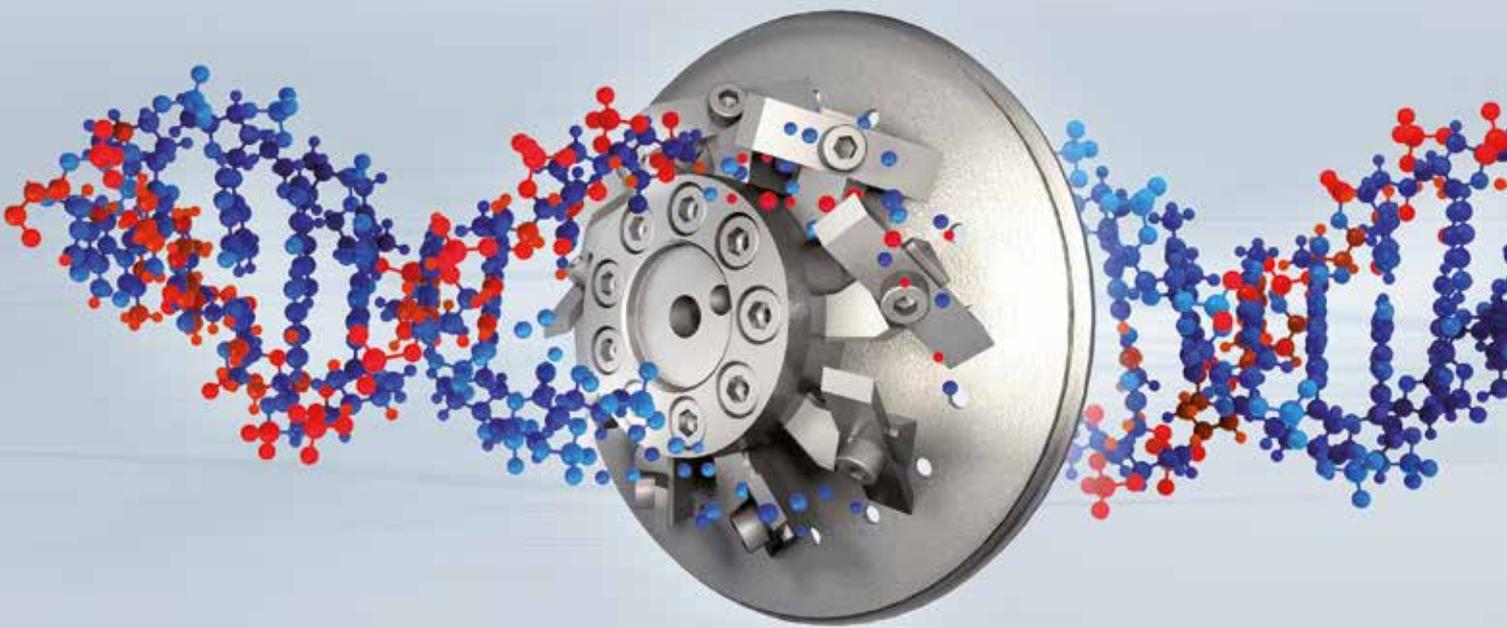


# PELLETIZING IS IN OUR DNA



UNDERWATER PELLETIZING SYSTEMS | SCREEN CHANGERS | PYROLYSIS FURNACES  
PELLET & BULK MATERIAL DRYERS | AIR PELLETIZING SYSTEMS

