



# SHTS DRYER

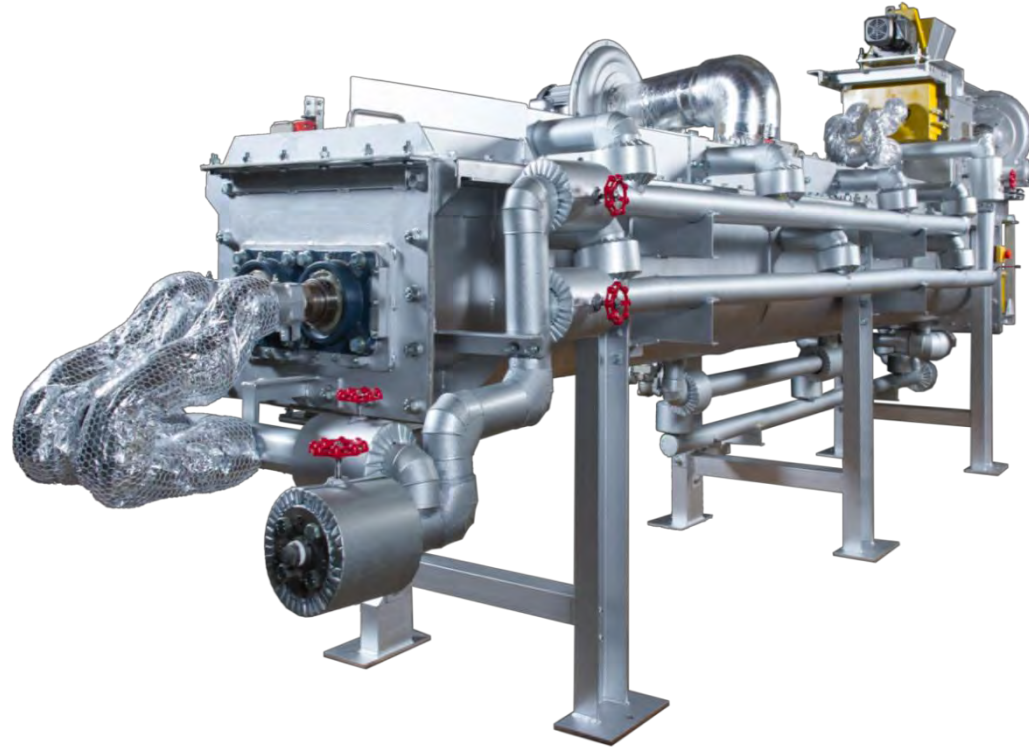
steam heated twin screw

連続式低温乾燥装置



研機株式会社

# SHTS搭載： 連続式低温乾燥装置



再資源化あるいは原料、材料製造のための乾燥が目的（連続式）  
乾燥させるだけではない

水分率 液体乾燥前90% ～ 乾燥後～0%

# 原料



水分率 $\geq 0\%$ 以下

# 水処理後 脱水



水分率<10%以下

# 下水污泥

再資源化



燃料



土壤改良材  
肥料



セメント



# 原料、固形物、汚泥まで



PC



CaO



化学汚泥



木材チップ



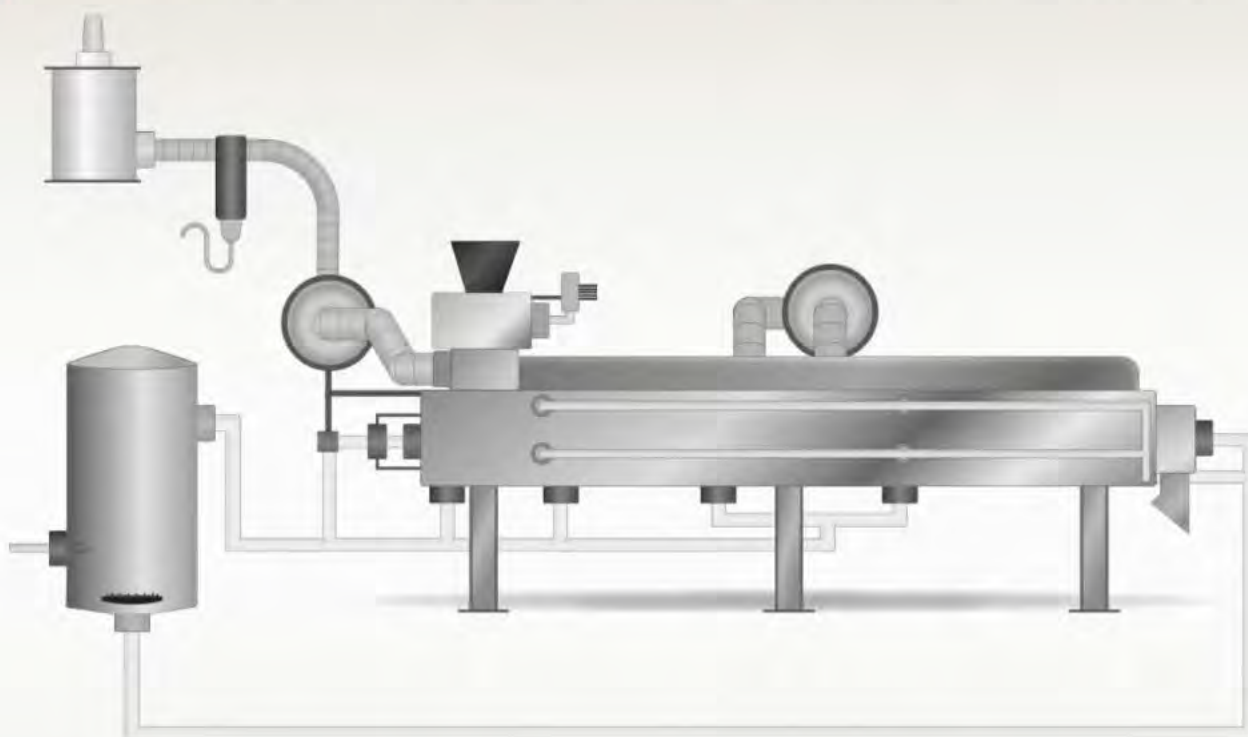
食品汚泥



食物残渣(おから、お弁当)



