



FILM AND FLAKE SERIES  
CUTTER-COMPACTOR-EXTRUDER-COMBINATION

# C:GRAN

- > Processing of wet materials
- > Optimized material processing
- > Temperature regulation in the cutter bin
- > Efficient extruder

[www.ngr.at](http://www.ngr.at)

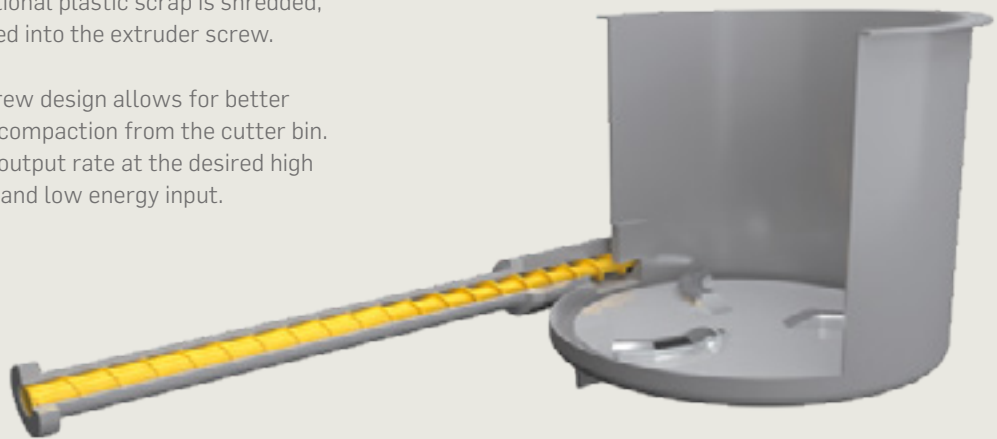
**NGR** <sup>®</sup>  
PLASTIC RECYCLING TECHNOLOGIES

### THE OPERATING PRINCIPLE OF C:GRAN

The plastic scrap is shredded in the cutter bin by rotating blades. Specially arranged guides ensure that the plastic scrap is further compressed in the direction of the rotating blades.

In the cutter bin, the additional plastic scrap is shredded, compressed, heated and fed into the extruder screw.

The advanced extruder screw design allows for better utilization of the material compaction from the cutter bin. This leads to an improved output rate at the desired high degree of homogenization and low energy input.



#### PROCESSING OF WET MATERIALS

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Due to the high heating of the plastic scrap in the cutter bin, it is also possible to process wet materials, e.g. from washing lines, with more than 10%. A partial drying or degassing of print colors or other additives is carried out during shredding and processing.

#### TEMPERATURE REGULATION IN THE CUTTER BIN

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During the cutting process in the cutter bin, the feeding into the cutter bin and the extruder is automatically regulated by temperature sensors.

#### OPTIMIZED MATERIAL PROCESSING

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Thanks to the optimal new cutter design and efficiently arranged material guides, the material is well cut, compressed and heated. The high level of processing in the shortest possible time optimally fills the screw and thus provides high output rates with low energy consumption.

#### EFFICIENT EXTRUDER

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The high level of processing of the material to be recycled and the optimized screw design for every material ensures best possible homogenization and highest output with low energy demand.

## MATERIALS



1. Print-heavy, metal-coated films
2. Film waste
3. HDPE Film
4. Pre-shredded or ground plastic scrap
5. Transparent plastic flakes
6. Plastic flakes from washing lines

## FEED-IN



### 1. ROLL FEEDER

The roll feeder pulls scrap from rolls for processing.

### 2. CONVEYOR

Conveyor belts are the most universal type of material feed – from start-up lumps to roll scrap without core. The metal detector sounds an alarm to prevent entry from metal debris.



Further materials: PC, PPS, ABS, blends, etc.



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Solid engineering, high-quality materials and precise execution ensure a long service life for equipment.

Maintenance-friendly access to moveable parts allows you to quickly change material, efficiently disassemble and assemble wear and tear parts, and minimizes downtime.

The high-speed rotating blades combined with the efficiently arranged guides in the cutter bin ensure fast energy input and heating of the shredded plastic.



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#### EXTRUDER SCREW

Specially developed for the challenges of recycling, the extruder screws provide optimum melt homogeneity.

The extruder screw, which was designed specifically for use with the cutter compactor, takes the already heated material and provides high output rates.

## OPTIONS



### CONTROL UNIT

All equipment functions from feeding to pelletizing are controlled automatically from the easy-to-read NGR touchscreen.

Recipes are managed in the operator control unit, which increases traceability, provides ease of use, and ensures equipment parameters are set properly.



1



2



3

### 1. DOSING

Depending on requirements, additives can be mixed into the material stream on a process-controlled basis.

### 2. DEGASSING

Depending on the level of contamination and volatile matter in the melt flow, single or double venting is applied. Vacuum-supported venting provides improved degassing for critical applications.

### 3. MELT FILTER

Double-piston melt filters are factory standard. So screens can be changed at the pistons without interrupting processing. Self-cleaning back flushing melt filter or BRITAS Automatic Band-Melt-Filters with automatic screen changers are recommended for heavily contaminated materials.

