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Company Introduction

For twenty years we have been working in the industry field. We have been through experiences, overcome obstacles, developed solutions and trained generations of engineers and technicians. We have also offered sincere advice for all those who consulted us, we have achieved massive accomplishments.







Now, it is about time to incorporate all the previous achievements in an integrated organization, in order to present the essence of our experience to everyone.

Hence, we have established **MOC**, in collaboration with Chinese party, so as to bring the successful industrial Chinese experiment to Egypt, in addition to our great knowledge of the Egyptian Market.

Founded in 1985, our Chinese partner has been cooperation with University of Light Industry, adopting domestic unique New thermal catalytic cracking technology to upgrade the products. Nowadays, our partner has owned 14 national patents registered in China.

Under the guidance of our enterprise spirit of Sincerity-oriented & Practice-based, Innovation-determined & Forge-ahead, through unremitting efforts, we have developed XY-Series environmental protection equipment with the outstanding advantages of less-investment, high-efficiency, simple operation, environmental friendly and so on. Up to now, our products include Pyrolysis Plants for waste rubber, plastic and tires, normal or negative pressure Distillation plants for waste engine oil, pyrolysis fuel oil, crude oil and the Carbon Black Deep-process Machines. Due to the unique advantages, our machines are widely used in China and overseas, such as: Brazil, Austria, Poland, Albania, Turkey, Republic of Korea, Thailand, India, Africa countries, etc.

Over the years, based on your service principle of "for the sake of customers, to reassure the customers and to develop with customers", each set of our equipment possesses the characteristic of "Green & Environmental-friendly, Technology innovative & Energy-saving, Security & Operated-easily" with increasing innovation, establishing our quality principle of "carefully manufacture to set up our brand, develop and innovate to get high quality". We try our best to make every machines as boutique, so that we make considerable development when our customers get the benefit, as well as make our own contribution for A Green Earth.

| | | | |
|-------------------------------|---|---|---|
| Continuous Pyrolysis Plant |  | XY-9-P | Fully automatic and continuous process with advanced technology and large capacity, no need fuel during the process to convert waste into wealth, with high quality end products. |
| Distillation Plant |  | XY-1 XY-8 | It is applied to refine diesel grade oil from used engine oil, fuel oil, crude oil through distillation. |
| Continuous Distillation Plant |  | XY-9 | Fully continuous system with advanced technology with daily capacity of 30~300 MT. End product of gasoline, diesel, or base oil accordingly. |
| Carbon Black Granule Machine |  | XY-C850 | be made into N330, N660, N774 standards according to customers' different requirements. |
| Auto-loader |  | XY-AL200 XY-AL500 XY-AL800 XY-AL1200 | It could be applied to deliver all kinds of small pieces of rubber blocks and plastic to equipment of somewhere.(Belt Delivery System, Hydraulic System, Spiral System) |
| Steel-drawer |  | XY-C800 XY-C1200 | It could be applied to cut all kinds of rubber blocks and strips. It is good for cutting rubber tyre, rail tyre, rubber strips etc.(650-1200 Tyres) |

| | | | |
|-----------------------|---|-----------------------|--|
| Whole Tyre Crusher |  | XY-SH800 XY-SH1200 | At the room temperature, put the tyre or large plastics of rubber into the press directly, which can then be crushed to 1-8 cm pieces. |
|-----------------------|---|-----------------------|--|

Raw Material of the Project

The total quantity of the plastic products is over 100 million tons at present in the world and the quantity of the plastic products in our country has also reached 10 million tons. It is growing 13% year by year and the total quantity is also rapidly increasing.

The output of tyres in our country is very high and has reached No.2 in the world nowadays and there are around 400 million tyres produced every year in China. All of the world, there are around 4 billion used tyres produced, and this number is still growing by double-digit rate.

70% of the scrap tyres have not been recycled. And lots of waste engine oil, crude oil, fuel oil needs suitable treatment and recycling.