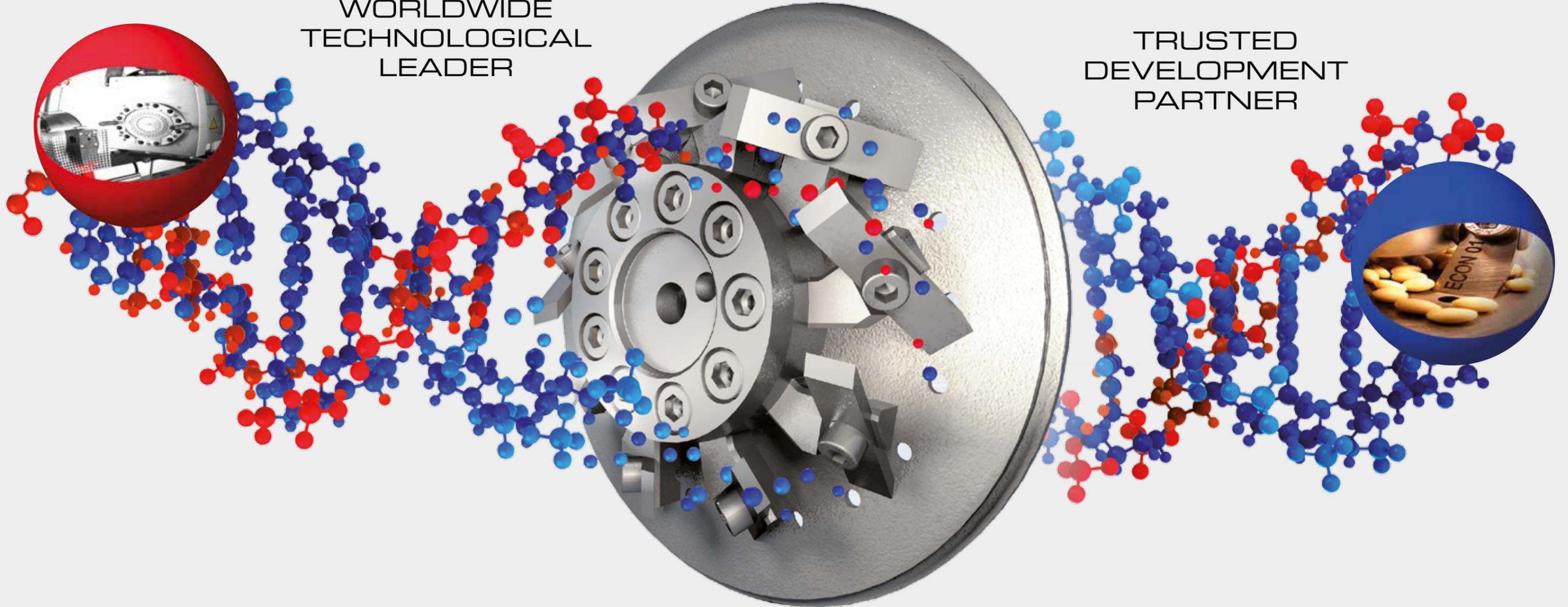
## PELLETIZING IS IN OUR DNA

For more than ten years, ECON has been THE specialist for underwater pelletizing systems. The continuous development of our technology has made us the innovation leaders in underwater pelletizing, especially with our patented thermal insulation technology. Just as important as continuing to develop innovations is our focus on finding the right solution to optimize the production processes of every individual customer. We are

ECON – technological leader for underwater pelletizers and trusted development partner for our customers. This mission is reflected in our successful invention, development, manufacturing and worldwide marketing of innovative solutions for the plastics industry. For us, “Pelletizing is in our DNA” and our passion for technology is only surpassed by our passion for your success and enabling you to achieve the impossible.

