

# CALORMATIC®

MULTI-PURPOSE HEAT PROCESSOR



## Unique Concept in Roasting & Drying

No direct contact with flame

Maximum flexibility with uniform drying

Consistency in product quality and nutrient value

Low-cost processing and maintenance

Built to last, constructed with G140 USA prime steel

**SWEET**

MATERIAL HANDLING

# CALORMATIC®

The CalorMatic® Heat Processor uses a fluidized air bed to dry, roast, toast, bake, sterilize, and remove moisture from a full range of free-flowing materials. This unique concept eliminates direct contact with the flame, so there is no scorching. The CalorMatic® delivers consistent product quality and nutrient values, while also preventing product contamination. It removes fines while gently handling the product.

- A Burner Service Door**  
Access to burner and ignition system
- B Centrifugal Fan**  
Used for fluidization of product  
  
Transfers ambient air across the burner, not allowing flame to contact the product  
  
VFD speed control standard
- C Chimney Inspection Window**
- D Control Panel**  
Manual Controller Option  
  
PLC Interface Controller Option  
  
Both feature AC drives and motors, along with VFD controls.
- E Gas Train**  
Flow of gas monitored and regulated through control panel

- F Inspection Windows**
- G Plug Chute**  
Emergency switch that will shut down the unit should the discharge chute become plugged
- H Rotary Inlet**  
Designed to regulate flow of product into CalorMatic®  
  
Straight vane option for bulkier products  
  
VFD speed control standard
- I Rotary Outlet**  
Designed to regulate flow of product out of CalorMatic® for improved cooling and ease of system integration  
  
Straight vane option for bulkier products

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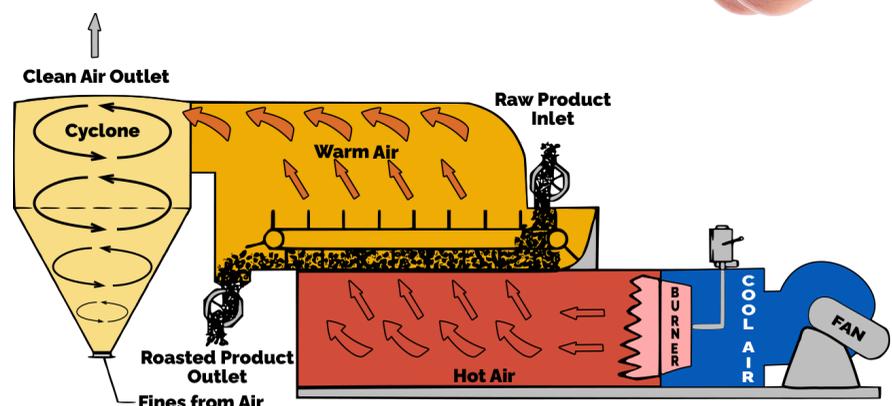
## Why Roast/Cook Grains & Soybeans?

- ✓ Reduce mold and bacteria content
- ✓ Inactivate anti-nutritional factors
- ✓ Inactivate trypsin inhibitors
- ✓ Increase metabolizable energy
- ✓ Increase feed efficiency
- ✓ Increase palatability
- ✓ Increase nutrient availability
- ✓ Increase digestibility
- ✓ Improve feed aroma and flavor



## Unique Concept in Roasting & Drying

The CalorMatic® was designed to perform a simple, practical, and economical thermal process, using natural gas and propane. It features a centrifugal fan that injects ambient air through a high-efficiency burner, which heats the air that is driven through the fluidized bed to suspend the product and achieves efficient heat exchange between air and the product to be dried or roasted.





## From Waste To Feed

Using the CalorMatic®, eggshell is converted from a costly waste product to a sanitized, salmonella-free, mineral product. Food and bakery waste is transformed into a premium feed ingredient rich in nutritional value. Dredged oyster shell is dried for further processing and packaging.



