GRANULATORS

Reprocessing Plastic Scrap into Valuable Regrind

world of innovation

BESIDE-THE-PRESS
CONVENTIONAL BLADE GRANULATORS

The **G-Max Series**
Smart engineering in compact granulators

Specifically designed for closed loop recycling of sprues/runners discharged from injection machines of up to 400 tons clamping force.

» Combining energy saving, a compact footprint and a unique damper cutting chamber for significant noise reduction, ensuring a quiet and efficient operation.

» Portable device, allowing greater versatility.

» Eco-design feature: **G-Max Series** IE3 Premium Efficiency motor with noticeable power saving.

» Compact footprint.

A unique concept for today's market
A remote control replaces the conventional electrical cabinet. This new concept allows standard functions not available on a conventional design.

» Hour counter with digital display.

» Display of status:
- Belt breakage.
- High level sensor.
- Phase detector to make sure that the rotor direction is correct and not missing a phase.

» Visual determination of the granulator with multicoloured **ambiLED**.

» Electrical interface to stop the granulator when the IMM is turned off to save energy.

» Two positions of the granulator's remote control box on the granulator to place the front panel in the right position for operator checks.

» 3 meter cable allowing the placement outside a safety guard.

Automatic pretensioning system for the belt with detection of belt breakage

» No maintenance.

» Energy efficient.

» No risk of oil leakage.

The **G-Max 12** and **24** feature a staggered rotor, allowing faster processing, and also provide a powerful cutting force by concentrating the total granulation energy into one short knife at a time.

The **G-Max 33** has a hybrid staggered rotor with open spaces between the rotating knives and the center of the shaft, providing unrestricted air-flow through the cutting chamber. This model is well suited for granulating heat-sensitive resins or feedstocks that are still warm from processing.

The rotor is made from large components, adding mass in order to cut through the thickest scrap and also providing good stability in the transfer of high torque.

The **G-Max Series** features a screen with conical shaped holes, making it easier for soft tacky regrind to pass through the screen. This also helps to minimize screen hole plugging.

G-Max Series: Technical Specifications

G-Max 12 (Available in January 2017)

» Cutting chamber: 198 x 169 mm
» Number of blades: 3 x 4
» Throughput: 50 kg/h*
» Motor output: 1.5 kW
» Rotor diameter: 180 mm
» Regrind bin capacity: 10 liters

G-Max 12

NEW RANGE

G-Max 24 (Available in 2017, quarter 2)

» Cutting chamber: 325 x 190 mm
» Number of blades: 3 x 8
» Throughput: 80 kg/h*
» Motor output: 2.2 kW
» Rotor diameter: 180 mm
» Regrind bin capacity: 12 liters

G-Max 33 (Available in January 2017)

» Cutting chamber: 460 x 235 mm
» Number of blades: 3 x 3
» Throughput: 110 kg/h*
» Motor output: 3 kW
» Rotor diameter: 220 mm
» Regrind bin capacity: 16 liters

G-Max 33

Standard features

» Automatic pretensioning system for the belt with detection of belt breakage.
» Capacitive high level sensor for regrind bin .
» Screen with conical holes: diameter: 5 mm.
» Swivel outlet pipe.
» Rotor direction and missing phase detection.
» IE3 Premium Efficiency motor.

Additional features

» Water cooling circuit.
» Rotating paddle into regrind bin to prevent bridging around the take-off pipe.
» Regrind size : 4, 6 or 8 mm.
» Magnet along the hopper.

* Depending on material, shape, density of sprues/parts to be processed and regrind size. – Specifications subject to change without notice.