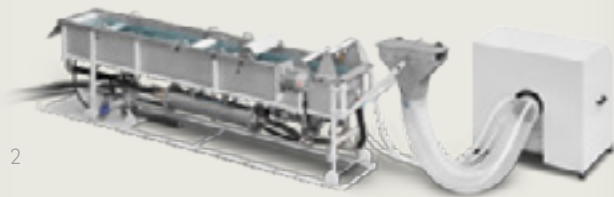


## PELLETIZATION

1



2



3



### 1. HOT DIE-FACE PELLETIZER (HD)

HD pelletizing is used for thermoplastics of all types, except for PA 6.6, PET and PBT melts of lower viscosity. Your employees will benefit noticeably from quick and easy configuration of cutter blades, their long periods of use, and the ability to set blade pressure.

### 2. STRAND PELLETIZING (SP)

Strand palletizing is used for low-viscosity melts. Uncomplicated operation helps produce uniform and dust-free cylindrical pellets with excellent mixing properties.

### 3. AUTOMATIC STRAND PELLETIZING (A-SP)

Alongside the benefits of SP, the A-SP option offers the additional convenience of fully-automated start-up.

## PELLETS



In addition to high quality, the uniform pellet size also provides for homogeneous mixture in new material. NGR thus plays an indirect role in ensuring consistent quality in the final product.



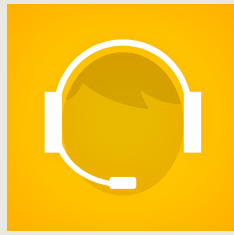
## HIGH-GRADE RAW MATERIAL

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High quality recycled pellets tested to standard EN 15343 et seq.

Very short residence times between shredding and pelletizing

High-performance filtration and degassing of the melt stream



## CUSTOMER SERVICE

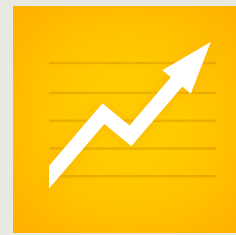
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Test runs with your material at one of our customer care centers

Expert advice in waste management from choosing the right equipment to financing

Commissioning by qualified technicians, rapid on-site service, and internet-based remote maintenance

High availability of spare parts through regional warehouses



## INCREASE PROFITS

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Low operating costs with high plastics throughput, minimal power consumption, and easy operation

Space-saving integration in your material logistics chain

Long service life based on solid engineering and high-quality construction



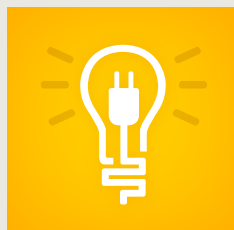
## INNOVATIVE TECHNOLOGY

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Modular design and platform technology

Customized solutions for your post-industrial or post-consumer plastic waste help you achieve maximum yield

Continual developments in technology keep your waste management solution on the cutting edge



## POWER INTELLIGENCE

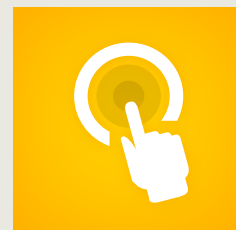
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Power Intelligence is a key concept in the design of high-performance equipment with minimal power and resource requirements

Use of the heat from the shredding process

Closed loop cooling water system

Control unit provides power management



## EASY OPERATION

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The central operating element controls all equipment functions from feeding to pelletizing, etc.

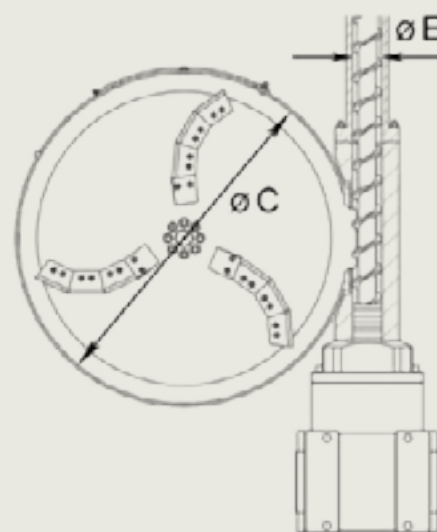
Easy-to-operate equipment

Simple servicability, allows for fast change of material

The computer-controlled system optimizes the processing steps and stabilizes process parameters

# C:GRAN

	ØE [mm]	ØC [mm]	max* [kg/h]	max* [lbs/h]
C:GRAN 65-90	65	900	250	550
C:GRAN 85-110	85	1100	420	925
C:GRAN 105-120	105	1200	600	1320
C:GRAN 125-130	125	1300	850	1875
C:GRAN 145-140	145	1400	1100	2425
C:GRAN 165-150	165	1500	1400	3090



\* Output values for LDPE according to NGR company standard, depending on material and quality.

In addition, NGR provides all the equipment for conveying pellets such as blower, pipes, cyclones and much more.

**Next Generation Recyclingmaschinen GmbH**  
**HQ, Production & Customer Care Center Europe**  
 Gewerbepark 22, 4101 Feldkirchen, Austria  
 Phone +43 (0) 7233 70 107-0, Fax -2

**Next Generation Recycling Machines, Inc.**  
**Sales & Customer Care Center America**  
 3000 Center Place, Suite 100, Norcross, GA 30093, USA  
 Phone +1-678-720-9861, Fax -9863  
 Toll Free (USA only) +1-877-640-2828

info@ngr.at, [www.ngr.at](http://www.ngr.at)

**Taicang Next Generation Recyclingmachines, Co., Ltd.**  
**Sales & Customer Care Center China**  
 15F-1504 Dong Ting Building, 319 Middle Zheng He Road  
 Taicang, Jiangsu 215400, China  
 Phone +86 (0) 512 536 52-100, Fax -332