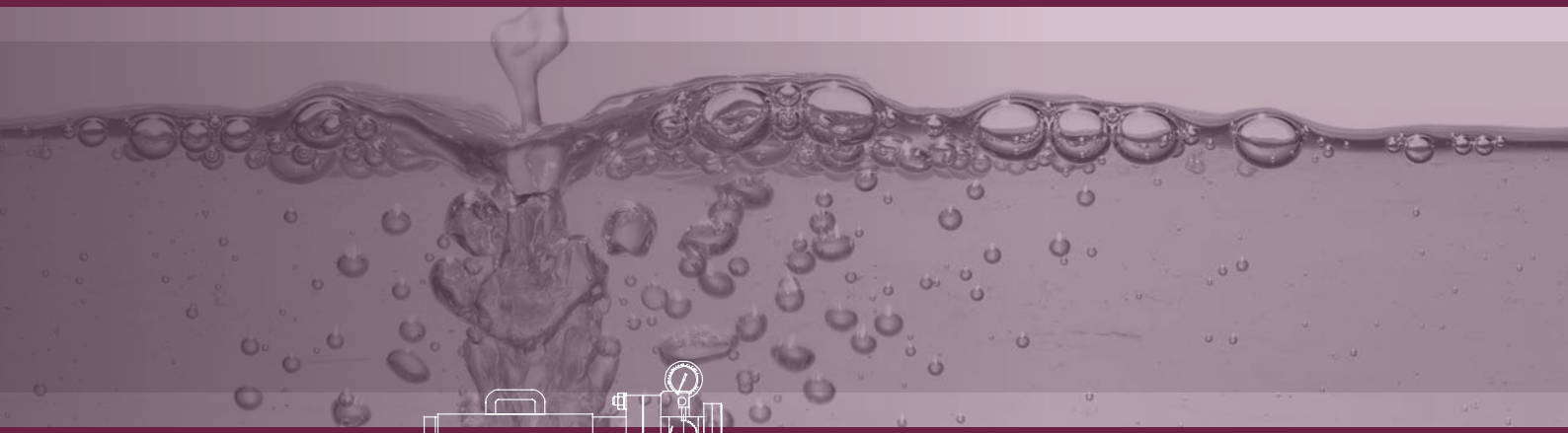
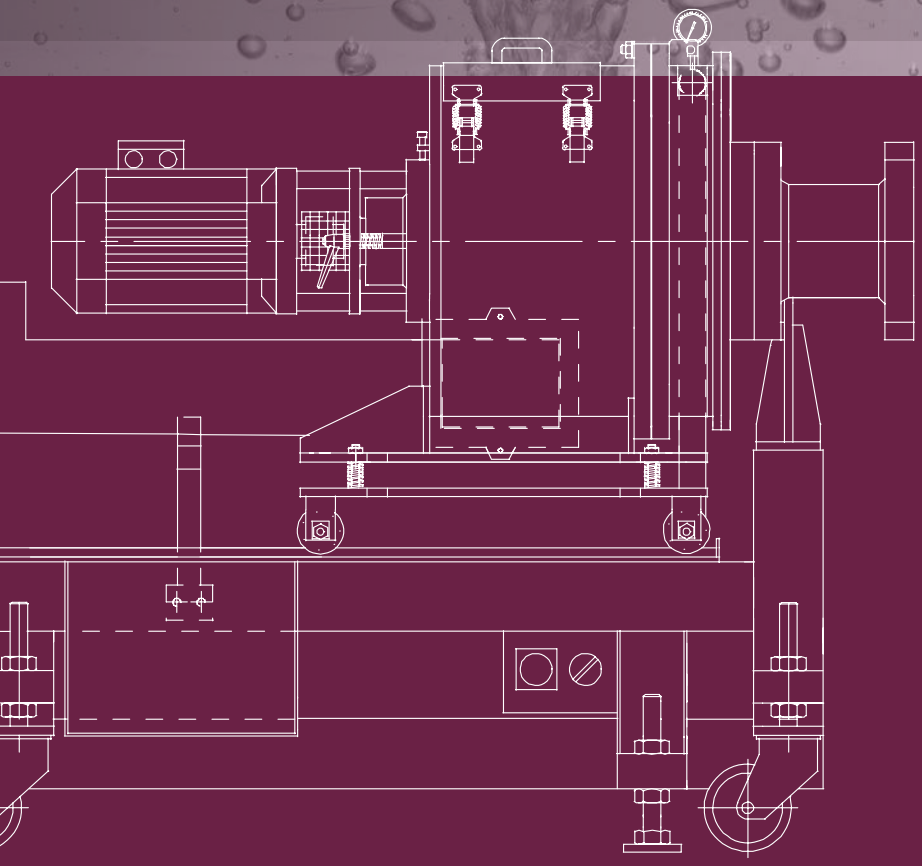
20YEARS