MAS Series: Technical Specifications

MAS 1

- Staggered rotor allows for power to be transmitted to less cutting surface area to process harder to cut materials and/or thicker sprues.
- Knife gap setting inside the machine.
- Cutting chamber: 130 x 247 mm
- Number of blades: 3 x 3
- Throughput: 30 kg/h*
- Motor output: 2.2 kW
- Regrind size : 4, 5, 6 or 8 mm

MAS 2

- 3-blade open rotor with adjustable rotating knives.
- Stationary knives and scissor-type cutting action for efficient processing of thin, soft, flexible materials.
- Open rotor allows for higher airflow through the cutting chamber for more efficient processing of hot scrap.
- Knife gap pre-adjustment fixture allows for easy, safe, and accurate knife gap adjustment.
- High level sensor for regrind bin level.
- Cutting chamber: 247 x 225 mm
- Number of blades: 3
- Throughput: 70 kg/h*
- Motor output: 4 kW
- Regrind size : 4, 5, 6 or 8 mm

MAS 3

- Staggered rotor allows for power to be transmitted to less cutting surface area to process harder to cut materials and/or thicker sprues.
- Knife gap setting inside the machine.
- High level sensor for regrind bin level.
- Cutting chamber: 325 x 190 mm
- Number of blades: 3 x 8
- Throughput: 80 kg/h*
- Motor output: 4 kW
- Regrind size : 4, 5, 6 or 8 mm

* Depending on material, shape, density of sprues/parts to be processed and regrind size. – Specifications subject to change without notice.

MAS 4-HD Conventional Blade Granulator

The **MAS 4** has had a redesign and is renamed the **MAS 4-HD**. This offers a highly effective conventional screened granulator for the in-line recycling of soft to medium sprues and defective parts.

Belt drive

The redesigned **MAS 4-HD** has a Poly-V belt transmission drive with pre-tensioning features. This ensures great adaptability in grinding thick sprues, runners and defective parts.

The large torque of the rotor and a solid flywheel provide more cutting power for smooth, steady and reliable operation, especially when cutting thick cross-sectional materials.

The belt drive absorbs stress and vibration during operation and this helps reduce wear and noise.

The belt drive offers energy savings compared to a gear motor due to highest efficiency of the drive.
The motor's output drops down to 3 kW compared to 4 kW with a gear motor.

Retrofit kits are available for the MAS 4 granulator.

- Cutting chamber: 420 x 190 mm
- 3-blade open rotor with adjustable rotating knives
- Throughput: 110 kg/h*
- Motor output: 3 kW
- Regrind size : 4, 5, 6 or 8 mm
- High level sensor for regrind bin level

* Depending on material, shape, density of sprues/parts to be processed and regrind size. – Specifications subject to change without notice.

BESIDE-THE-PRESS SCREENLESS GRANULATORS

- Low speed (27 rpm @ 50 Hz) screenless technology for the most efficient and cost-effective grinding of engineered resins as well as styrenics, acrylics, and glass-fiber-reinforced materials.
- Low speed single pass processing means less wear on cutting tools for reduced maintenance, low sound levels, and low power consumption.
- Low speed/high torque for grinding hard and brittle plastics.
- The helical cutting design also boosts energy savings, the hardened combs can be reversed to double their life-time and reduce maintenance costs.
- Granulators operate below 70 to 75 dbA with most tough engineered materials.

MINOR 2

The economic choice with a compact design

Ideal for the processor that has injection molding machines less than 110 tons.

A compact package designed to accommodate tight spaces and conveyor or robot drops.

The low speed decreases noise and fly back during operation and provides a better quality, consistent regrind.

Enhance your molding process with uniform regrind and with reduced dust.

Consistent size of regrind with fewer fines that melt more uniformly, resulting in fewer rejected parts and reduced costs.

- Regrind size: 4 or 5 mm
- Cutting Chamber: 240 x 249 mm
- Number of cutters: 2
- Throughput: 12 kg/h*
- Motor output: 1.1 kW

Standard features

- Stainless steel regrind collection bin.
- Stainless steel hopper properly sound-dampened.
- Swivel outlet bin for 360 degree positioning of vacuum hose.

Optional features

- **ARS Automatic Reversing System** to help avoid rotor blocking in case of jams, aiding the granulation of thicker-walled or tougher plastics
- High level sensor for regrind bin level.
- Magnet along the hopper.

