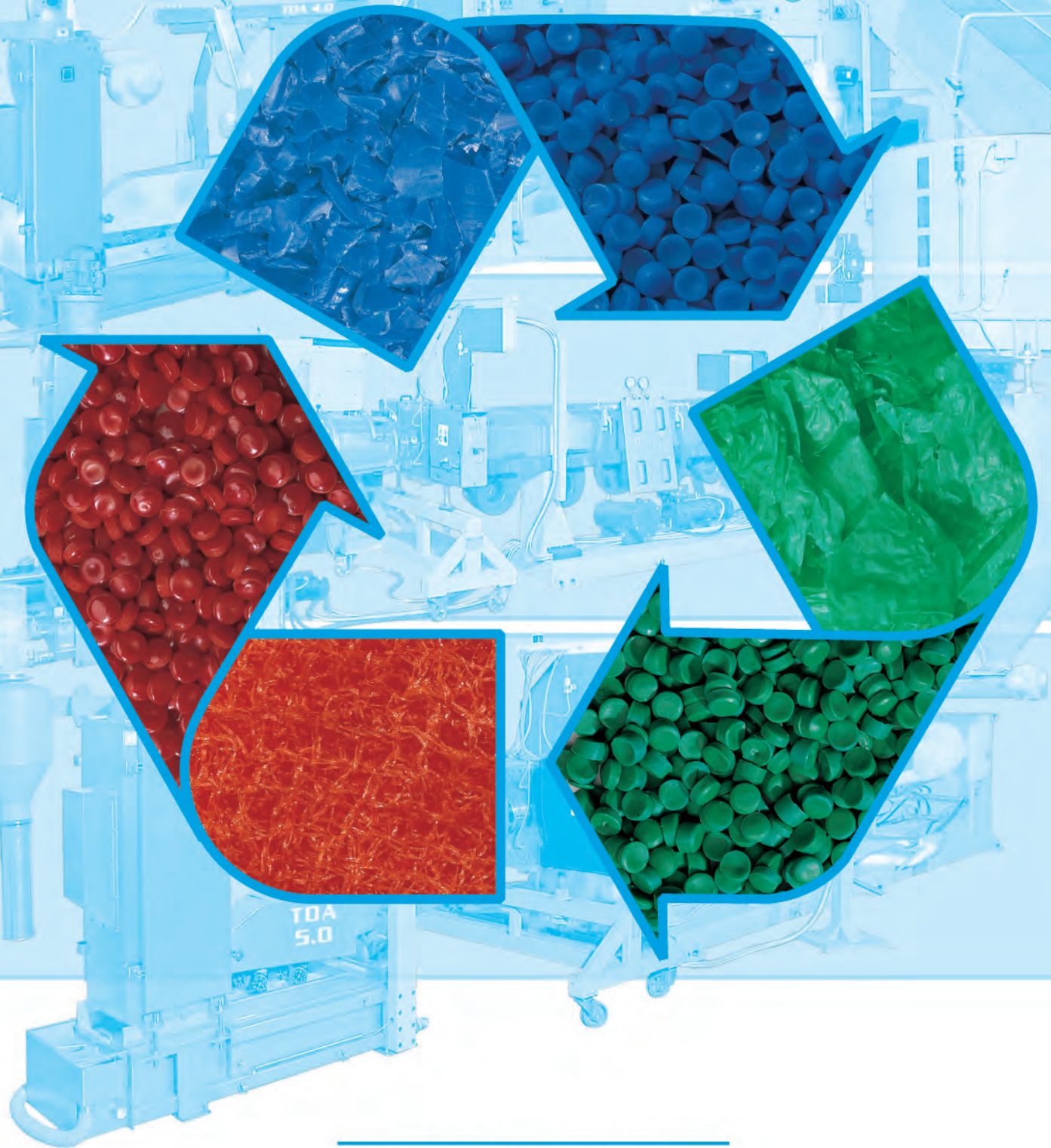


# RECYCLING SYSTEMS FOR PLASTIC MATERIALS





# RECYCLING SYSTEMS

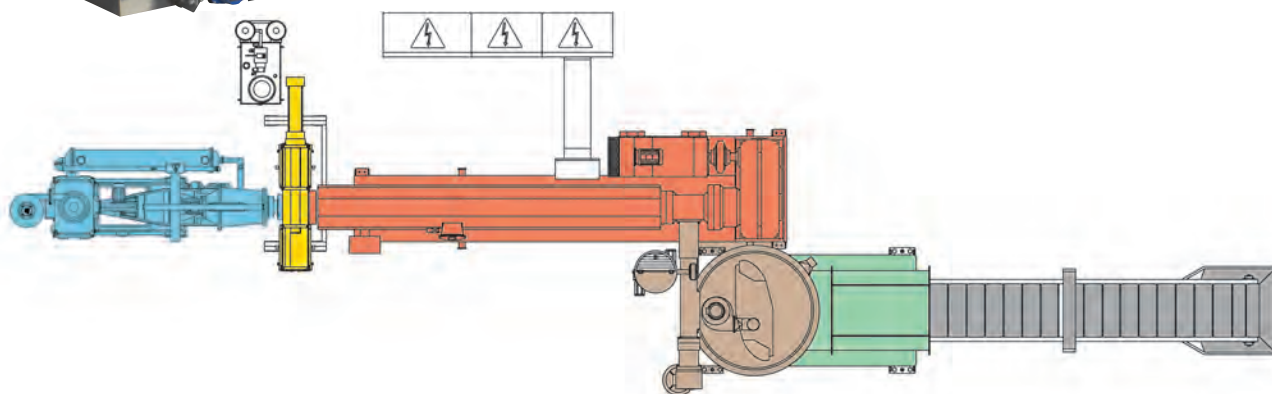
Recycling systems can be divided into two types:

- *conventional systems*, consisting of a grinding mill, forced feed, extruder, filter and die face cutter designed to recycle plastic materials in film or ground form where grinding mills must be used;
- *COMPAC systems* formed by a shredder, extruder, filter and die face cutter designed for particular and washing materials such as fibers, fabrics, yarns and film.

## RECYCLING LINES FOR FILM, YARNS FABRIC, WASHING MATERIALS



Recycling line  
GM 160 COMPAC.



LINE COMPAC	SHREDDER	EXTRUDER				FILTER	CUTTER		TOTAL POWER INSTALL.	UTILIZED POWER	PRODUCT. RATE*
	MOTOR POWER RATING  KW	Ø SCREW  mm	RATIO L/Ø	MOTOR POWER RATING KW	TOTAL HEATING POWER KW	Ø  mm	MOTOR POWER RATING KW	TOTAL HEATING POWER KW			
TRIM-CO	15	50	15	11-15	3,6	65	1,1	0,45	42	0,38	20-40
GM65	55	65	36	45	30	80	3	2	150	0,35	150-180
GM90	75	90	36	75-90	47	140	3	4	210	0,37	250-300
GM105	90	105	35	132-150	53	180	3	4	305	0,36	400-500
GM125	110-160	125	37	160-200	92	200-250	5,5	4	490	0,37	550-650
GM160	160-250	160	37	260-330	133	250-300	5,5	6	730	0,36	900-1100
GM180	160-270	180	37	400-470	174	300	7,5	13,5	1100	0,36	1000-1500

