



www.benli.com.tr

Address: Organize Sanayi Bölgesi 9/A Cd. No: 12
Eskişehir/TÜRKİYE
E-mail : info@benli.com.tr
Tel : +90 (222) 236 16 66
Fax : +90 (222) 236 16 70

THE POWER OF RECYCLING

TURNKEY MIXED PLASTIC SORTING PLANTS





TURNKEY MIXED PLASTIC SORTING PLANT

1 CONTROL TOWER

The waste rehabilitation plant with fully automatic control unit is equipped with high-tech SCADA, automation and electronic systems. In addition to the automation system, the system can also be controlled manually. Providing detailed visibility throughout the plant, the control unit provides to-the-point solutions on issues such as error diagnostics, emergency situations, maintenance and maintenance recommendations, supports the system with recommendations on troubleshooting and ensures maximum efficiency.

2 BALE RECEPTION AREA

The bales pressed in waste sorting plants are brought to the mixed plastic sorting plant to be sorted by type.

3 BALE OPENER

The bales are fed into the bale opener machine, the first equipment in the plant, through a chain conveyor. Plastic wastes compressed in the bale press machine are decompressed utilizing a bale opener and fed in the appropriate regimen into the further equipment in the plant.

4 BALLISTIC SEPARATOR

Mixed plastic waste fed into the ballistic separator is continuously shaken on the screen surface of the machine, dividing the waste into 3 different fractions: 3D/heavy, 2D/light, and undersize/fines through its screen.

- The undersize/fines fraction of the ballistic separator is properly stored in bunkers or containers.
- 2D plastic or other materials baled within all the mixed plastic waste in the previous sorting application, and pet bottle labels that may come with 2D waste output are directed to the appropriate bunker or container, where they are collected, after the quality control process through a conveyor.

5 FE ve NF Metal Separators

FE and NF Metal Separators: 3D output materials pass through drum magnet and eddy current separator machines respectively in order to get automatically free of the ferrous and non-ferrous metals that may be present in the materials. The metals separated in these two machines are sent to the plants where further recycling applications are carried out.

6 Optical Separator 1 (PET/ PP):

With the help of the infrared rays and high-resolution cameras it has, optical separators are the systems which scan the surface of the belt and sort the materials by their types and colors utilizing air.

At the first optical separator, PET and PP are ejected. The ejected PET plastics are fed to the next optical separator for further purification. On the other hand, PP plastics are sent to the relevant bunker after quality control.

7 Optical Separator 2 (HDPE / HDPE&PET&PP)

At the second optical separator, HDPE is ejected and sent to the next optical separator to be sorted by color, while mixed HDPE, PET and PP are ejected to be sent back to the previous optical separator for purification.

8 Optical Separator 3 (PET [COLORED; CLEAR&LIGHT BLUE; NONPET] / HDPE [COLORED; CLEAR&WHITE; NON-HDPE])

At the third optical separator, PET and HDPE plastics are sorted by color and sent to the relevant bunker after quality control.

9 Quality Control Robot

Types of plastics which are sorted automatically at the optic separators go through a final control of robots with artificial intelligence. With the help of artificial intelligence technology it has, new types of waste can be introduced to the robot.

10 Quality Control Cabin

Wastes sorted in the plant go through a final control at the quality control cabin.

11 Automatic Bunkers

Each kind of waste is stored in the relevant bunker and automatically sent to the baler press machine when needed.

12 Horizontal Baler Press

The plastics that are sorted into the bunkers are baled by being fed into the horizontal bale press and pulled into the storage area to be directed to the next recycling steps.