## SHTS KENKI DRYERS - Continuous dryers for sludge and pasty product



# 3大特徴

低温乾燥

乾燥対象物の  
成分変化を防止



連続式乾燥

24時間連続運転  
による生産効率UP



付着防止

工業系スラリーの  
付着・固着の防止



乾燥物

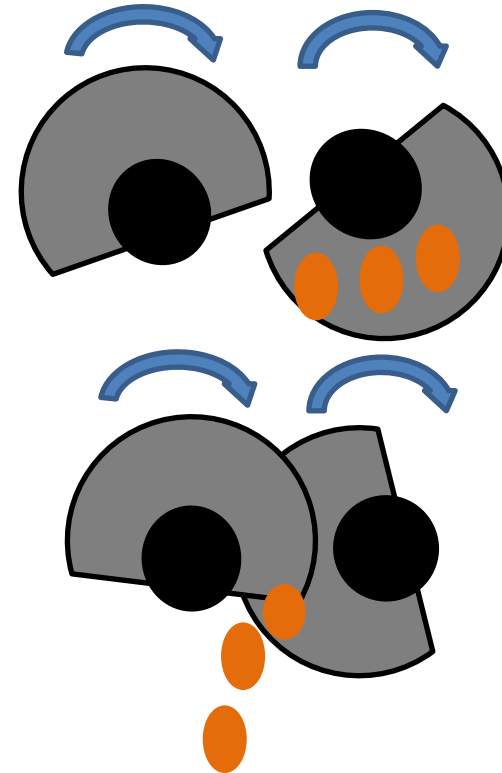