FILTEC®

Plastic Pelletizing Precision

Filtec was established
Born from the desire of the Baracco family to combine already vast experience and skills in the **special thermoplastic automation sector,** Filtec began its business proposing a support and spares service par excellence for machines produced by AST and specialising in the design and production of its mechanical solutions. Today, Filtec is leader in the hot face pelletizer systems: Underwater and Water Ring. The product range includes also screen-changers, water filters, horizontal and vertical centrifuges and vented vibrating screens.

First Water Ring type machine
Filtec released on the market, the **first "Horizontal axis pelletizer Water Ring"** – model **GRO500**. The machine was developed in response to a specific request: to produce homogeneous and quality pellets guaranteeing an approximate hourly capacity of 500 kg/h.

The first Underwater type machine prototype
Filtec designs and produces the **first "Underwater pelletizer"**, with an hourly throughput of 200 kg/h. This prototype used for laboratory test will be later presented to the market during a specific open house event.

1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003

The pelletizing laboratory
Filtec notices the primary need of numerous potential customers: touch a machine with your hands. It therefore decides to meet this requirement by setting up a **laboratory for simulations and experimental testing of materials**, through a third party company. The laboratory soon became a real force behind sales, thanks to the possibility of **testing the machines with your own materials**, checking their quality and efficiency in a customised way.

New production equipment
The market asks more and more **customised solutions**. Filtec, leader company, invests huge sums of money to purchase new equipment to internally develop all the phases, from design to development, up to assembly. Being able to closely follow your products as they are processed is in fact fundamental to **guarantee quality**, **minimise release times** on the market and **promptly intervene in critical cases**.

Consolidation on the American market
Strengthened by its capacity to fulfil even the most complex requests, with different and more and more exigent constructive and qualitative standards, **Filtec entered the US market**, partly through direct sales of its products and partly by **entrusting internationally renowned manufacturers**.

New laboratory location
To deal with an increasing number of orders and requests from business partners, **the laboratory was transferred and became part of the Filtec headquarters**, with its own bigger, specific space and availing of a specific, internal professional figure to manage and develop pelletizing testing with customer materials. It is this excellent service that customers require and which Filtec can fully meet.

2004 2005 2006 2007 2008 2009 2010 2011 2012 2013

The year of "one thousand"
2011 marked the target of **one thousand machines released on the international market**, 450 units of which included "pelletizers". This is proof that choosing innovation and excellence from the beginning has led **Filtec** to become **a reliable and consolidated company**.

20YEARS

Expansion and the future
1993 - 2013. Experience, skills and quality are the features that have marked Filtec's history over the last twenty years, through research, testing and laboratories, to provide products and services **made to measure for each customer**. Two decades that have set forth Filtec's identity and what we want to represent: a leading company in its sector.

The company specialised in hot face pelletizing systems

Being a leading sector company means complying with **excellent qualitative standards** and constantly ensuring maximum performance, in terms of **elevated production capacity and consumer economics**. Innovating internal production processes means reduced costs and proposing solutions that are coherent with the financial expectations of each market.

This is the fundamental principle of Filtec's entire production. Company staff are trained to conduct their work in **complete safety** and receive **period updates on the procedures to follow**. The same philosophy is applied to all Filtec machinery, which is carefully studied to guarantee precision, speed and efficiency in complete safety.