WORLDWIDE  
TECHNOLOGICAL  
LEADER

TRUSTED  
DEVELOPMENT  
PARTNER

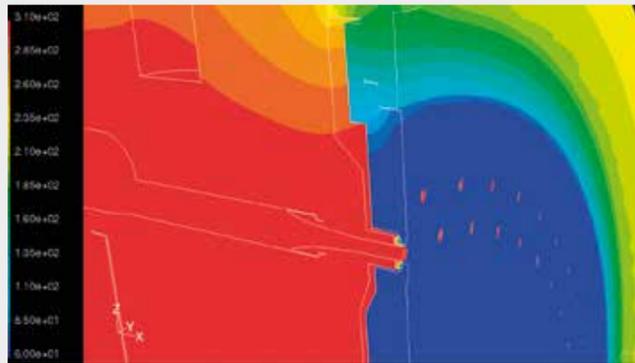




## WORLDWIDE TECHNOLOGICAL LEADER

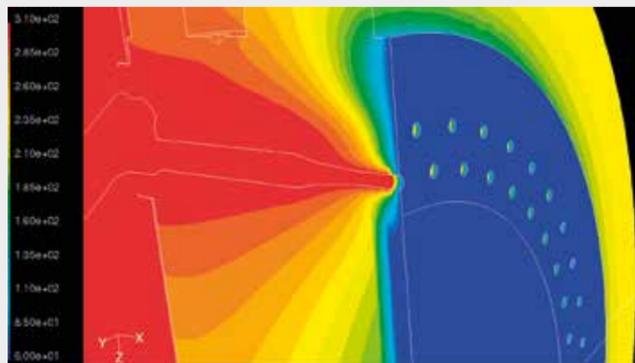


### Patented Thermally Insulated Die Plate



- » no freezing of die holes
- » constant melt temperature over the complete length of the nozzle
- » no overheating of the melt
- » large throughput range per hole (approx. 1:4)
- » minimal heat flow to the process water

The ECON underwater pelletizing systems differ from the competition by providing efficient insulation of the die plate. This patented thermal insulation concept prevents the freezing of the die holes. In addition, ECON's technology eliminates the need for bypass piping, not only making pelletizing more efficient, but also providing significant energy savings.



Competition: permanent energy transfer to the process water

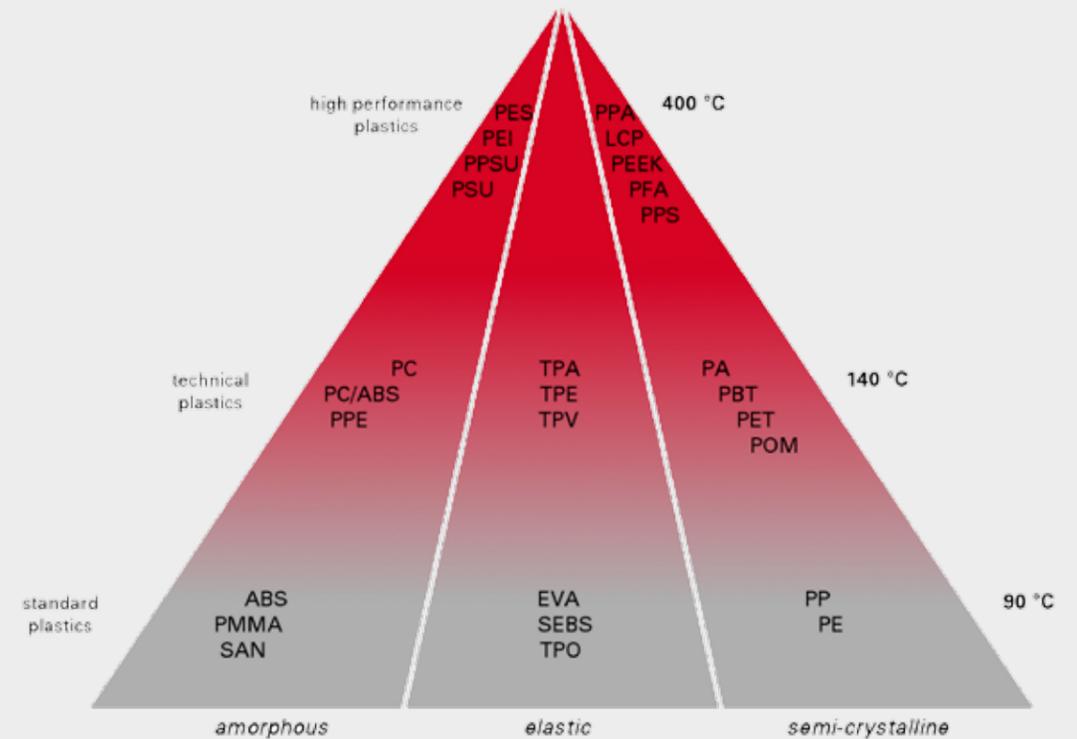


## For All Thermoplastic Materials and Special Applications

ECON's innovative technology enables the pelletizing of plastics that could not be processed with conventional methods. The patented ECON die plate in combination with the underwater pelletizer makes it possible to process plastics at high temperatures or with high filler content. The machines can even pelletize materials with highest melt flow rates (e.g. PP up to MFR 2400).

- » high temperature ranges
- » compounds with high filler content
- » high MFR (melt flow rate)
- » rubber-like, adhesive and viscous materials
- » micro pellets

Excellent results are also achieved when processing viscous materials (such as elastomers, natural resins, silicones or hot melt adhesives). In addition to handle difficult materials such as liquid crystal polymer (LCP), we are able to produce micro pellets < 1 mm.





