

SHREDDING EQUIPMENT CHINA 3E
撕碎设备 中国 3E

3E®

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PLASTIC CRUSHING & WASHING LINE
废旧塑料破碎清洗回收线

3E®
MACHINERY
Waste Solutions



Domestic sales
国内销售热线Tel:86-(0)20-39960299

Oversea sales
海外销售热线Tel:86-(0)20-84729983

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Website: www.3e-machinery.com / www.3e-recycling.com

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3E机械官网



公司微信



随着现代化回收工业的日益发展，3E联冠机械根据客户的实际需求提供个性化服务，为客户定制一体化的塑料破碎与清洗方案。设备适用于不同污染程度的PE/PP薄膜、废包装塑料、生活垃圾塑料、废旧农膜地膜大棚膜、工业包装膜、工业废弃膜、PET瓶等废料的破碎、清洗、分离、干燥、包装。破碎清洗过后的薄膜可用于销售，造粒，注塑和吹膜等，把废旧物资变成可循环再利用的原料。整条生产线从废料到成品，具有操作简易，效率高，环保，节能等特点。

3E Machinery provides a wide range of standard and customized plastic crushing and washing systems to meet the ever changing and demanding requirements of a modern recycling environment. The systems are capable of processing a wide range of plastic materials with varying levels of contamination including extremely heavy contamination such as oil based substances and agricultural waste. The output material can be applied for granulation, blow molding and blowing injection. The whole production line is easy to operate, efficient and low energy consumption.

适合处理的物料 | Suitable for but not limited to



薄膜
PE/PP



废包装塑料
Post Consumer Film



工业包装膜
Post Manufacturing Film



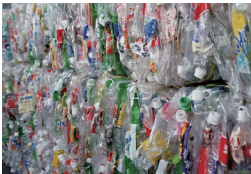
生活垃圾塑料
Food Contaminated Film
Garbage Film



废旧农膜地膜大棚膜
Agricultural Film Mulching Film
Greenhouse Film



吨袋 编织袋
PP Woven Bags



PET瓶
PET Bottle



牛奶瓶/PE瓶
Milk Bottle/ PE Bottle



PP 瓶
PP Bottle



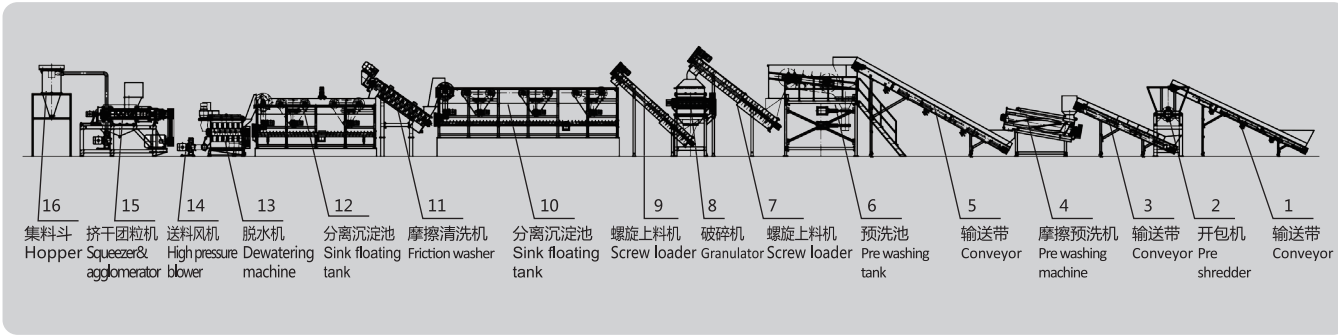
部分应用于电视机外壳，空调外壳
Tv Shell, Air Conditon Shell

流程图 | SYSTEM LAYOUT

我们可根据用户的需求，为用户定制产量在300-5000kg/h的最优方案,基本流程如下:
Almost every recycling application has its own specific requirements but they all follow the same general process as follows.