* Depending on material, shape, density of sprues/parts to be processed and regrind size. – Specifications subject to change without notice.

Ideally suited for metered robot or conveyor feed beside injection molding machines up to 300 tons.

The small footprint accommodates tight spaces and the wide-mouth, flared in-feed hopper easily handles a range of robot or conveyor drops and sprue/runner sizes.

Quiet, energy efficient: the **JUNIOR Compact Series** conserves valuable floor space while producing quality regrind from robot-fed sprues, runners and small parts.

JUNIOR 2 Compact

- Cutting Chamber: 240 x 346 mm
- Number of cutters: 2
- Throughput: 20 kg/h*
- Motor output: 1.5 kW
- Regrind size: 4, 5 or 7 mm

JUNIOR 3 Compact

- Cutting Chamber: 240 x 467 mm
- Number of cutters: 3
- Throughput: 30 kg/h*
- Motor output: 2.2 kW
- Regrind size: 4, 5, 7 or 10 mm
- Storage of cable cord

Standard features

- Viewing window to provide visibility to the cutting chamber.
- Stainless steel regrind collection bin.
- Stainless steel hopper properly sound-dampened.
- Swivel outlet bin for 360 degree positioning of vacuum hose.
- Enlarged hopper for large sprues.

Optional features

- **ARS Automatic Reversing System** to help avoid rotor blocking in case of jams, aiding the granulation of thicker-walled or tougher plastics.
- The second shaft (optional on **JUNIOR 3 Compact**) eliminates large runner bridging. It is a force feed system within the hopper, designed for large sprues into the multi-stage cutting area.
- Magnet along the hopper.
- High level sensor for regrind collection bin.

* Depending on material, shape, density of sprues/parts to be processed and regrind size. – Specifications subject to change without notice.

SCREENLESS GRANULATORS
for Central Scrap Reclamation

JUNIOR DOUBLE Series

Equipped with two rotors in the cutting chamber for large sprues and parts, the **JUNIOR DOUBLE** is typically used offline, located away from the process.

Material is fed into the granulator by a belt conveyor belt or by dumping the content of a box directly into the feed hopper of the machine.

It features a rugged self-aligning gearbox that is able to transmit the heavy shock loads experienced while grinding tougher plastics.

JUNIOR DOUBLE 4

» Cutting Chamber: 530 x 346 mm
» Number of cutters: 4
» Throughput: 40 kg/h*
» Motor output: 2 x 2.2 kW
» Regrind size: 5, 7 or 10 mm

JUNIOR DOUBLE 6

» Cutting Chamber: 530 x 467 mm
» Number of cutters: 6
» Throughput: 60 kg/h*
» Motor output: 2 x 2.2 kW
» Regrind size: 5, 7 or 10 mm

JUNIOR DOUBLE 8

» Cutting Chamber: 530 x 588 mm
» Number of cutters: 8
» Throughput: 70 kg/h*
» Motor output: 2 x 2.2 kW
» Regrind size: 7 or 10 mm

JUNIOR DOUBLE

Standard features

» Swivel outlet bin for 360 degree positioning of vacuum hose.
» Viewing window to provide visibility to the cutting chamber.
» Stainless steel regrind collection bin.
» Stainless steel soundproof hopper.

Additional features

» **ARS Automatic Reversing System** to help avoid rotor blocking in case of jams, aiding the granulation of thicker-walled or tougher plastics.
» Doublewide with third shaft to pull in and pre-break large parts or nested sprues.
» Motor output : 2 x 3 kW
» Magnet along the hopper.

* Depending on material, shape, density of sprues/parts to be processed and regrind size. – Specifications subject to change without notice.

ML 33
Medium-Sized Conventional Blade Granulator

ML 33

Designed for efficient beside-the-press granulation of medium, bulky parts from injection molding and/or blow molding.

