



**Continental Biomass Industries, Inc.**  
Portable & Stationary Biomass Recovery Systems

**Dave Whitelaw**

**Southeast Sales Representative**



# Continental Biomass Industries, Inc.

CBI Headquarters - Newton, NH



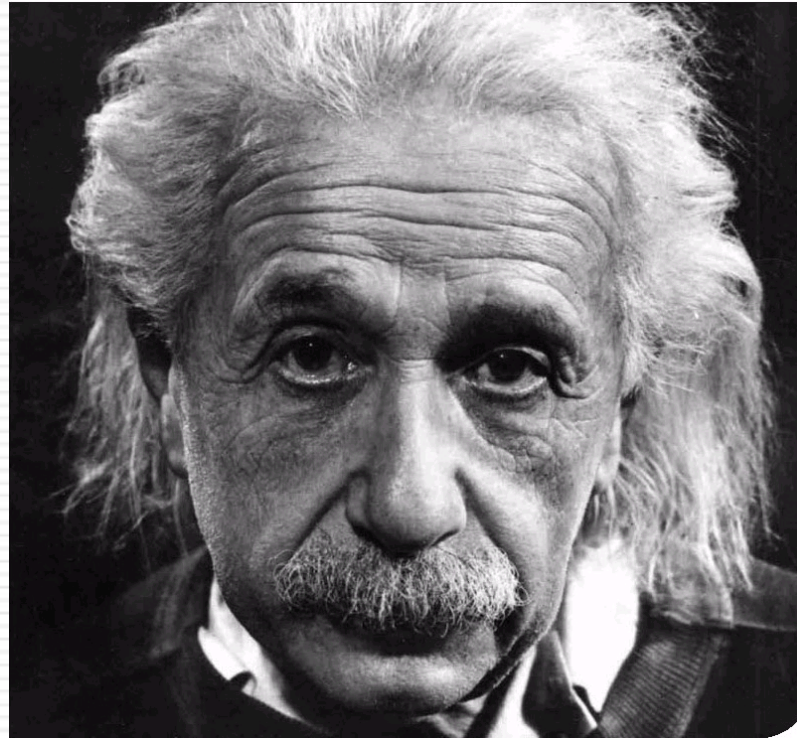


## **ABOUT CBI**

- Founded in 1988
- Headquarters in Newton, NH USA
- Global Reach w/ offices around the World
- Grinders, Chippers and Shredders
- Portable – Track Mounted & Wheel Mounted
- Complete Custom Stationary Systems
- Built for dependability & superior throughput
- World-class service and support ... Guaranteed!



# Einstein



# GENIUS





Continental Biomass Industries, Inc.



