

EARTH SYSTEMS Environment · Water · Sustainability



needle-shaped, and brown color Size: 0.5-1.0 mm (equivalent dia

An Introduction to Earth Systems World Leading Pyrolysis (CharMaker) Technology







www.earthsystems.com.au enviro@earthsystems.com.au



Environment - Water - Sustainability

Earth Systems World Leading Pyrolysis Technology

Excess heat used to via pre-dryer to optimise pyrolysis process & biochar output



Access to Carbon Credits

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Loaded cages

CharMaker Batch System (Fixed Pyrolysis Plant – FPP)





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CharMaker Batch System (Fixed Pyrolysis Plant – FPP)

Specifications

- Capacity 42m³
- Processes approx. 10t of feedstock per batch
- Batch time approx. 6.5 7.0hr depending on moisture content
- Allows feedstock utilisation on "as is" basis
 - $\circ~$ tree branches and limbs, root balls
 - sleepers, fence posts (untreated), agricultural pruning's, cotton clothing
 - wooden pallets, clean timber, off-cuts,
- Self-sustaining process
- Typical biochar output 2.0t (10m³)
- Typical wood vinegar (pyroligneous acid) output: 500 1000L/batch
- 1 2 FTE's to run

Services

- Diesel burner for initiation
- Three(3) phase power required.
- Water



<u>CharMaker Continuous System – Continuous Pyrolysis Plant (CPP)</u>

Current Installation (Oct/Nov 2022) – Lysterfield, Melbourne, Australia



Bunker for wood chip



Storage bays for biochar



Biochar produced



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Pre-Dryer

Thermal Oxidiser **Pyrolysis** Chamber



<u>CharMaker Continuous System – Continuous Pyrolysis Plant (CPP)</u>

Specifications

- Capacity 500kg/hr
- Operation flexible daily up to 24/7
- Feedstock ideally chipped 25mm x 25mm x 2mm
- Residence time: 5 20min depending on moisture content
- Self-sustaining process
- Allows feedstock blending:
 - Wood chip, green waste with other feedstocks
 - o agricultural wastes (hay, chaff, vegetable processing's, almond husk, olive pips, vine pruning's
 - o anaerobic digestate, chicken litter, manure, biosolids
- Typical biochar output 100kg/hr
- Typical wood vinegar (pyroligneous acid) output: 0 500ml/min
- 1 2 FTE's to run

Services

- Diesel burner for initiation
- Three(3) phase power required.
- Water



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Thankyou

Contact:

Andrew Wells +61 418 328 322 andrew.wells@earthsystems.com.au

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