fraction removed from the end product is discharged entrained in the air from the classifier and is normally collected in a cyclone. In most cases a sack filling valve serves as the discharge element in this case. The dust-free end product and the simple operation of our dust removal systems are decisive advantages which have given our systems the

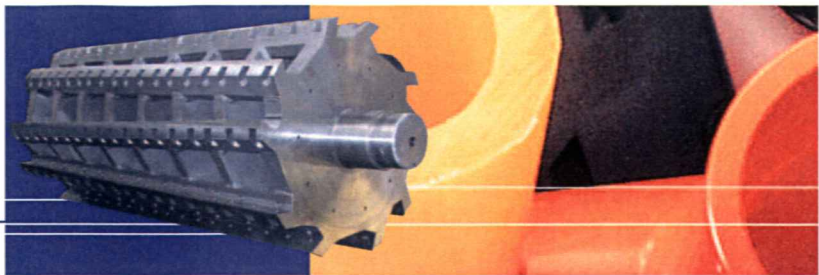
edge on the market. The degree of dust removal is set with a precision butterfly valve. In combination with classifier sizes which are selected to suit the output of the upstream granulator and the air flow rate of the fan, sharp dust separations in the range of 0.3 – 0.8 mm are possible with Alpine's dust removal systems.

## HIGH DEGREE OF OPERATIONAL RELIABILITY

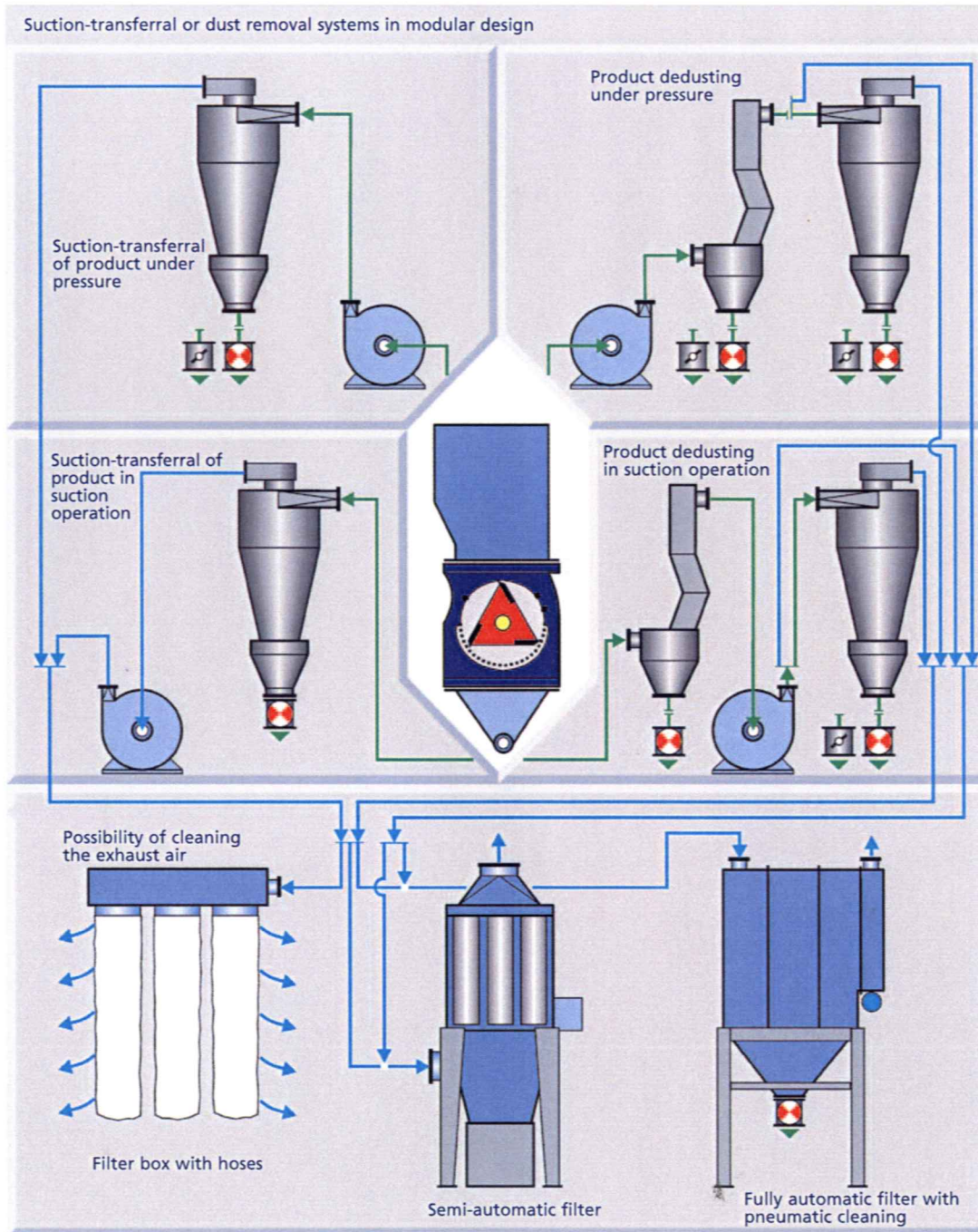
Because (with the exception of the fan) there are no moving parts, wear does not occur during actual operation. As a result, the classifier needs no maintenance. The generously dimensioned openings provide optimum access for quick and easy cleaning. The systems are exceedingly compact in design, and extremely high throughput rates can be achieved with relatively small classifiers. This ensures an excellent price: performance ratio, something which is standard with ALPINE's systems.

