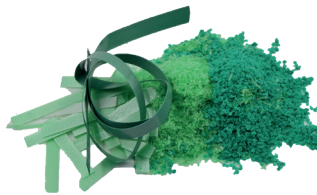


# Agglomerating Plastics



**PALLMANN**



## 100% utilization of plastics

During the production and processing of thermoplastics, production waste occurs. The PALLMANN Plast-Agglomerator processes this waste into free-flowing granules which are reused for production as valuable raw material.

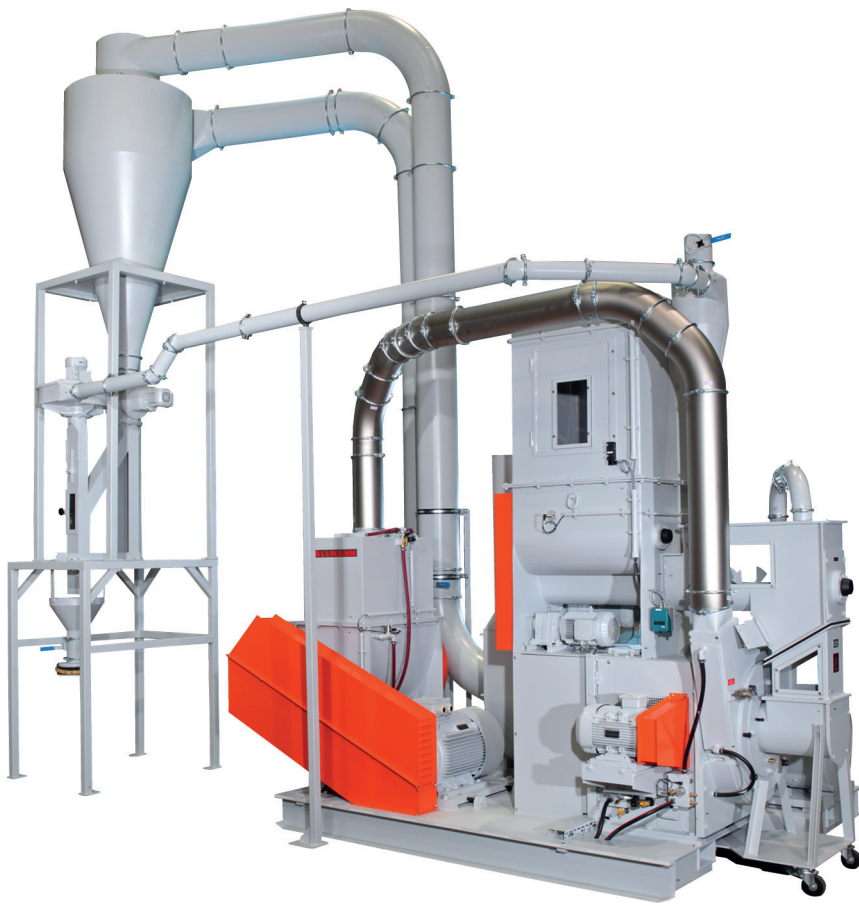
Film- fiber- and foam waste is converted into free-flowing granules by means of the economical PALLMANN process.

Thermoplastic- as well as composite materials, dry or moist, can be continuously recycled with the same system.

This is performed with a minimum of thermo-degradable damage. The plastic granules are plastified by means of frictional heat to right below the melting point and thereby economically agglomerated.

## Some advantages of PALLMANN systems

- Excellently free-flowing agglomerate with high bulk density
- Material-gentle agglomeration by means of frictional heat
- Continuous, fully automatic process
- Fully automatic start from a cold condition
- Starting time less than 5 minutes
- Feed material with a residual moisture content of up to 10% can be processed
- Suitable for compounding of different feed materials
- Low cleaning requirements
- Low space requirement due to compact and modular design



## The Plast-Agglomerator

The worldwide proven system for the continuous production of free flowing granules from thermoplastics of all kinds.

The Plast-Agglomerator, type PFV is available in different sizes with throughput capacities from 80 to 1500 kg/h.

