



**Lianguan**

**machine**

## **Lianguan Washing Lines**

**Modular Washing Lines for Post-industrial**

**PE/PP films**

**Capacity: 300-2000kg/h**



### **Leading recycling solutions from China**

- A modular system: according to the required degree of cleanliness for the final product there is a choice of different components that can be supplied
- Simple structures for simple applications
- Complex structures for complex applications

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## Procedure steps in PP/PE films recycling

### Size Reduction



#### Wet grinding

A wet granulator size-reduces the films while the wash water removes paper and foreign body contamination from the films.

#### Separation of dirty water

The wash water from the granulator is separated from the PP/PE films.

#### Separation in water

##### Density separation step

In the water bath or with a hydro cyclone a heavy fraction is separated from the light fraction (PP/PE)



## Hot washing step

### Material storage basin / preheating

The films are heated to the temperature of the hot washing step.

### Intensive washing and dispersion

The films are thoroughly washed in hot water, soda and detergents; glues, ink and oil are dissolved.

### Separation according to density

In a poaching tank, remaining polyester and sank dirties are separated from the polyolefin.

### Separation of the suds

The hot wash water with the detergents in it is separated from the films.

### Treatment of the suds

The hot wash water is enriched with lye and detergents.

### Clean rinsing

The clean films are rinsed in water in order to obtain a neutral pH value.

### Intensive washer and spraying washer

As an compliment to separation tank to remove the suds and dirties from the films



## Treatment of films

### Mechanical dewatering

The films are dewatered with a centrifuge

### Thermal dryer

The films are dried to the required residual moisture with a thermal heater

### Cyclone silo

Separate the remaining dirty powders with blower and store the crystallized films

### Bag system

Store the flakes in bags for reuse



## Water Treatment

### Water collection, screening

The dirty water is collected in a pit and any contamination larger than appr. 0.1 mm is removed.

### Sedimentation

The screened water is stored in a sedimentation basin for the sedimentation of light contamination; the result is circulation water.

### Storage

The mechanically treated circulation water is stored.

### Treatment of fines

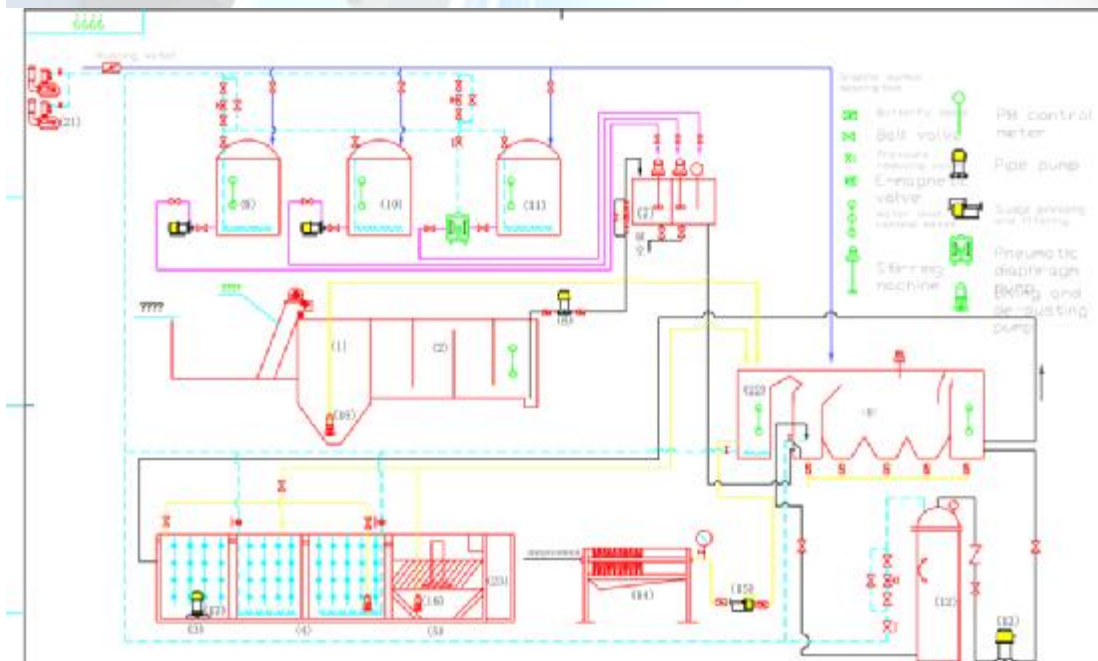
In a chemical or physical water treatment plant

### Reconveying into the plant

A pump conveys the circulation water back into the plant.

### Neutralization (waste water)

Decrease of the pH value according to the regulations for public water treatment.



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- ✚ These functional units represent possible procedure steps when PET bottles are recycled
  - ✚ They are selected according to the frame parameters of the feed material and the desired final product when such a plant is designed.
  - ✚ The single functional units are combined with conveying systems (belt conveyors, conveying screws, elevators, blowers, pumps) appropriate to the specific nature of the product and in relation to their location. Type and volume of the necessary conveying systems are determined in respect to the project.

**LIANGUAN also manufactures and supplies lines:**

- Ø For agricultural film, bottles, waste bins, post-consumer plastic waste and waste from car batteries and casings.
- Ø Pelletizing lines
- Ø EPS/EPP/EPE recycling lines
- Ø Mixers and compounding system
- Ø Please ask for more information via:

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