



PLASTIC RECYCLING

& REPRODUCING TURN-KEY PLANT

SHREDDER P.4

CRUSHER P.6

4 IN 1WASHING MACHINE P.8

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### Professional Plastic recycling manufacturer



PROFESSIONAL x





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**TECHNOLOGY** 





Your best partner





Exclusively World-wide patented.

Features its special blade.

Low horse power. Low speed.

Really low noise while producing.

Meet the international industrial safety requirements.

#### Material:

Blow molding bottles, injection products, extrusion lump, sheet and pipe, woods, paper, thermoforming products, electronic supplies, rubber, metal... etc.

This machine has been released throug hyears of research and well-designed by KOWIN. And we develop some great features.

KOWI**n** shredder designs for various kinds of materials.

For large products it allows directly shredding and crushing. Reduce the cost of crushing process and 50 % powder produced. For hard breaking products and electronic supplies our special design with blades of precision alignment and angle arrangement, it reduces the problem on damaging the blades and powder produced.

And make blade life 3 times longer than general shredder.



### Features of KOWIN shredder

Low horse power, low speed and low noise. It can save 50 % power at least.

Electricity cost: save more than USD 7,200 / year.

Special blade design, whose shredder blade life is 3 times longer than the general shredder in the market.

Blade cost: save more than USD 11,000 / year.

World patented proved good quality machinery. Safety and user-friendly, easy maintenance design. KOWI**n** shredder can solve problems you met.

Eco-friendly machinery.

KOWIN-345	KOWIN-346
Capacity 1000 - 2000 kgs / hr ( Capacity subjects to change due to material feature and size of screen hole. )	Capacity 2000 - 4000 kgs / hr ( Capacity subjects to change due to material feature and size of screen hole. )
Into size 800 MM x 800 MM	Into size 1310 MM x 1310 MM
Max. Crushed material size 750 MM x 600 MM x 600 MM	Max. Crushed material size 1200 MM x 1200 MM x 600 MM
Shaft design Single shaft	Shaft design Single shaft
* Detailed specification based on inquiry and discussion.	



# CRUSHER

World-wide patented machinery.

Features its fixed and rotary blade set design.

Low noise while producing.

Meet the international industrial safety requirements.

#### Material:

Blow molding bottles, injection products, extrusion lump, sheet and pipe, bags, agricultureal film, woven sacks, jumbo bags, woods, paper, thermoforming products, electronic supplies, rubber, metal... etc.

KOWIN-377	KOWIN-378	KOWIN-379
Capacity 500 - 800 kgs / hr ( Capacity subjects to change due to material feature and size of screen hole. )	Capacity 700 - 1000 kgs / hr ( Capacity subjects to change due to material feature and size of screen hole. )	Capacity 1000 - 1500 kgs / hr ( Capacity subjects to change due to material feature and size of screen hole.)
Into size 750 MM x 500 MM	Into size 1000 MM x 500 MM	Into size 1250 MM x 500 MM
Screen DIA. Ø 8 ~ 50 MM ( Customer can specify )	Screen DIA. Ø 8 ~ 50 MM ( Customer can specify )	Screen DIA. Ø 8 ~ 50 MM ( Customer can specify )



This machine has been well-designed by KOWIN and reach the purpose of being user friendly and beneficial machinery.

Special blade angle - reduced blade wear, increase blade life and powder is less produced than general crusher. Special cutter material from Germany, decrease blade-changing times and blade-changing cost.

Cover-lift device by motor-driving. Easy blade-changing design, save your time of blade-changing and save your loss during machinery maintenance.

Crushing chamber and shaft base are separated; high precision assembly, reduce the crushing temperature. This design can avoid shaft bearing be flooded and rust during wet crushing.

Especially for PP woven sack and jumbo bag. With special blade angle, it can be crushed directly without jamming, and make production line in good operation.

### Features of KOWIN crusher

Machine continuously running 24 hrs / 365 days.

Low maintenance cost. Low noise. Energy-saving.

Feeding hopper remove by hydraulic. Ssafety and user-friendly, easy maintenance and easy cleaning design.

Patented fixed blade and rotary blade design. It crushes materials rapidly, and produces less powder.

Energy-saving and Eco-friendly machinery.
KOWIN crusher saves your energy cost and reduces more CO2
emission than other crusher.



