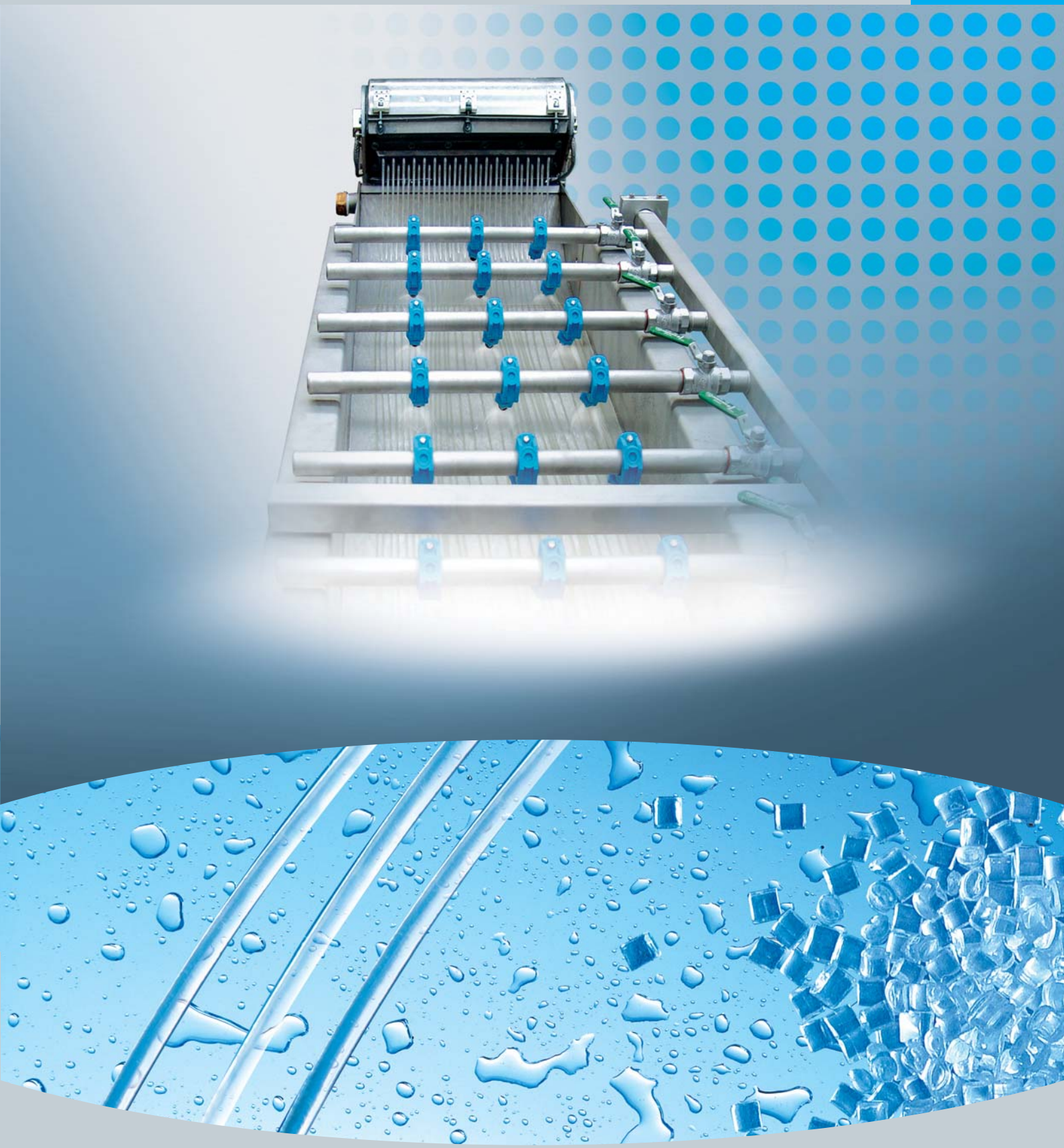
Automatic Semi-Submerged Strand Pelletiser for Technical Thermoplasts