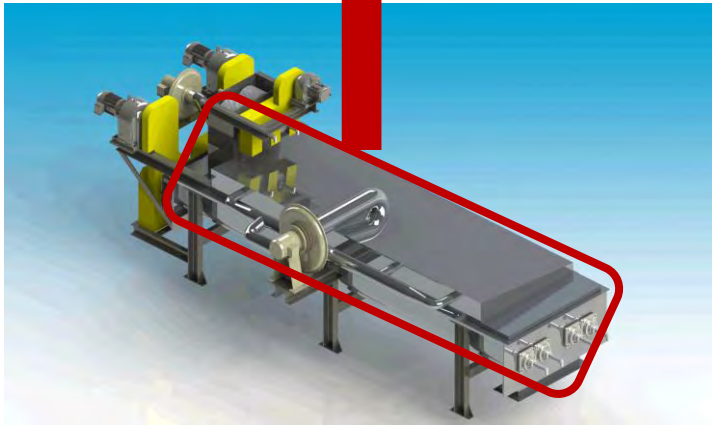
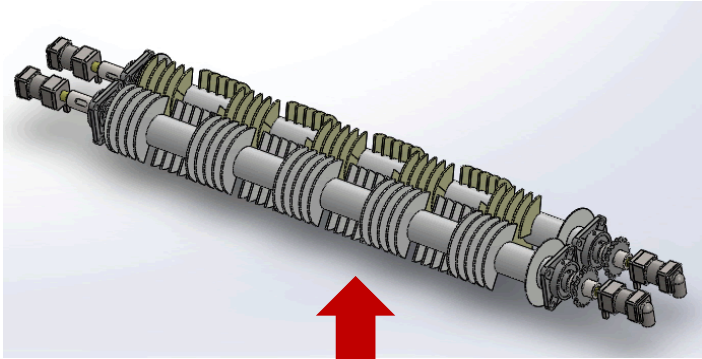
蒸気

→ 熱風  
→ 蒸気

工場内低圧蒸気を利用

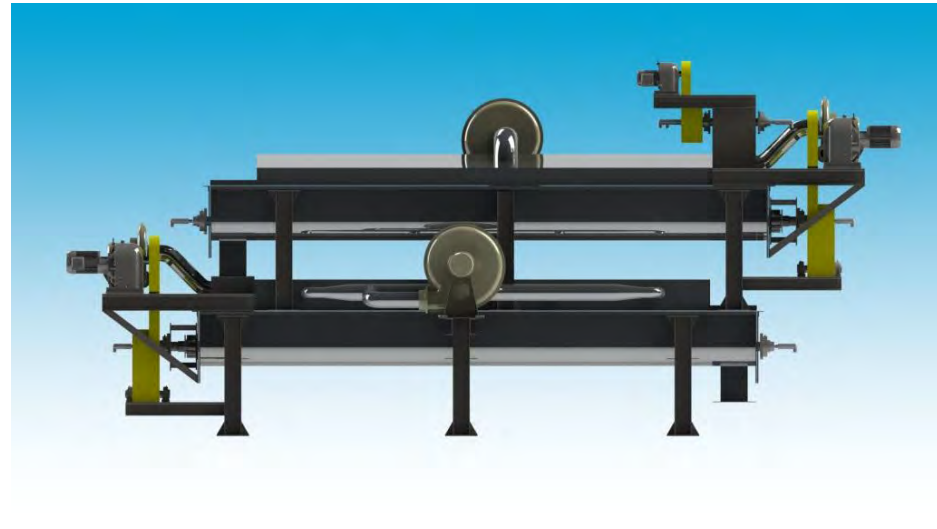
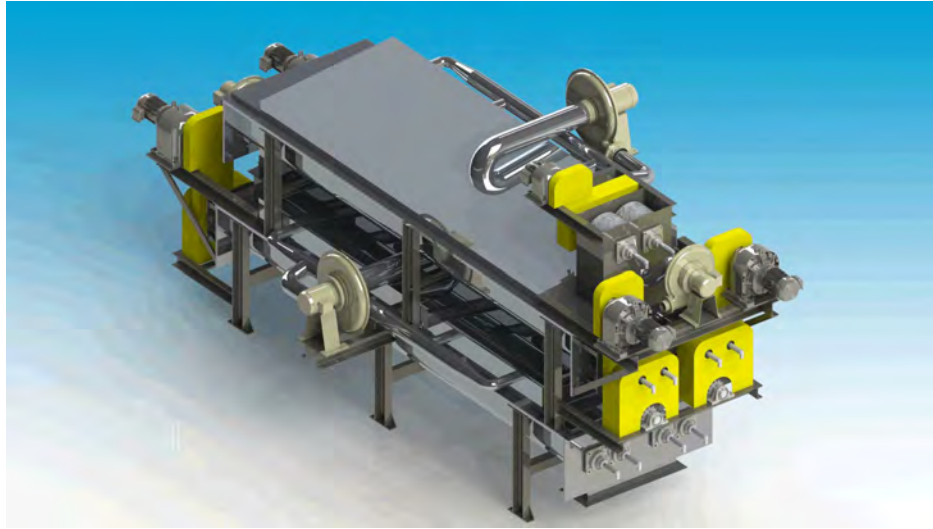
# 汚泥付着防止機構 SHTS technology