## WORLDWIDE TECHNOLOGICAL LEADER



### Easy and Safe Operation

By making our machines easy to operate, we combine two essential requirements: ease of handling and highest operational safety. With precision linear bearings, hydraulic locks, freely accessible die plates and residue-free material changes, the ECON system is guaranteed to be easy and safe to operate. In addition, ease of operation means shorter training times and lower personnel costs.

- » **easy and safe operation**
- » **fast material changes**
- » **smooth start-up**
- » **highest operational safety**



### Energy-efficient Solutions

Our thermally insulated die plate saves energy twice. On the one hand, process water is hardly heated up and less cooling energy is required. On the other hand, less extrusion pressure is required, which means less energy consumption and lower costs.

- » **the process water is hardly heated**
- » **less energy is required to cool the water**
- » **lower extrusion pressure (up to 1/3 less pressure)**



*easily accessible die plate unit and hydraulic lock*

Energy Balance ECON Underwater Pelletizer	
yearly consumption (300 days x 24 hrs)	1.360 kW/year
yearly cost	€ 204.12

Exemplary representation  
Based on: PP, output 1,000 kg/hr, electricity price of 0.15 €/kW

## TRUSTED DEVELOPMENT PARTNER



*Technical center Weisskirchen/Traun, AT*

We attach great importance to the continuous improvement, inspired by employees and customers, of all our products and consider this an important part of innovation management. In our on-site technical centers, we continuously develop and test our products. We also offer our customers the opportunity to conduct trials of their individual requirements on our equipment.

Can't make it to our technical center? We'll bring the testing environment to you. Rent our machinery to conduct trials at your production site.



*Technical center Vadodara, IN*



*Technical center Monroe, US*

## Service at ECON

We count on personal support and good relationships with our customers. Whether by email or by phone, no matter your country, beginning with start-up of your machine our customer service team is here to provide you with individual and efficient support.

*„Poets say words are more powerful than actions.  
However, our strength is not poetry.“*

### Professional Telemaintenance

Our professional and fast telemaintenance team helps with troubleshooting and data transfer to ensure that your systems remain highly available. In addition, your production processes are made even more reliable due to direct optimization and quick support from our specialists. Often problems can be solved immediately and downtimes are prevented before they happen.



### Preventive Maintenance

Preventive maintenance and correct machine care are important for keeping your ECON system operating at the highest possible levels of efficiency. We apply our experience and our high quality standards during maintenance and inspection to suggest opportunities to improve your system's operation. With timely diagnoses and preventive measures, costly damages can be avoided and the risk of production downtimes is reduced. We can also suggest new products to be integrated with your production line so that you are always working with state-of-the-art ECON technology.



## TRUSTED DEVELOPMENT PARTNER



### Employee Training

We train your employees directly at your site under production conditions. Only well-trained personnel will be able to help your system achieve the highest levels of efficiency possible. Both, training when first putting your new system into service and individual extra training will increase the quality of the work and result in higher productivity, while reducing maintenance costs.



### Original Spare Parts

Fast availability, quick delivery, professional advice and ECON original spare parts to meet your highest demands. Spare part packages, especially designed for your system and at competitive prices reduce downtimes and keep your machine well-functioning. Our customer service team will be glad to advise you about foresightful planning of your spare parts inventory.



## UNDERWATER PELLETIZER EUP WATER TREATMENT AND DRYING SYSTEM EWT



ECON is the leading provider of underwater pelletizing technology with thermally insulated die plates. The die plate is fixed on the heated carrier body. The thermal insulation ensures that the melt in the die holes will not “freeze.” ECON pelletizers are not sensitive to fluctuations in output, thus making the pelletizing process extremely reliable and guaranteeing high operating efficiency.

In addition, the compactly and clearly designed ECON water treatment and drying system is an effective solution for drying the pellets. The continuous filtration of process water ensures low maintenance requirements. Because the pellet dryer is easily accessible and free of dead spots, material or color changes can be done quickly. The complete pelletizing line can be easily adapted to different production conditions, thus increasing your flexibility.

