



# CPM WOOD PELLETING

CALIFORNIA PELLET MILL

ROSKAMP CHAMPION

BETA RAVEN

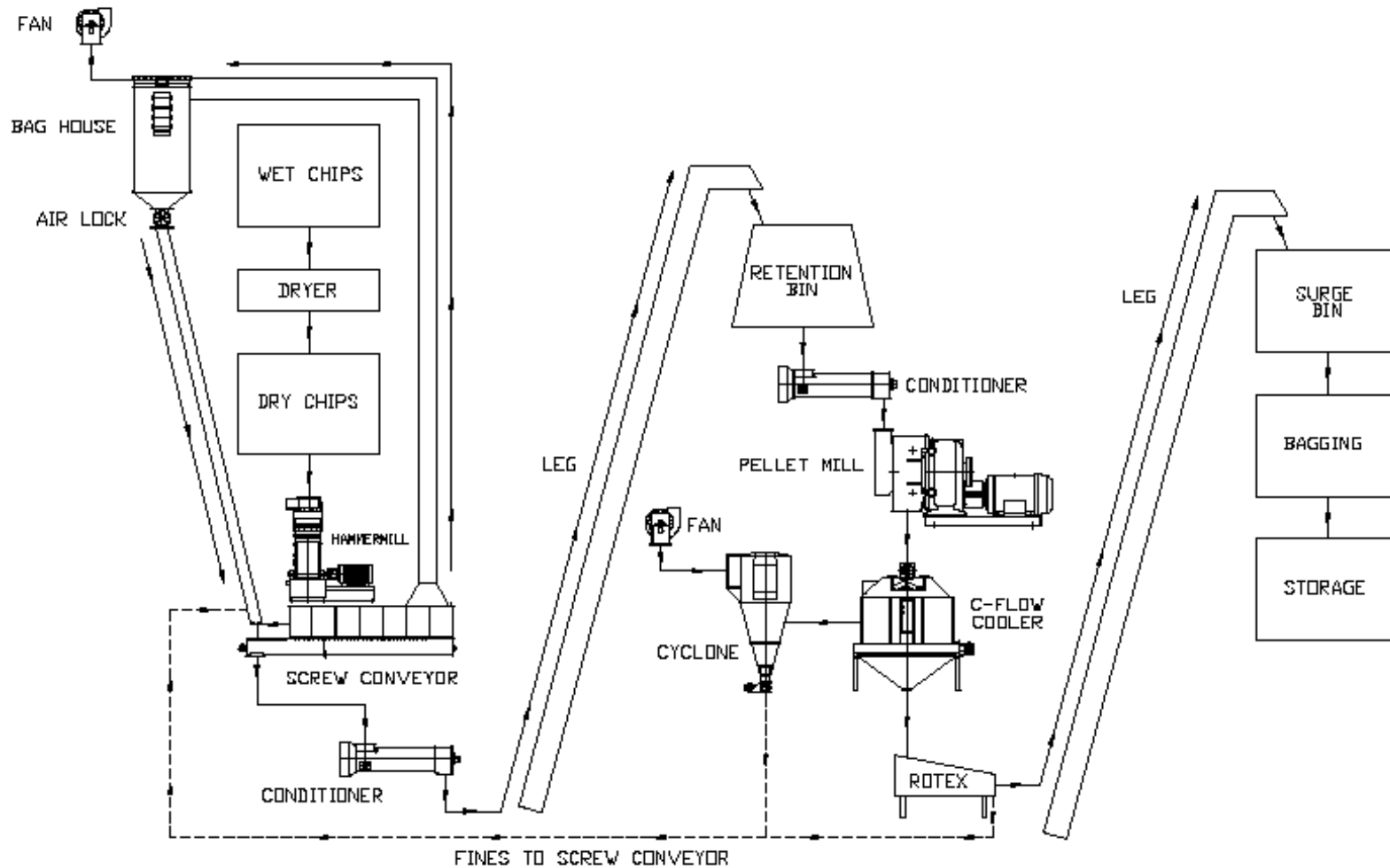
CENTURY EXTRUSION

# Pelleting Process

## Wood pelleting process

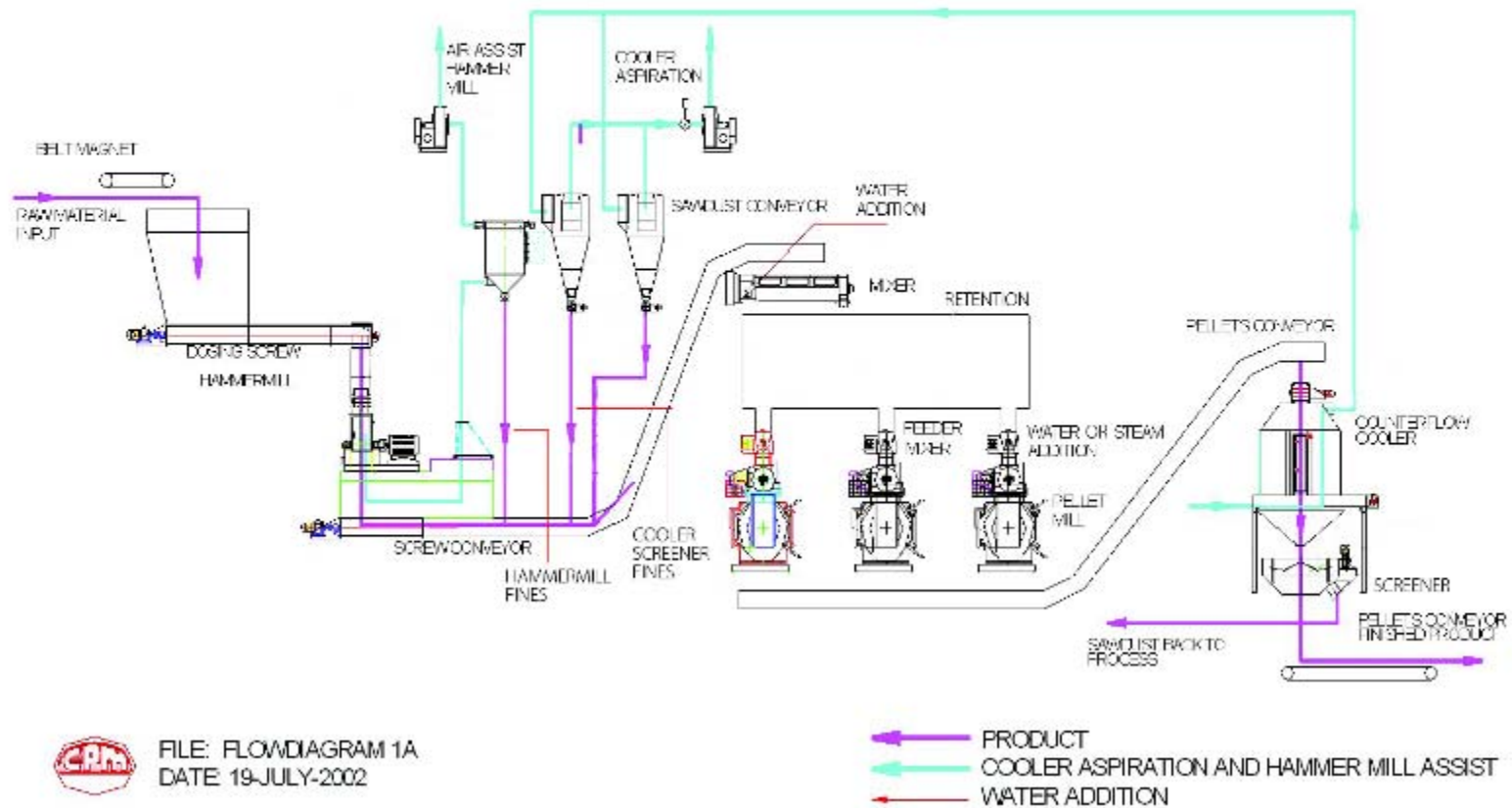
- Dry wood (8-10%) to the hammermill
- Feed stock size not to exceed 1-3/16"x1-3/16"x3/8"
- Conditioner after hammermill for moisture addition
- Retention bin with at least 20 minute capacity
- Moisture meter after retention bin
- VFD Feeder for PM Conditioner
- Conditioner
- Pellet Mill
- Cooler
- Screener

