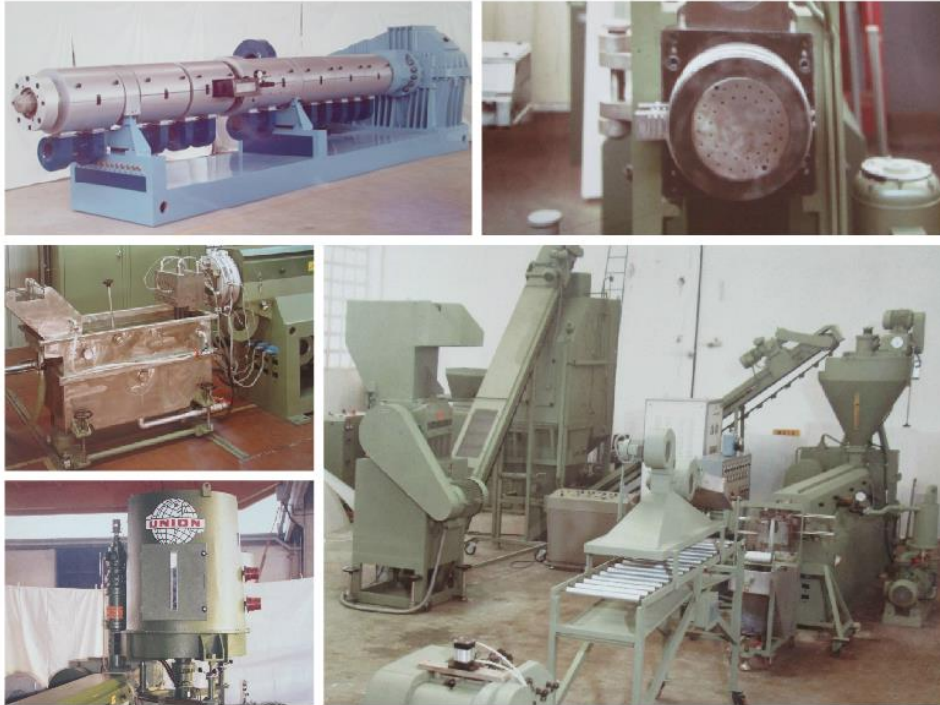


HIGH PERFORMANCE
RECYCLING EXTRUSION LINE



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IN BUSINESS SINCE 1950...



Photos from Union's historical archive, referred to recycling lines production, since 1960s

HIGH PERFORMANCE RECYCLING LINE

UNION nowadays plans and manufacture complete recycling lines, with single and co-rotating screw extruders ,for different materials, which include:

- an efficient degassing system in the extruder to extract from the material the residual gases and humidity
- a very accurate filtration system, with oleodynamic screen changer or backflush unit, to filter all material impurities
- an efficient pelletizing system, underwater or water ring type, guarantee a perfect cut producing. The pellets is immediatly dipped into the water chamber which cools the pellets and transports them to the centrifugal dryer which allows the transport of pellets directly to the silos of the production lines.



The specifications reported on this leaflet are only for reference and can be subjected to variation

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UNION SINGLE SCREW EXTRUDER

standard sizes available:

The range of single screw extruders, for recycling applications, has a screw diameter between 60 to 300 mm and length of 35 D, according to customer production.

Type	TR60	TR75	TR90	TR100	TR120	TR130	TR150	TR160	TR180	TR200
L/D	35/1 40/1 44/1	35/1 40/1 44/1	35/1 40/1 44/1	35/1 40/1 44/1	35/1 40/1 44/1	35/1 40/1 44/1	35/1 40/1 44/1	35/1 40/1 44/1	35/1 40/1 44/1	35/1 40/1 44/1
Screw speed (rpm)	150	150	150	130	130	130	130	100	100	100
Motor power (Kw)	30 ÷ 70	60 ÷ 100	120 ÷ 150	140 ÷ 170	220 ÷ 280	280 ÷ 320	300 ÷ 400	400 ÷ 500	500 ÷ 600	600 ÷ 800
Output (Kg/h)	80 ÷ 150	100 ÷ 200	200 ÷ 400	300 ÷ 500	500 ÷ 700	600 ÷ 1000	700 ÷ 1200	1000 ÷ 1400	1400 ÷ 1800	1600 ÷ 2400

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UNION CO-ROTATING TWIN SCREW EXTRUDER

standard sizes available:

The range of co-rotating twin screw extruders, for recycling applications, has a screw diameter between 42 to 144 mm and length from 36 to 64 L/D, according to customer production.

