

TCH-RC4-B1000

PET BOTTLES

RECOVERY LINE

BOTTLES TREATMENT : 800 – 1000 Kg/h

INSTALLED POWER : ~ 320 Kw

CONSTITUTION OF RECOVERY LINE

PET BOTTLES

(possibility of recycling)

1- CAPACITY of PET bottles recovery of **800/1000** Kg/h
Material in entrance

2- GENERAL CHARACTERISTICS : material in entrance

- I. PET bottles of 0.25 ÷ 2 L. of Volume
- II. Colored bottles will be manually separated on selection table
- III. It is possible to recover bottles containing cooking oil until 10 ÷ 15 %
- IV. screwed cap Pe HD – PP
- V. Not acceptable : - PVC/EVA aluminum cap
- PVC bottles

- giant PET bottles 5 ÷ 20 l
VI. OPS < DPE, PP, film and paper labels
VII. Maximum percentage of contamination 10/12%

3. COMPOSITION OF THE LINE devided in groups

- A- Preparation and separation group
- B- Crushing and fragmentation group
- C- Cold and hot washing group
- D- Cold washing and discharging group
- E- Drying and dehumidification Group
- F- Storage group

4. ENVIRONMENTAL CONDITIONS:

- Inside location
- No dangerous area
- Humidity: 85% without condensation
- Temperature: 0-45 C°

5. WORK CONDITIONS :

- installed power : ~ 320 Kw
- electric energy : 50 Hz
Three phase 380 V.
Mono phase 220 V.
- Recycled water pressure: 0.4 Mpa
- Air pressure: 8 ÷ 10 Bar

6. OTHER CONDITIONS

- Technical documentation will be supplied in Italian, English or French.

COMPOSITION OF THE INSTALLATION

A- PREPARATION AND SEPARATION GROUP

- 1- Baler opener
- 2- Belt conveyor
- 3- Trommel
- 4- Belt conveyor
- 5- Labels separator
- 6- Selection table

B- CRUSHING AND FRAGMENTATION GROUP

- 1- No. 2 Belt conveyors
- 2- No. 2 Water grinder shredders
- 3- No. 2 Discharging horizontal screw loader
- 4- Screw loader to the separation tank

C- COLD AND HOT WASHING GROUP

- 1- Washing and separating tank with screw loader
- 2- No. 2 Hot washing tanks with screw loader
- 3- Sorting screw loader

D – COLD WASHING AND DISCHARGING GROUP

- 1- High speed frictionating tank
- 2- Discharging screw loader
- 3- First washing and floating tank
- 4- Second washing and floating tank
- 5- Final washing tank

E - DRYING AND DEHUMIDIFICATION GROUP

- 1- Horizontal spin-dryer
- 2- Pipeline dryer
- 3- Dust remover

F – STOCKAGE GROUP

- 1- Big bags support with cyclone

The specifications of this offer are indicative and may be modified by the manufacturer, for an optimal utilization of the installation

**SYNTHETIC DESCRIPTION OF THE COMPLETE INSTALLATION
PET BOTTLES RECOVERY LINE**

Composed by :

GROUP A – PREPARATION AND SEPARATION

A/1	BALER OPENER	<p>Machine with blades powered by two motors with 5.5 Kw each one with inverter With conveying belt of width: 1300 mm Conveying belt motor power: 2.2 Kw Function / characteristics with rotating blades for opening and separate bottles bales</p>
A/2	BELT CONVEYOR	<p>With steel frame and belt made in PVC Width: 1000 mm Power: 2.2 Kw Function / characteristics To bring the bottles to the Trommel</p>
A/3	TROMMEL	<p>Motor: 5.5 Kw Net diameter: 50 mm Mesh diameter: 1500 mm Length: 5 mt In carbon steel Function / characteristics This machine runs in circle by a motor, separating and cleaning the bottles from impurities. Small scraps and metal parts escape from the holes of Trommel.</p>