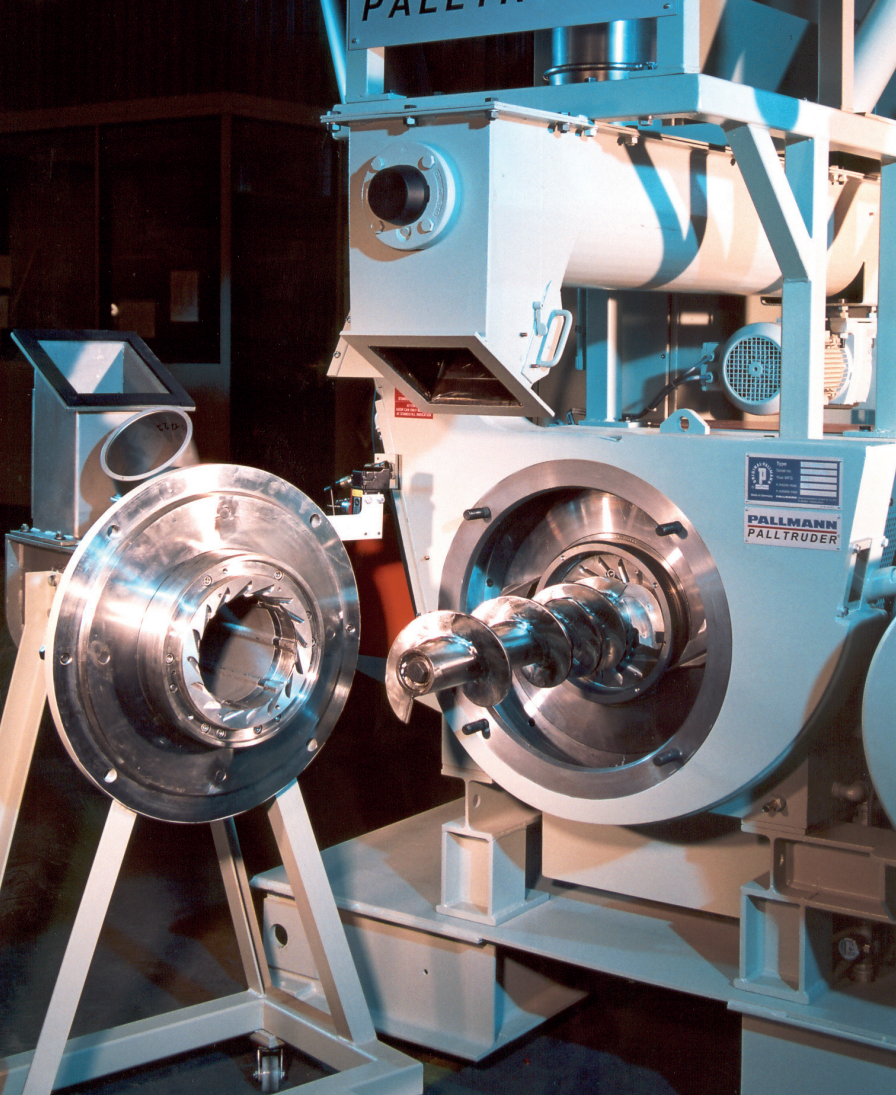
## Construction

The agglomerator with its feed hopper is the main part of the Plast-Agglomerator System. The Agglomerator is in sturdy sheet metal construction. All building components are designed for rough 3-shift operation (24/7) and are easily accessible for maintenance purposes.

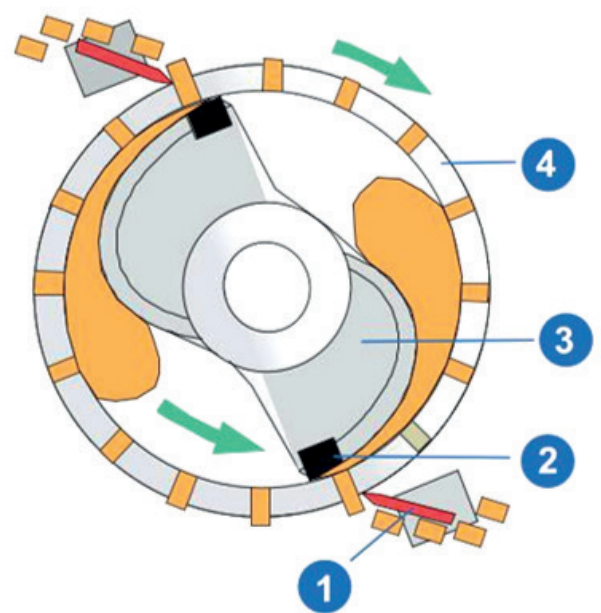
The front door with the feed screw slides open sideways and thereby allows quick and easy access to the agglomerating elements. Fumes and odors from water, spinning oils, foaming agents, printing ink etc. can be vented at a central location.

