

PELLETIZING & PULVERIZING SYSTEMS >

> STRAND PELLETIZING



JSG

Automatic Dry Cut strand pelletizing system
– compounding at the highest level

AUTOMATIK

The proven JSG strand pelletizing system solutions made by MAAG Automatik have been particularly designed to achieve highest throughput rates in plastics compounding. The JSG systems produce cylindrical pellets of perfect quality, ideally suitable for further processing. Variable system configurations allow for optimal matching with the processed material.

Your benefits

- Utmost stable process due to automatic strand feed into the pelletizer upon start-up and during production
- Perfectly adaptable for a wide range of filled and unfilled polymers; extended process window
- Minimum residual moisture due to integrated drying section
- Low staff requirements due to automatic mode operation
- Very high machine availability thanks to wear-resistant cutting tools and minimal maintenance requirements
- Throughput rates of up to 9,000 kg/h with superb pellet quality and minimized product losses

Automatic strand pelletizing system – compounding at the highest level

Processes, machines and systems made by Maag Automatik stand for cost-effectiveness, flexibility and reliability worldwide. With over seven decades of experience and an installed base of currently more than 15,000 pelletizing systems, the company helps its customers to achieve the maximum level of profitability.



Range of applications

JSG strand pelletizing systems are particularly suitable for the production of specialized or reinforced compounds with a variety of fillers based on:

- Polyolefins, e.g. PP, PE
- Styrene polymers, e.g. ABS
- Polycarbonates, e.g. PC
- Polyesters, e.g. PET, PBT, PEN
- Polyamides, e.g. Pa 6, PA 6.6, PA 4.6, PA 12
- Polymer blends

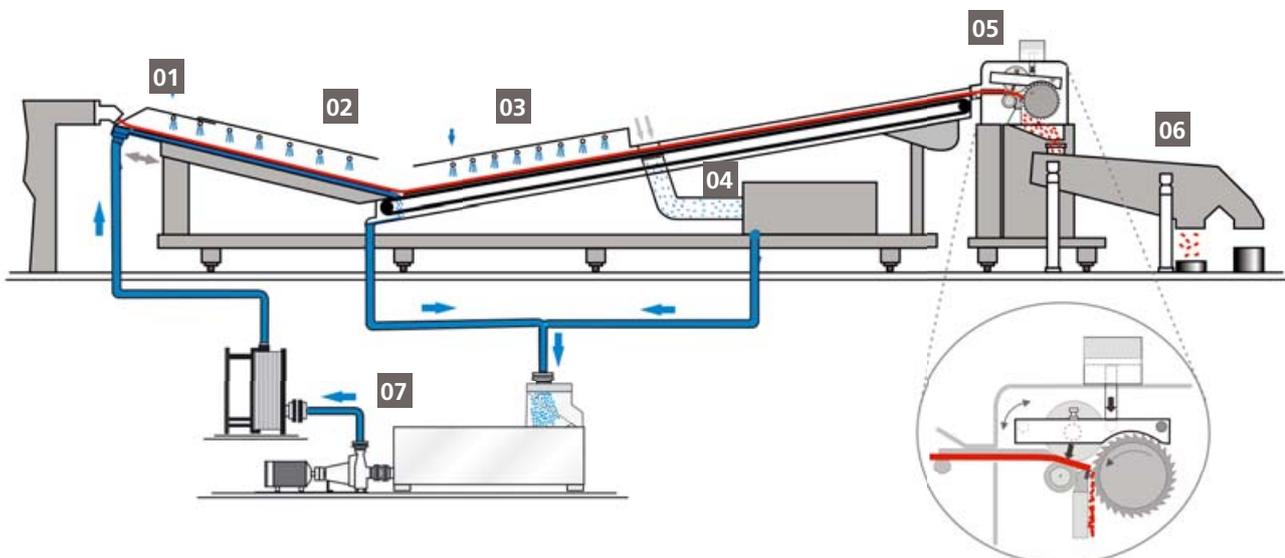
Functioning of the JSG system

Polymer strands extruded from a die head **01** pass through the water-flooded strand guide section **02** where they are cooled.

The water is collected at the end of the strand guide section. The strands are deposited on the conveyor belt **03** and fed to the pelletizer. Suction dies **04** dry the strands prior to cutting and fix them in place on the conveyor belt.

The feed tools **05** of the strand pelletizer catch the polymer strands and direct them to the cutting tools where the strands are cut into pellets. The pellets are then classified, cooled and conveyed in downstream processes **06**.

The cooling water is filtered and tempered in the process water unit **07**, then returned to the strand guide section.



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System components

As your most competent system supplier of Maag Automatik, Maag Automatik provides high-performance solutions to meet your exact requirements. In close cooperation with you we find solutions to increase the efficiency of your pelletizing process – either with specific system components or with complete production lines.