# 4 IN1 WASHING MACHI



Receives TAIWAN SMEs INNOVATION AWARD of ROC in 2014.

Features its washing cleanness level 50 % higher than general plastic washing machine in the market.

**Exclusively World-wide patented.** 

### Material (After crushed):

Blow molding bottles, containers, injection products, extrusion lump, sheet and pipe, vacuum forming and pressure forming products, shoes, slipper sole, dirty plastic pellet... etc.

### NE

KOWIN 4 in 1 washing machine is designed for dirty crushed plastic flakes. This machine has been well-designed by KOWIN. Swirl-type hitting washing design. It can efficiently wash away the dust, with real-washing function.

Exclusively patented swirl-type washing design. This design is especially for washing recycling crushed bottle flakes, injection flakes and sheet flakes. Detergent, hot or cold water washing, two of them in one machine is available. And with our circulating design, detergent and water are recyclable.

Twin tank design. Continuously batch-type washing, steadily feeding and discharging.

Steady washing quality of plastic material makes your competitiveness raise.

### Features of KOWIN 4 in 1 washing machine

Continuously running 24 hr / day; 365 days / year.

Automatically control, save manpower and electrical costs for 30 %.

Efficiently wash away the dust, sand, soil, oil and other contamination from the plastic material. With real-washing function, washing cleanness level goes up **50** %.

Water and detergent circulating design. It can save water and detergent consumption. Reduce your cost and influence on environment.

Eco-friendly machinery.

KOWI**N4** in **1** washing machine saves your energy cost and reduces more CO<sub>2</sub> emission than other washing machine.

<b>Capacity</b> 1000 - 2000 kgs / hr
Surface contact with water Material SUS 304



Receives TAIWAN SMEs INNOVATION AWARD of ROC in 2014.

Features its washing cleanness level 50 % higher than general plastic washing machine in the market.

**Exclusively World-wide patented.** 

### Material (After crushed):

Agricultural film, raffia, woven bag, jumbo bag, blow molding bottles, containers, injection products, extrusion lump, sheet and pipe, vacuum forming and pressure forming products, shoes, slipper sole, dirty plastic pellet... etc.



# 2 IN 1 WASHING MACHI



KOWI**n** 2 in 1 washing machine is designed for dirty crushed plastic flakes. This machine has been well-designed by KOWI**n**. Swirl-type hitting washing design. It can efficiently wash away the dust, with real-washing function.

Exclusively patented swirl-type washing design. This design is especially for recycling crushed film flakes, woven sack flakes and jumbo bag flakes.

Detergent, hot or cold water washing is available. And with our circulating design, detergent and water are recyclable.

Twin tank design. Continuously batch-type washing, steadily feeding and discharging.

Steady washing quality of plastic material makes your competitiveness raise.

### Features of KOWIN 2 in 1 washing machine

Continuously running 24 hr / day; 365 days / year.

Automatically control, save manpower and electrical costs for 30 %.

Efficiently wash away the dust, sand, soil, oil and other contamination from the plastic material. With real-washing function, washing cleanness level goes up **50** %.

Water and detergent circulating design. It can save water and detergent consumption. Reduce influence on environment.

Eco-friendly machinery.

KOWI**n2** in **1** washing machine saves your energy cost and reduces more CO<sub>2</sub> emission than other washing machine.

Capacity	Capacity
2000 - 3000 kgs / hr	1000 - 2000 kgs / hr
Surface contact with water Material SUS 304	Surface contact with water Material SUS 304





### Receives TAIWAN SMEs INNOVATION AWARD of ROC in 2014.

Features its washing cleanness level 50 % higher than general plastic washing machine in the market.

**Exclusively World-wide patented.** 

### Material (After crushed):

Blow molding bottles, containers, injection products, extrusion lump, sheet and pipe, vacuum forming and pressure forming products, shoes, slipper sole, dirty plastic pellet... etc.

KOWIN single tank type washing machine is designed for dirty crushed plastic flakes. This machine has been well-designed by KOWIN. Swirl-type hitting washing design. It can efficiently wash away the dust, with real-washing function.

Exclusively patented swirl-type washing design. This design is especially for recycling crushed bottle flakes, injection flakes and sheet flakes.