\*Indicative production rates with reference to LDPE



# RECYCLING LINES FOR FILM, GROUND MATERIALS, DENSIFIED MATERIALS



Recycling line GM125 with force feeders.

LINE	FORCE FEEDERS		EXTRUDER				FILTER	CUTTER		TOTAL POWER INSTALLED	UTILIZED POWER	PRODUCT. RATE*
	SILO CAPACITY	DRIVING SCREW	Ø SCREW	RATIO L/Ø	MOTOR POWER RATING KW	TOTAL HEATING POWER KW		MOTOR POWER RATING KW	TOTAL HEATING POWER KW			
CONVENTIONAL	m <sup>3</sup>	mm	mm				mm			KW	KW/KG	KG/H
<b>E-TRIM</b>	0,6	100	SPECIAL SCREW PROFILE		15	6,5	80	1,1	1	37	0,4-0,5	20-40
<b>GM60</b>	2	80	60	35	30	25	80	1,1	2	80	0,39	80-120
<b>GM75</b>	5	104	75	35	55	34	100	1,1	2	128	0,37	150-200
<b>GM90</b>	2,5	104	90	33-36	90	47	140	3	4	168	0,3	250-300
<b>GM105</b>	3,5	124	105	35	160	53	180	3	4	250	0,29	400-500
<b>GM125</b>	6-10	144	125	37	200	92	200-250	3	4	368	0,28	550-650
<b>GM160</b>	6-10	176	160	37	330-400	133	250-300	5,5	6	580	0,29	900-1100
<b>GM180</b>	6-10	206	180	37	400-470	174	300	7,5	13,5	780	0,29	1000-1500

\*Indicative production rates with reference to LDPE

Every equipment or line produced is personalized with accessories to satisfy the specific customer's requirements. For this reason, the company is specialized also in the supplying of additional accessories to furnish "turnkey" complete plants.