付着物を羽根が剥がしながら回転  
・付着防止 ・攪拌



当社開発技術(SHTS)国内特許出願済  
海外出願 フランス、アメリカ

# 処理能力



**投入量 (50kg~2000kg / 時間)**

# 仕 様

| 型式        | 投入量   | 蒸気量   | 電気量   | 寸法                              | 重量  |
|-----------|-------|-------|-------|---------------------------------|-----|
|           | kg/hr | Kg/hr | kW/hr | mm                              | ton |
| TS-2L-0.5 | 50    | 60    | 3.4   | 1300(W) × 5300(L)<br>× 1500(H)  | 2.5 |
| TS-2L-1   | 100   | 120   | 5.7   | 1800(W) × 5300(L)<br>× 1800(H)  | 4   |
| TS-2L-5   | 500   | 600   | 12.4  | 2800(W) × 6300(L)<br>× 2500(H)  | 11  |
| TS-2L-10  | 1,000 | 1,200 | 24.2  | 2800(W) × 12300(L)<br>× 2500(H) | 22  |
| TS-2L-20  | 2,000 | 2,400 |       | 受注生産                            |     |

## 仕様条件

投入前水分率 80%W.B. 乾燥後水分率 20%W.B. (蒸気圧力:0.5Mpa)

材質:SUS304 or SUS316L

# 試運転



下水汚泥  
水分率80%⇒20%



# KENKI DRYER Distributor&Agent

フランス:ETIA(EU地域)

韓国:エコネット(株)



# ETIA ( Partner in France)



E T I A

Innovation - Engineering - Processes

Innovative and sustainable solutions for industry



|                                      |                                                                                                    |                                    |                                       |                                       |
|--------------------------------------|----------------------------------------------------------------------------------------------------|------------------------------------|---------------------------------------|---------------------------------------|
| <b>Ozosteril®</b>                    |  <b>Biogreen®</b> | <b>PROCESS</b>                     | <b>Safesteril®</b>                    | <b>SPIRAJOULE®</b>                    |
| Ozone treatment of dried product     | Thermochemical conversion of biomass and waste                                                     | Equipments                         | Steam sterilization of food product   | Electrical heating screw conveyor     |
| <a href="#">Visit Ozosteril &gt;</a> | <a href="#">Visit Biogreen &gt;</a>                                                                | <a href="#">Visit Process &gt;</a> | <a href="#">Visit Safesteril &gt;</a> | <a href="#">Visit Spirajoule &gt;</a> |