Mountains of rubber products

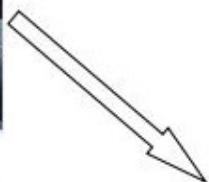


Mountains of plastics products

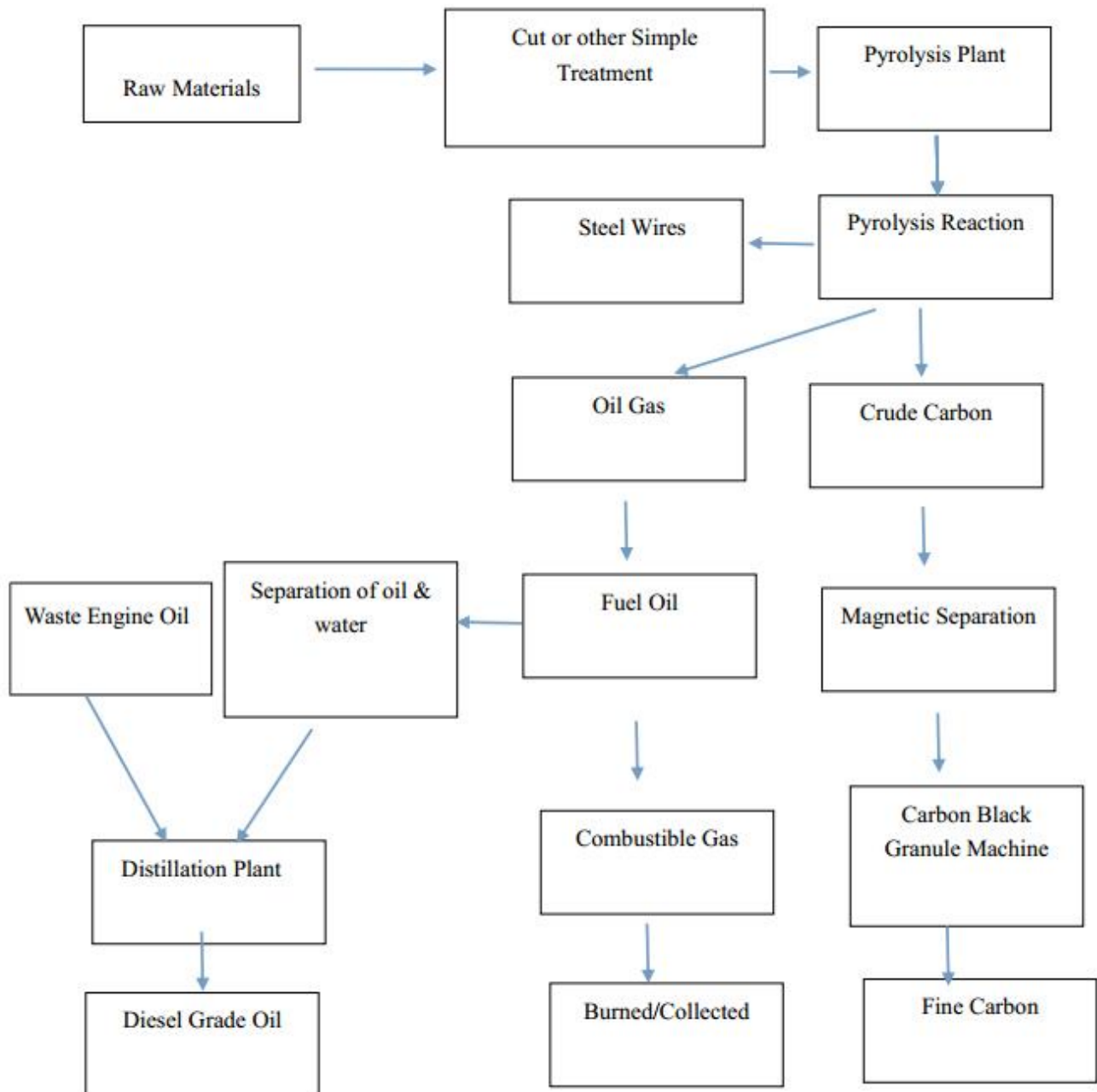


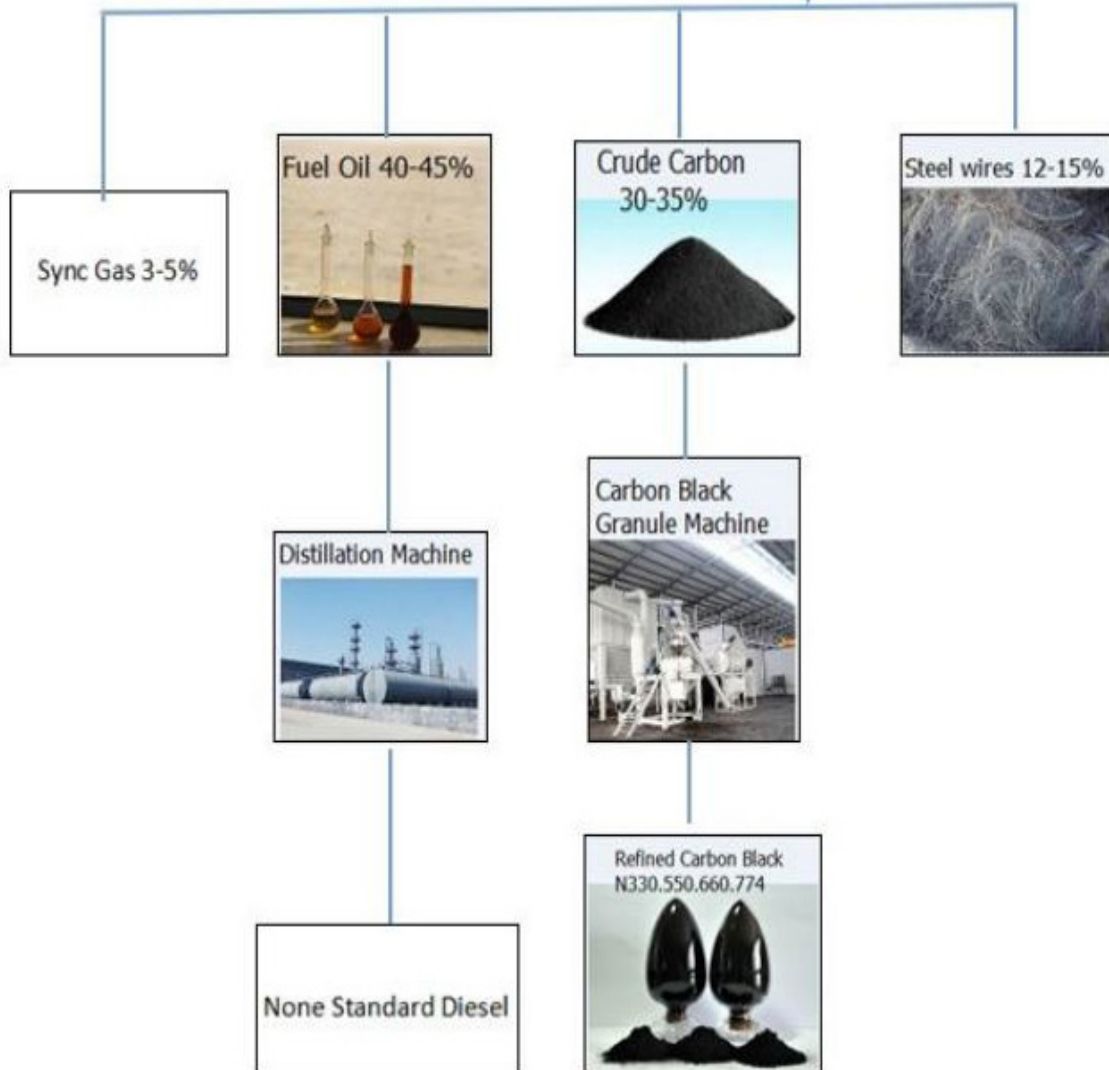
Waste engine oil

rock tar



Whole processing flow chart



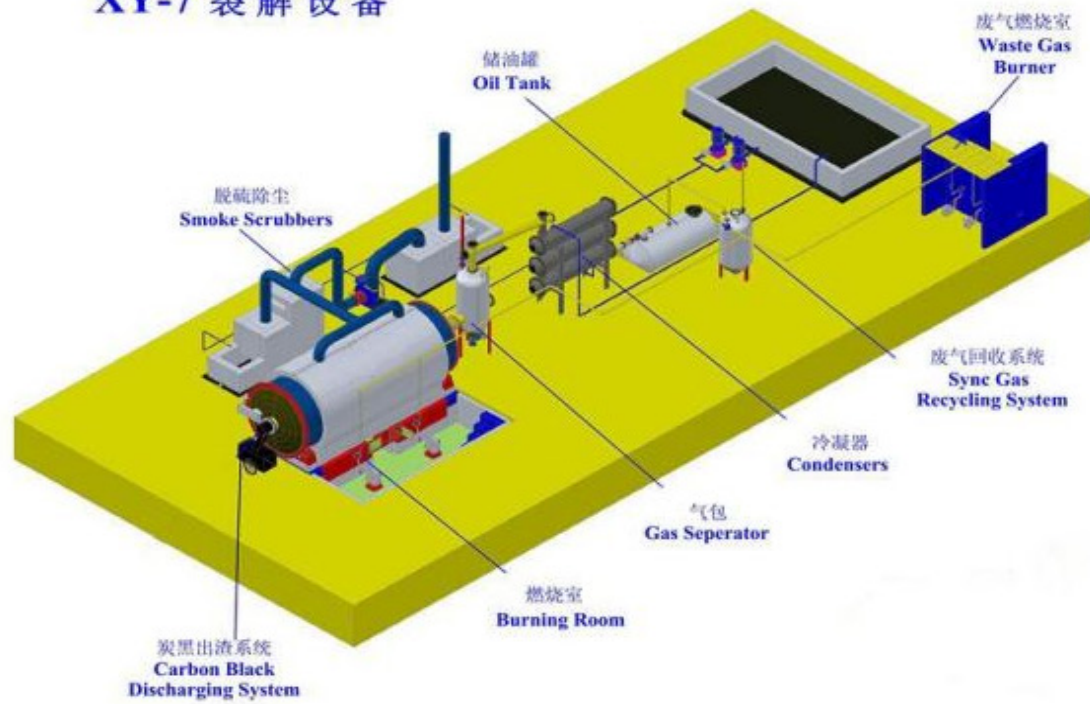


XY-7 Pyrolysis Plant

The 3D Graph of XY-7 Pyrolysis Plant

XY-7 Pyrolysis Plant

XY-7 裂解设备



Features of XY-7 Pyrolysis Plant

- 1.Full open door design: Speedy loading in and steel pulling out; Easily cooling down after one batch finished, saving time; No leaking with special high: temperature flexible Graphite packing.
- 2, High condensing efficiency condensers with more oil output. Good quality oil, longer lifetime, and easy to clean.
- 3, National Patent Water Film Smoke Scrubber: Efficient removal of the acid gas and dust of the smoke, environmental friendly to meet related national standards.
