



# B C T Method

Bio char production method

Biochar manufacturing technology using food and livestock waste .



 Global Biotech Co., Ltd.

# Biochar manufacturing technology

## What is Biochar ?

- A compound word of biomass and charcoal, a solid material with high carbon content that has properties intermediate between organic matter and charcoal.
- Mainly produced and manufactured by thermal decomposition of biomass generated from food waste, livestock manure, agricultural or forestry waste under oxygen-free conditions.
- Biochar, a new concept eco-friendly material in the form of charcoal made through thermal decomposition under limited conditions, is used as an eco-friendly soil conditioner.

• Biomass



• Low temperature pyrolysis



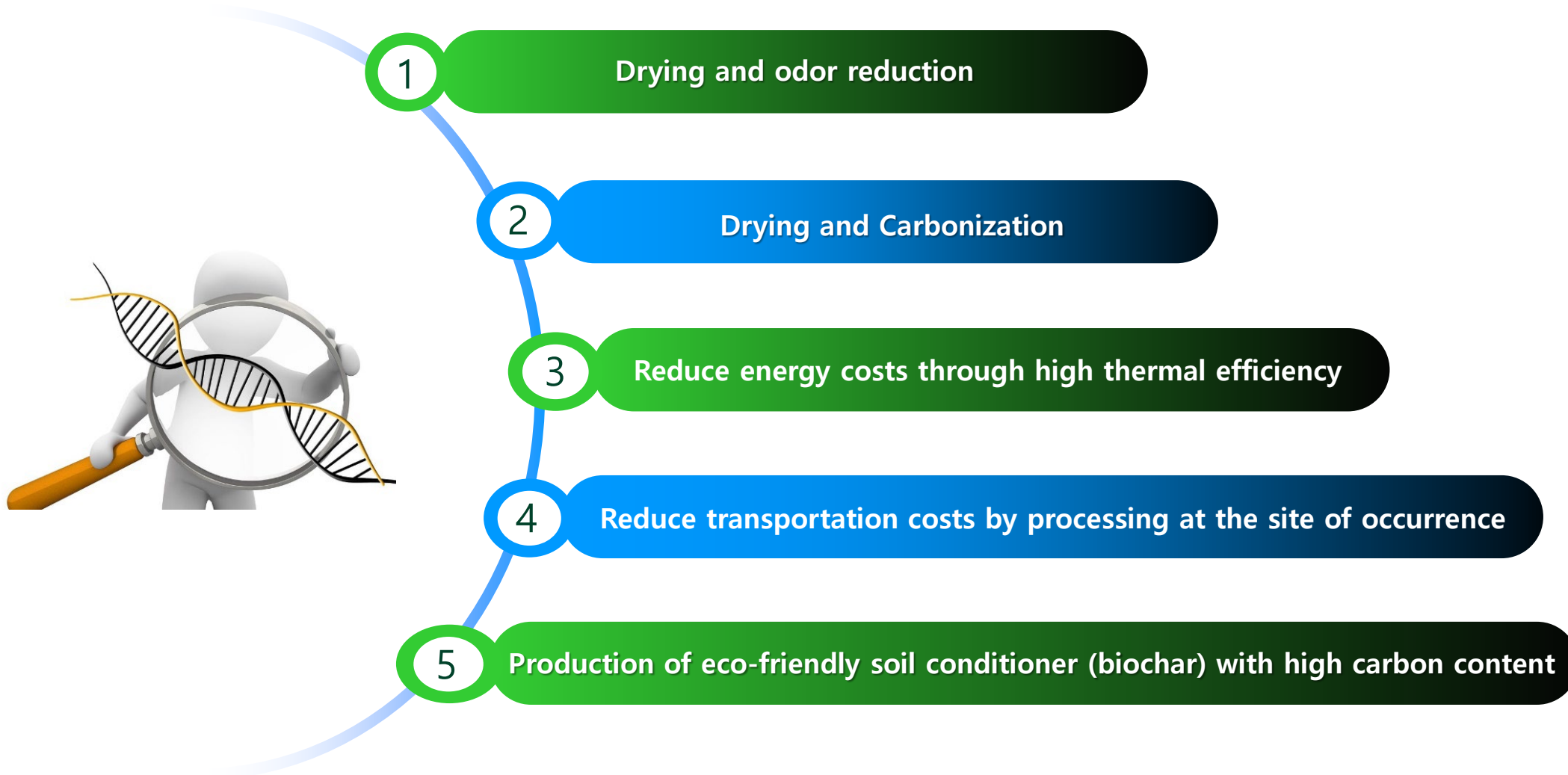
• Biochar



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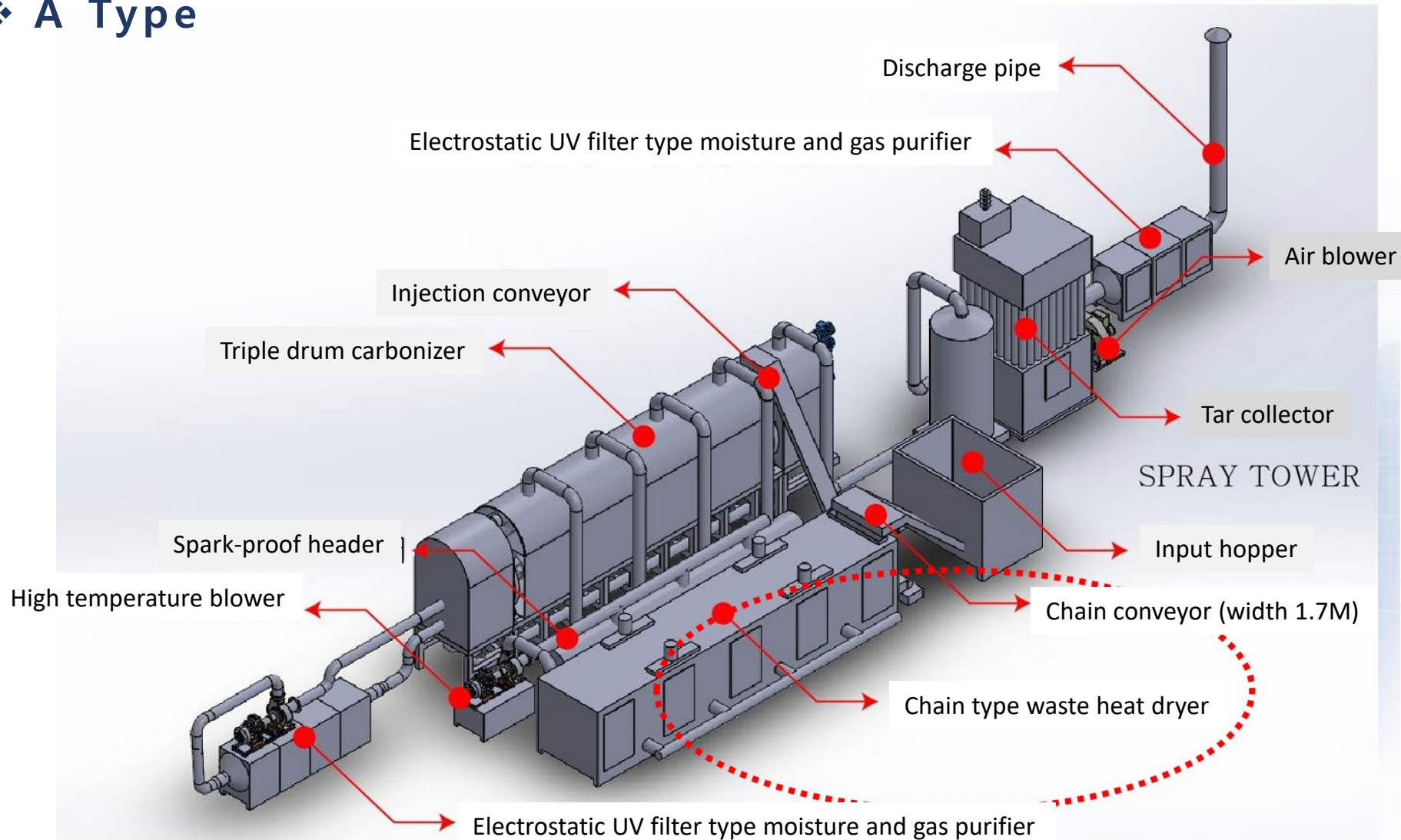
- Technology features
- Facility outline diagram
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- Equipment configuration
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# 01. Technical features