# BIOGREEN

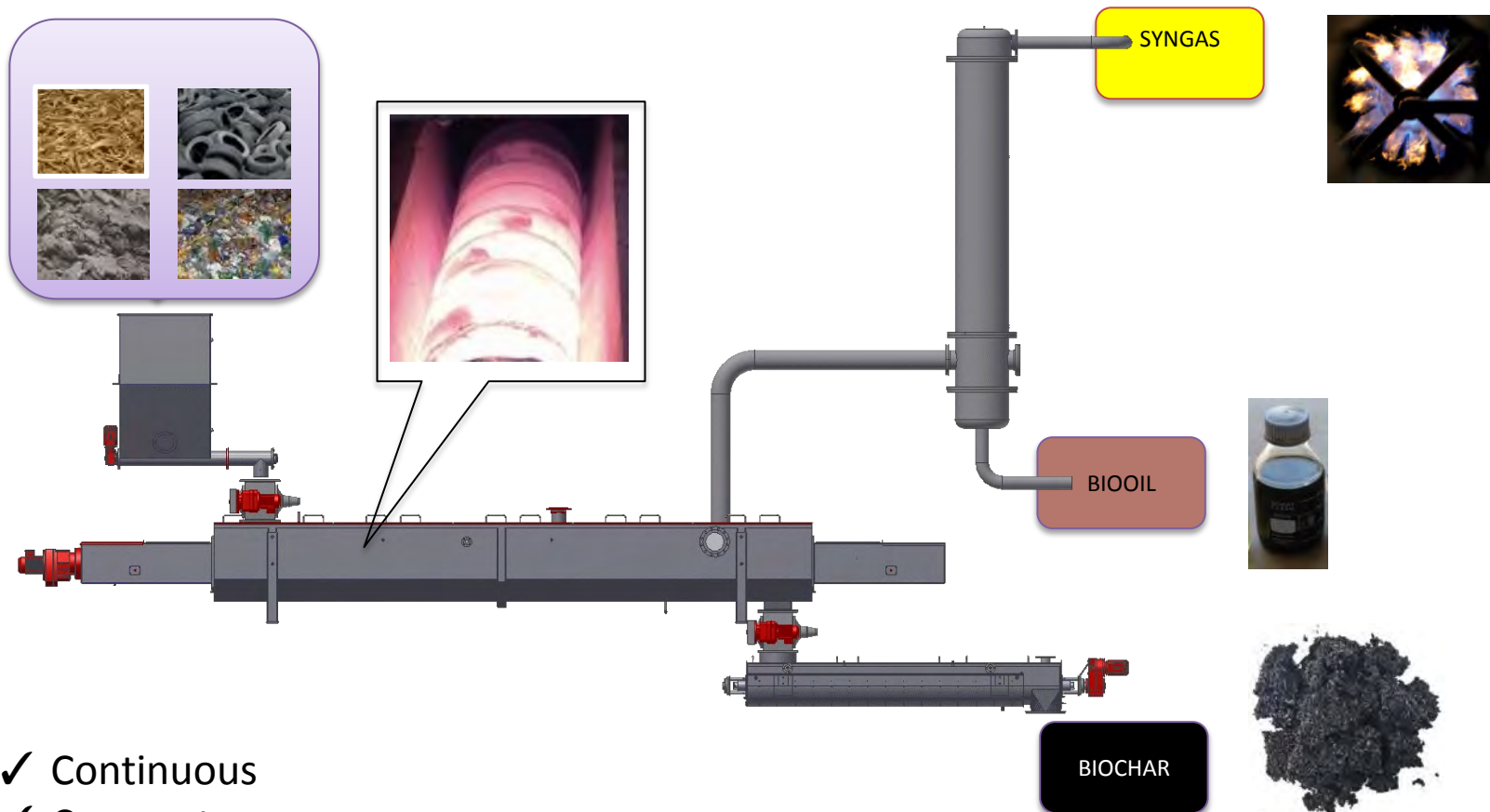
***ENVIRONMENT & ENERGY-RELATED TECHNOLOGIES***