# Bugs Bunny



**PELLET GENIUS**



Me

**NOT A GENIUS**





**Continental Biomass Industries, Inc.**



# PORTABLE SYSTEMS





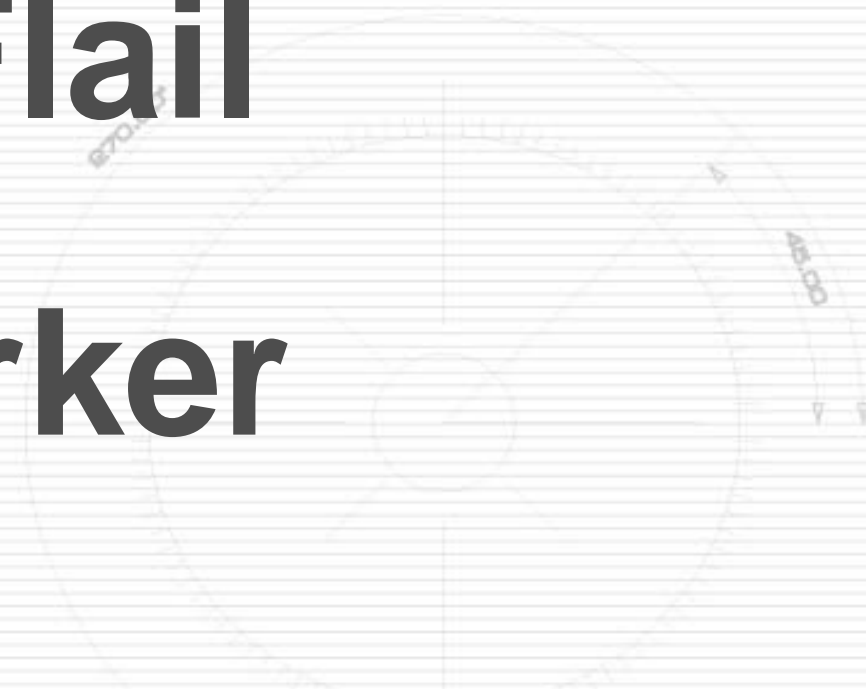
# INTRODUCING







# The First CBI Flail Debarker





## CBI Flail Debarker





Continental Biomass Industries, Inc.



## CBI Flail Debarker





## CBI Flail Debarker



# Continental Biomass Industries, Inc.



45.00



CBI 8400



# Continental Biomass Industries, Inc.

Magnum Force 8400



- Ultimate Strength, Durability and Flexibility
- Accommodates 4 different rotors for grinding or chipping
- 1050 – 1200 HP diesel or electric powered
- Ideal for highly-contaminated C&D, railroad ties, MSW



CBI 6400





# Continental Biomass Industries, Inc.

Magnum Force 6400



- Most Versatile
- Accommodates 4 different rotors for grinding or chipping
- 765 – 1050 HP diesel or electric powered
- Tracks, wheels or stationary & European version



### **SOLID STEEL ROTOR**

20, 6"x 8" striker plates held in place by two 1-1/4" bolts

- C&D
- MSW
- Railroad Ties
- Telephone Poles



### **FORGED DRUM ROTOR**

4" thick, with 24 bolt-on Replace-A-Face™ hammers with reversible tips

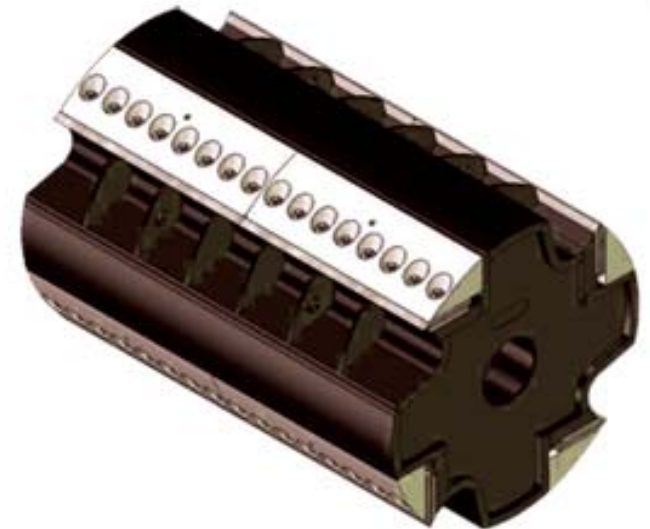
- Forestry Debris
- Stumps, Tops & Slash
- Mulch Manufacturing



### 2-POCKET CHIPPER ROTOR

Two rows of knives for average chip lengths of 3/4" to 1-1/4"

- Stem Wood
- Fuel Production



### 4-POCKET CHIPPER ROTOR

Four rows of knives for short chip lengths of 1/16" to 1/2"

- Pellet Fuel Production
- Pulverized Fuel

**Continental Biomass Industries, Inc.**

**2-Pocket Chipper Rotor**

**CBI**



**Continental Biomass Industries, Inc.**

4-Pocket Chipper Rotor

**CBI**





**8400**

**6400**

50" Diameter Rotor  
Fuel Chips @ 125tph  
Microchips @ 75tph  
Larger diameter wood  
More consistent chip size