The feed hopper, in sturdy sheet metal construction, with horizontal agitators for anti-bridging and with a discharge screw, is a self-contained unit. The cleaning door allows quick and easy access to the inside of the feed hopper.

The doors are secured with safety door lockings to avoid unintentional opening. Options like low and high level indicators, pressure sensors, speed control, construction in special materials, base frame with integrated cabling and cool water connection, accessible service platforms with ladders etc. are available.



Agglomerating chamber



- ① Knives
- ② Pressure piece
- ③ Agglomerating vane
- ④ Die

Schematic of the agglomerating process

## Principle of operation

The feed material is fed into the agglomerating chamber by means of a dosing screw. Frictional heat and high pressure, produced between the agglomerating vane and the die, agglomerate the material and press it through the special hole size of the die.

The processing temperature is right below the melting point of the corresponding plastic material. Material penetrating the die is cut by rotating knives and conveyed by the cooling air of a fan into the hot-melt granulator where the material is cut to equal sized granules.

The hole size of the selected screen installed in the hot-melt granulator determines the size of the granules.

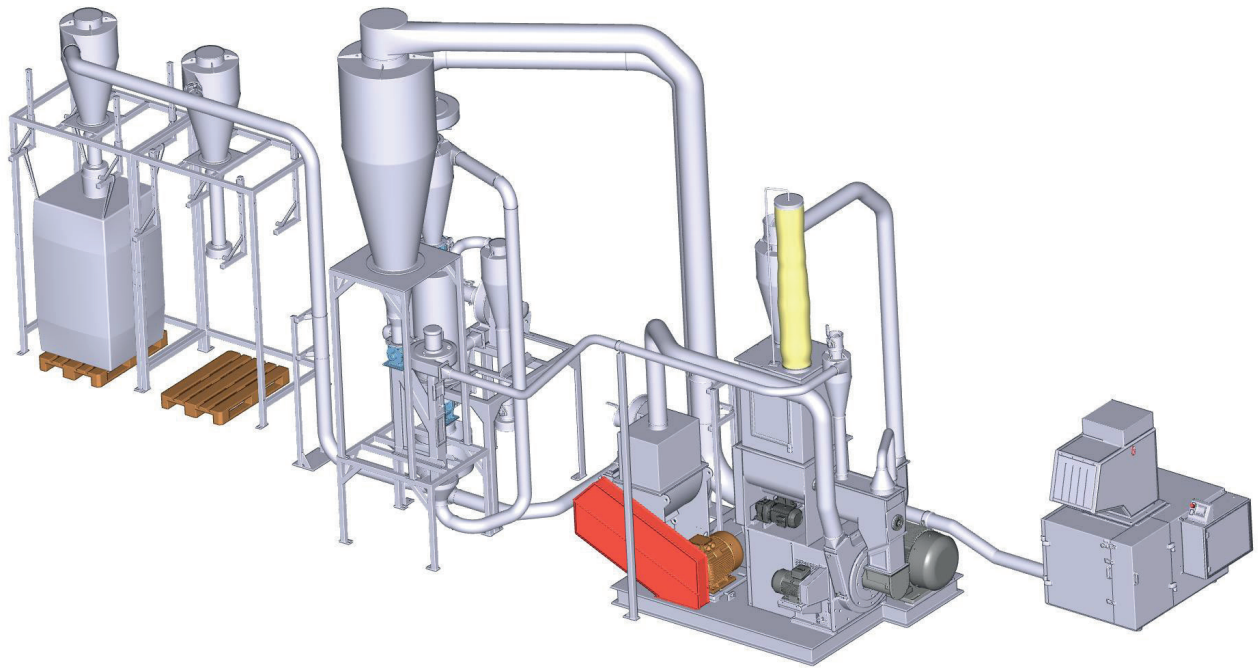
## The control systems

The functions of all system components are controlled from a control cabinet. An overload control automatically regulates the material infeed to the agglomerator.

