

# Cleaning Yes - Washing No



**Dry Cleaning: Waterless = Cost Efficient**

## A thorough cleaning process is essential

to produce high quality pellets from plastic waste. Paper labels and various types of dirt, such as food residues, soil, dust have to be removed from the plastic surface to make the material ready for downstream processing.

Traditional wet washing technology and the associated drying processes are well proven. However the wet washing of waste plastic is highly resource intensive.

**It requires large amounts of energy, water and chemicals and the cost of each of these is rising continuously.** The additional capital expenditure required to treat the large effluent flow to discharge is often comparable to the washing plant itself.



*Achieve exceptional Results  
without Water*





*Dry Cleaner  
MR110-130*

## **Pla.to** has developed a new technology

for removing surface dirt and labels from dirty waste plastics. The system has been widely proven to effectively replace or reduce wet washing in a range of plastic applications.

The process incorporates a high speed rotating shaft with a huge number of angled paddles mounted inside a screen basket. The intensive turbine

motion produced inside the machine delivers the energy required to remove adhered labels and dirt from the large surface area of flaked plastics. Paper is completely destroyed to its smallest unit the fibre. Adhered surface dirt is spun off the plastic and passes out through the screen.

*Defibred Paper and  
Dirt removed in the Dry  
Cleaner*



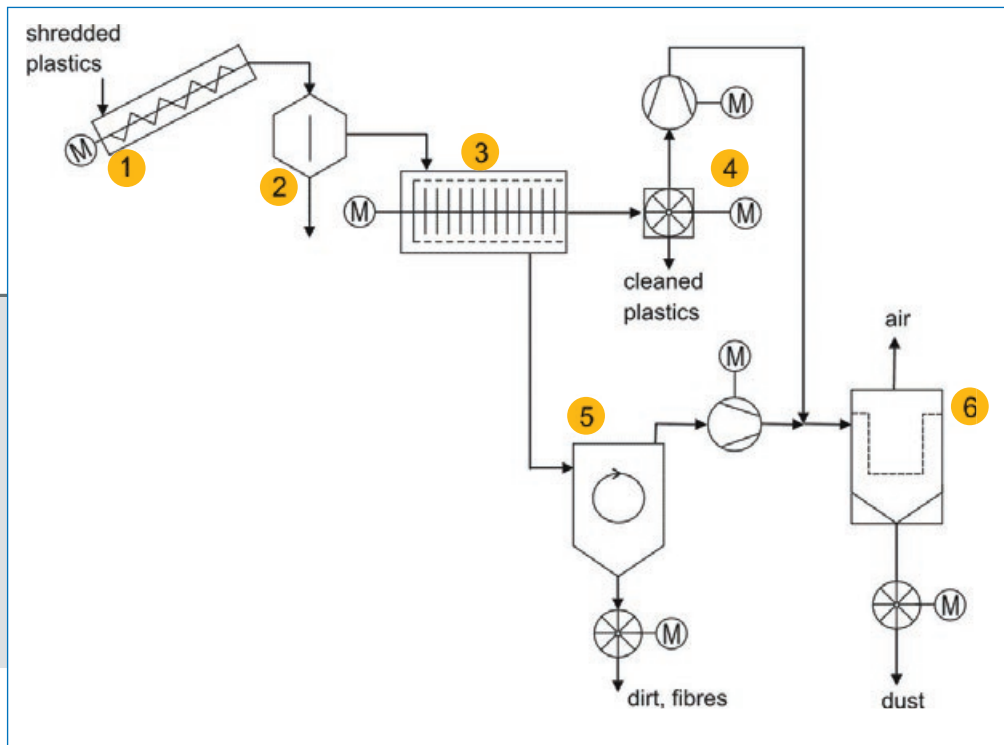
The waste from the Dry Cleaner is dry. This means that the waste to be disposed is reduced by 50 to 80% compared to wet washing systems. The caloric value of the waste is high. It can be used for energy recovery.



*Reduce your Waste.  
Use a Dry Cleaning System.*

## Design of a Dry Cleaning plant

A complete dry cleaning system usually consists of the following components:



### 1. Feeding Auger

The feeding auger releases lumps of film and insures a homogenous mass flow to the air separator downstream.

### 2. Air Separator

In case of foreign objects in the input Pla.to recommends to install an air separator upstream to remove e.g. metal pieces, rocks, pebbles, lumps of clay, wood and others which are undesired and might harm the Dry Cleaner.

### 3. Dry Cleaner

Core component of the cleaning system is the Dry Cleaner. Cleaned plastic and contaminations leave in separate streams the Dry Cleaner.

### 4. Rotary Lock Separator

Downstream the Dry Cleaner a Rotary Lock Separator removed the dusty conveying air from the Cleaned Plastics.

### 5. Vacuum System

For a high cleaning efficiency and a trouble free operation a proper pneumatic system is essential. This includes fans, cyclones and a rotary lock separator. Pla.to offers tailor made pneumatic systems which insure a minimum of wear and maximum of cleaning efficiency.

### 6. Dust Filter

The conveying air is dusty and should be cleaned with the help of a dust filter.

Pla.to offers turn key solutions including pneumatic transport and dust filter. Fans are located downstream the separators for minimizing wear and energy consumption.

*Dry Cleaner  
MR90-90 in wear  
resistant design*



### **Proven Dry Cleaning Applications:**

- Post consumer film and mixed plastics
- Post industrial film
- PET- and HDPE- containers
- PVB film residues from laminated glass recycling



## The Advantages at a Glance

- The Dry Cleaning of plastics dramatically improves the performance of any downstream wet washing stage, such as a final hot caustic washing.
- Pla.tos Dry Cleaners are equipped with an advanced wear resistance carbonized and hardened steel at the sensitive machine parts. This reduces spares to a minimum and results in a high availability.
- The rotor includes an impeller which significantly improves the performance.
- An internal cleaning system force discharges all removed contaminations. This allows a fully automatic 24/7 operation.
- As the system works fully automatic and water free operating costs are very small.
- Undesired paper, dust, solid and other contaminations are dry and waste disposal costs are minimised by up to 50 %.



*Test your material in our technical facility.*

A successful Dry Cleaning requires a shredded plastic input. Best size for rigid plastics is 10 to 15 mm and for film 40 to 60 mm.

## Performance Table

The Dry Cleaning Systems are built in various sizes:

	<b>MR37-50</b>	<b>MR75-80</b>	<b>MR90-90</b>	<b>MR110-130</b>
rated power [kW]	37	45-75	75-90	90-110
throughput post-consumer mixed plastics [kg/h]	100-200	300-500	600-900	1000-1200
throughput PE/PP film thickness > 20 µm [kg/h]	80-120	200-400	500-700	800-1000
throughput PET- or HDPE-flakes [kg/h]	500-600	700-1500	2000-2500	3000-4000

We want to hear from you!



Plato GmbH  
Nickrischer Straße 20  
02827 Görlitz  
Germany  
Phone: +49 35822 312735  
Fax: +49 3222 2454132  
E-Mail: [info@plato-technology.de](mailto:info@plato-technology.de)

[www.plato-technology.de](http://www.plato-technology.de)



eFACTOR3 LLC  
601 Eagleton Downs Drive  
Suite D  
Pineville, NC 28134

P 704-944-3232  
877-801-3232  
F 704-944-3234  
[www.efactor3.com](http://www.efactor3.com)