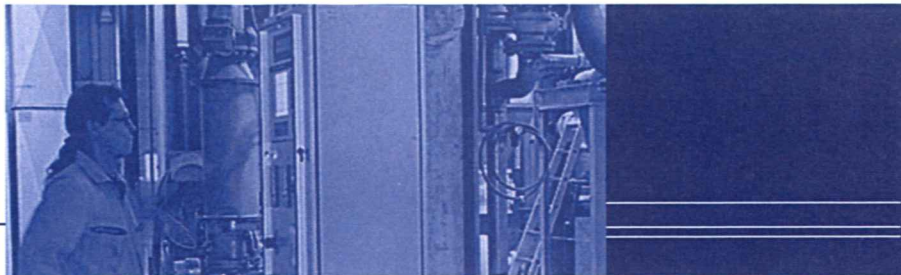
## DUST REMOVAL SYSTEM DE II





## MODULES OF THE ALPINE DUST REMOVAL SYSTEM

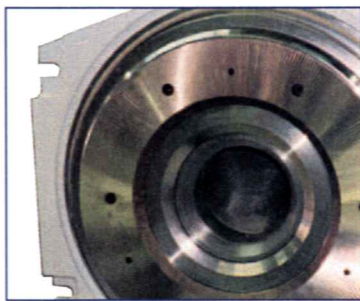




## ALPINE FINE CUTTING MILLS TYPE AFS

### APPLICATION

ALPINE AFS fine cutting mills are employed for the fine grinding of soft to medium-hard plastics in the fineness range of several hundred  $\mu\text{m}$  to 2 mm, whereby it is irrelevant whether the material is fresh or product from a granulator. The achieved end product is characterised by a smooth, cubic shape with extremely good free-flow properties and is thus optimum for further processing.



OPEN MILL DOOR

Type	kW	F
250 AFS	22	1
315 AFS	37	1,6
500 AFS	55	2
800 AFS	75	4

F = approx. scale-up factor

### PRINCIPLE OF OPERATION

The feed material, which generally ranges between 4 and 8 mm in size, is fed to the grinding zone via an intake opening on the mill door. It is then ground as a result of the shearing-cutting effect exercised by the axially adjustable stator disc and the high-speed rotating grinding disc. Grinding is progressive via a conical grinding gap which tapers from the inside to the outside. The finely ground product leaves the grinding zone through an exactly defined gap. Wherever an exact top-size limitation is required, the mill can be operated in circuit with a suitable screening unit. In this case the oversize particles are returned to the grinding zone. Most plastics can be ground under ambient conditions, but where necessary, cryogenic grinding is also possible. Have a chat with one of our application engineers about your specific problem. Our enormous fund of application know-how ensures optimum advice and subsequent customised design of proven single machines and complete systems.

### FEATURES

- One-part toothed grinding discs, optimised with respect to application, wear and maintenance requirement, available with different tooth profiles.
- High throughput rates at low specific energy consumption.
- Exact grinding gap adjustment from the outside by means of a precision adjustment mechanism.
- Grinding element exchange in a matter of minutes.
- Quick and easy access to the grinding chamber to permit cleaning and maintenance procedures.
- High-speed precision bearings provide maximum operating reliability.
- Compact and sturdy design, alternatively in spherulite cast iron or welded.
- Largely automated operation brought about by controlled feed metering.
- Temperature and product level measurement in grinding chamber ensures a constantly high product quality.