## Biomass Applications

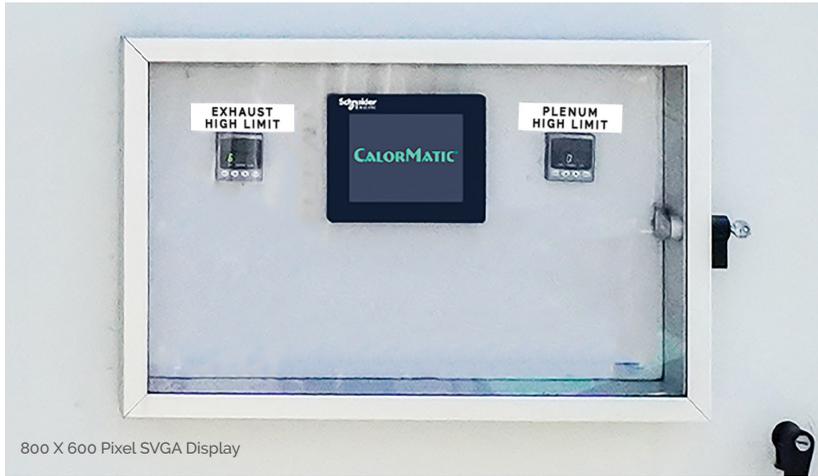
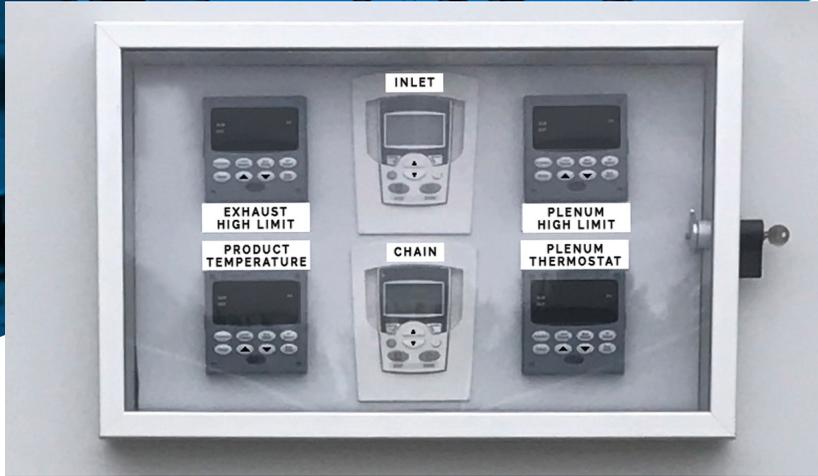
Utilizing our unique concept that eliminates direct contact with flame, the CalorMatic® removes moisture from biomass products. Applications have been seen in processing woodchips, rice hulls, and other flame-sensitive materials.



## Put Our Tools to the Test

Here at Sweet Manufacturing, we believe in giving our customers peace of mind before purchasing our CalorMatic® machines. Using 3rd party labs to test the final product, we ensure accurate results for each test conducted!

# CALORMATIC®



800 X 600 Pixel SVGA Display

## CONTROL PANEL OPTIONS

### The Control Panel

#### AC Control Panel (AC)

This control panel option comes standard when purchasing a CalorMatic® unit and features simple on-site manual controls. This, combined with the enhanced safety shutdown features, delivers monitored automation.

#### Programmable Logic Controller (PLC)

This control panel option streamlines your process with the ability to communicate with computers inside the plant. The PLC has a very fast scan time and possesses great computational capabilities, making troubleshooting easy and fast. Most importantly, training time is reduced due to the simplistic interface and ease of operation.

These options enable end users to diversify their machine so they can run a variety of materials and products with easy adjustments to speed, temperature, and airflow.