**Innovative & Sustainable solutions for  
Industry**



## CONTINUOUS PYROLYSIS PROCESS

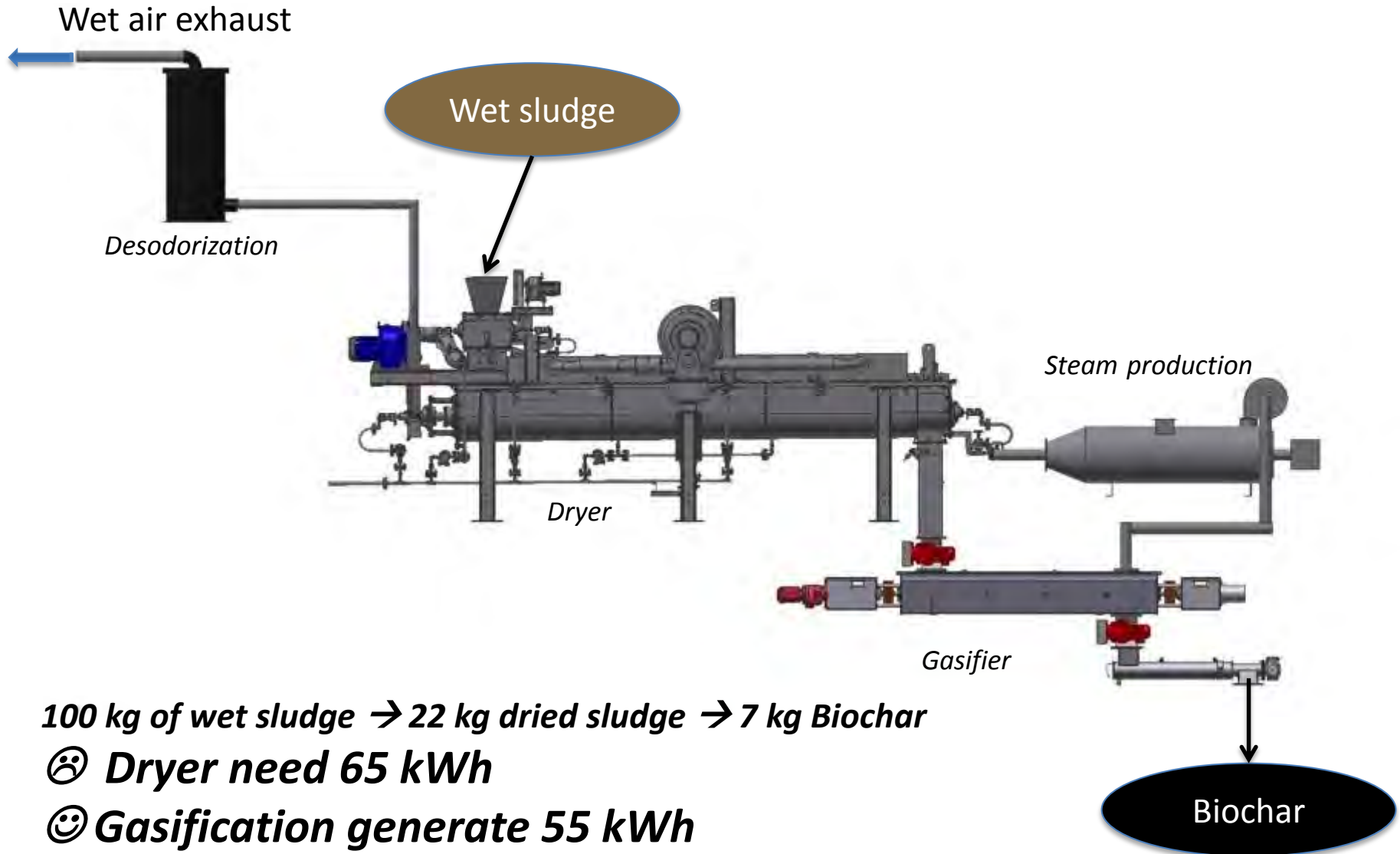


- ✓ Continuous
- ✓ Compact
- ✓ Can treat all shapes
- ✓ High heat transfer coefficient → Short dwell time → Low volume → Safe system
- ✓ Easy monitoring
- ✓ Low maintenance
- ✓ Spirajoule technology: industrial proven technology – 87 units installed
- ✓ Up to 5 m<sup>3</sup>/h per module