The system is controlled by means of a programmable logic controller (PLC).

### TECHNICAL DATA

TYPE PFV			200	250	315	400
Drive, precutting mill		kW	7,5 - 22	18,5 - 45	30 - 75	75 - 110
Drive, Agglomerator		kW	45 - 55	55 - 90	75 - 132	160 - 250
Cool water consumption		l/h	700 - 1100	700 - 1100	700 - 1100	700 - 1100
Drive, hot-melt granulator		kW	15 - 22	22 - 30	30 - 45	45 - 75
Total installed capacity *		kW	88 - 120	120 - 189	165 - 280	243 - 379
Dimensions	Width	mm	6000	7000	8000	8500
	Depth	mm	2300	2500	3000	3500
	Height	mm	5100	5500	6000	6500



TYPE PFV		200	250	315	400
THROUGHPUT RATE		kg/h	kg/h	kg/h	kg/h
BULK DENSITY	g/l				
HDPE-Film up to 100-150 µm	350	120 - 360	360 - 840	450 - 900	600 - 1400
LDPE-Film up to 100-150 µm	430	100 - 180	300 - 450	500 - 600	600 - 900
PE-foam	300	100 - 180	300 - 540	400 - 600	420 - 840
PE-fiber	400	100 - 180	300 - 540	400 - 600	420 - 840
PP-film	350	100 - 180	300 - 540	400 - 700	420 - 840
PP-fiber	330	80 - 150	180 - 300	250 - 450	300 - 600
PS-film	450	100 - 180	300 - 540	400 - 600	420 - 840
EPS	500	150 - 200	300 - 400	500 - 700	700 - 900
XPS-foam	430	150 - 200	300 - 500	500 - 700	700 - 900
PVC-rigid-film	600	240 - 360	720 - 1200	800 - 1200	1100 - 1400
PVC-soft-film	475	360 - 480	960 - 1500	900 - 1500	1400 - 2300
PVC-soft foam	470	240 - 420	720 - 1200	800 - 1200	1100 - 1650
ABS-film	410	180 - 360	600 - 840	600 - 900	840 - 1400
PA-film	450	100 - 120	400 - 500	300 - 600	300 - 600
PA-fiber	430	80 - 150	250 - 450	300 - 550	300 - 550
Polyester-film	475	100 - 180	300 - 540	420 - 840	420 - 840
Polyester-fiber	480	100 - 180	300 - 540	400 - 600	420 - 840
PET-foam	370	150 - 210	300 - 450	500 - 700	700 - 900
PET (A/G/GAG)	500	250 - 300	400 - 700	700 - 1000	1000 - 1300
PMMA	480	150 - 180	250 - 400	500 - 700	700 - 900
PC-film	500	150 - 180	250 - 400	500 - 700	700 - 900
PLA-foam	430	150 - 180	250 - 400	500 - 700	700 - 900
Carpet waste	370	120 - 180	300 - 540	400 - 600	600 - 1200
Wood-plastic	350	120 - 180	200 - 500	400 - 600	500 - 1200
Synthetic rubber	400	240 - 420	720 - 1200	800 - 1200	1100 - 1700



PALLMANN is the leading manufacturer of size reduction machines and systems for the plastic and in-house recycling industry. PALLMANN Maschinenfabrik designs, manufactures and supplies tailor-made, individual or complete solutions for the processing of almost any plastic as well as in-house recycling products. At its headquarters in Zweibrücken, PALLMANN company operates the world's largest research and development center for size reduction technology as well as a training and service center. More than 100 test machines are available for the preparation of various raw materials including subsequent laboratory analysis on individual scale. In cooperation with the Siempelkamp group, PALLMANN has worldwide production facilities. Our global presence is ensured by a coordinated sales network for machinery as well as spare parts and after-sales service.

## ENGINEERING AND SERVICE

- Design and manufacturing
- Research and development
- Control systems
- Process monitoring
- Spare and wear parts for size reduction machines in PALLMANN quality
- Installation, commissioning, start-up
- Maintenance and repair service
- Operator training
- Technological training
- Retrofit and modernisation
- Warehouse stocking programs and logistic concepts

## SYSTEM SOLUTIONS FOR

- Pulverizing
- Granulating
- Agglomerating
- In-house recycling



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