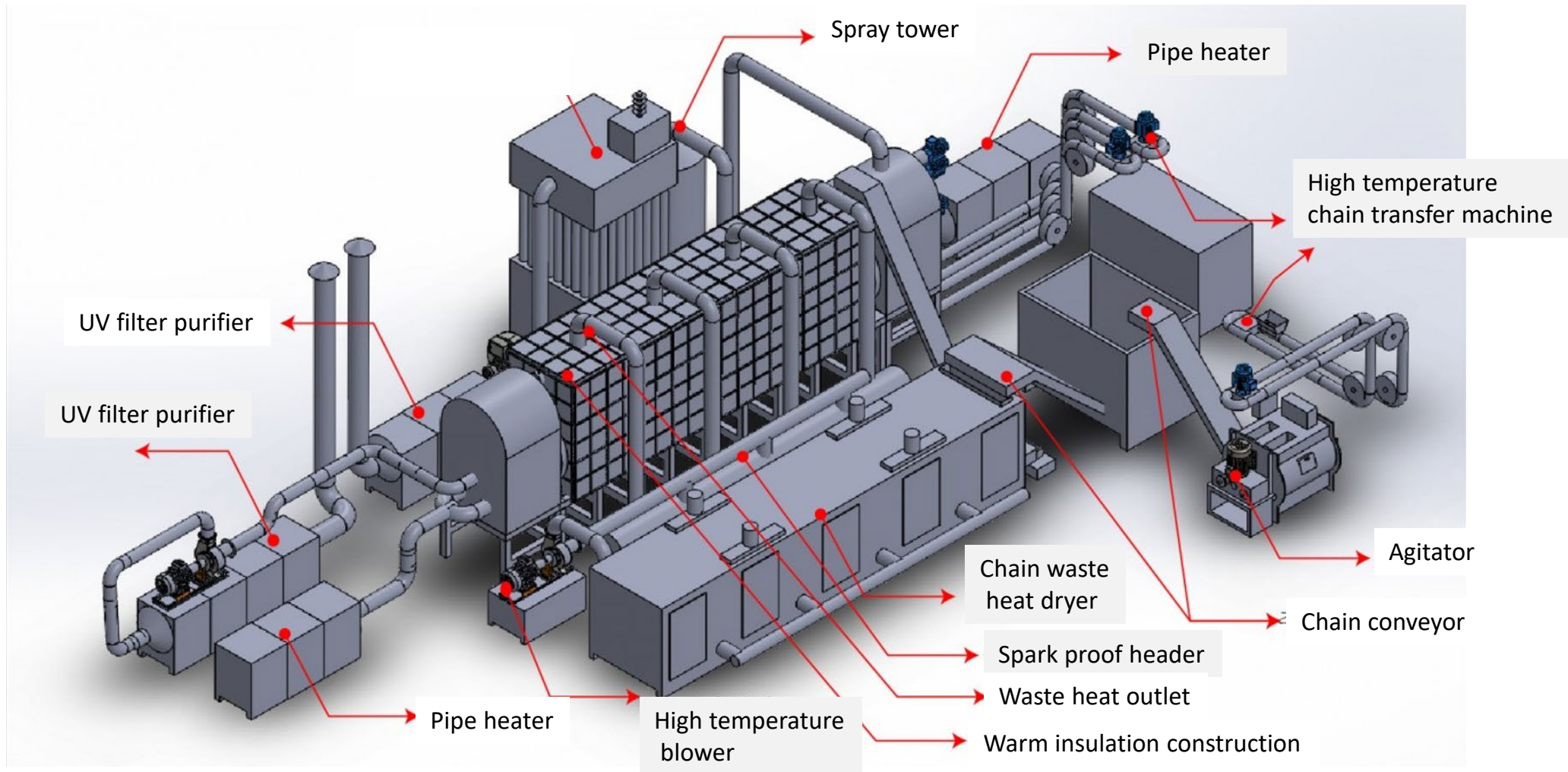
## 02. Equipment outline diagram

### ❖ A Type



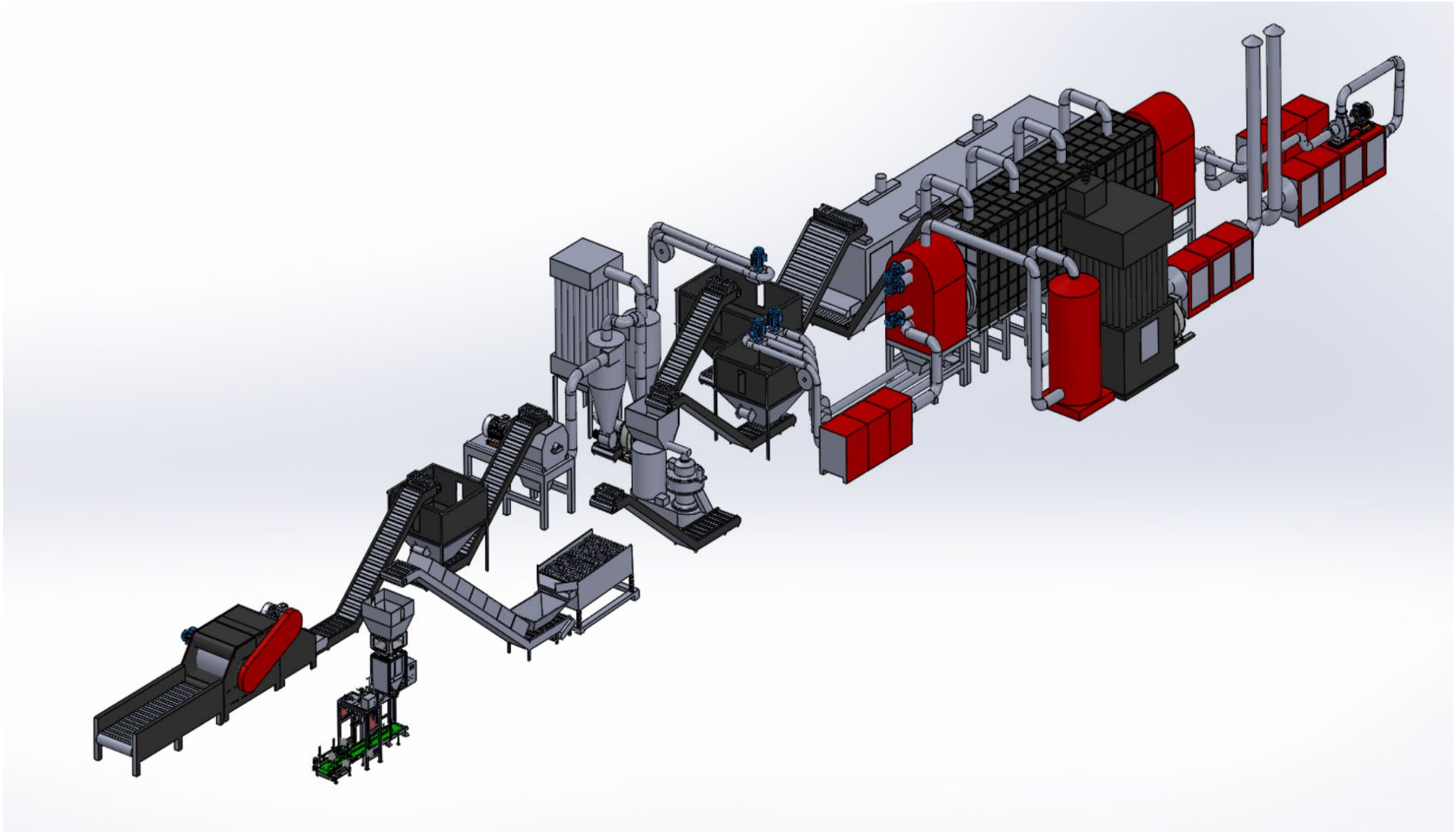
## 02. Equipment outline diagram

### ❖ B Type



## 03. Overall schematic diagram

### ❖ Overall schematic diagram



## 04. Facility configuration

### ❖ Facility configuration

- Carbonizer
  - ✓ Triple drum – outer drum and inner
  - ✓ Triple outlet – water vapor discharge, carbon gas discharge, internal waste heat discharge
  - ✓ Basic screw drying – inside and outside of the drum
  
- chain dryer
  - ✓ Drying in a closed chain dryer running 65 meters
  - ✓ Prevents materials with high moisture content from adhering to the inside of the carbonizer and uses the waste heat of the carbonizer.
  