## Specifications

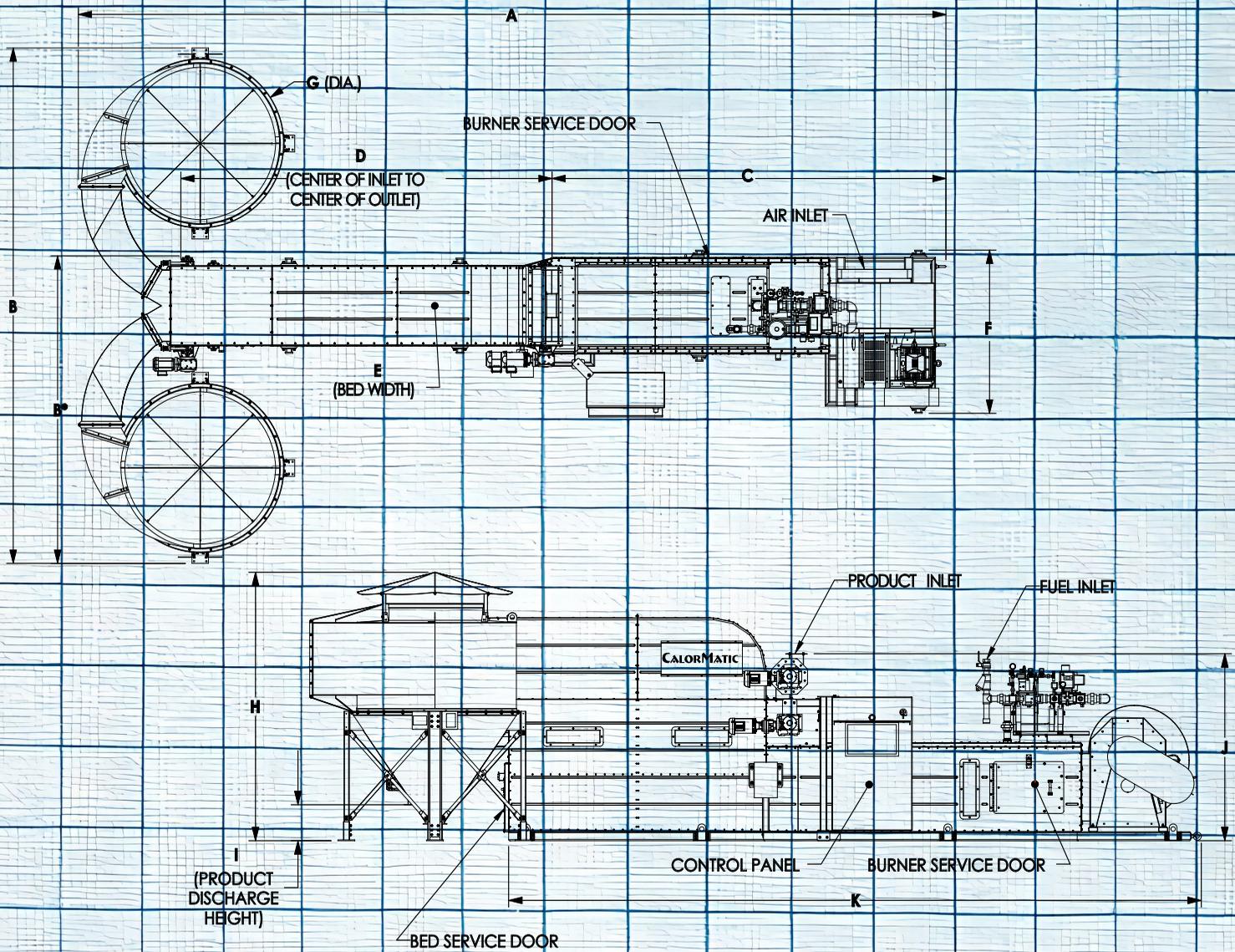
### Choose the Model to Best Suit Your Production Requirements

Sweet Manufacturing Company offers eight CalorMatic® models, ranging from 2-18 Tons Per Hour.