Very rugged unit and extremely versatile, can be used in robot fed, conveyor fed or hand fed applications.

Larger cutting circle and higher power for processing bulkier molded parts and small blow molded parts.

A "slant-knife" arrangement that produces a scissor cutting action provides higher throughputs with less motor power, less noise, and reduced fines and dust.

3-blade open rotor allowing air to pass through the cutting chamber.

This design results in a cleaner more uniform granulate, reduced heat build-up in the granulate, reduced noise emissions and energy consumption.

All cutting knives are adjustable and pre-adjusted to the proper gap outside the granulator with the use of the knife gap pre-adjustment fixture.

Adjustable rotating and stationary knives allow for a constant cutting circle, minimally gapped knives, and longer knife life since knives do not have to be sharpened as a set.

Motor bearings positioned outside the cutting chamber keep grease from contaminating product and regrind from contaminating the bearings.

Both the hopper and screen cradle are easy to open and close, providing simple access for cleaning and maintenance.

- Cutting Chamber: 300 x 300 mm
- Number of blades: 3
- Throughput: 100–150 kg/h*
- Motor output: 5.5 kW
- Regrind size : 5, 6, 8, 10 or 12 mm

Standard features

- Stainless steel hopper properly sound-dampened.
- Stainless steel regrind collection bin.

Optional features

- Cutting chamber with replaceable wear plate against abrasive materials.
- Water cooling circuit around cutting chamber.
- Mechanical high level sensor in the regrind collection bin.
- Inertia flywheel for thicker cross-sectioned parts and minimizing motor amperage spikes.
- Rear feeding for long parts.
- Magnet along the hopper.

* Depending on material, shape, density of sprues/parts to be processed and regrind size. – Specifications subject to change without notice.

UNDER-THE-PRESS GRANULATORS

Scrap is gravity-fed directly from the processing machine, requiring no conveying or manual handling.
Feed from 3-plate mould, or robot/sprue picker with a feed hopper over auger throat.
Available in conventional blade and screenless technology featuring a low-profile design.
Fully portable and automatic.
Low profile compact design fits under most presses.
Variable screw pitch to optimize sprue conveying and to avoid flyback.
Safety signal to stop the granulator when injection moulding machine door safety cage is opened.

SAFETY
EN12012-1 compliant

MINOR 2A

- Screenless/low speed model for hard and brittle materials.
- Low speed (27 rpm) screenless technology for the most efficient and cost effective grinding of glass-filled plastics.
- Screenless technology allows for no "longs" and uniform regrind with minimal fines for efficient re-processing.
- Low speed single pass processing means less wear on cutting tools for reduced maintenance, low sound levels, and low power consumption.
- Low speed/high torque.

MAS 2A

- Conventional model for processing soft to medium hard materials.
- 3-blade open rotor with adjustable rotating and stationary knives.
- Scissor-type cutting action for efficient processing of thin, soft, flexible materials.
- Open rotor allows for higher airflow through the cutting chamber for more efficient processing of hot scrap.

Standard features

- 360° vacuum take-off for evacuation flexibility.
- Stainless steel regrind collection bin.
- Pre-cutting knife to avoid runners from wrapping around and jamming the feed screw.

Optional features

- Metal detection in the auger by **METALSTOP**.
- Water-cooled cutting chamber and/or auger for processing hot materials.
- **ARS Automatic Reverse System** on auger rotor.
- Hopper on auger for robot or conveyor feeding.
- High level sensor for regrind bin level.

Application Photos

G-Max 12 – inside workcell placed under a chute

MAS 1 – inside workcell robot fed

MAS 2A – under-the-mold

WITTMANN Kunststoffgeräte GmbH
Lichtblaustrasse 10
1220 Vienna | Austria
Tel.: +43 1 250 39-0 | Fax: +43 1 259 71 70
info.at@wittmann-group.com

www.wittmann-group.com

Granulators | Article number: BP00000014 (English) | 2016/09 | Subject to change. | Printed in Austria.