- Purifier
  - ✓ Reuse the purified waste heat by removing water vapor and gas with an electrostatic UV filter type purifier.
  - ✓ Purifies and discharges white smoke and odorous gases
  
- tar collector
  - ✓ A collection system using a negative electric field by creating a conductive collection electrode in a tubular shape to prevent corrosion.
  - ✓ Because the tar may harden, attach a 70-degree heater.
  
- high temperature blower
  - ✓ Equipped with a regular blower and a high temperature blower with no thermal conductivity
  
- Thermal dust collection header
  - ✓ Prevents sparks and dust from being discharged after heating the drum

# 05. Effectiveness

## ❖ Benefit



### ● Save your budget

- Reduce food waste landfill disposal budget
- Applicable to large complexes and factories
- Lower maintenance costs than other devices

### ● Resolving local civil complaints

- Solving local problems by introducing this machine
- Decontamination of local environment



Regional development effect

economic effect

Environmental protection effect

### ● purification function

- Reduced contamination from water due to dry form
- Reduce odor and pests
- Reduce visual and spatial damage

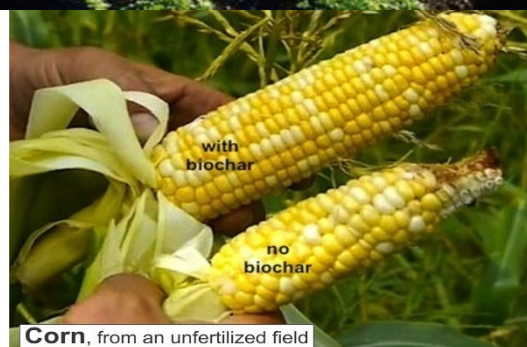
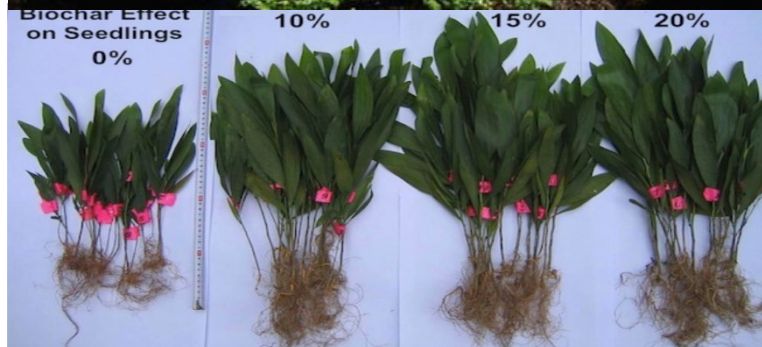




# 05. Effectiveness

## ❖ Effect of increasing crop production

As a result of using compost using biochar, the effects include promoting crop production, improving growth, increasing yield, and strengthening resistance to pests and diseases.



# 06. Construction period

## ❖ Bio char production equipment

Total installation period: 8 months

Schedule	1Months	2Months	3Months	4Months	5Months	6Months	7Months	8Months
Design machine manufacturing (5months)	→							
On-site installation (3months)					→			
Test run (45day)							→	

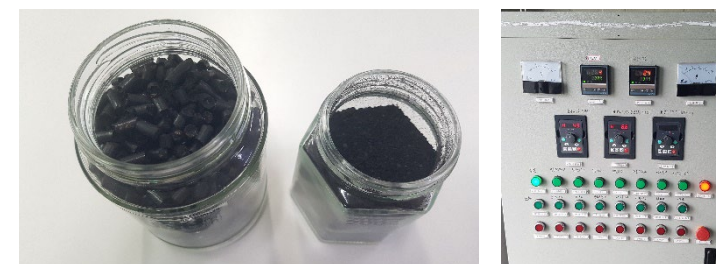
- ❖ This is the design and production period to produce sludge into bio char..
- ❖ The design and production period may be adjusted depending on the raw material situation.

## 07. Installation example

### ❖ Osong-eup, Cheongju-si (Food, biomass and livestock manure carbonization system)

- Bio-char production : 4 tons/day
- Raw materials : food waste, biomass, livestock waste, etc.
- The final stage of manufacturing solids in the form of pellets (or powder) can be connected and installed as a separate facility..

### • Biomass pyrolysis furnace operation photo and biochar final solids (\*pellets and carbonized charcoal powder)





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Thank You