Detergent, hot or cold water washing is available. And with our circulating design, detergent and water are recyclable.

With patented centrifuge. Moisture of non-foam type plastic material coming from centrifuge would be less than 3 %.

Steadily feeding and discharging. Steady washing quality of plastic material makes your competitiveness raise.

# SINGLE TANK TYPE WASHING MACHINE



Features of KOWIN single tank type washing machine

Continuously running

24 hr / day ; 365 days / year.

Automatically control, save manpower and electrical costs for 30 %.

Efficiently wash away the dust, sand, soil, oil and other contamination from the plastic material. With real-washing function, washing cleanness level goes up **50** %.

Water and detergent circulating design. It can save water and detergent consumption. Reduce your cost and influence on environment.

Eco-friendly machinery.

KOWI**n** single tank washing machine saves your energy cost and reduces more CO<sub>2</sub> emission than other washing machine.

#### KOWIN-197

Capacity 800 - 1200 kgs / hr

**Surface contact with water** Material SUS 304

\* Detailed specification based on inquiry and discussion.







Patented design — steadily feeding, precise sinking & floating separation, steadily discharging.

World-wide patented machinery.

### Material (After crushed):

Agricultural film, raffia, woven bag, jumbo bag, blow molding, bottles, containers, injection products, extrusion lump, sheet and pipe, vacuum forming and pressure forming products, dirty plastic pellet... etc.

# SINKING & FLOATING



This machine has been well-designed by KOWIN and reach the purpose of being user friendly and beneficial machinery.

By patented design, the feeding of sinking and floating separation tank can achieve steadily feeding in the water and reduce large water fluctuation and disturbance while feeding. And then by material stirring device, it makes the material smoothly move in the water and achieve precise separation of different materials and contaminations.

Sinking & floating separation design. It reduces the water fluctuation and disturbance; efficiently separating by material specific weight, it achieves precisely separating effect.

Discharging design.

Steadily delivering and material stirring design. It does not result large fluctuation of current. It increases the steadiness of water flow and reduces the water disturbance. Steadily discharging.

Feeding design.

During the feeding, material can efficiently get into the water. It reduces the water disturbance and increases the steadiness of separation.

It achieves preciseness of specific weight separation for sinking material and floating material.

### Features of KOWIN sinking and floating separation tank

Preciseness of specific weight

Sinking & floating separation design. It reduces the water fluctuation and disturbance.

Continuously running 24 hr / day; 365 days / year.

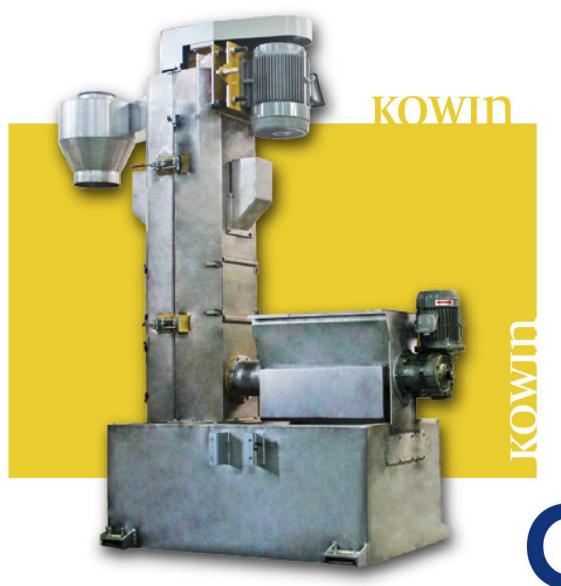
Automatically control, save manpower and electrical costs for 30 %.

Eco-friendly machinery.

KOWI**n** sinking and floating separation tank saves your energy cost and reduces more CO<sub>2</sub> emission than other separation tank.

### SEPARATION TANK





Patented centrifuge with openable design. Features easy maintenance and cleaning, save your time for material-changing. World-wide patented machinery.

Material (After crushed):

Blow molding, bottles, containers, injection products, extrusion lump, sheet and pipe, vacuum forming and pressure forming products, shoes, slipper sole, dirty plastic pellet... etc.

CENTRIFUG



This machine has been well-designed by KOWIN and reach the purpose of being user-friendly and beneficial machinery.