## TRIM-CO LINE FOR RECYCLING SMALL QUANTITIES OF PLASTIC MATERIAL

Like all the lines in the Compac range, Trim-Co consists of a shredder, an extruder and a head cutter, but this complete line for regenerating plastic is really very small: its overall measurements are just 2 metres long and 1.5 m wide.

Trim-Co is designed to regenerate materials such as films, fibres, fabrics and yarns. The line is particularly suitable for regenerating HDPE, LDPE, PE and PP in the shape of films, shoppers and bags, small cut reels, production waste. Average production is up to 50 kg/h and the total installed power is just 37 Kw.

TDA 2.0 is installed at the end of the line, improved and interpreted to meet the most demanding needs.



Trim-Co recycling line.

LINE	SHREDDER	EXTRUDER		TDA 2.0		TOTAL POWER INSTALLED	PRODUCT. RATE*
	SILO CAPACITY	MOTOR POWER RATING KW	TOTAL HEATING POWER KW	MOTOR POWER RATING KW	TOTAL HEATING POWER KW		
	Lit.					KW	KG/H
<b>TRIM-CO</b>	80	15	1,5	1,1	2	37	50

\*Indicative production rates with reference to LDPE





# FEEDS

## FORCE FEEDERS

The efficiency of a regenerating system also depends on the characteristics of the material in the feeding zone.

Thanks to a screw conveyor, the forced feed system ensures a functional and homogeneous flow of material from the storage cylinder to the feeding zone. Perfection of the flow is the result of accurate planning in all conveying phases and perfect synchronism and processing of the moving parts in contact with the material.

### FORCE FEEDERS



- SUITABLE FOR FILM, YARNS, THREADS, FABRICS
- SUITABLE FOR OPEN-CELL MATERIALS
- △ SUITABLE FOR FILM

TYPE OF MACHINE	DRIVING SCREW mm	SILO CAPACITY m <sup>3</sup>	TOTAL POWER INSTALLED KW
■ AFO 60	100	2	3,5
■ AFO 75	104	5	5,5
■ AFO 90	124	5	7
■ AFV 75	104	2,5	8,5
■ AFV 90	104	2,5	8,5
■ AFV 105	124	3,5	10,5
■ AFV 125	144	3,5	14
■ AFV 160	176	3,5	14
■ AF2V 75	104	6-10	13,5
■△ AF2V 90	124	6-10	14,5
■△ AF2V 105	104	6-10	17
■ AF2V 125	144	6-10	21
■△ AF2V 160	176	6-10	22,5
● AFC 60	100	0,7	3
● AF2V2C 90	104	5	11,7
● AF2V2C 105	124	5	14
● AF2V2C 125	144	5	16
● AF2V2C 160	176	5	17
■ AF2V 180	206	6-10	26,5

## CUTTER COMPACTORS

The main features of this kind of feeder are its rotating blades and counterblades, which allow the operator not to grind the material before loading the system. It is even possible to equip the conveyor belt with a pre-shredder to cut some special materials avoiding waste of time to make the material to be processed ready.



COMPACT	DIAMETER mm	MOTOR POWER RATING Kw	DIAMETER SCREW mm
GM90	1000	45	104
GM105	1100	75	124
GM125	1200	110	143
GM160	1300	160	176
GM180	1700	250	176



# EXTRUDER

The extruder is certainly the fundamental part of any regenerating system. The cylinder, the screw, the variable speed electric motor and the speed reduction gear are the basic assemblies with which it is formed. The heart of the entire machine is, however, the screw since the characteristics of the entire system depends on its size and shape.

The screw diameter and pitch vary depending on the type of material being regenerated. The shape of the screw is highly important in relation to productivity and the quality of the final product.

It is thanks to deep research and studies, years of experience and latest generation production equipment that GAMMA MECCANICA has acquired know-how that enables it to successfully produce systems able to convert any type of material with results that have made the company famous throughout the world.



Extruder GM160

## EXTRUDERS FOR POLYMERS - FILM, DENSIFIED MATERIALS, GROUND MATERIALS

TYPE	Ø SCREW	L/ RATIO	THERMOREGULATION AREA NR.	HEATING POWER KW	MOTOR POWER RATING KW	PRODUCTION KG/HOUR*
GM 60	60	35	4	25	30	80 - 120
GM 90	90	33/36	6	47	90	250 - 300
GM 105	105	35	6	53	160	400 - 500
GM 105	105	40	7	70	160	400 - 500
GM 125	125	37	7	92	200	550 - 650
GM 160	160	37	8	133	330-400	900 - 1100
GM 180	180	37	9	174	400-470	1000-1500

\*Indicative production rates with reference to LDPE

## EXTRUDERS FOR REINFORCED MATERIALS

TYPE	Ø SCREW	L/ RATIO	THERMOREGULATION AREA NR.	HEATING POWER KW	MOTOR POWER RATING KW	PRODUCTION KG/HOUR*
GM105	105	43	8	82	160	360
GM 125	125	43	9	127	200	550

\*Indicative production rates with reference to PP polymer only





## WATER RING PELLETIZER TDA

The water ring pelletizer is designed and manufactured to granulate thermoplastic materials.