Die head

- Short cooling line: 800, 1500 or 2200 mm
- Space-saving compact design
- Quick and easy operator control
- High degree of process safety
- Safety devices

Strand guide section

- Automatic system start-up
- Automatic take-up and transfer of broken strands
- Increased process reliability due to strand monitoring
- Height-adjustable strand guide section for simple adjustment to process parameters
- Water separation and spray nozzles designed for optimized cooling results
- Start-up scraper available for operating widths above 400 mm

Conveyor belt and air knife

- Tough, temperature-resistant conveyor belt which is easy to dismantle and to clean
- Open-mesh fabric, highly permeable to air and water
- Exhaust air nozzles with variable positioning
- Negative pressure fixes the strands on the conveyor
- Spray nozzles extend the cooling period
- Dehumidification of exhaust air with maximum reuse of process water



SG 900 die head in operation



JSG 600 start-up device with scraper



Variable positioning of the exhaust air nozzles



JSG 300 strand guide section

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System components

The heart of each JSG system is the strand pelletizer. Maag Automatik offers the PRIMO^{Plus} line for medium throughput rates and the M-ASG line for higher throughput rates – each according to your specific requirements.



JSG 600

PRIMO^{Plus} and M-ASG strand pelletizers

- Strand draw-in speeds of up to 180 meter/min
- Automatic strand lacing, supported by air nozzles (patent no. DE 19931222)
- Driven upper steel feed roll
- Minimal effort required for cleaning and setting
- Adjustable pellet length
- Maximum availability due to quick-change die head replacement feature



JSG strand guide section

Cutting tools

- Extended lifetime due to tempering section
- Wide range of materials, e.g. tool steel, tungsten carbide, ceramics, and diamond
- Wedged tungsten carbide cutting rotor available (patent no. DE 19855617)



Transition zone from strand guide section to conveyor belt



Patented wedged tungsten carbide cutting rotor segment

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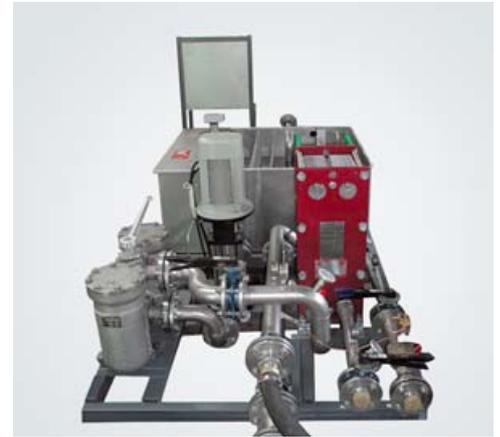
System components

Process water unit

- Continuous filtration of the return water through replaceable filter inserts
- Cooling via plate heat exchanger
- Water tank with refill level control as buffer for system start-up
- Separation of process water from central cooling water supply unit

Classifier

- Contributes to constant high-level pellet quality
- Single-decker to screen out overlengths
- Double-decker to screen out fines and overlengths
- Very low vertical acceleration makes oversized particles slide smoothly on the deck surface
- Quick replacement of sieve insert



PWA 20 A process water unit



Transition zone of a JSG 600: strand guide section – conveyor



Glass fiber compounds

JSG

System components



Classifier with spiral conveyor for downstream processing

Spiral conveyor

- For drying and transporting the pellets
- Easy to clean
- Maintenance-free

Machine controls

- All controls for the system components can be integrated into the controls of the pelletizer (air knife, classifier, spiral conveyor)
- Data exchange with higher-level control systems
- SPS design with process visualization



JSG 400 with classifier and spiral conveyor

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Technical data

Technical data:	JSG 200	JSG 300	JSG 400	JSG 600	JSG 900
Strand pelletizer:	PRIMO ^{Plus}			M-ASG	
Operating width:	200 mm	300 mm	400 mm	600 mm	900 mm
Pelletizer motor power (depending on material type, pellet weight, and pellet size):	5.5-18.5 kW	7.5-22 kW	11-30 kW	15-45 kW	30-75 kW
Line speed:	50-150 m/min				
No. of strands (at 3 mm pellet diameter):	25	40	50	80	120
Length of strand guide section:	2, 3 or 4 m				
Length of conveyor belt:	3, 5 or 7 m				

Throughput [kg/h]*:	JSG 200	JSG 300	JSG 400	JSG 600	JSG 900
PA 6, PA 6.6 + 15-50 % glass fiber or fillers:	2,000	3,000	4,000	6,000	9,000
PE, PP + 15-50 % glass fiber or fillers:	1,000	1,500	2,000	3,100	4,600
ABS/PC blend + 15-50 % glass fiber or fillers:	1,300	2,000	2,600	3,900	5,900
PET, PBT + 15-50 % glass fiber or fillers:	1,600	2,600	3,200	5,200	8,000
PPS + 15-50 % glass fiber or fillers:	1,300	2,000	2,600	3,900	5,900

* At 3 mm of pellet length and 3 mm of pellet diameter; further products on request.



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