A/4	BELT CONVEYOR	<p>With steel frame and belt made in PVC Width: 1000 mm Power: 2.2 Kw Function / characteristics To bring the bottles to the labels separator</p>
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A/5	LABELS SEPARATOR	<p>Motor: 15 Kw Fans: 5.5 Kw Function / characteristics To remove labels from bottles. Treatment up to 90% efficiency for paper or plastic ones</p>
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A/6	SELECTION PLATFORM	<p>Motor: 2.2 Kw Dimensions: 6000 x 1000 x 1200 mm Continuous speed control Function / characteristics Manual selection of different color bottles. Manual selection of large size impurities and separation of metal parts (if any)</p>
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GROUP B – CRUSHING AND FRAGMENTATION

B/1	No. 2 BELT CONVEYORS	<p>With steel frame and PVC belt Width: 475 mm Power: 1.5 Kw each one Function / characteristics After labels separation and manual selection transports the bottles to two water grinders</p>
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B/2	No. 2 WET GRINDER SHREDDERS	<p>Motor: 55 kw each one Fix blades 6 pcs Rotating blades 10 pcs Blades material: SKD11 Speed: 600 rpm Grid Ø 16 Dimensions of flakes in exit: 14 mm Function / characteristics Crushing bottles with many inputs of water; with a design for noise resistance, high performance and low power consumption</p>
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B/3	No. 2 DISCHARGING HORIZONTAL SCREW LOADERS	<p>Motor : 2.2 Kw each one In stainless steel Function / characteristics Conveying of PET flakes to the screw loader to separation tank</p>
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B/4	SCREW LOADER TO THE SEPARATION TANK	<p>Motor : 4Kw Ø : 310 mm In stainless steel Function / characteristics Conveying of PET flakes to the washing tank for subsequent separation of the impurities of small size, dust</p>
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GROUP C- COLD AND HOT WASHING

C/1	<p>WASHING AND SEPARATING TANK With screw loader to the hot washing tank</p>	<p>No. of wheels: 3 pcs Wheel motor : 0.55 Kw Screw loader motor : 5.5 Kw Diameter: 273 mm Tank complete of floating and agitation motor. In stainless steel Function / characteristics Conveys, shakes the flakes, facilitating the falling of remained impurities and separate different materials.</p>
C/2	<p>No. 2 CONTINUOUS HOT WASHING TANK WITH SODIUM AND ADDITIVES with screw loader</p>	<p>Motor : 5.5 Kw each one Tank dimensions: 1.6 x 2 mt Tank 4 m³ with liquid heated insulated with rock wool In stainless steel inside With screw loader 4 Kw, diameter 273 mm Function / characteristics The temperature of the water with sodium hydroxide (1-2%) is normally between 70° and 90° Inner blades move the hot liquid, allowing the separation of labels glues or resins and different impurities making flakes pure with filing of heavy parts. This tank is highly insulated to keep heat therein and in the processing circuit of water purification</p>
C/3	<p>SORTING SCREW LOADER WITH FILTER</p>	<p>Motor : 4 Kw Diameter: 273 mm In stainless steel Function/characteristics Screw loader that conveys cleaned flakes to the frictionating tank with discharging of remained impurities.</p>

GROUP D – COLD WASHING AND DISCHARGING

D/1	<p align="center">FRICTIONATING TANK</p>	<p>Motor : 30 Kw Strong frictionating Water pump power: 1.5 Kw Rotation speed: 1200 rpm In stainless steel Function/characteristics The high speed of blades removes eventual impurities and chemical products remained on flakes.</p>
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D/2	<p align="center">DISCHARGING SCREW LOADER</p>	<p>Motor : 4 Kw Ø: 310 mm In stainless steel Function/characteristics To convey flakes to the first washing and floating tank</p>
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D/3	<p align="center">FIRST WASHING AND FLOATING TANK with screw loader</p>	<p>No. of wheels: 3 pcs Wheel motor : 0.55 Kw Screw loader motor : 5.5 Kw Diameter: 273 mm Tank complete of floating and agitation motor. In stainless steel Function/characteristics Convey flakes to a further purification from chemical products -labels etc.</p>
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D/4	<p align="center">SECOND WASHING AND FLOATING TANK with screw loader</p>	<p>Equal to the first one Function/characteristics Repeats the purification of flakes.</p>
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D/5	FINAL WASHING TANK	<p>Motor: 4 Kw Diameter of screw: 250 mm In stainless steel</p> <p>Function/characteristics Depurates again the flakes and removes sodium</p>
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GROUP E – DRYING AND DEHUMIDIFICATION