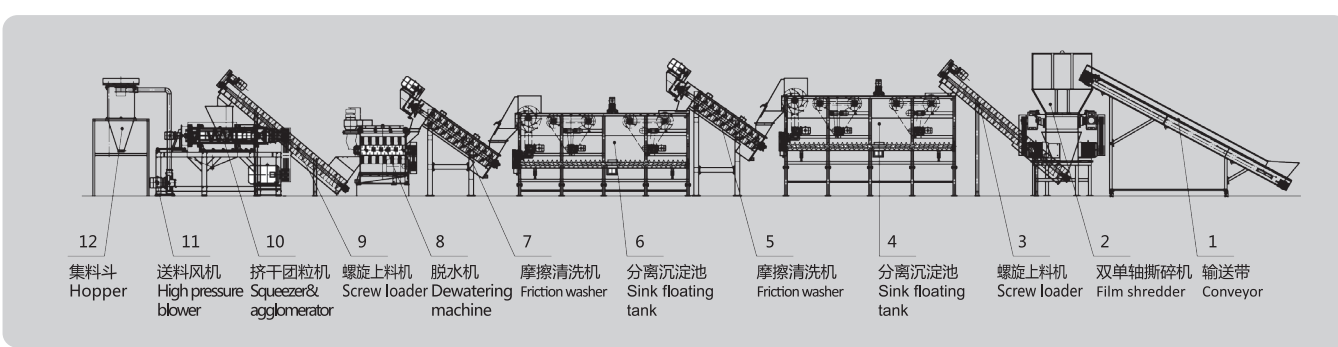
A 农膜破碎清洗线 WASTE FILM CRUSHING & WASHING LINE

适合物料污染程度大于30%的薄膜，物料经过破碎、清洗、脱水、挤干、干燥、团粒，最终物料的含水量2%以内。
It is suitable for Handling film with the contamination which is more than 30%. Material will be processed by crushing, washing, dewatering, squeezing drying. The humidity of final output could be within 2%.



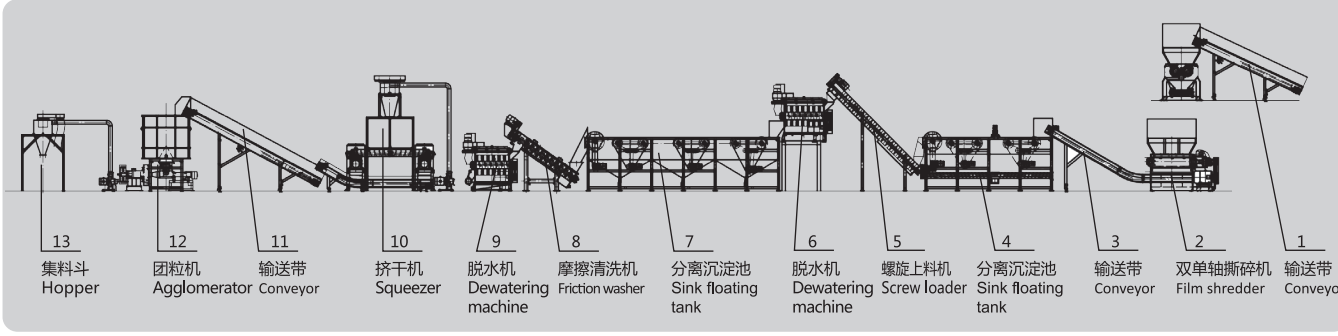
B 薄膜破碎清洗线 WASTE FILM CRUSHING & WASHING LINE

适合物料污染程度小于30%的薄膜，物料经过破碎、清洗、脱水、挤干、干燥、团粒，最终物料的含水量2%以内。
It is suitable for Handling film with the contamination which is less than 30%. Material will be processed by crushing, washing, dewatering, squeezing drying. The humidity of final output could be within 2%.