40" Diameter Rotor  
Fuel Chips @ 80tph  
Microchips @ 50tph



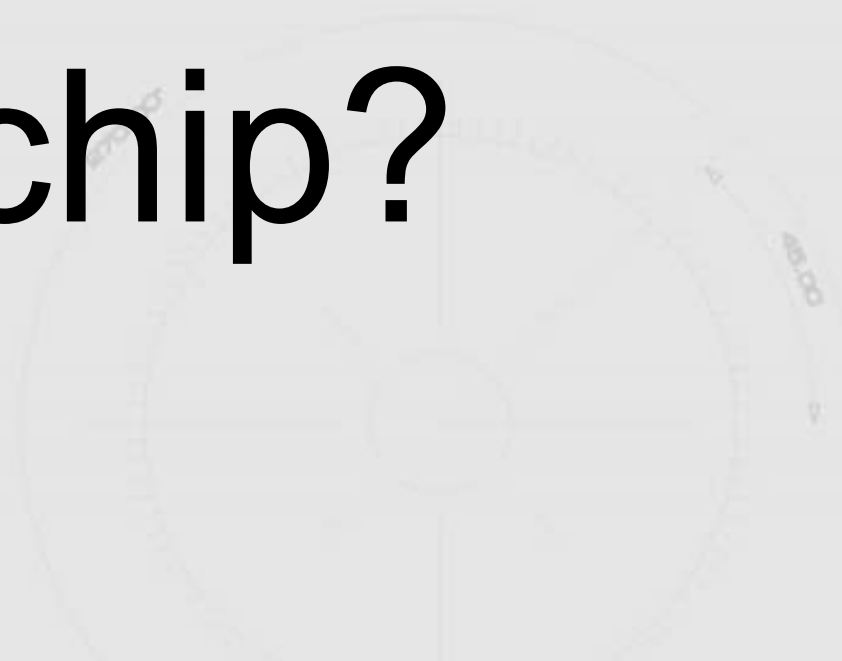


# MICROCHIPS?





# What's a Microchip?







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Magnum Force 6400



- M
- A
- 765 – 1050 HP diesel or electric powered
- Tracks, wheels or stationary & European version



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Magnum Force 8400



- Ultimate
- Accommodates 4 different rotors for grinding or chipping
- 1050 – 1200 HP diesel or electric powered
- Ideal for highly-contaminated C&D, railroad ties, MSW



## Microchips

1. Anvil Setting of 12mm and smaller-  
( 1" = 25.4mm)
2. Can eliminate front end grinder in Pellet Process
3. Can significantly reduce HP on back end grinder
4. Can help utilize less desirable wood



## Microchips

1. Anvil Setting of 12mm and smaller
2. Can eliminate front end grinder in Pellet Process
3. Can significantly reduce HP on back end grinder
4. Can help utilize less desirable wood