- 4, National Patent, Carbon Black Discharging System: Speedy fully enclosed Auto-discharging under high temperature, avoiding carbon black pollution, saving time.
- 5.Automatic submerged welding technology, ultrasonic nondestructive testing, both manual and the automatic safety devices.
- 6,Sync Gas Recycling System: Fully burned after recycling and utilization, saving fuel and preventing pollution.
- 7,Direct Heating System: Enlarging heating square to extend the service time of the reactor and controlling its temperature easily.
- 8,National Patent, unique heat insulation shell: high efficiency temperature keeping, excellent energy -saving effect.

Pyrolysis Plant Feasibility Analysis

| NO. | ITEM | DETAILS |
|-----|---------------------|---|
| 1 | DAILY CAPACITY | 10MT |
| 2 | Raw Materials | Waste Tyres |
| 3 | Cost of Tyres | $10T \times 400EGP/MT = 4000EGP$ |
| 4 | Cost of Catalyst | $10mt \times 0.3\% \times 6900/mt = 207EGP$ |
| 5 | Labor (DAILY) | $4p \times 100EGP/D/P = 400EGP$ |
| 6 | Electricity & Water | 150EGP |
| 7 | FUEL COST | $0.45MT \times 1900EGP = 855EGP$ |
| 8 | Other | 150EGP |
| 9 | Total Cost | 5762EGP |
| 10 | Oil Income | $10MT \times 40\% \times 1900 = 7600EGP$ |
| 11 | Steel Income | $10MT \times 13\% \times 1300 = 1690EGP$ |
| 12 | Carbon Income | $10MT \times 35\% \times 800 = 2800EGP$ |

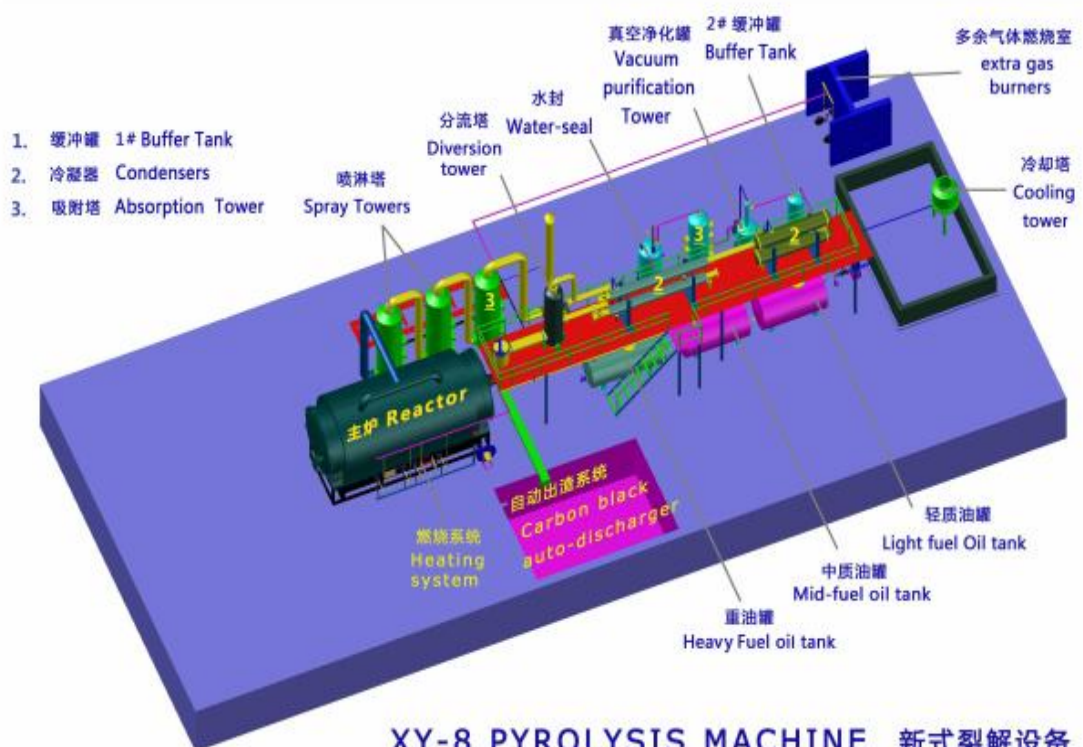
| | | |
|----|--------------------|--|
| 13 | Gross Income | 12090 |
| 14 | Daily Net Income | $12090 - 5762 = 6328 \text{ EGP}$ |
| 15 | Monthly Net Income | $6328 / D * 25D = 158.200 \text{ EGP}$ |
| 16 | Yearly Net Income | $158,200 * 11M = 1,740,200,00$ |