## MUNICIPAL SEWAGE SLUDGE BIOGREEN APPLICATION

### HIGH TEMPERATURE PYROLYSIS (850°C)



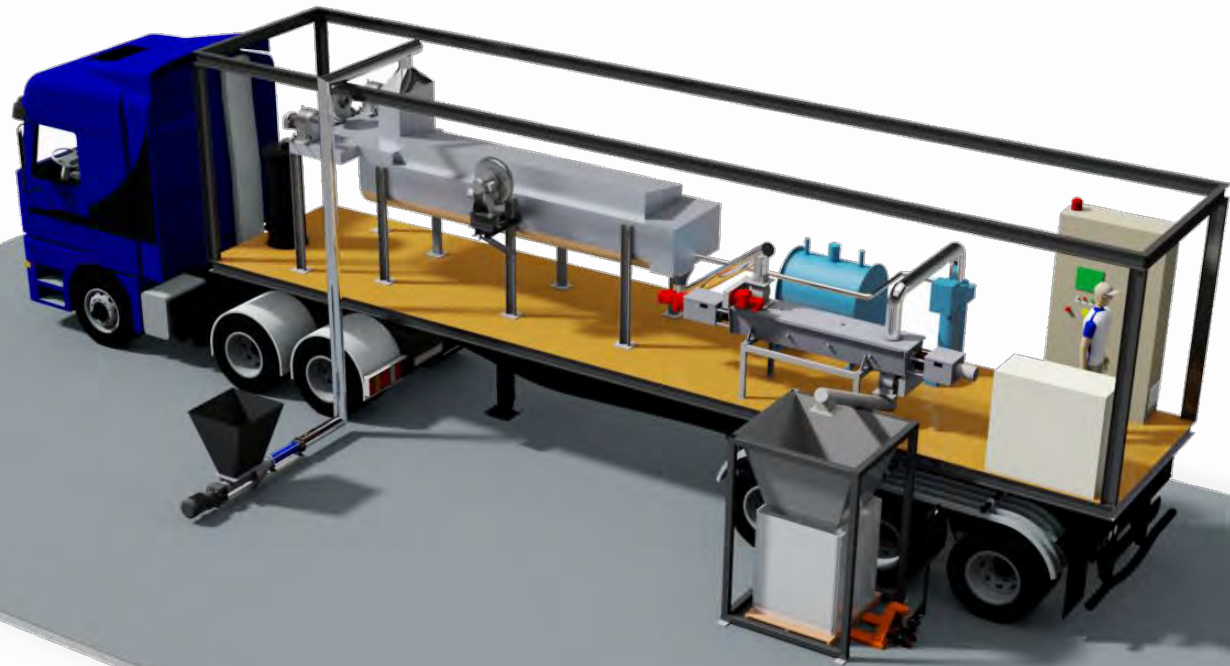


# MUNICIPAL SEWAGE SLUDGE BIOGREEN APPLICATION

## *HIGH TEMPERATURE PYROLYSIS (850°C)*



PYROTRUCK CONCEPT 10 000 PE – 100 kg/h of wet sludge



# EMChIE 2015 Tarragona

## 7th European Meeting on Chemical Industry and Environment

Tarragona, 10 - 12 June 2015

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EMChIE-2015, the 7th European Meeting on Chemical Industry and Environment, will take place at the [Universitat Rovira i Virgili](#), in Tarragona, Spain, during 10-12 June 2015.

The rising concern of the society about the impact of its activity at planetary scale is forcing the application of increasingly stringent environmental regulations, which constitutes a challenge for the chemical industry of the 21st century as it is a significant contributor in the generation of carbon dioxide, energy consumption, depletion of raw matter and environmental pollution.

However, in the pursuit of a sustainable development for an industrialized society, chemical industry must continue playing a critical role by supplying new products designed under green chemistry and engineering criteria, more efficient and cleaner processes, with improved use of matter and energy, more respectful for the environment, and with lower generation of wastes and wastewater.

The European Meeting of Chemical Industry and Environment (EMChIE)



EMChIE, 10-12 June  
2015

Universitat Rovira i Virgili