Goal

Safety

Guidelines

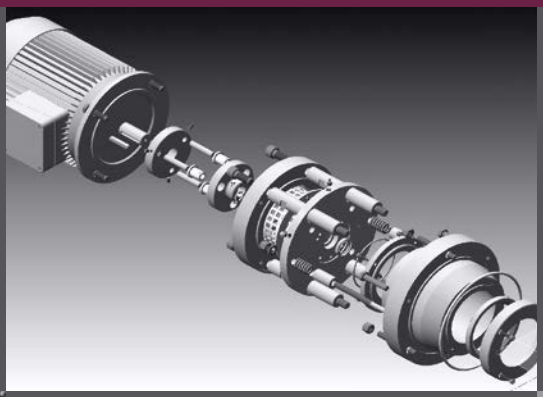
Technology and innovation They represent for Filtec the key to proposing **excellent products** on the market and **creating value** for its business partners.

Aggressive marketing The quality of Filtec products and the skills behind researched, customized solutions for each customer together with the experience gained and strong company know-how allow an **aggressive approach to the markets**.

Independence and autonomy All activities are performed internally and in **full autonomy**, enabling Filtec to have **complete control** of all its critical components and guarantee **high quality products**.

Research & Development

The R&S department is composed of **engineers, designers and laboratory technicians** who design systems, develop technical documentation and participate in periodic seminars and refresher conferences. Filtec is also equipped with a test **area reserved for its customers** where everything is considered relevant to simulation, from quality control of new materials to capacity analysis of the machinery up to consumer surveys.



Support

Multi-lingual help desk

The operators gather the information necessary to **quickly identify the problem** and **restore normal system operations**, quickly forwarding the call to the competent technical area, if necessary.

Maintenance contract

To guarantee the **absence of malfunctioning** and **the declared performance levels**, some parts of the Filtec machines require periodic intervention. The **"Filtec Services" maintenance contracts** are customisable and include a scheduled support formula.

Spares area

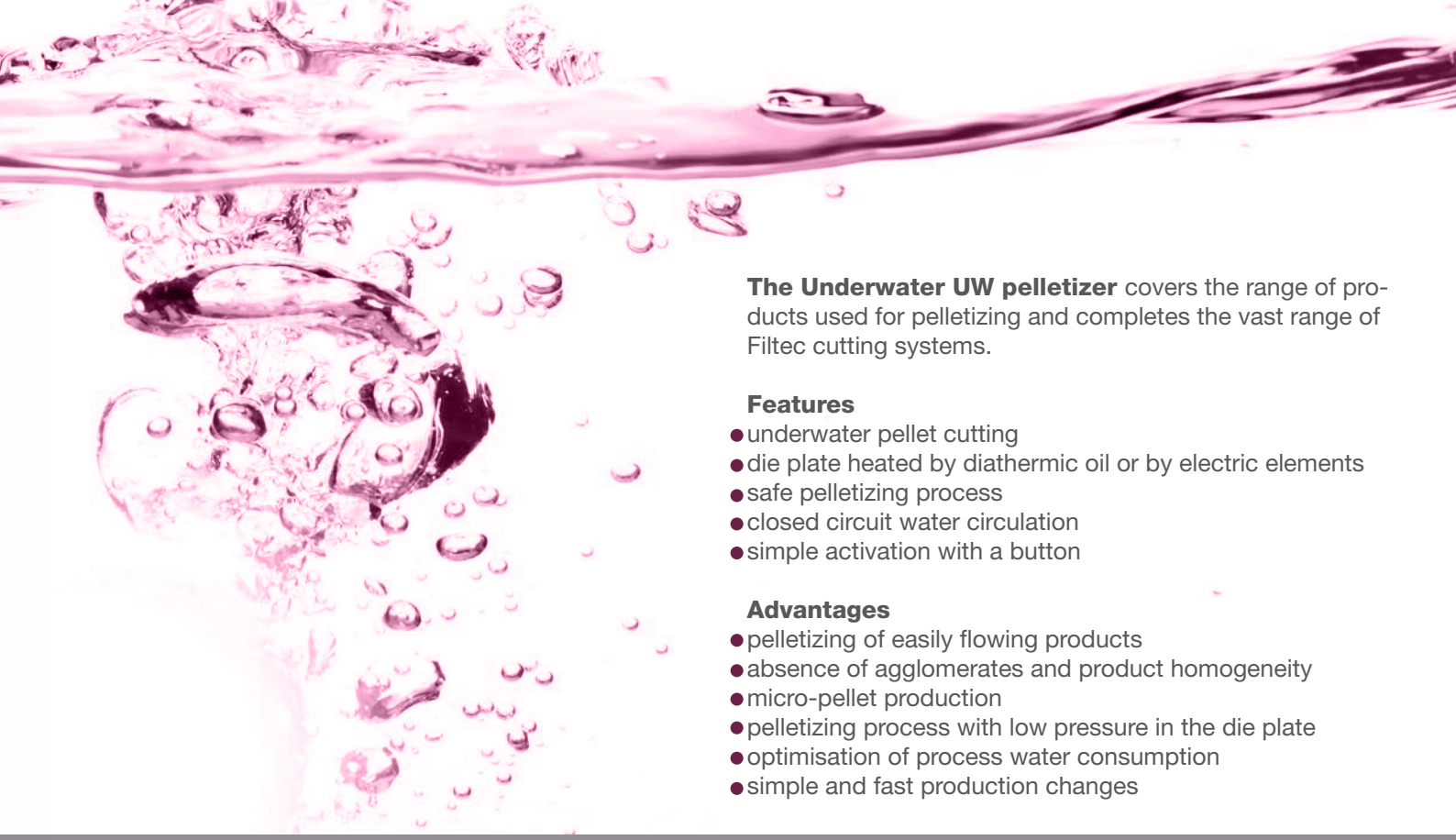
Over 14,000 items to manage, plus 400,000 Euro of capital invested. The commitment to company management of all items allows minimised waiting times to receive the spares needed, the prompt replacement of the complete part, constant precision and reliability.