Note: 1. This analysis is made with capacity of 10Mt cut tyres per day per batch,
 2. Please modify relative prices according to your actual market conditions.

Line Cost: $72000\$ = 612000 \text{ EGP}$ Depreciation rate for Long Life: 3-4 Year
 if 3 years = 204EGP/Year, if 4 years = 153EGP/Year

XY-8 Integrated design

As the developed countries from Europe or USA have more strict environmental requirements than the developing countries we have made greater improvements on our exhausting emission system based on our condensation of XY-7 that we have developed our XY-8pyrolysis plant to Europe and other developed countries.



XY-8 PYROLYSIS MACHINE 新式裂解设备



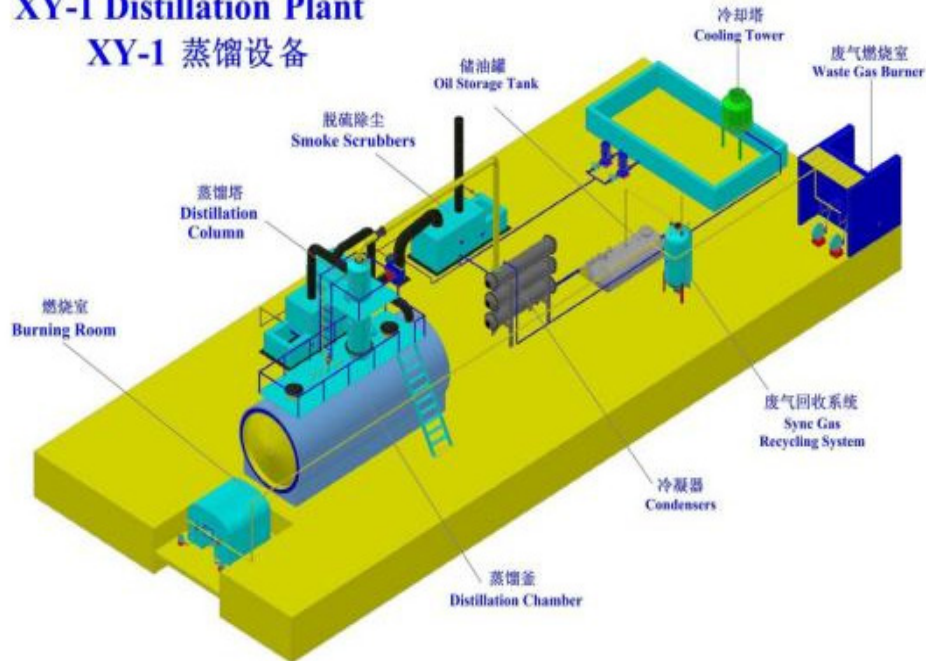
Features of the integrated of XY-8 pyrolysis plant