C 吨袋、编织袋破碎清洗线 PP WOVEN BAG CRUSHING & WASHING LINE

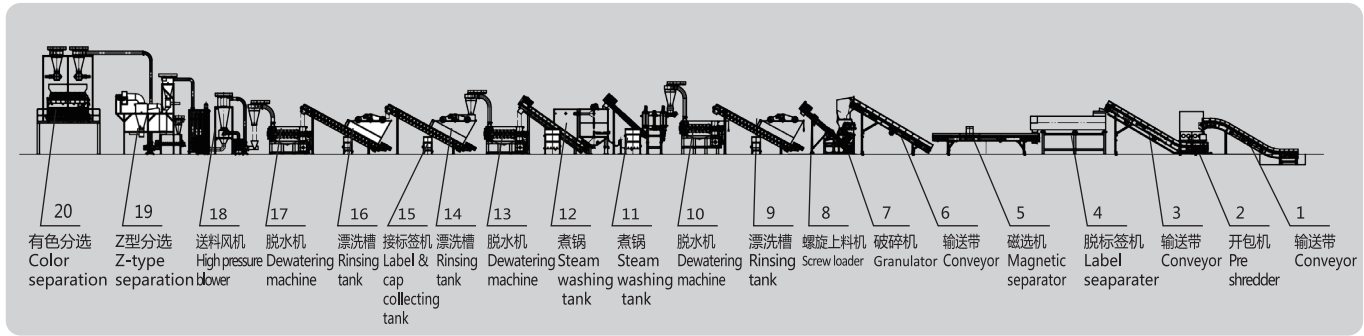
适合物料吨袋、编织袋，物料经过破碎、清洗、脱水、挤干、干燥、团粒，最终物料的含水量2%以内。
It is suitable for ton bag and woven bag. . Material will be processed by crushing, washing, dewatering, squeezing drying. The humidity of final output could be within 2%.



流程图 | SYSTEM LAYOUT

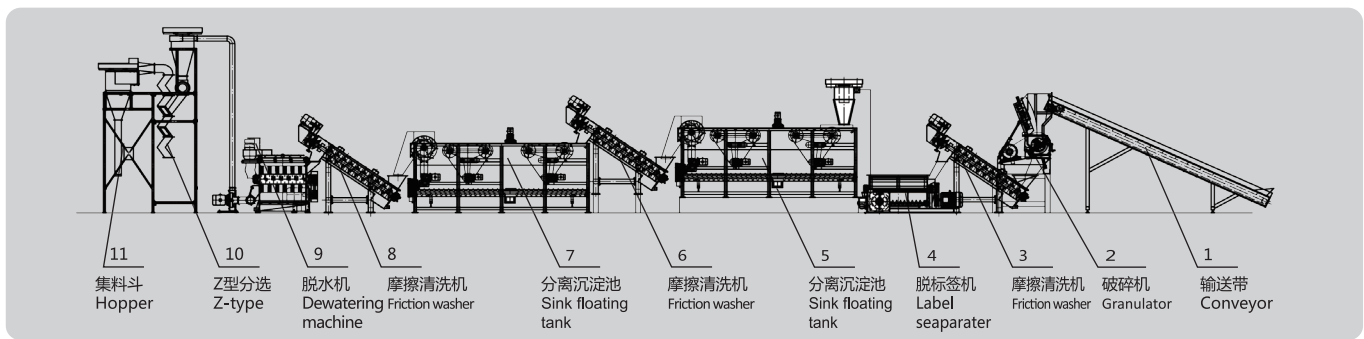
D PET瓶破碎清洗线 PET BOTTLE CRUSHING & WASHING LINE

适合物料PET瓶，牛奶瓶，物料经过脱标签、磁选、破碎、清洗、脱水、干燥、Z型分选，有色分选，最终物料含水量在2%以内，干净度可达95%以上。
It is suitable for PET bottles, milk bottles. Material will be processed by Label removal, magnetic separation, crushing, cleaning, dewatering, drying, Z-type sorting, color separation. The humidity of final output could be within 2%, and the cleanliness can reach more than 95%.



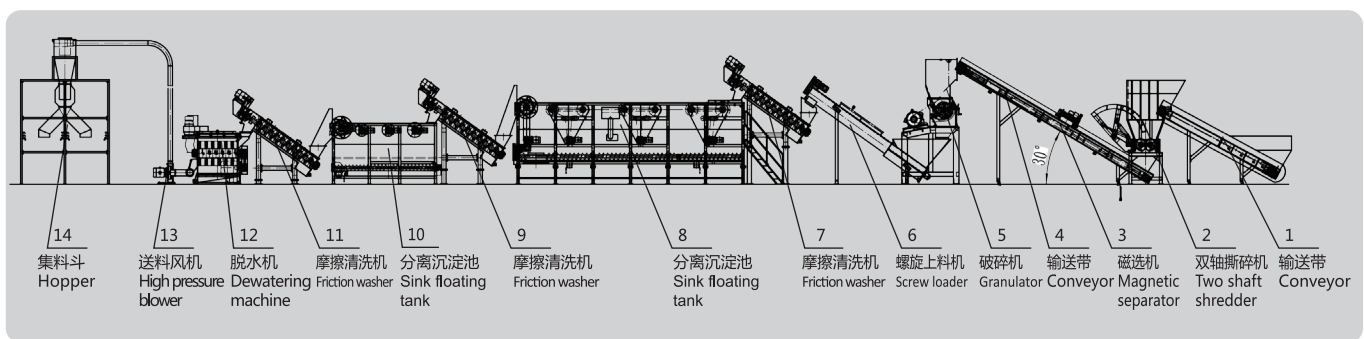
E HDPE PP中空料破碎清洗线 HDPE PP CRUSHING & WASHING LINE