Model	Capacity TPH*	Fan Air Flow CFM	Motor HP	Fan RPM	Burner Size MMBTU/HR	Combustion BTU/HR	Natural Gas FT <sup>3</sup> /HR	Operating Temperature
Cardinal II	2 - 3	5,000	10	3,700	3.0	1,827,590	1,828	Min: 150 °F Max: 600°F
Blue Jay	3 - 5	7,500	15	3,650	4.0	2,749,690	2,750	Min: 150 °F Max: 600°F
Hawk	5 - 7	9,600	20	2,900	5.0	3,871,501	3,872	Min: 150 °F Max: 600°F
Eagle I	7 - 10	18,481	40	2,054	9.5	6,507,591	6,508	Min: 150 °F Max: 600°F
Eagle II	10 - 12	22,167	50	1,816	10.5	7,806,851	7,807	Min: 150 °F Max: 600°F
Eagle III	12 - 15	27,722	50	1,397	12.0	9,761,491	9,761	Min: 150 °F Max: 600°F
Eagle IV & V	15 - 18	33,259	75	1,552	14.0	11,712,062	11,712	Min: 150 °F Max: 600°F

\*Capacity based on finished product using clean, whole soybeans 13% incoming moisture at 70° F (21.1°C) ambient air and product temperature when roasting to a 245° F (118°C) finished product. Changes in operating air or product temperature will affect output capacity. Natural gas calculations based on 1,000 BTU/FT<sup>3</sup> (23,165 BTU/LB).

# CALORMATIC®



## Dimensions

Model	A	B	C	D	E	F	G	H	I	J	K
Cardinal II	25' - 11"	7' - 2"*	10' - 2"	12' - 7"	1' - 4"	4' - 4"	4' - 4"	9' - 10"	1' - 4"	6' - 11"	19' - 3"
Blue Jay	29' - 10"	8' - 0"*	12' - 1"	14' - 1"	1' - 4"	4' - 5"	5' - 4"	10' - 0"	1' - 4"	6' - 11"	22' - 9"
Hawk	26' - 10"	17' - 8"	12' - 3"	11' - 1"	2' - 8"	5' - 5"	5' - 4"	10' - 0"	1' - 4"	6' - 11"	19' - 11"
Eagle I	32' - 11"	19' - 4"	14' - 11"	14' - 1"	2' - 8"	6' - 2"	6' - 4"	9' - 11"	1' - 4"	6' - 11"	25' - 7"
Eagle II	35' - 8"	24' - 10"	15' - 4"	15' - 10"	2' - 8"	6' - 7"	7' - 4"	10' - 2"	1' - 4"	6' - 11"	27' - 8"
Eagle III	42' - 5"	25' - 6"	19' - 1"	18' - 10"	2' - 8"	8' - 1"	7' - 8"	10' - 3"	1' - 4"	6' - 11"	34' - 5"
Eagle IV	47' - 2"	26' - 1"	19' - 1"	23' - 7"	2' - 8"	8' - 1"	8' - 4"	10' - 3"	1' - 4"	6' - 11"	39' - 2"
Eagle V	52"	26' - 1"	18' - 10"	28' - 11"	2' - 8"	8' - 1"	8' - 4"	13' - 3"	1' - 2"	7' - 2"	43' - 11"

B\* = Model has one cyclone. (Cardinal II & Blue Jay)

## All-In-One System

Seeking an all-in-one material handling system to process your goods from raw to cooked using the CalorMatic®? The system shown below is an example of a Full Fat Soybean feed mill facility featuring Sweet® equipment. Sweet offers comprehensive material handling solutions that are designed to meet each customer's needs and product specifications. From reception to load-out, Sweet will happily design your system and deliver a superior customer service experience along the way!



# SWEET

MATERIAL HANDLING



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## MADE IN AMERICA

ONE OF THE COUNTLESS REASONS WHY IT'S SWEET®.

An extraordinary customer experience.

Innovative product solutions made with all galvanized construction with USA prime steel and premium components.