**HOW?**



## Roundwood to Pellets

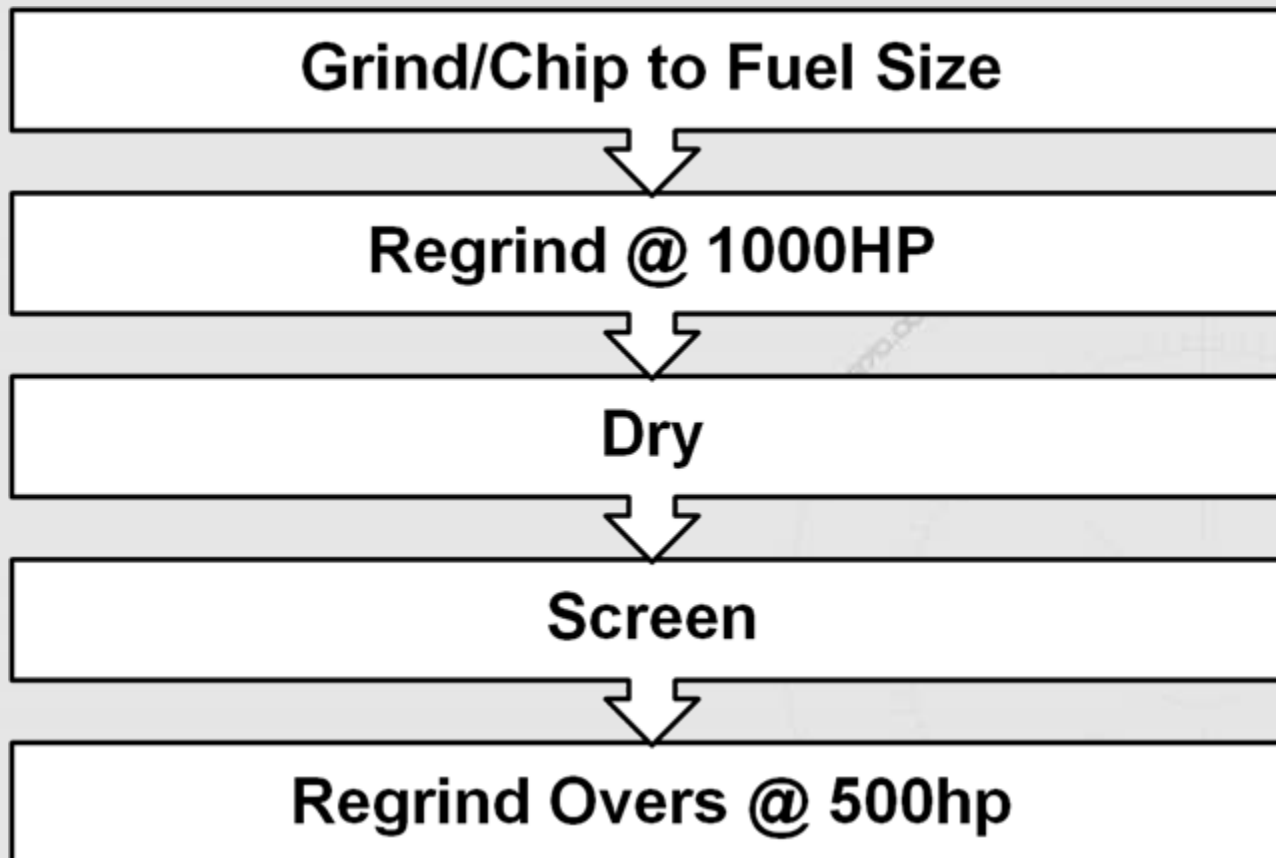
### Typical Scenario

1. Logs are ground to fuel size- 3"-4" minus  
Logs are chipped to fuel size- 1 1/4"
2. Wood is resized again using up to 1000hp
3. Wood is run through dryer
4. Wood is screened
5. Fines continue into the Pellet Process
6. Overs are ground again



## Roundwood to Pellets

### Typical Pellet Process Flow Chart





## Roundwood to Pellets

### Microchips

1. Logs are chipped to Microchips- 3/8" minus
  - Fiber length is short enough to run directly into dryer, eliminating the front end grind
2. Wood is then run through dryer
3. Wood is screened
4. Fines continue into the Pellet Process



## Roundwood to Pellets

### Microchips

#### 5. Overs are ground again

- Because the Microchip is already small in size, already dry and significantly less in volume as compared to using whole tree chips and grindings on the front end, the HP needed to create the spec product is greatly reduced, creating a significant reduction in cost.





