



JSG

Automatic strand pelletizing systems – compounding at the highest level



Your systems supplier for all pellet shapes

Automatic dry cut, operating throughput up to 9,000 kg/h

JSG – strand pelletizing at the highest level

Machines from Automatik Plastics Machinery are well-known for economical production, flexibility, and outstanding reliability. With over six decades of experience and an installed base of more than 8,000 pelletizing systems, the company helps its customers achieve the maximum level of profitability.

JSG systems are proven solutions for achieving maximum operating throughputs in plastics compounding. They produce cylindrical pellets of perfect quality, ideally suitable for further processing. Variable system configurations allow for optimal matching to the processed material.

APPLICATION AREA

JSG systems are particularly suitable for the production of specialized and reinforced compounds with a wide range of fillers and fill compositions 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
- Polymer blends

Other polymers available on request:
info@automatikgroup.com

FUNCTIONING OF JSG SYSTEM

Polymer strands extruded from a die head **1** pass through the water-flooded strand guide section **2** where they are cooled.

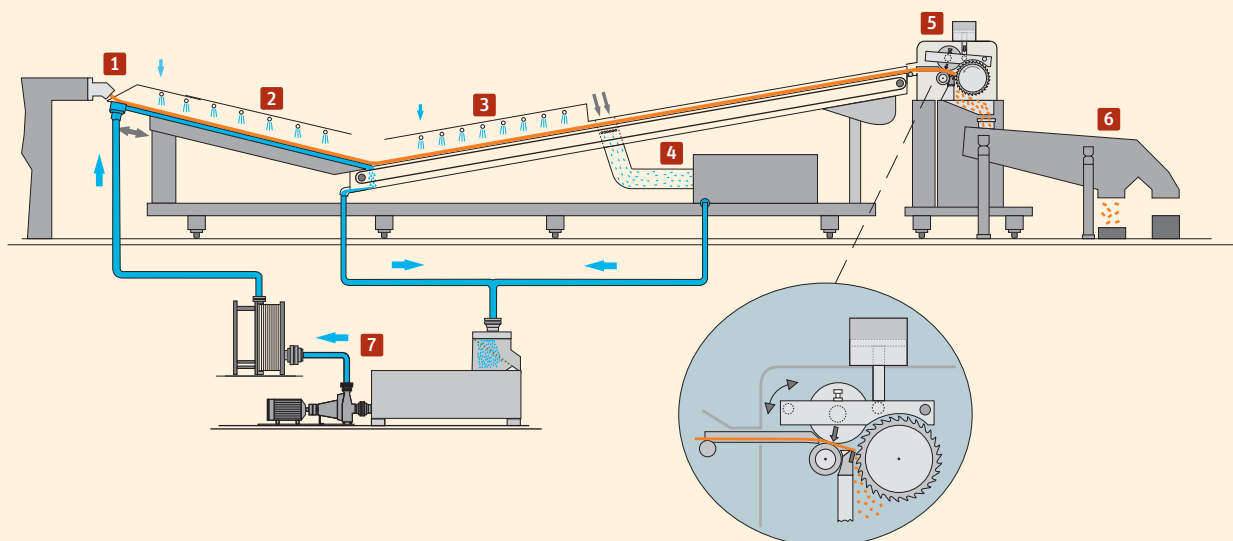
The water is collected at the end of the strand guide section. The strands are deposited on the conveyor belt **3** and fed to the pelletizer.

Suction dies **4** dry the strands prior to cutting and fix them in place on the conveyor belt. Any residual moisture after strand dehumidification evaporates in the subsequent tempering zone.

The strands are cut into pellets in the strand pelletizer **5**.

The pellets are now ready for post-processing **6**, e.g. classifying, cooling, conveying.

The cooling water is filtered and tempered in the process water unit **7**, then returned to the strand guide section.