The underwater pelletizing system consists of a polymer diverter valve, a pelletizing unit, a water treatment and drying system and an electrical control system.

1. When started, the melt flow is directed downwards by the polymer diverter valve. Once a constant melt flow is given, the stream is redirected and the die plate is rinsed with melt.
2. As soon as the melt is continuously emerging from each hole, the stream is once again directed downwards. The die plate is cleaned and the pelletizer housing is fixed to the pelletizing head by means of the hydraulic lock.
3. Afterwards, the melt is directed to the pelletizing head with the die plate installed, and the emerging melt strands are pelletized under water. The pellets are then moved to the water treatment and drying system by the process water. The separator then removes any potential lumps.
4. In the pre-dewatering unit, the pellets are separated from the process water and conveyed to the centrifugal dryer. The centrifugal forces in the dryer and the special arrangement of the blades propel the pellets upwards and simultaneously separate the residual water via screens.
5. The pellets exit the system at top and move on to the next step.

6. The process water is collected in the water tank, filtered and recirculated to the process. A cooling circuit with plate heat exchanger is integrated to control the process water temperature.

- » all thermoplastic materials can be processed
- » push-button start – automatic, fast, and safe
- » no “freezing” of the die holes due to the thermal insulation
- » constant pellet quality
- » smallest possible pellets, even micro pellets
- » compact unit, minimal space requirements, simple handling
- » minimal energy consumption – highest energy savings
- » optional components for your individual requirements
- » low labor and maintenance costs
- » bypass piping not required, less water loss
- » continuous process water filtration, optional with automatic compact band filter
- » easily accessible pellet dryer, free of dead spots for simple and safe cleaning

Underwater Pelletizer	Water Treatment and Drying System	Throughput*
EUP 10	EWT 110	1 up to 30 kg/hr
EUP 50	EWT 190	2 up to 150 kg/hr
EUP 150	EWT 250	100 up to 450 kg/hr
EUP 400	EWT 350-4	300 up to 750 kg/hr
EUP 600	EWT 350-6	500 up to 1,350 kg/hr
EUP 1500	EWT 400-15	800 up to 2,500 kg/hr
EUP 3000	EWT 400-30	1,800 up to 3,500 kg/hr
EUP 6000	EWT 500 with S+L DHL 725	3,000 up to 8,000 kg/hr

\*The above-mentioned output ranges are reference values for standard pellets. Throughputs always depend on material properties and pellet size and therefore, they may deviate on an individual basis. Normally, for micro pellets the throughputs are lower.

Generally, ECON's underwater pelletizers are offered in combination with the water treatment and drying system (EWT).

## VIBRATION DRYING SYSTEM EVS

Especially for materials with high filler content (e.g. with glass fibers or with mineral fillers), the vibration drying system is an excellent alternative to the standard centrifugal dryer. The gentle drying of the pellets ensures little wear and a low amount of fines and a residual humidity as low as 0.05 % can be reached. The vibration drying system consists of two or three sequentially arranged vibrating screens. The first stage serves for dewatering of the pellets. In a dehydrator, the pellets are separated from the process water before they enter the screen. The process water is cleaned by an automatic band filter and recirculated to the process. In the second stage, the pellets undergo further drying. Electrical damping registers are installed under the vibrating screen to generate a warm stream of air through the screens.

An additional stage can be installed to treat highly hygroscopic materials with even more stringent requirements for residual

humidity. This stage can also be used for stand-alone operation, e.g. after an EWT.

The ECON vibration drying system is suitable for throughputs up to 3,000 kg/hr.



## PELLET DRYER S+L

ECON's pellet dryers, S+L, can be combined with the ECON water treatment and drying system, but they are also suitable for stand-alone operation. These dryers are often used in the recycling industry to dry bulk or mill material or flakes. These centrifugal dryers are characterized by their compact design and sturdy construction. Depending on the temperature, size and structure of the material to be dried, residual humidity between 0.1 and 0.5 % can be attained.

The pellet dryers are available with different input systems and/or several optional components (such as sound insulation), depending on your requirements. In addition, special gas or explosion proof and wear-protected designs are available.