适合物料HDPE、PP/ABS硬料、PE管材、硬塑料等，物料经过破碎、清洗、脱水、干燥、Z型分选，最终物料含水量在3%以内。
It is suitable for materials such as HDPE, PP and other hollow plastics, Material will be processed by crushing, cleaning, dewatering, drying, Z-type sorting, The humidity of final output could be within 3%.



F PP日杂塑料破碎清洗线 MISCELLANEOUS PLASTICS CRUSHING & WASHING LINE

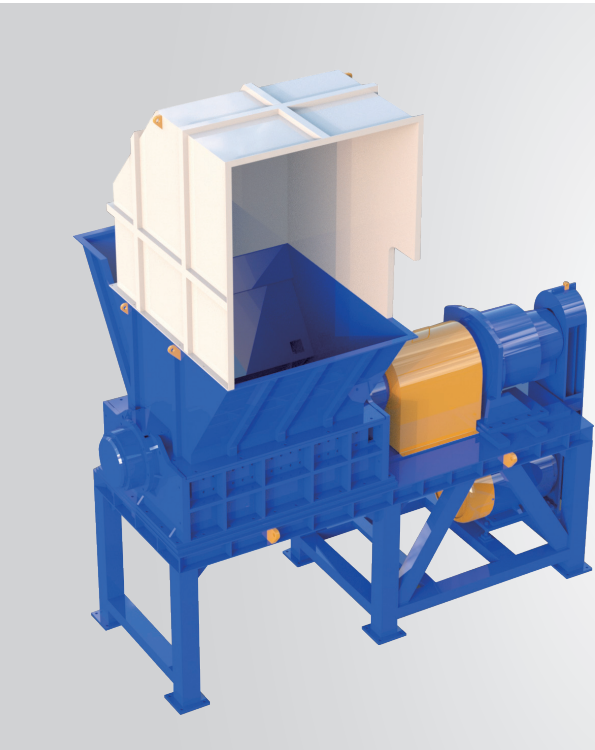
适合物料PP日杂塑料，包装塑料等，物料经过破碎、清洗、脱水、干燥，最终物料含水量在3%以内。
It is suitable for PP, daily miscellaneous ,packaging plastics,Material will be processed by crushing, cleaning, dewatering, drying, The humidity of final output could be within 3%.



STEP-1.0 单轴开包机-预破碎机 SIZE REDUCTION

该设备适用于各种打包或成捆的农膜，吨袋等的预破碎，通常用于打包薄膜类回收解决方案的前端。针对泥沙含量大的物料设计，能一次性将整包物料打散并剪切成均匀的尺寸，便于对泥沙进行预处理掉，减少对后端主机的磨损。

Usually the Pre-shredder is used for crushing packed agriculture film, woven bag etc.And it can be located at the start of plastic film recycling plant.Designed for materials with large silts&sands and content, the entire package can be broken up and cut to a smaller size at one time, and the silts & sands can be easy pretreated out to reduce wear on the back-end equipments.



特点 | KEY FEATURES

产量:2-5吨/小时
Output: 2-5 tons / hour

技术特点：
低速、大扭矩剪切、低粉尘、低噪音；
刀具由耐磨材质制成，磨损后可以重新堆焊使用，维护频率低；
箱体模块化设计，配备独立侧板及轴承座，方便维护；
独立控制电箱，西门子PLC自动控制。

Technical features:
Low speed, large torque shear, low dust, low noise;
The cutter is made of wear-resistant material, which can be used again after wear, with low maintenance frequency ;
Modular design of cutting chamber, equipped with independent side plate and bearing seat, convenient for maintenance;
Independent electric cabinet, Siemens PLC automatic control.