ASP

DIN ISO 9001



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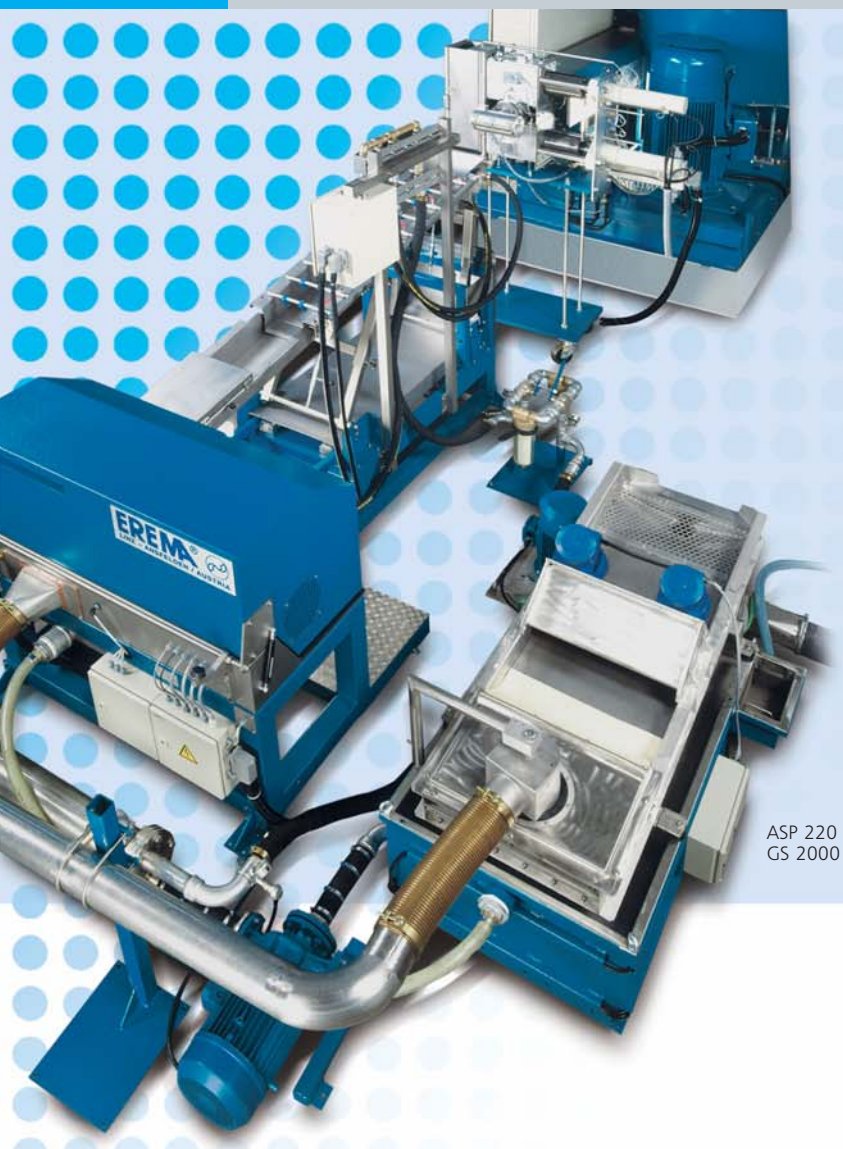
Fully automatic semi-submerged strand pelletising system for increased plant productivity



State-of-the-art repelletising plants demand fully automatic processes that work with top operational reliability, requiring minimum human intervention.

Erema's ASP series of semi-submerged strand pelletisers satisfies these requirements in every respect. They give the user an extremely reliable and easy to operate method to pelletise low viscosity techno-plasts such as PET and PA.

The key advantages are,

- very easy start-up procedure (strands are self-feeding to pelletiser),
- fully continuous processing without operator intervention even if a polymer strand breaks or if there is an interruption during operation, and, last but not least,
- easy access for cleaning when materials are changed over.

ASP 220 Automatic Strand Pelletiser featuring
GS 2000 pellet classification/dust removal screen