View of the transition zone from strand guide to conveyor belt



Glass fiber compounds

**YOUR BENEFITS WITH JSG**

- Highly stable process due to automatic strand feed into the pelletizer upon start-up and during production
- Completely adaptable for a wide range of filled and unfilled polymers
- Quick exchange of cutting head provides maximum production availability at a modest investment cost
- High degree of automation minimizes need for operator involvement
- Very high machine availability thanks to wear-resistant cutting tools and minimal maintenance requirements
- Throughput up to 9,000 kg/h with superb pellet quality

From die head to classifier – customized solutions for your requirements

JSG system components

As your most competent system supplier of automatic pelletizing machinery, Automatik Plastics Machinery 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

- Electric or liquid heating
- Absolutely uniform melt distribution
- Extruder connection with swivel joint
- Wear protection for abrasive products

STRAND GUIDE SECTION

- Automatic system start-up

- Automatic take-up and transfer of broken strands
- Increased process reliability due to strand monitoring
- Height easily adaptable for process optimization
- Water separation and spray nozzles designed to optimize cooling
- 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 clean
- Open-mesh fabric, highly permeable to air and water
- Exhaust air nozzles with variable positioning
- Strands fixed to belt by suction
- Cooling time extended by spray nozzles
- Dehumidification of air with maximum reuse of process water



SG 900 die head in operation



JSG 600 start-up device with scraper



Variable positioning of exhaust air nozzle



JSG 300 strand guide section



Transition zone from strand guide section to conveyor belt

The heart of each JSG system is the strand pelletizer. Automatic Plastics Machinery offers the PRIMO^{Plus} line for medium throughputs and the M-ASG line for higher throughputs – each according to your specific requirements.

STRAND PELLETIZER

- Strand draw-in speed up to 150 m/min possible
- Automatic strand lacing, supported by air nozzles
- Driven upper feed roll
- Minimal effort required for cleaning and setting
- Adjustable pellet length
- Quick exchange of cutting head maximizes production availability

CUTTING TOOLS

- Long service life of cutting tools
- Wide range of materials, e.g. tool steel, tungsten carbide, ceramic, diamond
- Wedged tungsten carbide cutting rotor with positive interlock available (patented)



Polymer strands on the conveyor belt



Air nozzles at the transition to the pelletizer



Tungsten carbide cutting rotor segment with patented wedge lock design



JSG system with PRIMO^{Plus} strand pelletizer



View into the cutting head of PRIMO^{Plus}

Everything from a single source

JSG system components



PWA 20 A process water unit

PROCESS WATER UNIT

- Continuous filtration of the return water
- Cooling via plate heat exchanger
- Process water conveyed via stainless steel pump
- Water tank with refill level control as buffer for system start-up

CLASSIFIER

- Contributes to constant pellet quality
- Single decker for screening out overlengths
- Double decker for screening out fines and overlengths
- Reliable function with very low vertical acceleration – oversized particles slide smoothly on the deck surface
- Fast replacement of sieve insert

SPIRAL CONVEYOR

- For final cooling and drying of some special products
- Easy to clean
- Maintenance-free

MACHINE CONTROLS

- All controls for the system components can be integrated into the controls of the pelletizer (e.g. air knife, classifier, spiral conveyor)
- Data exchange with higher-level control systems
- Available in basic PLC version as well as sophisticated process visualization versions



Classifier with spiral conveyor for downstream processing

Technical data

Automatic strand pelletizing systems JSG

	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 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				
Number of strands (at 3 mm 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 rates in kg/h at 3 mm pellet diameter and length (other dimensions on request)

PA 6, PA 6.6 + 15 % to 50 % glass fiber or fillers	2,000	3,000	4,000	6,000	9,000
PE, PP + 15 % to 50 % glass fiber or fillers	1,000	1,500	2,000	3,100	4,600
ABS/PC blend + 15 % to 50 % glass fiber or fillers	1,300	2,000	2,600	3,900	5,900
PET, PBT + 15 % to 50 % glass fiber or fillers	1,600	2,600	3,200	5,200	8,000
PPS + 15 % to 50 % glass fiber or fillers	1,300	2,000	2,600	3,900	5,900

LABORATORY FOR TRIALS AND DEVELOPMENT AVAILABLE

Automatik Plastics Machinery has the largest and best-equipped pelletizing lab in the world. With several lines spread over 2,000 m², we can replicate the production conditions specific to any compounding process and optimize the machine configuration. We even have the only drop pelletizer available in any laboratory environment. Let us take the guesswork out of your process.



Part of the laboratory with three extrusion lines



SPHERO® pellets



Cylinders



Droplets

Your systems supplier for all pellet shapes

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