1. Integrated design of reactor and base, no civil work needed to make the installation faster and easier.
2. Unique diversion tower for oil gas. This system can divide the oil gas into light density fuel oil, medium density fuel oil, heavy density fuel oil to meet different requirement of oil quality.
3. Sync gas purification system is designed for developed countries which has very high environmental standard. It makes the full operation process under slightly negative pressure to ensure the safety of operation. And the system removes acid content of the sync gas to ensure the production is both clean and environmental friendly.
4. National Patent Unique Smoke Scrubbers: More efficient removal of the acid gas and dust of the smoke through neutralization, purification and absorption, environmental friendly without pollution.
5. National Patent automatic Carbon Black Discharging System: Speedy fully enclosed Auto-discharging under high temperature, avoiding carbon black pollution and saving time.
6. Safety aspect: Production under Slightly negative pressure, automatic submerged welding technology, ultrasonic nondestructive testing, both manual and automatic safety devices

XY-1 Distillation Plant

XY-1 Distillation Plant

XY-1 蒸馏设备

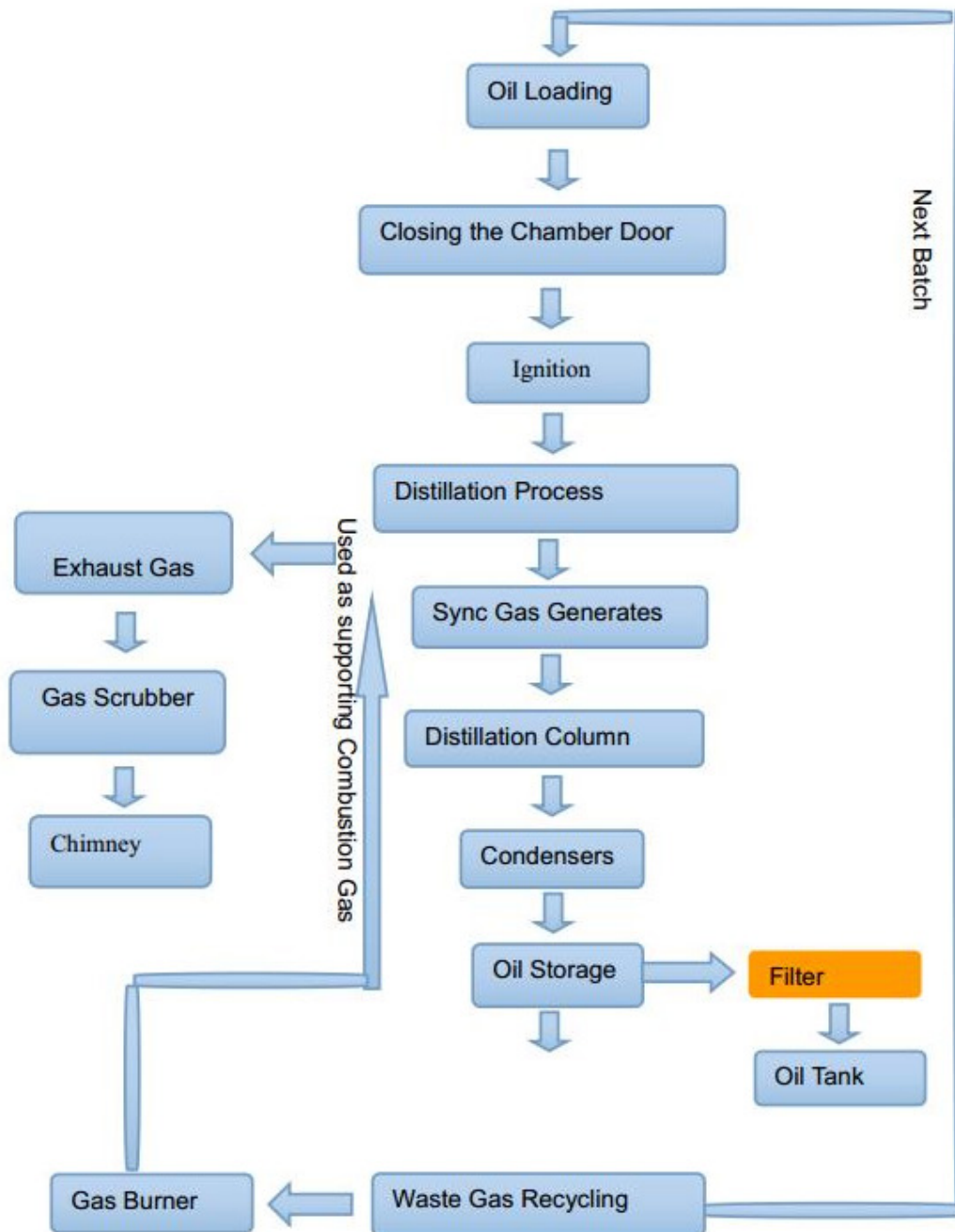


The Features of XY-1 Distillation Plant

- 1.Unique and original manufacturing and technology with our own formular of our equipments in China.
- 2.Unique Horizontal design, high oil output with about 90% oil yield and 100% conversion rate, high effective and profitable.
- 3.Good quality end product oil as the substitution of standard diesel oil in usage.
- 4Automatic submerged welding technology, ultrasonic nondestructive testing, both manual and the automatic safety devices.