Underwater
Underwater pelletizers

List of materials and hourly production for the Underwater

Hourly production (Kg)

Models	UW25	UW50 DEP	UW100 DEP	UW200 DEP
LDPE	300	1300	3000	5000
LLDPE	300	1300	3000	5000
HDPE	250	1000	2500	4000
EVA	150	700	1500	2000
EVA crosslinked	150	700	1500	2000
PP	300	1300	3000	5000
PP mineral filler	350	1500	3500	5000/6000
PS	300	1400	3000	5000
HIPS	300	1400	3000	5000
MIPS	300	1400	3000	5000
SAN	300	1400	3000	5000
ABS	300	1400	3000	5000
ABS+PC	300	1200	2000	3000
SB+PVC	300	1100	2000	3000
SB	300	1000	2000	3000
PMMA	300	1400	2000	3000
PVC FLEXIBLE	300	1400	2000	6000
PBT	150 -200	700 - 1000	1500 - 2000	2000 - 3000
PB	150 - 200	700 - 1000	1500 - 2000	2000 - 3000
PET	200	1400	3000	5000
PA 6	200	1000	3000	
PA 6,6	200	1000		
TPR	300	1300	3000	5000
SBS	300/350	1000	2000	3000
SEBS	300/350	1000	2000	3000
TPU	200/250	800		
PC	250	1100	2000	4000



The Underwater UW pelletizer covers the range of products used for pelletizing and completes the vast range of Filtec cutting systems.

Features

- underwater pellet cutting
- die plate heated by diathermic oil or by electric elements
- safe pelletizing process
- closed circuit water circulation
- simple activation with a button

Advantages

- pelletizing of easily flowing products
- absence of agglomerates and product homogeneity
- micro-pellet production
- pelletizing process with low pressure in the die plate
- optimisation of process water consumption
- simple and fast production changes

List of recommended Underwater materials

Polymers	Abbreviations	Underwater
Low density polyethylene	LDPE	👍
Linear low density polyethylene	LLDPE	👍
High density polyethylene	HDPE	👍
Cross linked polyethylene	XPE	👍
Ethylene vinyl-acetate	EVA	👍
Cross linked ethylene vinyl-acetate	CROSSLINKED EVA	👍
Polypropylene	PP	👍
Polypropylene mineral filler	PP	👍
Polystyrol - polystyrene – polyvinyl benzene	PS	👍
High impact polystyrene	HIPS	👍
Medium impact polystyrene	MIPS	👍
Styrene - acrylonitrile resin	SAN	👍
Acrylonitrile - butadiene - styrene	ABS	👍
Blends	ABS, PVC / ABS, PC / ABS, PPSU	👍
Styrene - butadiene	SB	👍
Polymethyl methacrylate	PMMA	👍
Polyvinyl chloride	PVC	💬
Polybutylene terephthalate	PBT	👍
Polybutylene 1	PB1	👍
Polyethylene terephthalate	PET	💬
Polyamide	PA 6	👍
Polyamide	PA 6,6	💬
Thermoplastic rubber	TPR	👍
Styrene butadiene styrene	SBS	👍
Styrene - ethylene / butylene - styrene	SEBS	👍
Thermoplastic polyurethane	TPU	👍
Polycarbonate	PC	👍