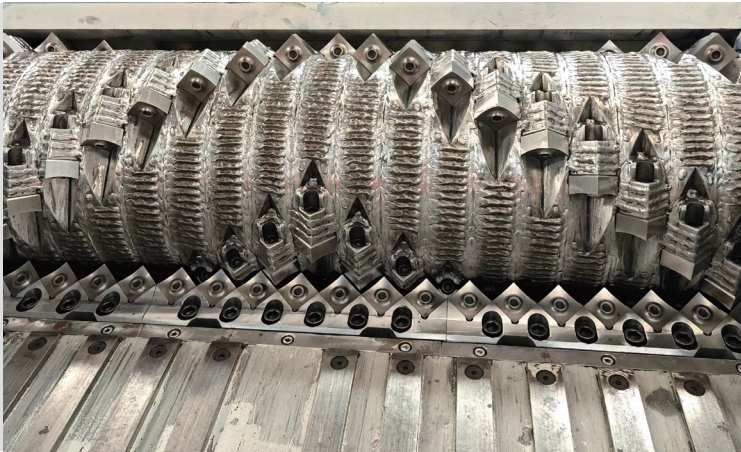
Model	WPR65140	WPR80200
Item		
外形尺寸Dimension L/W/H(mm)	4080 X 2360 X 4450	6960 X 2560 X 4650
进料口尺寸Hopper Opening C/D(mm)	1420 X 1530	2030 X 1500
出料口高度 Height of discharge port E(mm)	1200	1200
刀体回转直径Rotor Diameter(mm)	φ650	φ800
主轴转速Main Shaft Speed (r/min)	15-30	15-30
动刀数量Rotor-knives(PCS)	32	48
主机功率Main Motor Power(KW)	75-132	2X75 - 2X132
设备重量Weight(KG)	Approx 9200	Approx 12000

STEP-1.1 撕碎/破碎 SIZE REDUCTION

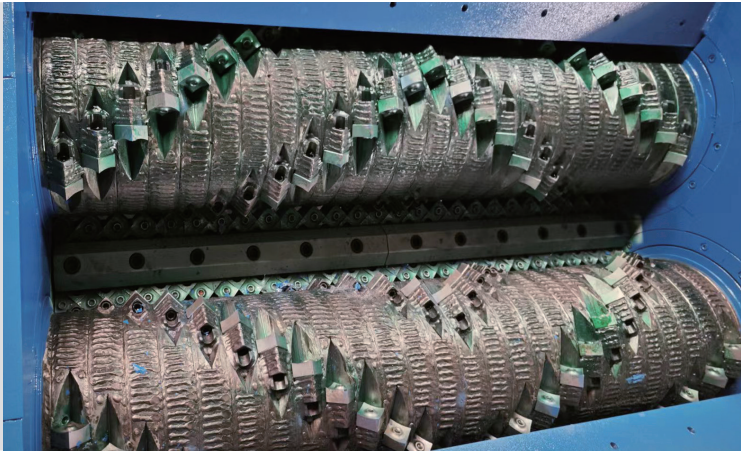
第一阶段是撕碎，减少物料的体积，把物料撕碎或者破碎为小块状以便于下一步清洗。撕碎的同时可加水作为初步清洗去除部分的杂质。根据物料的不同，我们将为客户配置不同的设备：

The first stage is to reduce the size of the material and prepare it into a homogenous particle size for the washing stage. It is often suitable to add a water inlet to the size reduction machinery which acts as a pre-washing stage. Depending on the requirement we will use one or a combination of the following machines:

单轴撕碎机
Single Shaft Shredder



双辊单轴撕碎机
Film Shredder



破碎机
Granulator



STEP-2 预洗PRE WASHING

根据物料不同的类型，大小与污染程度，我们为客户设计合理的第二阶段预洗程序。

We design and build systems to suit a wide range of contamination levels. Depending on the type and size of the plastic, and level of contamination we design a system that will clean the specified material consistently and efficiently.

预洗机 | Pre-washer

主要用于破碎后的PE/PP薄膜、PE/PP/PET等片状塑料的清洗，去除混合在物料上泥沙等杂质。采用304不锈钢材料制作，耐腐蚀性好，叶片采用耐磨材料，经久耐用。

This machine is mainly for cleaning PE/PP/PET plastic film and flakes that after crushing, to clean the dirty that mixed in the film. The exterior shell made by stainless steel, excellent in corrosion resistance, and the impeller by wear resistant material with dependable performance.

