



## WSG – PRIMO E & PRIMO S

Dry cut strand pelletizing systems for maximum flexibility during production



## Flexible production

### WSG – strand pelletizing of compounds, blends and masterbatches

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.

Successfully used by hundreds of customers, the WSG dry cut strand pelletizing systems with PRIMO E or PRIMO S pelletizers produce the highest quality of cylindrical pellets or micro pellets, ideally suited for further processing.

The systems are available in various configurations to meet a wide range of production demands, thus offering the highest degree of flexibility during product changes.

#### AREAS OF APPLICATION

With these conventional WSG systems, throughputs up to 3,300 kg/h can be achieved for all polymers extrudable to strands. The systems serve for the manufacture of compounds, blends and masterbatches 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
- Thermoplastic elastomers, e.g. TPU, TPE

Other polymers available on request:  
info@automatikgroup.com

#### FUNCTIONING OF WSG SYSTEMS

Polymer strands extruded from a die head **1** pass through the cooling trough **2**.

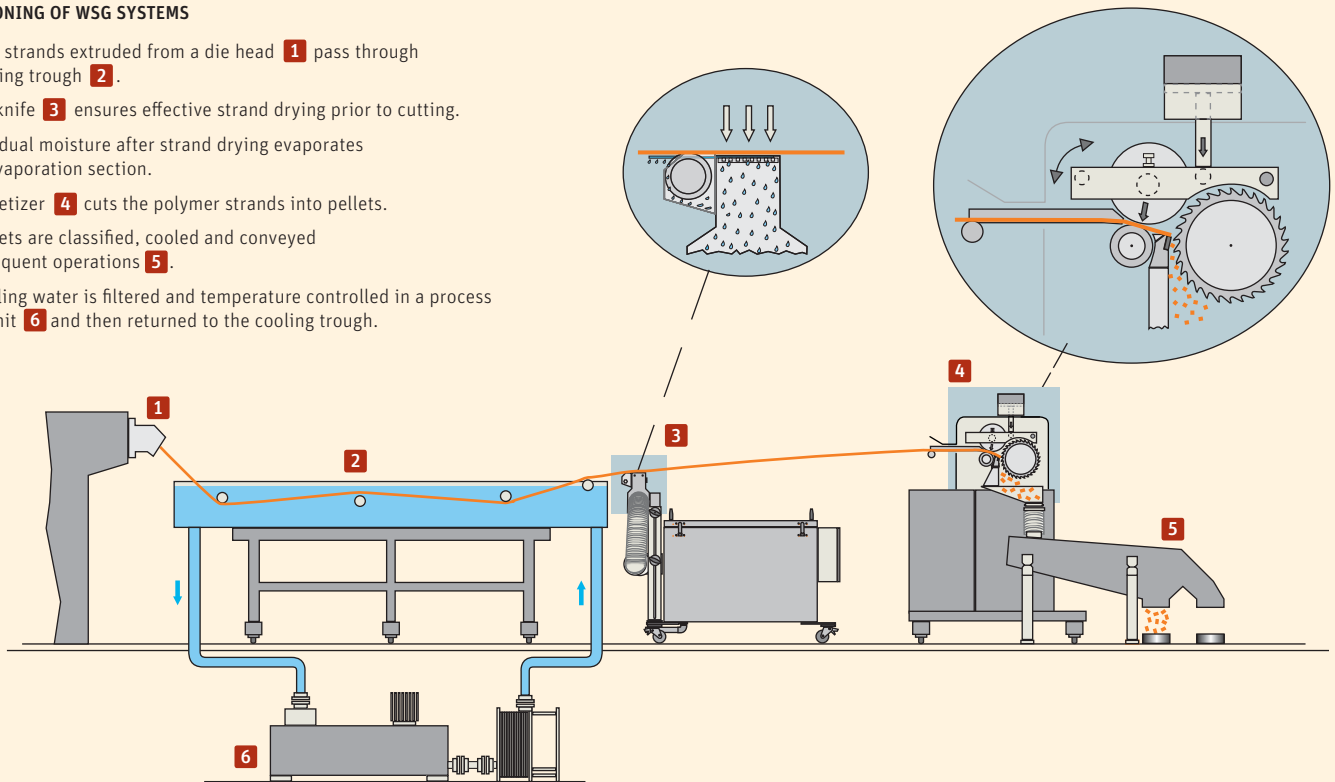
The air knife **3** ensures effective strand drying prior to cutting.