LEGEND

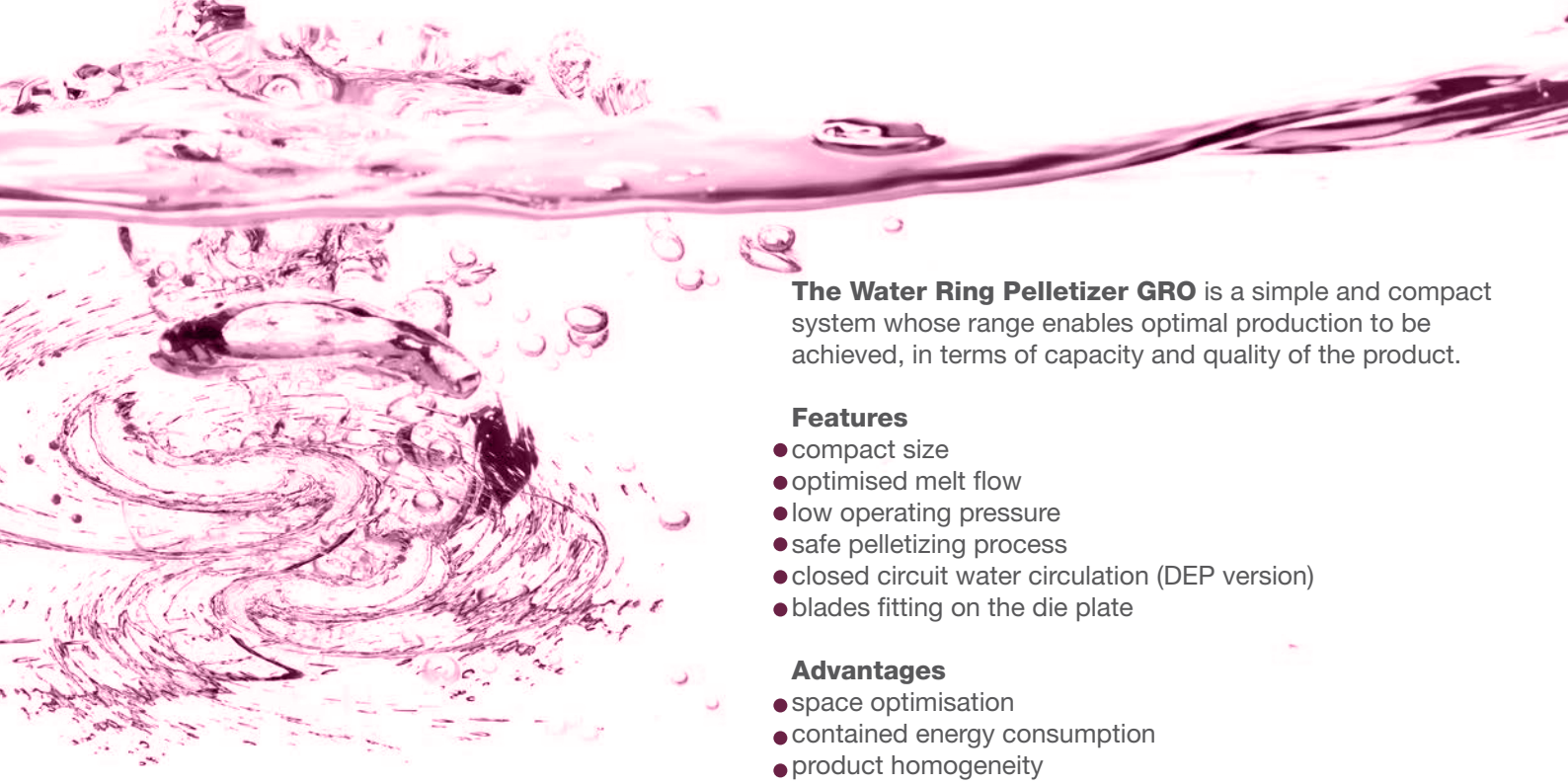
- 👍 With positive outcome
- 👎 With negative outcome
- 💬 Contact company