# Vertical Flow

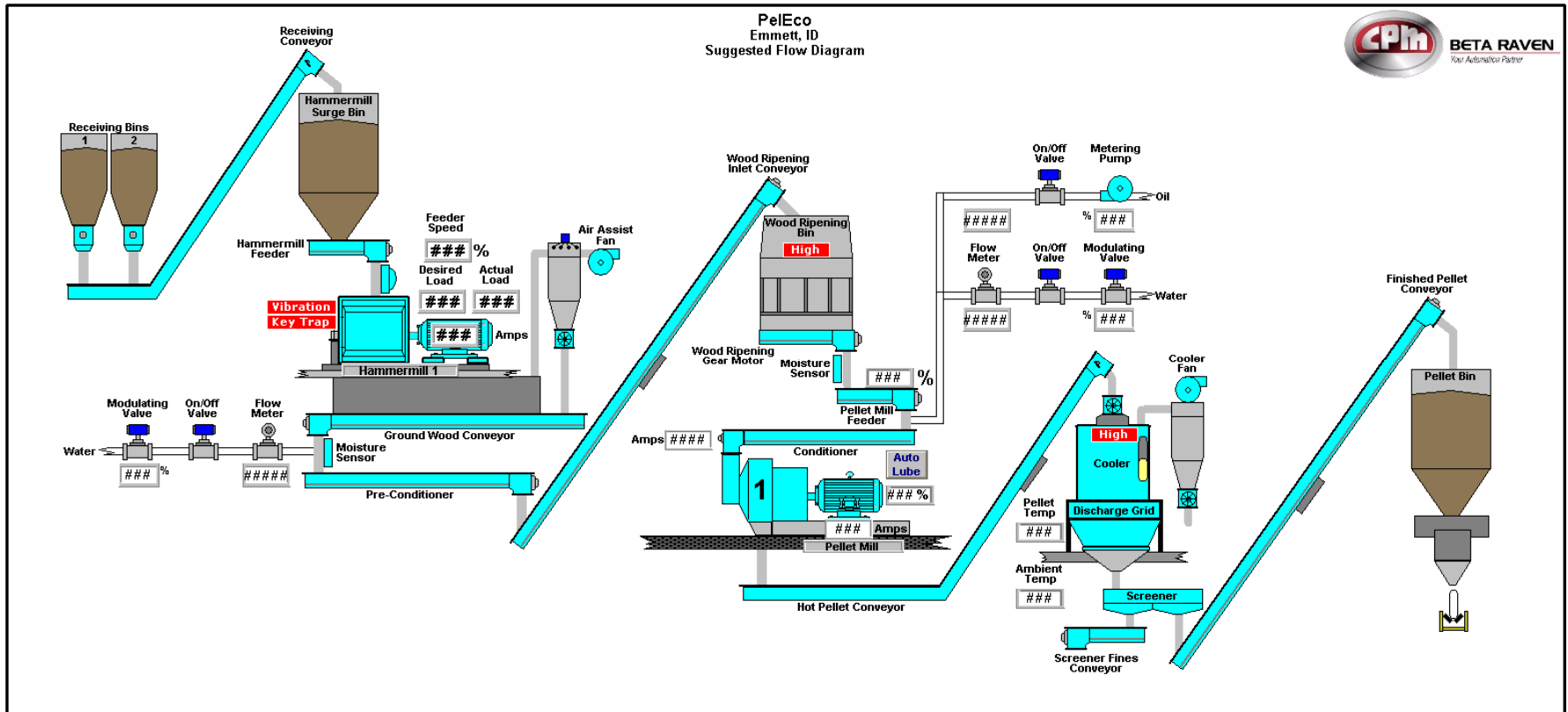


# Horizontal Flow