- 5.Sync Gas Recycling System: Fully burned after recycling and utilization, saving fuel and preventing pollution.
- 6.National Patent, unique heat insulation shell: high efficiency temperature keeping, excellent energy -saving effect.
- 7..High condensing efficiency condensers with more oil output. Good quality oil, longer lifetime, and easy to clean.
- 8.National Patent Water Film Smoke Scrubber: Efficient removal of the acid gas and dust of the smoke, environmental friendly to meet related national standards.

The Operation Flow Chart of XY-1 Distillation Plant



Distillation Plant Feasibility Analysis

| NO. | ITEM | DETAILS |
|-----|---|---|
| 1 | CAPACITY PER BATCH | 30MT |
| 2 | Suitable Raw Materials | Crude oil, Fuel oil, Used Engine Oil, Lub. Oil, etc Crude oil specialty, a-fuel oil b-used engine oil |
| 3 | Cost of Raw Materials | $30T \times 2000EGP/MT = 60000EGP$ |
| 4 | #1 Cost of Catalyst | $30MT \times 0.3\% \times 7000EGP/MT = 630EGP$ |
| 5 | #2 Cost of Catalyst | $30MT \times 85\% \times 300EGP/MT = 7650EGP$ |
| 6 | Labor (DAILY) | $3P \times 100EGP/D \times 5D = 1500EGP$ |
| 7 | Electricity & Water | $1KWH \times 1EGP \times 240KWH/D \times 5D = 1200EGP$ |
| 8 | FUEL COST | $4.0T/D \times 2000EGP/D = 8600EGP$ |
| 9 | Other | $1000EGP = 1000EGP$ |
| 10 | Total Cost | 79980EGP |
| 11 | Oil Income or non standard diesel only for export | $30MT \times 85\% \times 6000 = 153000$ |
| 12 | Carbon Income | $30MT \times 7\% \times 800EGP/MT = 1680$ |
| 13 | Gross Income | 154280EGP |
| 14 | Net Income/5D | 74700EGP |
| 15 | Monthly Net Income | $74700 \times 4 = 298800EGP$ |
| 16 | Yearly Net Income | $375500 \times 11M = 3286800$ |

Note: 1. This analysis is made with the capacity of 30Mt raw oil per batch in 5 days, coal as the heating fuel.

2. Please modify relative prices according to your actual market conditions.

XY-8 Carbon black granule machine

- 1.Unique and original manufacturing and technology with our own formula of our equipments in China;
- 2.High automatic with automatic operation;
- 3.The carbon black as the end product can be made into N330,N660,N774 standards according to customers' different requirements;
- 4.Long life span, more than 6 years;
- 5.Fully enclosed operation, environmental friendly without pollution.







Carbon Black Granule Machine Feasibility Analysis

| NO | Item | Details |
|----|---------------------------|-----------------------------------|
| 1 | Capacity | 8MT/8hs |
| 2 | Raw Materials | Waste Tyres/Plastics Carbon Black |
| 3 | Cost of Tyre Carbon Black | 8MT*800EGP/MT=6400EGP |
| 4 | Cost of Catalyst | 8MT*8%*11050EGP=7072EGP |
| 5 | Labor Salary(Daily) | 4*100EGP/D=400EGP |
| 6 | Electricity&Water | 200KW/H*1EGP/KW*8H=1600EGP |
| 7 | Others | 400EGP |
| 8 | Total Cost | 15872EGP |
| 9 | Carbon Income | 8M*98%*6900EGP/MT=54096EGP |
| 10 | Daily Net Income | 54096-15872=38224EGP |
| 11 | Monthly Net Income | 38224EGP*25D=191120EGP |
| 12 | Yearly Net Income | 191120*11M=2102320 |

- Note: 1.This analysis is made with capacity of 8Mt/8Hs tyres carbon black,end product of N774 carbon black;
- 2.Please modify relative prices according to your actual market conditions.