The residual moisture after strand drying evaporates in the evaporation section.

The pelletizer **4** cuts the polymer strands into pellets.

The pellets are classified, cooled and conveyed in subsequent operations **5**.

The cooling water is filtered and temperature controlled in a process water unit **6** and then returned to the cooling trough.



View of PRIMO 60 E cutting head



Compound pellets

**YOUR BENEFITS WITH WSG**

Maximum flexibility regarding:

- Positioning of system components
- Selection of materials
- Pellet diameter and length
- Process control

Profitable production due to:

- Very high machine availability with wear-resistant cutting tools
- Simple, efficient cleaning and maintenance as well as fast product changeover
- Consistent pellet quality

## From die head to classifier – customized solutions for your requirements

### WSG system components

As your most competent system supplier for WSG pelletizing machinery, Automatik Plastics Machinery provides sophisticated components for your production – all of them including multiple options.

#### DIE HEAD

- Electric heating, divided into several heating zones
- Absolutely uniform melt distribution
- For abrasive products, die plate with wear protection
- Swivel joint for fast access to the extruder screw
- Die head widths from 100 to 600 mm

#### COOLING TROUGH

- Longitudinal movement of cooling trough possible by using a crank handle
- Movable on rollers for precise alignment
- Supporting rollers stationary or swivelling, turnable and slideable
- Widths from 160 to 800 mm, length from 2 to 10 m



Die head SG-C 300: A swivel joint ensures fast access to the extruder screw



Air knife SE 200-2



Suction box of SE 200-2



Cooling trough KW 160



Cooling trough KW 160 with integrated process water unit

#### PROCESS WATER UNIT

- Cooling via heat exchanger
- Process water conveyed with stainless steel pump
- Optional water tank with filling level control as buffer for start-up
- In small WSG systems treatment of process water integrated in the base frame of cooling trough
- Cooling capacity up to 525 kW, process water throughput up to 30 m<sup>3</sup>/h

#### AIR KNIFE

- Required vacuum produced by blower with high suction capacity
- Dehumidification of air and refeed of water
- Space-saving positioning behind or alongside the cooling trough possible
- Efficient sound encapsulation
- Suction die moveable and height adjustable
- Working widths: 100, 200 and 400 mm



Strand pelletizer PRIMO 120 E

The heart of each WSG system is the strand pelletizer. Automatik Plastics Machinery offers PRIMO E for small batch operations or laboratory applications and PRIMO S for small to medium throughputs – each according to your specific requirements.

#### STRAND PELLETERIZER

- PRIMO E: simple access for cleaning and maintenance ensured by cantilevered bearing
- PRIMO S: double-sided bearings assure a more constant cutting gap and greater robustness
- Strand draw-in speeds up to 120 m/min possible
- Shifting of operating range possible through selection of drive motors
- No deposits within the cutting chamber
- Cooling for upper feed roll and cutting chamber

- Start-up assistance for soft strands
- PRIMO E: lower feed roll can be driven by a separate motor and belt drive enabling a variable adjustment of pellet length
- A small classifier can be attached directly to the machine frame of PRIMO E

#### CUTTING TOOLS

- Long service life of cutting tools depending on the selection of materials, e.g. cutting rotor for PA with 15 - 50 % glass fiber > 1,000 hours
- Wide range of materials, e.g. stainless tool steel, tungsten carbide, ceramic, diamond
- Wedged cutting rotor with positive interlock available (patented)



