

**RECYCLING**

Two-Stage Pelletizing Line — 250–300 kg/h

Two-stage pelletizing line with compactor for PE film and stretch film — Ø 100 mm screws, vertical water-ring hot cutting, 250–300 kg/h.

**250–300 kg/h**

CAPACITY

Ø 100 mm

SCREW DIAMETER

90 kW + 30 kW

EXTRUDER MOTORS

55 kW

COMPACTOR MOTOR

A complete two-stage pelletizing line that turns PE film and stretch film into pellets at 250–300 kg/h. A belt conveyor feeds the film into a compactor, which pre-heats, cuts, mixes and compacts it before it enters the first extruder.

The melt passes through two single-screw extruders in series — an SJ-100/30 with forced vacuum venting, then an SJ-100/10 — each followed by a plate-type hydraulic screen changer that changes screens without stopping the line. The pellets are cut hot at the die face by a vertical water-ring cutter.

After cutting, the pellets are dried in a centrifugal dewatering unit, sorted on a vibrating sieve and blown to a 1 m³ stainless steel storage silo. The belt conveyor, both extruders and the pelletizer run under inverter speed control from one electric control panel.

MAIN PARAMETERS

Raw materials	PE film and stretch film
Capacity	250–300 kg/h
Line configuration	Compactor, SJ-100/30 extruder and SJ-100/10 extruder in two stages
Pelletizing method	Vertical water-ring hot cutting

FIRST-STAGE EXTRUDER — SJ-100/30

Screw diameter	Ø 100 mm
L/D ratio	30:1
AC motor power	90 kW
Screw speed	10–120 rpm
Cooling	Forced air cooling
Lubrication	Forced lubrication
Heating	Cast aluminium heaters
Temperature control	7 zones, including the head
Screw	38CrMoAlA, nitrided

Barrel	38CrMoAlA, nitrided, air cooled, with temperature controller
Gearbox	High torque, low noise, connected to an external cooling circuit
Venting	Vacuum pumps for forced venting, motor power 3 kW
Speed control	Inverter

SECOND-STAGE EXTRUDER — SJ-100/10

Screw diameter	Ø 100 mm
L/D ratio	10:1
AC motor power	30 kW
Screw speed	10–120 rpm
Cooling	Forced air cooling
Lubrication	Forced lubrication
Heating	Cast aluminium heaters
Temperature control	3 zones, including the head
Screw	38CrMoAlA, nitrided
Barrel	38CrMoAlA, nitrided, air cooled, with temperature controller
Gearbox	High torque, low noise, connected to an external cooling circuit
Speed control	Inverter

COMPACTOR

Function	Pre-heats, cuts, mixes and compacts the film
AC motor power	55 kW
Rotary knives	9
Fixed knives	14
Temperature control	1 zone, with temperature measurement
Cooling	Water cooling
Material	Stainless steel where in contact with the raw material, carbon steel elsewhere
Dust collector	Fitted
Protection	Overload and over-current

BELT CONVEYOR

Belt material	PVC
Plate material	Carbon steel
Conveyor width	600 mm
Motor power	1.5 kW
Speed control	Inverter

HYDRAULIC SCREEN CHANGERS

Type	Plate-type hydraulic screen changer — no stopping, no leaking
Screen change time	Within 2 seconds
Screen diameter	Ø 200 mm
First screen changer	After the SJ-100/30 extruder, motor power 3 kW, with pressure sensor
Second screen changer	After the SJ-100/10 extruder, with pressure sensor, shares the hydraulic pump of the first

WATER-RING PELLETIZER

Type	Vertical water-ring die-face hot cutting
Motor power	1.5 kW
Speed control	Frequency conversion, inverter
Assembly	Hot-cutting die head, water-ring cover, knife holder and cutter head

PELLET DRYING, SORTING, CONVEYING AND STORAGE

Centrifugal dewatering — motor	3 kW
Centrifugal dewatering — speed	1,500 rpm
Centrifugal dewatering — material	Welded Q235 steel frame, other parts stainless steel
Vibrating sieve — function	Sorts the pellets automatically for uniform size
Vibrating sieve — motor	0.22 kW
Conveying blower — motor	3 kW
Conveying blower — piping	Stainless steel pipeline and tee joint
Storage silo — capacity	1 m ³
Storage silo — material	Stainless steel

SUPPLIED EQUIPMENT

Belt conveyor	1
Compactor with dust collector	1
SJ-100/30 single-screw extruder	1
First hydraulic screen changer	1
SJ-100/10 single-screw extruder	1
Second hydraulic screen changer	1
Water-ring die-face hot cutting system	1
Centrifugal dewatering unit	1
Vibrating sieve	1
Conveying blower system	1
Storage silo	1

MAIN COMPONENTS

1. Omron temperature control system (Japan)
2. Delta inverters — belt conveyor, main machine and pelletizer
3. Delixi main electrical controls
4. Schneider low-voltage electrics
5. Beide main motors

KEY FEATURES

- Compactor pre-heats, cuts, mixes and compacts the film before extrusion.
- Two single-screw extruders in series, each followed by its own hydraulic screen changer.
- Forced vacuum venting on the first-stage extruder.
- Screens are changed within 2 seconds, without stopping the line and without leaking.
- Pressure sensor at each screen changer.
- Vertical water-ring hot cutting at the die face.
- Vibrating sieve sorts the pellets automatically for uniform size.
- Screws and barrels in nitrided 38CrMoAlA steel.
- Delta inverters control the speed of the belt conveyor, the main machine and the pelletizer.
- Compactor protected against overload and over-current.
- Wiring between the machines and the electric control cabinet is supplied with the line.

PHOTOGRAPHS



Belt conveyor



Compactor



First-stage extruder — motor and gearbox



Vacuum venting system



First hydraulic screen changer



Second-stage extruder



Second hydraulic screen changer and die head



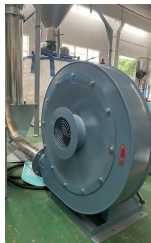
Water-ring die-face cutter



Centrifugal dewatering unit



Vibrating sieve



Conveying blower



Electric control cabinet

WARRANTY & AFTER-SALES SERVICE

Every machine carries a warranty of one (1) year from the date of commissioning, covering the repair or replacement of parts in case of manufacturing defects. It does not cover malfunctions resulting from misuse, neglect or external factors such as unstable power, accidents, tampering or force majeure, nor wearing parts consumed in normal operation — sealing knives and cutting blades, Teflon tape, heaters, filters and screens.

Installation, commissioning and operator training are arranged by Miroplastic, and an operating manual is supplied with each machine. Technical support is available by telephone and email during the warranty period and thereafter. Spare parts and consumables are available from Miroplastic.

Photographs are for reference only. Miroplastic reserves the right to improve the specification of its machines without prior notice. Actual output depends on the material, width and thickness run.

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