- » compact design and sturdy construction
- » high throughput
- » gearless drive for maintenance-free operation



ECON Pellet Dryer	Throughput
S+L 360 D	approx. 500 kg/hr
S+L 470 D	approx. 1,200 kg/hr
S+L 530 D	approx. 2,500 kg/hr
S+L DHL 725	approx. 10,000 kg/hr

## AIR PELLETIZER ELG WATER & AIR PELLETIZER EWA



The ECON air pelletizer was especially developed for processing wood and natural fiber compounds (such as WPC). Because water is used to cool and convey the pellets, processing wood plastic compounds in an underwater pelletizing system requires a substantial amount of drying. Common drying methods are often unable to attain satisfactory levels of residual humidity. The air pelletizer was designed to use air to cool and convey the pellets and thus eliminate any need to dry the pellets. At the same time, the system benefits from the thermal insulation, resulting in a uniform cut and easy conveying of the pellets from the "cool" cutting surface, without generating chains or agglomerates.

Among natural fiber compounds, the ECON air pelletizer is also well suited for processing PVC, which has a low inner specific heat, therefore requiring only minimal cooling.

The air pelletizer can also be combined with the ECON underwater pelletizing system, resulting in the water & air pelletizer EWA. Especially for laboratory applications this combination provides benefits in terms of flexibility and space requirements. With only a few modifications, one system can be used for both underwater and air pelletizing. Within just a few minutes the machine can be converted from air to underwater pelletizing and vice versa.

- » all advantages of the thermal insulation technology
- » highest flexibility
- » two different application combined in one machine

Pelletizer	Throughput*
ELG 50	20 – 100 kg/hr
ELG 150	100 – 300 kg/hr
ELG 400	300 – 600 kg/hr
ELG 1000	600 – 1,200 kg/hr
ELG 3000	1,200 – 2,000 kg/hr

Pelletizer	Throughput Water*	Throughput Air*
EWA 10	1 - 30 kg/hr	1 – 20 kg/hr
EWA 50	2 - 150 kg/hr	20 – 100 kg/hr
EWA 150	100 - 450 kg/hr	100 – 300 kg/hr
EWA 400	300 - 750 kg/hr	300 – 600 kg/hr

\*The above-mentioned output ranges are reference values for standard pellets. Throughputs always depend on material properties and pellet size and therefore, they may deviate on an individual basis. Normally, for micro pellets the throughputs are lower.

## SCREEN CHANGERS

ECON offers a wide range of piston screen changers to match your material, filter fineness and extruder output. ECON offers patented solutions with large effective screen areas to meet your individual requirements, from discontinuous screen changers to continuous screen changers with backflush system.

- » large effective screen area
- » all thermoplastic materials can be processed
- » optimal design of the melt flow-way – short melt residence time
- » low pressure build up – to prevent thermal variations of the melt
- » no dead spots for fast changes of material or color
- » operational reliability and long durability



Discontinuous screen changer ESD



Continuous screen changer ESK



Continuous screen changer with backflush system ESK B  
with two or four screen packs

## PYROLYSIS FURNACE EPO



The ECON pyrolysis furnace was developed for environmentally friendly and gentle cleaning of extrusion and filter parts. Thermoplastics and mixed plastics are removed under vacuum without any cleansing agent at a variable working temperature. Sensitive parts are protected due to the precision setting of the temperature. Your advantage: fast, cost-effective and residue free cleaning for an extended lifetime.

- » gentle removal of thermoplastic materials and mixed plastics
- » extended lifetime of tools and filter parts
- » environmental safety, TÜV-certificate
- » easy handling and highest reliability
- » low-maintenance, oil lubricated vacuum pump
- » no process water necessary
- » no emissions because of activated carbon filter



Pyrolysis Furnace	Charging Chamber Ø	Charging Height	Load Capacity
EPO 100	Ø 210 x 260 mm	725 mm	100 kg
EPO 300	Ø 280 x 580 mm	900 mm	300 kg
EPO 600	Ø 360 x 680 mm	900 mm	600 kg
EPO 1200	Ø 440 x 780 mm	1,100 mm	1,200 kg
EPO 1500	Ø 600 x 1,600 mm	1,100 mm	1,500 kg
EPO 1800	Ø 900 x 1,600 mm	1,150 mm	1,800 kg



## ECON WORLDWIDE

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