## Roundwood to Pellets

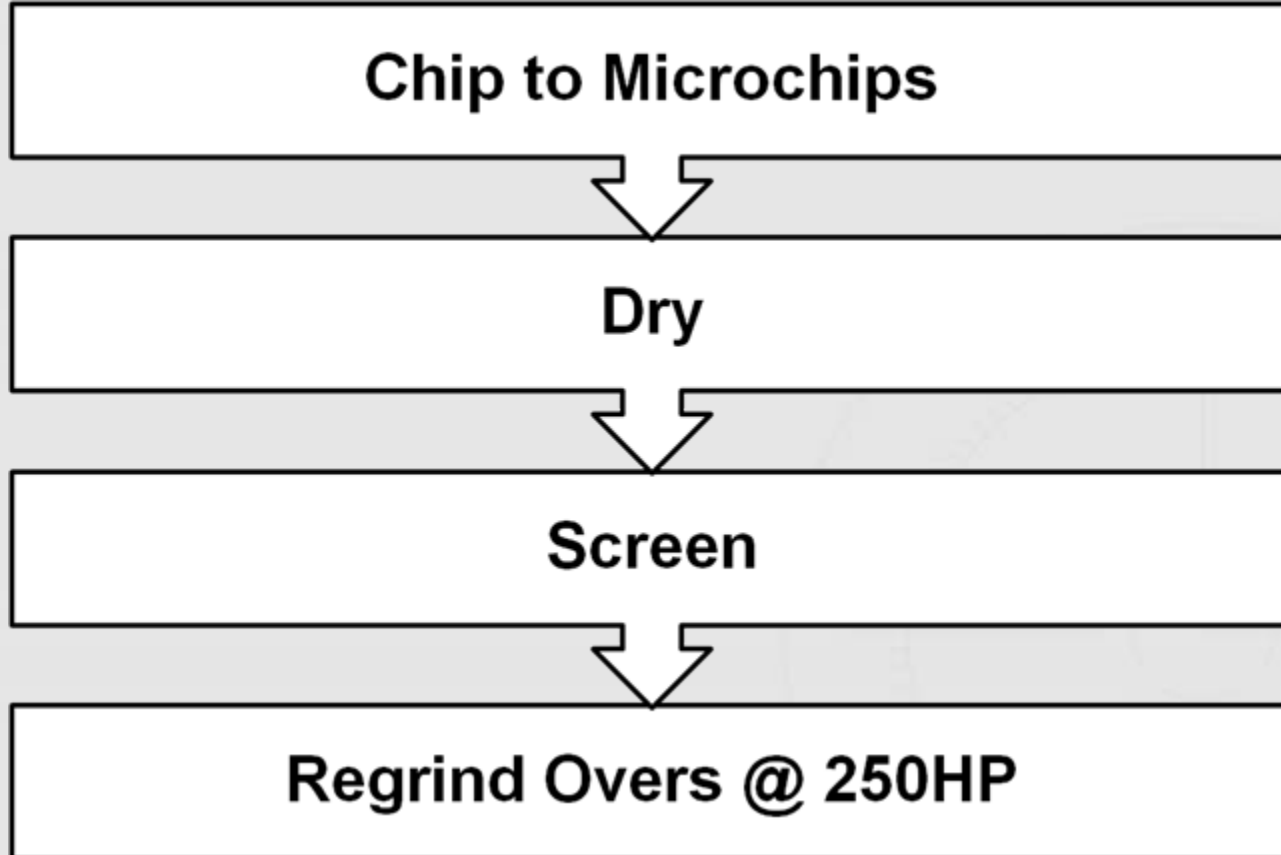
### Microchips

#### 6. Use Less desirable wood

- Because we are chipping so small and drying on the front end, we can screen at a 40 mesh after the dryer and drop out a significant amount of ash creating dirt and bark. How much depends on your product. Fines can be used as fuel for the dryer.



## **Roundwood to Pellets Microchip Flow Chart**





## Roundwood to Pellets

### Difference

1. No need for 1000 HP Front End Grinder
2. Only need ½ the HP Grinder on the Back End
3. More Wood Usage- No flail or 50% Debarked



## Roundwood to Pellets

### Savings

- Front End- Hard to quantify because each Mill is different, but savings of at least \$1+ per ground ton is a given
- Back End- Just as difficult, but a 50% comparative savings is easily possible
- More available raw materials



## Roundwood to Pellets Microchips Factual Data

1. Operational cost is \$1.25 per ton excluding knife sharpening
2. Fuel usage is ½ gal. per ton
3. Knives last 6-10 hrs depending on material
4. Knives can be sharpened 20-25 times
5. Minimally debarked material can be acceptable if you screen at a fine mesh on the front end
6. CBI 8400 4 pocket Chipper is averaging 53 TPH including startup, shutdown and daily maintenance

**Thank  
You for  
Having me**



Fuel the Future™

[www.cbi-inc.com](http://www.cbi-inc.com)