Products and Usage

The final products after pyrolysis from waste plastic or rubber products are: fuel oil, crude carbon black, (steel wires) and sync gas, whose usage are indicated as follows:

| Final products | Pictures | Usage |
|-------------------------|---|---|
| Fuel Oil 40-45% |  | widely used in Industries such as Steel & Iron factories, Ceramics or Chemical Industries or Hotels, Restaurants etc. as fuel oil, or used for heavy oil generators to get electricity. |
| Carbon Black 30-35% |  | Crude carbon black can be used for construction bricks, or widely used as industrial carbon black N774, N660, N330 or color carbon black after deep-process. |
| Steel Wires 12%-15% |  | from tires, sold or Reprocessing. |
| Combustible Gas 3-5% |  | can be recycled and used during process as fuel or collected even compressed into liquid gas, used as fuel or to generate electricity. |

The end product after distillation could be diesel grade oil or base oil accordingly. The diesel grade oil can be used for vehicles mixed together with standard diesel oil or used for vehicles directly after blending with additives.

The base oil from used engine oil after distillation can be made into different lubricant oil accordingly with additives.



Carbon Black Parameter after Deep Processing








The output of the carbon black is about 95% from steel wire tires when the crude carbon black without any steel or metal inside.

After grinding with our granule machine, and blended with chemicals, the recycling carbon black from tires can made into industrial grade reinforcing carbon black, the following is 4 carbon black models N330, N550, N660, N774 parameters:

| Result Item | MODEL | N774 | N660 | N550 | N330 |
|--|-------|---|---|---|---|
| | | | | | |
| Iodine Absorption value: g/kg | | 29 | 38 | 44 | 82 |
| DBP Absorption Value: 10 ⁻⁵ m ³ /kg | | 74 | 93 | 118 | 101 |
| Heating Loss % | | 0.3 | 0.3 | 0.2 | 0.2 |
| Ash % | | ≤ 0.75 | ≤0.75 | ≤0.75 | ≤0.75 |
| 150 um Residue on Sieve, % | | 0.01 | 0.01 | 0.01 | 0.01 |
| Tensile trength MPa | | -3.4 | -3.6 | -3.5 | -1.7 |
| Elongation at Break % | | 6 | -2 | -6 | -2 |
| 300% Set tensile strength MPa | | -3.2 | -1.7 | -0.8 | -0.8 |
| Grade | | Qualified N774 | Qualified N660 | Qualified N550 | Qualified N330 |
| Appilcation | | N774 is used in tire belt layer or ply, inner tubes, bicycle tires, hose, belt, cable, footwear and calendered products, model products, natural rubber, neoprene, nitrile rubber products. | N660 is applicable to all kinds of rubber, is mainly used for tire wheels, inner tubes, bicycle, hose, belt, cable, footwear and calendered products, model products. | N550 for natural rubber and various synthetic rubber, mainly used for tire cord rubber, sidewall, inner tube and extrusion, calendering products rubber compound. | N330 is a good reinforcing properties of carbon black, particles can give a better tensile properties, tear resistance, abrasion resistance and flexibility. Mainly used for tire tread, cord rubber, sidewall and various rubber products. |

Parameters of Fuel Oil and the Output of Waste Plastic & Rubber Products

We can do the feasibility analysis for bellow products as same as before with 10% waste gas and balance black carbon.

| Item | Picture | Raw Materials | Output |
|---------------|---|------------------------|---------|
| Tyres |  | Steel Tyres | 40%~45% |
| | | Nylon Tyres | ≈40% |
| | | Tyres of bikes etc. | ≈35% |
| Plastics |  | HDPE | ≅ 70% |
| | | LDPE | 30~50% |
| | | PVC | 20~30% |
| | | Bags | ≈40% |
| | | ABS | ≈40% |
| Paper Mixture |  | Rough Material | ≈15% |
| | | Washing Material | 23%~26% |
| | | PE material | ≈70% |
| Cable Skin |  | PE cable skin | ≈85% |
| | | PVC cable skin | ≈25% |
| |  | Pure rubber cable skin | ≈35% |
| | | Telephone line | ≈50% |
| | | | |
| Life Garbage |  | Pure (Plastic bags) | ≈50% |
| | | Weaves & Handbags | ≈60% |
| |  | (Wet Mixture) | ≈15% |

| | | | |
|--------|---|---------------------|---------|
| Soles |  | Sports Shoes Soles | 27%~33% |
| |  | Black Rubber Soles | ≈35% |
| |  | Gum-rubber outsoles | ≈45% |
| Others |  | Usual Rubber Tubes | ≈30% |
| |  | Carpets | ≈35% |
| |  | Aluminum Foil | ≈30% |
| |  | Car glass bead | ≈50% |
| |  | PP) Beverage Bottle | ≈50% |

Plants delivery



Inspecting the Welding



Examination again before Delivery



Hoist the Reactor



Equipments for Delivery in the Port



Delivery of Main Parts



Equipments to Saudi Arabia