GRO Water Ring

Water Ring Pelletizing systems

List of materials and hourly production for the GRO
Hourly production (Kg)

Models	GRO25	GRO250	GRO500	GRO500s	GRO1000	GRO1000s	GRO2000s	GRO3000s
LDPE	60	350	800	1000	1500	1800	3000	5000
LLDPE	60	350	800	1000	1500	1800	3000	5000
HDPE	60	350	800	1000	1500	1800	3000	5000
EVA	50	250	600	600	800	1200	2000	
PP	40	200	700	1000	1200	1200	2000	
PP mineral filler	80	350	800	1200	1600	2000	3000	
PS	80	350	800	1200	1600	2000	3000	5000
HIPS	80	350	800	1200	1600	2000	3000	5000
MIPS	80	350	800	1200	1600	2000	3000	
SAN	80	350	800	1200	1600	2000	3000	5000
ABS	80	350	800	1200	1600	2000	3000	5000
ABS+PC	50	300	800	800	1500	1500	2200	
SB+PVC	50	300	800	800	1500	1500	2200	
SB	50	300	800	800	1500	1500		
PMMA	60	300	800	800	1500	1500	2200	3000
PVC FLEXIBLE	60	350	900	900	1700	1700	2200	3500
TPR	40	300	700	700	1300	1300	2000	3000
TPU	40	300	700	700				
PC	50	350	800	800	1500	1500		



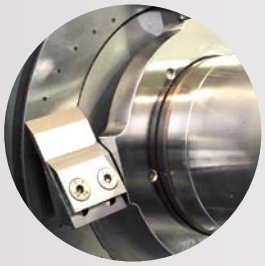
The Water Ring Pelletizer GRO is a simple and compact system whose range enables optimal production to be achieved, in terms of capacity and quality of the product.

Features

- compact size
- optimised melt flow
- low operating pressure
- safe pelletizing process
- closed circuit water circulation (DEP version)
- blades fitting on the die plate

Advantages

- space optimisation
- contained energy consumption
- product homogeneity
- easy and fast cleaning during the switch to other plastic products consequently with low material waste
- process water consumption optimisation (DEP version)



List of recommended GRO materials

Polymers	Abbreviations	GRO
Low density polyethylene	LDPE	👍
Linear low density polyethylene	LLDPE	👍
High density polyethylene	HDPE	👍
Cross linked polyethylene	XPE	👍
Ethylene vinyl-acetate	EVA	💬
Cross linked ethylene vinyl-acetate	CROSSLINKED EVA	💬
Polypropylene	PP	💬
Polypropylene mineral filler	PP	👍
Polystyrol - polystyrene – polyvinyl benzene	PS	👍
High impact polystyrene	HIPS	👍
Medium impact polystyrene	MIPS	👍
Styrene - acrylonitrile resin	SAN	👍
Acrylonitrile - butadiene - styrene	ABS	👍
Blends	ABS, PVC / ABS, PC / ABS, PPSU	💬
Styrene - butadiene	SB	👍
Polymethyl methacrylate	PMMA	👍
Polyvinyl chloride	PVC	💬
Polybutylene terephthalate	PBT	👎
Polybutylene 1	PB1	👎
Polyethylene terephthalate	PET	👎
Polyamide	PA 6	💬
Polyamide	PA 6,6	👎
Thermoplastic rubber	TPR	💬
Styrene butadiene styrene	SBS	👎
Styrene - ethylene / butylene - styrene	SEBS	👎
Thermoplastic polyurethane	TPU	💬
Polycarbonate	PC	👍

