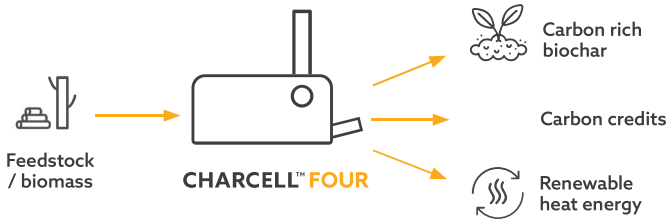
METAMORF

Metamorf Engineering
[Incorporating SDA Engineering]

CHARCELL™ FOUR

TRANSFORMING BIOMASS INTO BIOCHAR, CARBON CREDITS AND RENEWABLE HEAT ENERGY.



FEATURES

- Metamorf's patented pyrolysis and combustion technology
- Processes a wide range of organic waste into high quality biochar
- Environment positive (carbon negative)
- Robust design and engineered for 24x7 production operations
- Low cost, compact, with a small footprint
- Fully automated, with remote monitoring
- Low exhaust gas emissions (CO_2, NO_x, unburnt hydrocarbons), low noise emissions and low energy demand.

BENEFITS

- Biochar produced can be sold between $400-$1000/t
- Used in conjunction with fertilisers to improve soil carbon
- Removes up to 12,500 tonnes of carbon p.a.
- Carbon Removal Certificates available for CO_2e removed
- Generates renewable heat energy of 2500 to 4400 kW
- Low ongoing operating costs
- Can significantly reduce waste/feed disposal and risk management costs
- Enhance environmental credentials
- Minimal maintenance required.

PRODUCT SPECIFICATION

EQUIPMENT MODEL

Charcell™ Four (Integrated Pyrolysis system)

BRIEF DESCRIPTION

Metamorf's proprietary Charcell works by pyrolysing solid feed material using radiant heat from the gas volatile gas combustion zone above the material bed. Combustion air is staged to control the process temperatures.

Unburnt solid char is water quenched before being discharged. The ash content of the raw feed materials remains in the biochar product.

INDUSTRIES WE SERVE

- Nut Industry
- Agriculture
- Viticulture
- Horticulture
- Forestry/Timber
- Construction & Road Making
- Councils
- Landscape/Compost

FEED SOURCE

- Feed material: Nut shell, woodchips, forest residue, grape marc, saw dust, grain, straw and silage waste, compost screenings, chicken litter, fruit stones.
- Feed moisture: 5 to 50%
- Feed rate: 2500kg/hr
- Biochar output: 750kg/hr

OPERATING PARAMETERS

- Hot gas output: up to 4400kW
- Combustion temperatures: 1000C to 1100C
- Exhaust discharge temperature: <700C
- Stack height: 10m (subject to site requirements)
- Stack type: vertical discharge
- Operating emissions: At (typical) Excess O_2 = 10% CO < 50ppm NOx < 300ppm

START UP AND SHUTDOWN

- Ignition system: Diesel
- Diesel consumption rate: 10 to 15 L per startup
- Fast, 45 min startup

UTILITIES REQUIRED

- Electrical power supply rating: 400V, 3 phase, 50 Amp
- Electrical consumption (typical): <15kW
- Water supply (to header tanks): 800-1800 L/hr

SERVICING

- Maintenance & support packages to ensure 24/7 production of biochar.

Get in touch today and see what we can do for you.

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www.metamorf.engineering