Special de-watering blade design.
High de-watering rate. Moisture of
non-foam plastic material after KOWIN
centrifuge to be less than 3 % and can be
sent to extruder to make pellets directly.
Special de-watering blade design also
makes powder less produced.

Automatically running, saves manpower cost and electricity cost for 30 %.

Machine continuously running 24 hrs / day;
365 days / year.

Patented material discharging design. No material jam is guaranteed. Capacity goes up.

### Features of KOWIN centrifuge

Centrifuge - openable design. Unlike general centrifuge - unopenable design, KOWIN centrifuge is much easier to clean and do maintenance.

Moisture of non-foam plastic material after KOWIN centrifuge to be less than 3 % and can be sent to extruder to make pellets directly.

Continuously running 24 hr / day; 365 days / year.

Automatically control, saves manpower and electrical costs for 30 %.

Eco-friendly machinery.

KOWIN centrifuge saves your energy cost and reduces more CO<sub>2</sub> emission than other de-watering machine.

KOWIN-195	KOWIN-198
<b>Capacity</b> 3000 - 4000 kgs / hr	<b>Capacity</b> 1500 - 3000 kgs / hr
Surface contact with water Material SUS 304	Surface contact with water Material SUS 304





# SQUEEZING - DRYING M

Invention patent design.
Especially for film and bag.
Features the material moisture after squeezing-drying to be less than 3 %.
World-wide patented machinery.

#### Material:

Film, raffia, woven bag, jumbo bag ... etc.

This machine has been well-designed by KOWI**n**. Invention patent design; it has been upgraded to six generation design. Especially for film / bag agglomerating and squeezing-drying after washing.

Continuously running, saves 50 % more of horse power than general dryer, power-saving, easy operation. Fully automatic operation, save 30 % of manpower cost and electricity cost.

The moisture of material after squeezing-drying is less than 3 %; and then the material can be directly sent to the extruder for making pellets. For the general squeezing-drying machine of 125 HP  $\sim$  200 HP in the market, the output capacity is 200  $\sim$  300 kg/hr and the moisture is 5  $\sim$  10 % higher. With real squeezing-dry ing function, your competitiveness goes up.

KOWIN-185	KOWIN-186	KOWIN-187
Capacity	<b>Capacity</b>	Capacity
250 - 400 kgs / hr	450 - 700 kgs / hr	750 - 1000 kgs / hr



### ACHINE

After the squeezing-drying & agglomerating, the material is cut into pieces by cutter; the shape of the output subjects to change due to the customer's material.

From the first generation to the sixth generation, KOWIN has conquered the problem of high horse power but with low capacity. The sixth generation squeezing -drying agglomerating machine consumes only 50 ~ 100 HP, but the output capacity can achieve 500 ~ 600 kg/hr and the moisture is less than 3 %. It is your best choice.

### Features of KOWIN squeezing-drying machine

Moisture of material after squeezing-drying is less than **3**%; and then the material can be directly sent to the extruder for making pellets.

Easy operation. Low maintenance cost.

Continuously running **24** hr / day; **365** days / year. Automatically control, saves manpower and electrical costs for **30** %.

Eco-friendly machinery.

KOWIN squeezing-drying machine saves your energy cost and reduces more CO<sub>2</sub> emission than other de-watering machine.





# DIE FACE CUTTING EXT

Receives World-wide patents.

Features its production line of low power consumption, high capacity and easy-operation, it allows customers to produce high quality recycled pellets.

#### Material:

Available for: PP, PE

Suitable for: Blown film, woven bags, bottles, sheet, lumps, powder ...etc.

Not only for industrial waste, but also for Post-consumer waste. Especially for fluffy material.



KOWIN-222

**Capacity** 90 - 150 kgs / hr

### RUDER

Based on expertise technique, KOWI**n** designs extrusion-pelletizing line in aspect of operator. Structure features as below.

Patented force feeding system.

Back-side feeding design, capacity 20 % more than others. Auto reverse design.

Automatically quantity control.

Die face cutting set.

It is adjusted by hydraulic unit, easy to forward & backward for position adjustment. Accuracy cutter adjustment by spring function. Easy operation and maintenance. With water ring cooling system.

Gear box of main extruder. Gear fitness JIS 3 grade. With lubrication oil cooling circulating system. High torque. Low noise. Steady working. Long life.

Centrifuge with patented openable design and water filtering and circulating system.