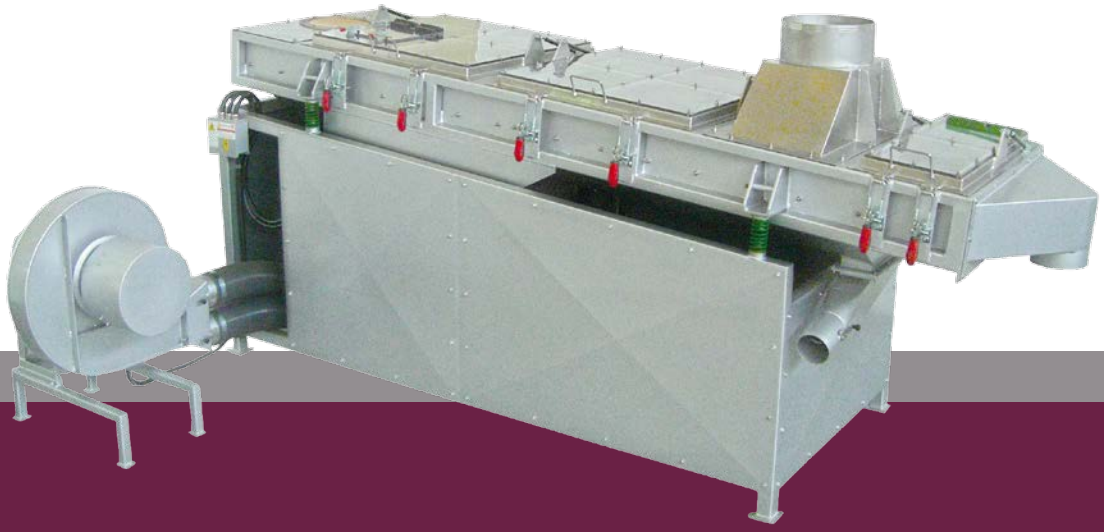
LEGEND

- 👍 With positive outcome
- 👎 With negative outcome
- 💬 Contact company

The Filtec range

VR – Vented vibrating screens

The VR series vented vibrating screens covers a range of accessories for the pelletizing lines. Other than cooling the pellets, they enable **separation of any fine or agglomerated material**. Main features: support structure, mobile part supported by springs and activated by electrical vibrators, vibrating pellet advance surface composed of sections in forced steel sheets to enable cooling air passage, terminal with pellet/agglomerate separation grid, electric fan with accessories, removable side panels. A heating unit, indispensable to dry the pellets with high percentage of mineral fillers/wood fibres allows the release of hot air on the pellet advance vibrating surface.



Models	Dimensions	kW	Production
VR 500	500x3000	3,1	1000 Kg/Hr
VR 900	900x3000	5,6	2500 Kg/Hr
VR 1200	1200x4000	6,4	5000 Kg/Hr

UFR – Water filters

The mechanical and cooling action of the filtration systems of UFR water came about due to an increasing demand to save on resources used in the production system. In particular, in the UFR systems can be noted the advantages obtained in **recycling the process water and reducing the impurities circulating in the circuit**. The water coming from the pelletizer (or other equipment) crosses a dispenser/flow damper and is released on the surface of a viscose roll (non-woven fabric) where filtration takes place of the product waste particles. The water falls into a collection tank with a level indicator, a temperature detection probe and other accessories. Using an electric pump, it is sucked in and released into a heat exchanger for cooling and then re-introduced into the normal production cycle.