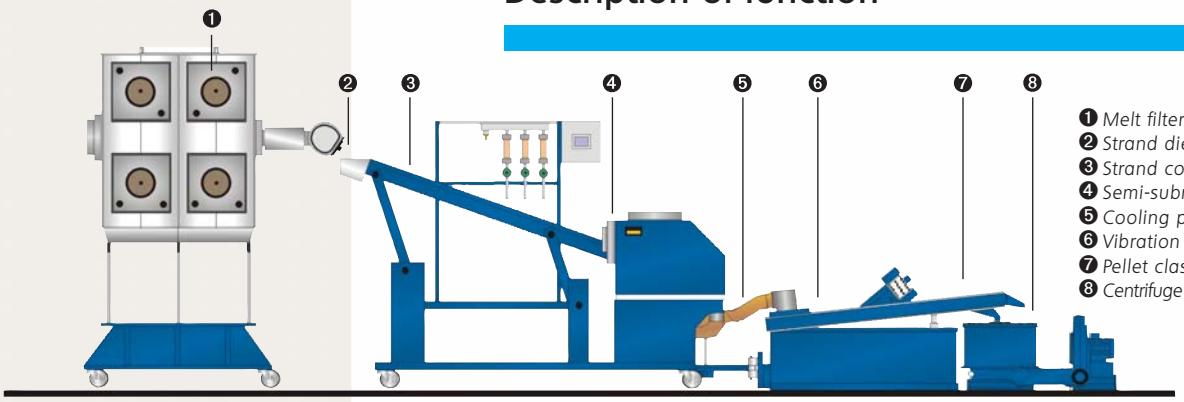
Economic benefits

- Increased productivity of total plant by avoiding downtime caused by strand breaks
- Minimum personnel costs, no supervision required
- Minimised waste during start-up
- Reduced wear on tooling thanks to wet cutting
- Compact, space-saving design

Technical advantages

- Extremely reliable and operator-friendly
- Fully automatic self-feeding if strand breaks occur
- Easy start-up with lowest possible material loss
- Cooling water removes fine particles and cutting dust
- Simple visual inspection of pellets on vibration table
- Rapid cleaning and maintenance (e.g. when changing over material) thanks to easily accessible components
- No start-up bypass valves necessary
- Produces cylindrical pellets with the same shape as virgin material (PET, PA), therefore excellent blending characteristics of repellets with virgin material
- Effective cooling of polymer strands through adjustable spray nozzles

Description of function



(Basic Layout)

The melt coming from the extruder via a melt filter ❶ is distributed along the width of the strand die ❷ by the strand die body and discharged through circular bores.

The cooling of the strands is a fundamental step in the process which has a decisive effect on the quality of the pellets. For this reason the water chute ❸ can be adjusted horizontally and vertically which means that it is possible to optimise strand cooling and strand intake into the pelletiser even during production.
The laminar water film flow in the chute (which is additionally supported by manually adjustable spray nozzles) prevents the strands from sticking together and also prevents warm water jackets from forming around them.
Besides cooling the strands the laminar water flow in the chute also has the job of refeeding any torn or interrupted strands to the strand pelletiser fully automatically and without any external operator intervention. This means that strand interruptions coming from the strand die (e.g. as a result of gas bubbles) have no negative effect on the system.
The strands are cooled down in the chute to such an extent that on the one hand they are cold enough to not become deformed in the subsequent pelletising process, but on the other hand still have sufficient internal core heat to effectively support the drying off of any residual moisture during the subsequent downstream process.

Semi-submerged strand pelletiser ❹

High strand haul-off speeds, long service life of the cutting elements and the removal of fines by the cooling water are the outstanding features of the pelletiser system with wet cutting. Thanks to its sturdy, vibration-resistant frame and a pivoting noise protection cover the compact pelletiser ensures only minor noise emission. Excellent accessibility to the interior enables fast maintenance plus simple and rapid cleaning when changing over products.

Water separation/drying/classification

After pellets have passed through the cooling piping ❺ the transport water and any fine particles, which it may have, are removed from the pellets on the vibration screen ❻. The water is returned to the process water circuit following filtration and cooling. The pellets dry somewhat on the vibration screen due to their inner residual heat before they move on via a classification screen ❼ to the downstream centrifuge for the final drying ❽ process. A simple visual check of the pellets produced and easy cleaning are ensured due to the well-designed accessibility of the vibration screen.

Pellet dewatering screen
GS 1502

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Technical data

Type	ASP 120	ASP 220	ASP 320
Cutting width (mm)	120	220	320
Drive	Frequency-controlled 3-phase motors		
Transmission - cutting mechanism (kW)	4,0	7,5	11,0
Transmission - intake mechanism (kW)	2 x 0,25	2 x 0,37	2 x 0,5
Intake speed range (m/min.) with pellet length of 3 mm	40 - 120	40 - 120	40 - 120
Max. number of strands with strand diameter of 3 mm	13	26	39
Pellet length (mm)	3	3	3
Height - strand supply (mm) approx.		PA, PETP=1650; PP=2170	
Options	Moveable sub-frame, different pellet lengths		

Throughput data (kg/h)

Type	**ASP 120** up to approx.	**ASP 220** up to approx.	**ASP 320** up to approx.
PETP (kg/h)	700	1200	1800
PA 6,6 (kg/h)	600	1200	1800
PP (kg/h)	250	500	800

Why Erema?

- High-tech from the world market leader
- Top-notch state-of-the-art recycling technology
- Superior end product quality (pellet)
- Best customer service and care and therefore safety for the user
- Tailor-made, individual solutions possible through large engineering capacity with more than 30 years experience in plastic recycling
- Superb reliability, flexibility and productivity
- Your best partner

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