注水装置获专利，清理更加干净。
Water injection device is awarded patent.



薄膜预洗机
Film prewashing machine

采用特别的送料和洗涤叶片设计，适合大尺寸薄膜干洗，大的筛网可以除去薄膜中大部分杂质，保护刀片不会快速磨损，保持长时间高效破碎。薄膜初步干洗后，可去除80%的杂质，可节省下一步骤的时间和用水量。此机型可干湿两用。

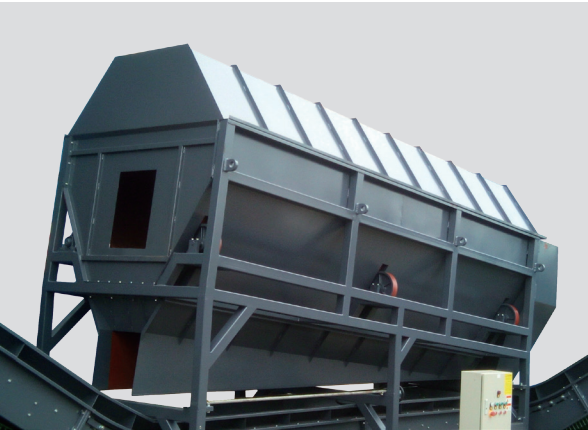
Special feeding and washing blade design for big size film prewashing, the screen can remove most of dirty and sand. It can protect the knives of the crusher to running longer time and more efficient. The waste film through the prewashing machine can be removed 80% dirty. The machine can be wet and dry washing.



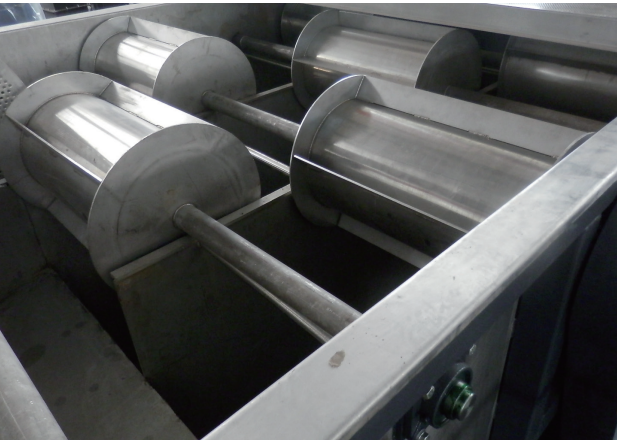
圆滚筛 | Trommel

圆滚筛主要用于废旧塑料回收加工的前期处理，去除物料中的泥沙，金属等杂质，减少物料在加工回收过程中对设备的损坏。

Trommel is adopted for pre-treatment process to get rid of impurity including sand, metal and etc. It can reduce the abrasive wear of the following machine.



Step-3 清洗 WASHING



分离沉淀池 | Sink Floating Tank

清洗以及根据物料的密度，把杂质从物料中分离出来。
According to the density of the material, the waste material will be separated from the film during the washing part

STEP-4 脱水 DEWATERING



卧式脱水机
Horizontal Centrifugal Dryer

主要用于废旧薄膜清洗后的机械脱水干燥，主轴通过高速旋转产生离心力把塑料甩向筛网，水通过筛网甩出，塑料则进入下一工序。机器干燥效果好，能效高。叶片采用高度耐磨材料制作，可拆卸更换。筛网设有自动清洗装置，保持筛网清洁，可连续高效生产。采用专利进风结构，干燥度提高为2-3%。

This machine is mainly used to dewatering the cleaning plastic film, centrifugal forces from high speed rotation for master shaft which throw plastic film and water against the screen, and water is drained from the screen. This machine is good effective on drying and high efficiency. With the inlet air patent design, the dryness has been increased 2-3%.



立式脱水机
Vertical Dewatering Machine

主要用于废塑料（颗粒）清洗后的机械脱水干燥，机械干燥效果好，含水量可达2.5%以下。轴承防水设计，可稳定地长期运转，与水接触部分全是用不锈钢304材料制作。

This machine is mainly used for plastic flacks which after washing. It can be mechanical dewatered and dried. The water contain of the output material is below 2.5%. The bearing is waterproof and it can work stably in a long time. The water contacting part is made of stainless steel304.