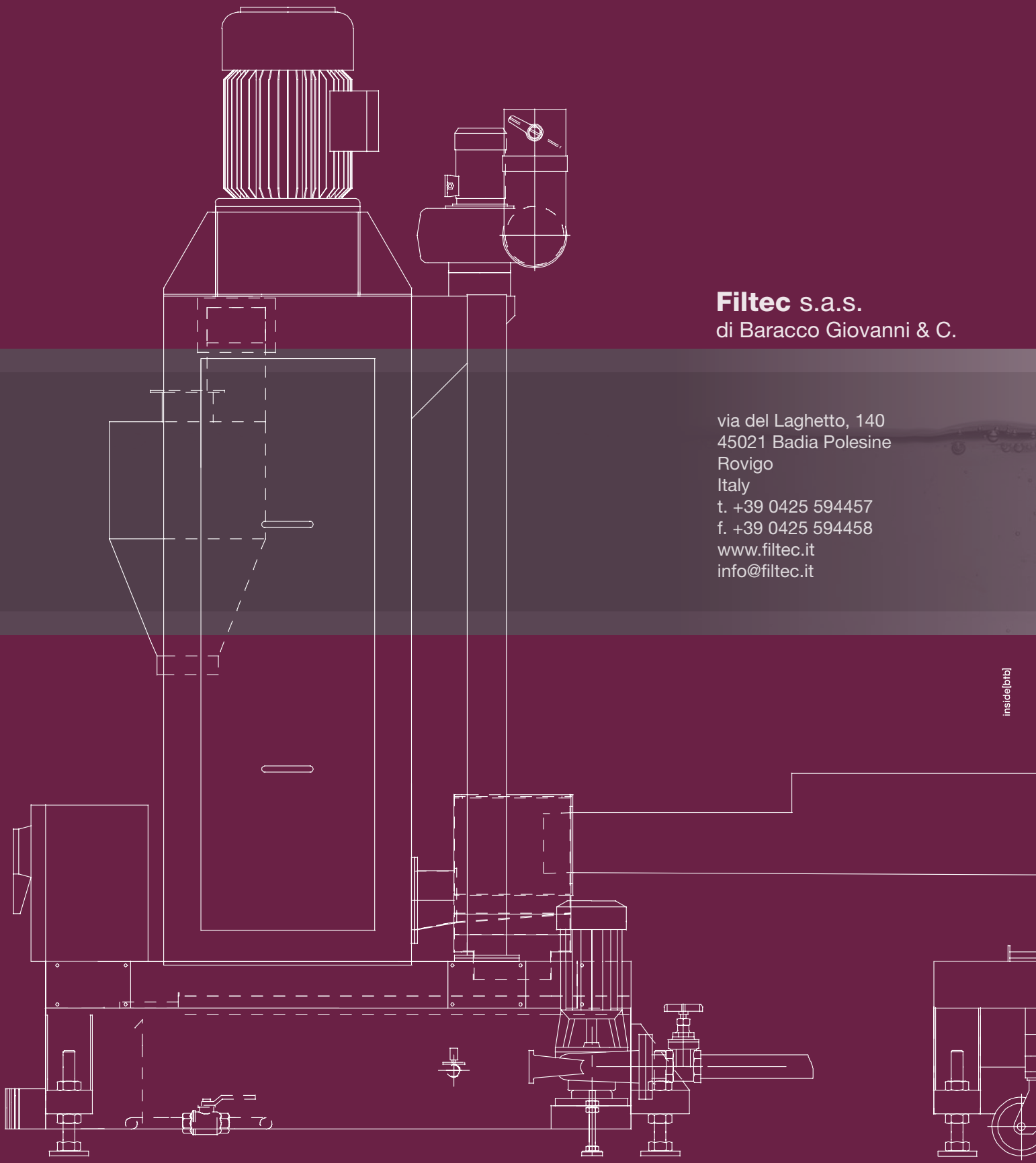
CV – Vertical centrifuges

The CV series vertical centrifuges, the result of two decades of Filtec experience, were designed **to guarantee fast cleaning and quality drying**. Arrangement of the conveyor blades reduces the knocking force of the product against the perforated steel sheets, slowing down wear. The main features are: structure in stainless steel AISI304, external sound-proofing, doors can be opened for inspection and easy cleaning, internal basket to separate water from the product with removable sections, grease loading/unloading system for the bearings, electric fan for air intake. The use of certain accessories, for example an input auger with loading hopper, extends the application field to washing systems for flakes and other ground materials. An internal rotor lifting system enables greater cleaning of the base, reducing the machine stoppage time.

Models	Stages	kW	Production
CV 250/3	3+1	1,3	400 Kg/Hr
CV 340/2	2+1	3,2	500 Kg/Hr
CV 340/3	3+1	4,2	1100 Kg/Hr
CV 450/3	3+1	7,9	2200 Kg/Hr
CV 600/3	3+1	11,4	5000 Kg/Hr

CA – Screen-changers

The CA screen-changers, with a single or double plate, complete the Filtec products range. **This solution filters the molten product on the pelletizing lines**, the processing of blown film, casts, flat head plates, tubes and profiles. They are available in different versions, based on the product to filter, **with electric or diathermic oil heating**. The molten material, thrust from the extruder or gear pump, flows to an inner channel crossed by a plate with appropriate filtering capacity (breakers), prepared to insert various sized nets based on the desired filtration level. This plate, activated by a cylinder controlled by a hydraulic control unit, slides in the work positions. A specific probe detects the increased pressure caused by clogging of the filtering net and sends an alarm signal, warning of the need to change the position of the plate. In some specific applications, you can have oval shaped filters, specifically for twin screw extruder connections.



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