Easy cleaning and maintenance.

With filtration function. Automatic water adding and circulating.

### Features of KOWIN die face cutting extruder

Very low ampere when in full production. Energy-saving.

Patented force feeding system.

No bridging situation. It absolutely **100** % solves the problem in using the machines of other suppliers.

Heavy duty construction design, no vibrating in machine while production. Low temperature pelletizing.

Eco-friendly machinery.

KOWI**n** die face cutting extruder saves your energy cost and reduces more CO<sub>2</sub> emission than other extruder.

KOWIN-232	KOWIN-242	KOWIN-252	KOWIN-262	KOWIN-272	KOWIN-282
Capacity 180 - 300 kgs / hr	<b>Capacity</b> 250 - 400 kgs / hr	Capacity 350 - 600 kgs / hr	<b>Capacity</b> 450 - 700 kgs / hr	<b>Capacity</b> 500 - 800 kgs / hr	Capacity 750 - 1200 kgs / hr
			* Capacity will be changed due to input material's feature and contain * Detailed specification based on inquiry and discussion.		



## STRAND CUTTING EXT



Receives World-wide patents.

Features its production line of low power consumption, high capacity and easy-operation, it allows customers to produce high quality recycled pellets.

#### Material:

Available for: PP, PE, PA, PC, PS, EPS, ABS.

Suitable for: Blown film, woven bags, bottles, sheet, lumps, powder ...etc.

Especially for fluffy material.

KOWIN-226

Capacity 90 - 150 kgs / hr



### RUDER

Based on expertise technique, KOWI**n** designs extrusion-pelletizing line in aspect of operator. Structure features as below.

Patented force feeding system.

Back side feeding design, capacity 20 %
more than others. Auto reverse design.

Automatically quantity control. Autoreverse design. Cast steel construction.

With water circulating and cooling design.

Main extruder.

Single screw design. Single barrel with vent. Screw design with special melting function, the pitch and screw design "double wave".

Gear box of main extruder. Gear fitness JIS 3 grade. With lubrication oil cooling circulating system. High torque. Low noise. Steady working. Long life.

Control box.

Power saving design. With inverter, energy-saving 40 %. With aircondition cooling system. Main control panel separately. Material of temperature control system Ceramic, cast aluminum and stainless steel heater composed with each other.

### Features of KOWIN strand cutting extruder

Very low ampere when in full production. Energy-saving.

Patented force feeding system.

No bridging situation. It absolutely **100** % solves the problem in using the machines of other suppliers.

Heavy duty construction design, no vibrating in machine while production. Low temperature pelletizing.

Eco-friendly machinery.

KOWIN strand cutting extruder saves your energy cost and reduces more CO<sub>2</sub> emission than other extruder.

KOWIN-236	KOWIN-246	KOWIN-256	KOWIN-266	KOWIN-276	KOWIN-286
Capacity 180 - 300 kgs / hr	Capacity 250 - 500 kgs / hr	<b>Capacity</b> 350 - 600 kgs / hr	<b>Capacity</b> 450 - 700 kgs / hr	Capacity 500 - 800 kgs / hr	<b>Capacity</b> 750 - 1200 kgs / hr
			* Capacity will be changed due to input material's feature and contaminants * Detailed specification based on inquiry and discussion.		



# DOUBLE VACUUM EXTR

### **Especially for PET to avoid IV drop**

Receives World-wide patents.

Features for its production line of low power consumption, high capacity and easy-operation, it allows customers to produce high quality recycled pellets.

Material:

Available for : PET, PC, ABS.

Not only for industrial waste, but also for Post-consumer waste.

Based on expertise technique, KOWI**n** designs extrusion-pel letizing line in aspect of operator.

Vacuum Extractors.

Moisture and air are effectively extracted during melting to prevent bubbles and fish eyes on particles.

Gearbox.

Low noise, high torque, high horsepower.

Patented design force feeding system. With cast iron structure, internal flow of coolant trough prevents caking; strong lateral pressure of material feed, automatic pressure response system prevents screw break downs and increases stability of material feed, no bridging.

Water Bath. Stainless steel trough, single body trough and pump design, adjustable to save space.