Type	ZP42X	ZP52X	ZP71X	ZP92X	ZP112X	ZP132X	ZP144X
L/D	36/1	36/1	36/1	36/1	36/1	36/1	36/1
	40/1	40/1	40/1	40/1	40/1	40/1	40/1
	44/1	44/1	44/1	44/1	44/1	44/1	44/1
	48/1	48/1	48/1	48/1	48/1	48/1	48/1
	52/1	52/1	52/1	52/1	52/1	52/1	52/1
	64/1	64/1	64/1	64/1	64/1	64/1	64/1
Screw speed (rpm)	300	300	300	300	300	300	200
	÷	÷	÷	÷	÷	÷	÷
	800	800	800	800	800	800	600
Motor power (Kw)	40	100	190	350	500	500	800
	÷	÷	÷	÷	÷	÷	÷
	70	250	550	1100	1400	2000	2500
Output (Kg/h)	100	200	400	800	1000	1500	2500
	÷	÷	÷	÷	÷	÷	÷
	300	500	1000	3000	4000	5000	9000

SINGLE SCREW EXTRUDERS

FEATURES



Union produce single screw extruders in standard and special versions. Extruders are entirely designed and manufactured in Union factory located in San Vittore Olona – MI.

- Output from 80 to 2400 kg/h.
- Gear box made of alloy steel heat treated and stabilized.
- Solid nitrided steel barrels and plasticizing screw made in nitrided steel or in K110 steel depending on the needs.
- Heating provide by ceramic resistances
- Extrusion barrel cooling by blowers automatically driven by temperatures control cabinet.

CO-ROTATING TWIN SCREW EXTRUDERS

FEATURES



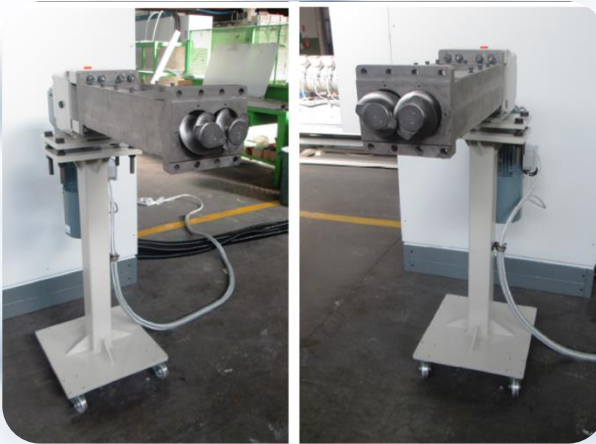
Union produce co-rotating twin screw extruders in standard and special versions.

Extruders are entirely designed and manufactured in Union factory located in San Vittore Olona – MI.

- Output from 300 to 6000 kg/h.
- Screws at elements with profiles and different lengths inserted in brocade shafts. Made in nitrided steel or in K110 steel depending on the needs.
- Solid nitrided steel barrels or modular barrel sections (4D) in bimetallic materials, section for easy design port with vent, feed materials, feed gas ecc.
- Reducers at high resistance at high tork.
- Extrusion barrel cooling by oil for more precise and stable temperature control.

SIDE FEEDER (FOR TWIN SCREW EXTRUDERS)

Are composed by segmented screws with a self-wiping profile to provide optimum feeding properties for a wide range of raw materials such as mineral fillers, fiberglass, pellets, and most powder type additives.