E/1	HORIZONTAL SPIN-DRYER	<p>Power: 22 Kw Motor power for cover opening : 0.75 Kw Speed: 2200 rpm High speed tangential action Possibility to remove blades In stainless steel</p> <p>Function / characteristics Specifically designed to provide excellent drying of PET flakes with minimum residual moisture (2%).</p>
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E/2	PIPELINE DRYER	<p>Heating motor : 54 Kw or boiler heating Fan power: 7.5 Kw Aspiration motor power: 5.5 Kw</p> <p>Function / characteristics PET flakes will be dried again to reduce/eliminate the humidity level ($\leq 1\%$).</p>
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E/3	DUST REMOVER	<p>Motor of cyclone : 5.5 Kw In stainless steel</p> <p>Function - characteristics Removes dust and eventual small labels residues on PET flakes.</p>
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GROUP F - STORAGE

F/1	BIG SAC STRUCTURE WITH CYCLONE	<p>Cyclone motor: 5.5 Kw Silos volume: 1.5 m³ In stainless steel</p> <p>Function /Characteristics To stock the flakes Practice to replace the bag</p>
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GROUP G – (OPTIONALS)

G/1	COLD WATER FILTRATION GROUP	<p>Filtration treatment of cold water through continuous rotating disks to 200μ</p> <p>Function/Characteristics Complete with pump, electric panel and installation diagram</p>
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G/2	HOT WATER FILTRATION GROUP	<p>Filtration treatment of hot water through continuous rotating disks to 200μ</p> <p>Function/Characteristics Complete with pump, electric panel and installation diagram</p>
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G/3	BOILER	<p>Gas boiler for hot water</p> <p>Function/Characteristics Capacity: 500 Kg/h Steam temperature: 170 °C Steam pressure: 0.7 Mpa</p>
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The installation can be supplied complete of cold and hot water treatment and heated liquid circuit according with the customer, in relation to environmental conditions and to the laws of the country where the line should be installed.

PET BOTTLES RECOVERY LINE 800-1000 Kg/h

A. PREPARATION AND SEPARATION GROUP

- 1 BALER OPENER
- 2 BELT CONVEYOR
- 3 TROMMEL
- 4 BELT CONVEYOR
- 5 LABELS REMOVER
- 6 SELECTION TABLE

B CRUSHING AND FRAGMENTATION GROUP

- 1 BELT CONVEYORS (no. 2 sets)
- 2 WATER GRINDER SHREDDERS (no. 2 sets)
- 3 DISCHARGING HORIZONTAL SCREW LOADERS (no. 2 sets)
- 4 SCREW LOADER TO THE SEPARATION TANK

C . COLD AND HOT WASHING GROUP

- 1 WASHING AND SEPARATING TANK WITH SCREW LOADER
- 2 HOT WASHING TANKS WITH SCREW LOADER (no. 2 sets)
- 3 SORTING SCREW LOADER

D. COLD WASHING AND DISCHARGING GROUP

- 1 HIGH SPEED FRICTIONATING TANK
- 2 DISCHARGING SCREW LOADER
- 3 FIRST WASHING AND FLOATING TANK WITH SCREW LOADER
- 4 SECOND WASHING AND FLOATING TANK WITH SCREW LOADER
- 5 FINAL WASHING TANK

E. DRYING AND DEHUMIDIFICATION GROUP

- 1 HORIZONTAL SPIN-DRYER
- 2 PIPELINE DRYER
- 3 DUST REMOVER

F. STORAGE GROUP

- 1 BIG BAG SUPPORT WITH CYCLONE