Strand inlet of PRIMO 60 E



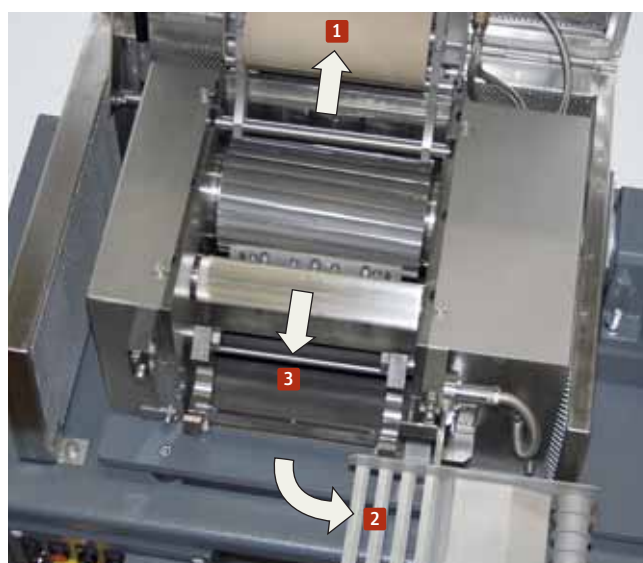
Patented cutting rotor with positive interlock



Strand pelletizer PRIMO 100 S



PRIMO E and PRIMO S strand pelletizers: Quick and easy access to all cutting chamber components, without the need for tools



## Everything from a single source

### WSG system components

#### CLASSIFIER

- Contributes to consistent product quality
- Single decker for screening out overlengths
- Double decker for separating 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 in specialized product applications
- Easy to clean
- Maintenance-free

#### MACHINE CONTROLS

- All controls for the components of the system are integrated into the controls of the pelletizer (e.g. air knife, classifier)
- Data exchange with higher-level control systems
- Pellet length adjustment via frequency inverter with special software on PRIMO E



WSG system with cooling trough KW 300, air knife SE 100-2, strand pelletizer PRIMO 60 E and classifier FRU 7/1,5-ER



Classifier SRK 8/4-I-C for PRIMO S



Easy-to-operate machine controls

## Technical data

### Dry cut strand pelletizing systems WSG with PRIMO E or PRIMO S

	PRIMO 60 E	PRIMO 120 E	PRIMO 100 S	PRIMO 200 S	PRIMO 300 S
Operating width	60 mm	120 mm	100 mm	200 mm	300 mm
Drive system	AC motor with belt drive		AC gear motor with coupling		
Power of pelletizer motor	2.2 kW	4.0 kW	3 - 7.5 kW	3 - 11.5 kW	3 - 15.0 kW
Line speed at pellet length 3 mm	20 - 90 m/min		30 - 70 m/min		
Number of strands at 75 % utilization and pellet diameter of 3 mm	10	20	25	50	75

#### Throughput rates [kg/h] at pellet length and diameter of 3 mm and maximum number of strands (different number of strands in brackets)

Product	Density [g/cm <sup>3</sup> ]					
PP, PE	0.91	350	700	850	1,700	2,550
GPPS, SAN	1.04	400	800	1,000	2,000	3,000
ABS, HIPS	1.04	400	800	1,000	2,000	3,000
PMMA	1.18	450	900	1,100	2,200	3,300
PET, PBT	1.31	500	1,000	1,200	2,200	3,000
PA 6, PA 6.6	1.14	425	750 (17)	1,100	1,900	2,200 (65)
PET, PBT, PA, PP, PC + 15 to 50 % glass fiber	1.00	375	625 (16)	850	1,600	1,800 (60)
	1.55	500	800 (16)	1,250	2,300	2,750 (60)
Thermoplastic Elastomers	1.10	425	850	1,050	2,100	3,150
Masterbatch > 40 % fillers	1.30	500	1,000	1,050	2,100	3,150

#### LABORATORY FOR TRIALS AND DEVELOPMENTS AVAILABLE

Automatik Plastics Machinery has the largest and best-equipped pelletizing lab in the world. With four lines spread over 2,000 m<sup>2</sup>, 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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7102en-0808-51