KOWIN-229	KOWIN-239	KOWIN-249	KOWIN-259	KOWIN-269	KOWIN-279
<b>Capacity</b>	<b>Capacity</b>	<b>Capacity</b>	<b>Capacity</b>	<b>Capacity</b>	<b>Capacity</b>
65 - 120 kgs / hr	150 - 280 kgs / hr	200 - 380 kgs / hr	280 - 420 kgs / hr	300 - 500 kgs / hr	350 - 600 kgs / hr

<sup>\*</sup> Capacity will be changed due to input material's feature and contaminants.

<sup>\*</sup> Detailed specification based on inquiry and discussion.



### UDER

Granulator (Pelletizer). High speed pelletizer frequency converter control, tungsten or SKD-11 cutting tools; design of feeder opening includes anti-curler, improved safety.

Via vacuum degassing device. The feeding area of main machine screw and the feeding silo of fitness get into vacuum; quantify-feeding avoids air getting into the silo.

#### KOWIN-289

**Capacity** 650 - 1000 kgs / hr

### Features of KOWIN double vacuum extruder

Very low ampere when in full production. Energy-saving.

Vacuum feeding system solves the problem of moisture in the plastic material.

Reduce the problem of IV value decrease for PET extrusion-pelletizing by **10** % more.

Reduce the problem of the material not feeding.

Eco-friendly machinery.

KOWI**n** double vacuum extruder saves your energy cost and reduces more CO<sub>2</sub> emission than other extruder.







### Always your best choice!

KOWIN is a globally recognized professional plastic recycling and reproducing machinery turn-key plant manufacturer. Our company has been dedicated to research and development in plastic recycling field since 1980.



We are machinery manufacturer that designs, manufactures, and exports plastic recycling turn-key plant. KOWIN provides good quality and efficiency recycling machinery and helps customers recycle plastic waste and reproduce into final products.

To make our customers realize further about KOWIn's machinery, we set up a recycling factory ourselves, which is a plastic recycling turn-key plant, including washing machine, extrusion-pelletizing machine and waste water filtration system, to demonstrate how KOWIn's equipment really works. And we also welcome our customer for test-run.



**Taiwan patents** 



Taiwan Small and Medium Enterprises Innovation Award



**World patents** 



Argentina Over

Irela

over 50 coun





35 years of experience in plastic recycling field

KOWIN machinery daily in operation

tries around the world

### Sincerity

Sincerity is the main philosophy of KOWIN. For more than 35 years, KOWIN has been a reliable and competent partner in plastic recycling technology. KOWIN machinery has been sold over 50 countries and keeps increasing. We bring our customers economic benefits with our reliable products and service, and create mutual success for customers and KOWIN.

### **Professional technology and Design**

We take professional technology and good quality as the principle of KOWIN machine's design. It is the reason enables and sustains us success on plastic recycle markets.

We expand our competitiveness by focusing on our innovativeness, research and our problem-solving skills. KOWIN's professional technology design is well-proved by Taiwan government. We have won many awards in Taiwan such as Taiwan Small and Medium Enterprises Innovation Award and Excellent Import & Export R.O.C. Golden Dragon Award for Machinery. KOWIN is also a world-recognized professional manufacturer in plastic recycling field. We gain over 10 countries patents, SGS and other certificates.

### **Eco & Energy saving**

KOWIN machinery design is based on energy-saving and costs-saving.

With our design, energy resource waste gets down 50 %. Also by using KOWIN's machinery, valuable materials are saved and your loss during the production reduces 50 %.

For these reasons, we make an important contribution to the long-term protection of your business and the environment. It means, for now, your cost goes down, your profit goes up and your business grows larger; for the future, CO<sub>2</sub> emission goes down, then our industrial, business and our earth lives longer.



### PROFESSIONAL PLASTIC RECYCLING TURN-KEY PLANT MANUFACTURER

### 國恩工業股份有限公司

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- **EXTRUSION PELLETIZING LINE**
- PET BOTTLE RECYCLING LINE
- CRUSHER AND SHREDDER

- PP FILM, INJECTION AND BOTTLE RECYCLING LINE
- PE FILM, INJECTION AND BOTTLE RECYCLING LINE
- NON-STOP SCREEN CHANGER WITH BACKFLUSH SYSTEM
- PVC RECYCLING LINE
- SHEET MAKING LINE
- RECYCLE LOPE PELLETS