Its working phases can be divided into three:

- granulation or pelletizing of melted plastic material;
- cooling of the granules / pellets thanks to a water centrifuge conveyor;
- Centrifuge dryer to dry the pellets.

The model of TDA built by Gamma Meccanica up to now are as follows: TDA 1.0 and 2.0 for small capacities, TDA 3.4 and 4.0 for medium capacities, 100/700 Kg/h. TDA 5.0 can guarantee a capacity till 1500 Kg/h.

**All type of TDA can be utilized on every model of reclaiming lines as well as every type of extruder, even if they are not manufactured by Gamma Meccanica.**

TDA can regenerate different type of materials: LLDPE, LDPE, HDPE, PP, BOPP, OPP, PS, EPS, XPS, ABS, ecc.



Cutter TDA 5.0



The structure has been reduced while the production cycle has been improved. The simple structure, the small size and the ease of handling avoid stopping and let the operator a simpler maintenance.



Cutters TDA 3.4, TDA 4.0 e TDA 5.0

## EXTRUDERS TO REGENERATE POLYMERS - FILM, DENSIFIED MATERIALS, GROUND MATERIALS

TDA	CAPACITY*	HEATING POWER	DIE FACE CUTTER MOTOR POWER	TOTAL INSTALLED POWER
	Kg/h	Kw	Kw	Kw
<b>1.0</b>	20 - 30	2	0.75	3.4
<b>2.0</b>	20 - 50	1.5	1.5	5
<b>3.4</b>	100 - 400	2.5	1.5 - 2.2	12
<b>4.0</b>	400 - 700	3.2	2.2 - 3	14
<b>5.0</b>	700 - 1500	4.0	5.5	20
<b>6.0</b>	1000 - 2000	13.5	7.5 - 9.2	43.5

\*Indicative production rates with reference to LDPE.

## UNDERWATER PELLETIZER



TI 2000

GAMMA MECCANICA can offer two different types of water ring pelletizer. The system shown in these pages is the "Underwater pelletizer", studied for the granulation of all plastics materials and for materials with a high MFI. The cutting process is different from the others because the die is completely immersed in the processing water, creating a cool film on the granules as soon as they come out of the die. Each single particular of the machine is made of high quality material, which guarantees a high reliability.

TYPE OF MACHINE	PRODUCTION*	HEAD HEATING POWER	CUTTER MOTOR POWER	DIVERTING VALVE HEATING POWER	CENTRIFUGE DIAMETER	TOTAL INSTALLED POWER
	Kg/h	Kw	Kw	Kw	mm	Kw
<b>TI 500</b>	800	6.4	2.2 - 3	4	405	35
<b>TI 1000</b>	1500	6.4	4	4	525	60
<b>TI 2000</b>	3000	9.6	7.5 - 11	7.3	525	86

\*Indicative production rates with reference to LDPE.





# COMPANY PROFILE



For more than twenty years Gamma Meccanica has been investing his money and his human and technical resources to become one of the world leader in the manufacture of complete lines for plastic recycling.

The high quality of its machines, the regularly and continually technical research and the attention to the relation between quality and price are the main features of Gamma Meccanica.

On top of that the punctuality in delivery, the constantly technical support and above all the reliability of having found a partner "customer oriented".

Gamma Meccanica develops its research plans and ever-lasting re-organization processes by complying with strict principles through which the analysis, production and after-sales services are rationalized to the utmost, with particular attention to economic management in all phases of the life of a company and its products.

You can find all the above in the long working life of the systems and in the high quality of the products coming from the processing lines.

## Technology & Evolution

Gamma Meccanica has always endeavoured to use the most sophisticated technologies and, consequently, has paid continuous attention to professional training of employees at all levels.

The high level of know-how in a company is often formed by lots of small production secrets discovered and collected during years of work and by their correct use in the various productive phases.



## Customer Service

To organize a perfect and immediate response to the customers' requirements, the company has created a technical assistance and spares service with dedicated telephone and fax lines.

Thanks to particular agreements with express couriers and to its sales network, the spare parts can be delivered anywhere in the world, all parts of the machines are always available in stock and the technical assistance staff is available 24 hours a day.



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The overall dimensions and technical information are provided solely for informative reasons and may be subject to change without notice.