Include:

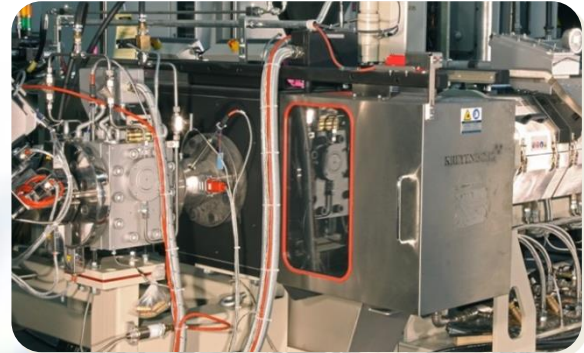
Modular screw components for unlimited processing capability

Variable speed drive with 10:1 turndown ratio

Designed for guarantee best performance of reliability, flexibility and highest safety in operation.

SCREEN CHANGERS

The **backflush unit** is used for special application. It has two filtration cavities in each piston, allowing for twice the filtration. The most unique aspect of the backflush is the capability of recycling or maximizing screen life while in the melt flow. When upstream pressure rises due to a high contaminant level, the PLC control automatically actuates each piston to its backflush position, allowing pressure to push contaminants off the dirty screenpack. Contaminants are purged out of ports in the bottom of the housing into a drip pan.



The **oleodynamic screen changer at double plates**, it is applicable to process most polymers at high output.

It is equipped with n. 2 plates in hardened steel, n. 2 oleodynamic pistons for plates sliding and pressure manometer membrane, with digital display, at double contacts:

- . 1st one for clogged filter by lighting and acoustic warning
- . 2nd one as emergency for extruder motor stopping

UNDERWATER PELLETIZING AND DRYER SYSTEM

The Underwater pelletizer features for high product clearness and homogeneity product results, optimization of water consumption, closed circuit water circulation, simple and fast production change and low maintenance cost.



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POLYMERS PROCESSABLE TABLE:

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
Styrene - butadiene	SB
Polymethyl methacrylate	PMMA
Polybutylene terephthalate	PBT
Polybutylene 1	PB1
Polyamide	PA 6,6
Thermoplastic rubber	TPR
Styrene butadiene styrene	SBS
Styrene - ethylene / butylene - styrene	SEBS
Thermoplastic polyurethane	TPU
Polycarbonate	PC

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WATER RING PELLETIZING AND DRYER SYSTEM

POLYMERS PROCESSABLE TABLE:

Low density polyethylene	LDPE
Linear low density polyethylene	LLDPE
High density polyethylene	HDPE
Cross linked polyethylene	XPE
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
Styrene - butadiene	SB
Polymethyl methacrylate	PMMA
Polybutylene terephthalate	PBT
Polybutylene 1	PB1
Polyethylene terephthalate	PET
Polyamide	PA 6,6
Styrene butadiene styrene	SBS
Styrene - ethylene / butylene - styrene	SEBS
Polycarbonate	PC

The Water Ring Pelletizer is a simple and compact system enables to achieve optimal production, in terms of capacity and quality of the product.

The system features for low energy consumption and easy and fast cleaning during the switch to other materials.



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STRAND PELLETIZING AND DRYER SYSTEM



The Strand Pelletizer are used for the processing of the melted polymer to cylindrical, dry and easy to handle plastics pellets. The system features for low energy consumption, easy maintenance and cleaning, noise insulation cutting chamber, safety systems.

POLYMERS PROCESSABLE TABLE:

Polyethylene	PE
Linear low density polyethylene	LLDPE
High density polyethylene	HDPE
Polyurethane	PUR
Polypropylene	PP
High impact polystyrene	HIPS
Styrene - acrylonitrile resin	SAN
Acrylonitrile - butadiene - styrene	ABS
Polymethyl methacrylate	PMMA
Polybutylene terephthalate	PBT
Acrylonitrile Styrene Acrylate	ASA
Polyethylene terephthalate	PET
Polyamide	PA 6,6
Polyamide	PA 11
Polyamide	PA 12
Polycarbonate	PC

FOR FURTHER QUESTIONS PLEASE CONTACT
OUR OFFICE OR VISIT OUR WEBSITE:

WWW.UNIONEXTRUSION.IT



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