STEP-5 挤干& 团粒 SQUEEZING & AGGLOMERATING



挤干机 | Squeezer

用于破碎后的PE/PP塑料薄膜或编织袋的脱水，采用大扭矩的螺旋，把松散物料挤压，使物料中的水从螺旋管的筛网孔排出，排料用液压控制，防止堵料。机器干燥效果好，能耗少，含水量可控制在10%以下。

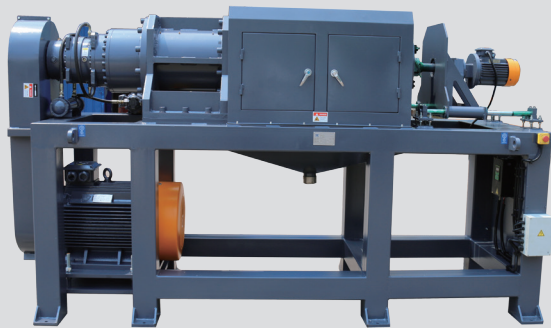
Squeezer is used for PE/PP plastic film or woven bag that after crushing and cleaning mechanical dewatering, adopting large torque spiral that can extrude the loose material, and make the water throw out from the screen. The discharge port is hydraulic controlled, it can avoid plugging material. This machine is less energy consumption and good drying performance, moisture content of the output material can be controlled between 10%.



团粒机 | Agglomerator

预切料因摩擦变热，直到开始变软，表面融合成虫状条，长度达60mm。然后被吸出到切粒机，切成所需团粒大小。团粒大小可选用不同的切粒机筛网来改变。切粒后的产品被送到空气分离器，把粉末和细料分离出来，再送到团粒机进行团粒。可加工的材料包括PC、PE、PP、PS、PA、PET、PVC、ABS和其他热塑材料，和复合材料（干态或湿态）一起混炼。产量高，全自动，连续工作，所需操作人员最少，出料含水量控制在2%以内。

Because of friction, the recycled material will get hot and soft, the surface will melt and the shape will be strip like worm, then will be sucked in the granulator to be cut as granulate whose size as you required. It could use the aggregator to recycle film, PE, PS, PET etc. together with composite material which is dry. High capacity, full automation, continuous operation, less operation staff, the humidity of output material could be within 2%.



挤干团粒机
Squeezer & Agglomerator

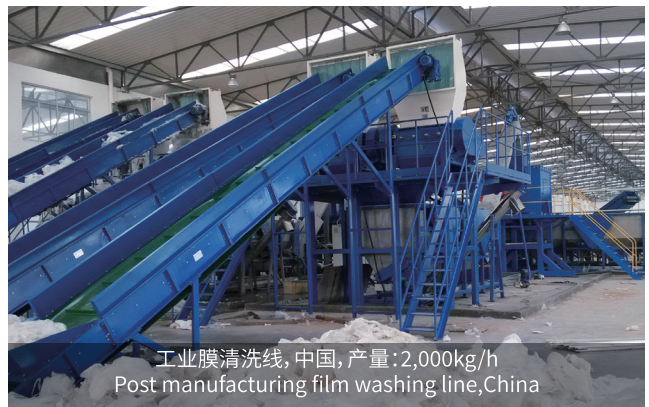
用于破碎后的PE/PP塑料薄膜或编织袋的脱水，采用大扭矩的螺旋，把松散物料挤压，使物料中的水从螺旋管的筛网孔排出，排料用液压控制，防止堵料。机器干燥效果好，能耗少，含水量可控制在2-5%以下。

Squeezer is used for PE/PP plastic film or woven bag that after crushing and cleaning mechanical dewatering, adopting large torque spiral that can extrude the loose material, and make the water throw out from the screen. The discharge port is hydraulic controlled, it can avoid plugging material. This machine is less energy consumption and good drying performance, moisture content of the output material can be controlled between 2-5%.

成功案例 | Reference Cases

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撕碎设备 中国 3E



我们可根据物料, 产量, 输出尺寸等为客户定制解决方案。

3E is able to find out a solution according to client's requirement.



ENVIRONMENTAL



ECONOMICAL



EFFICIENT