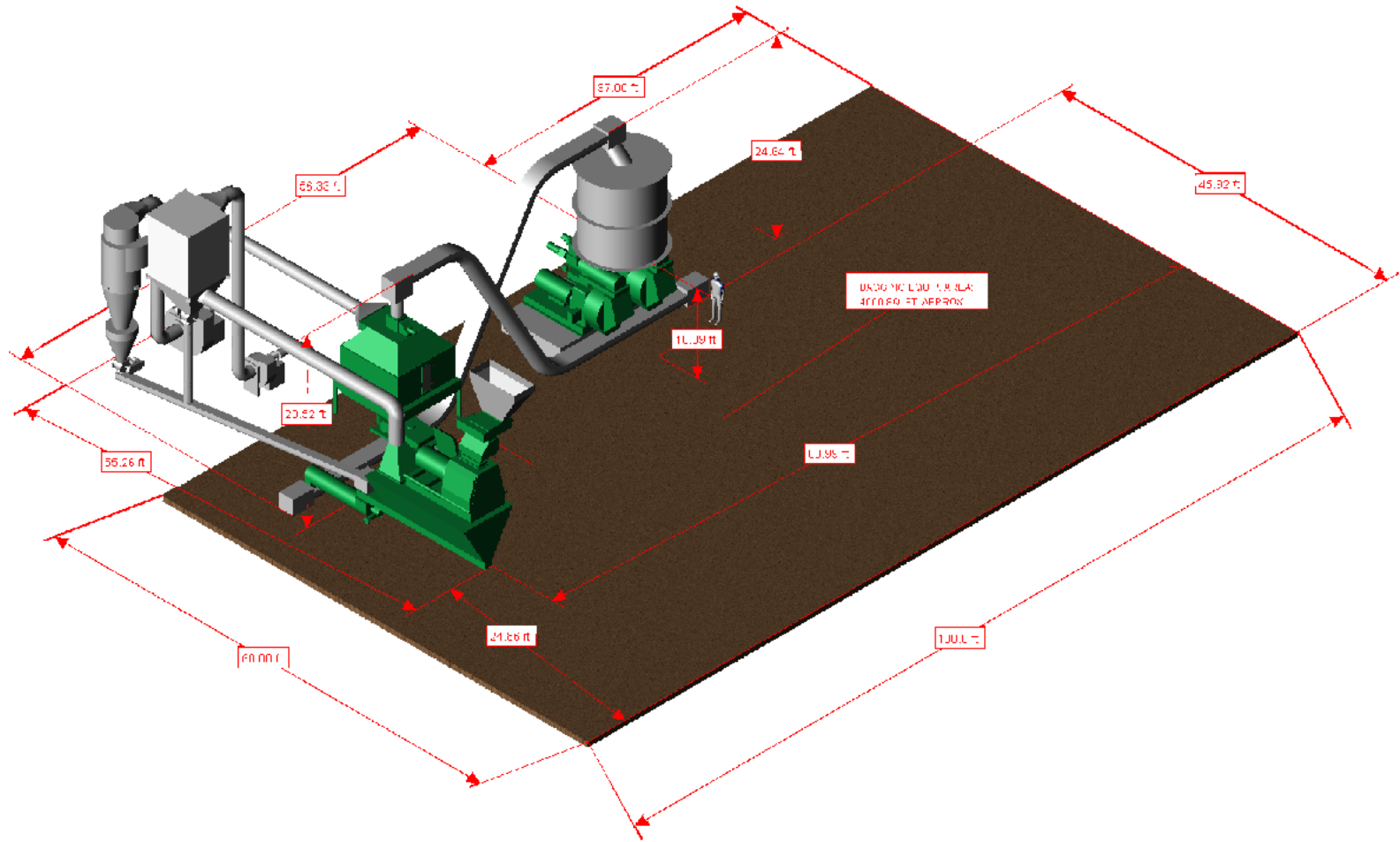
## CPM FLOW DIAGRAM PELLETING INSTALLATION

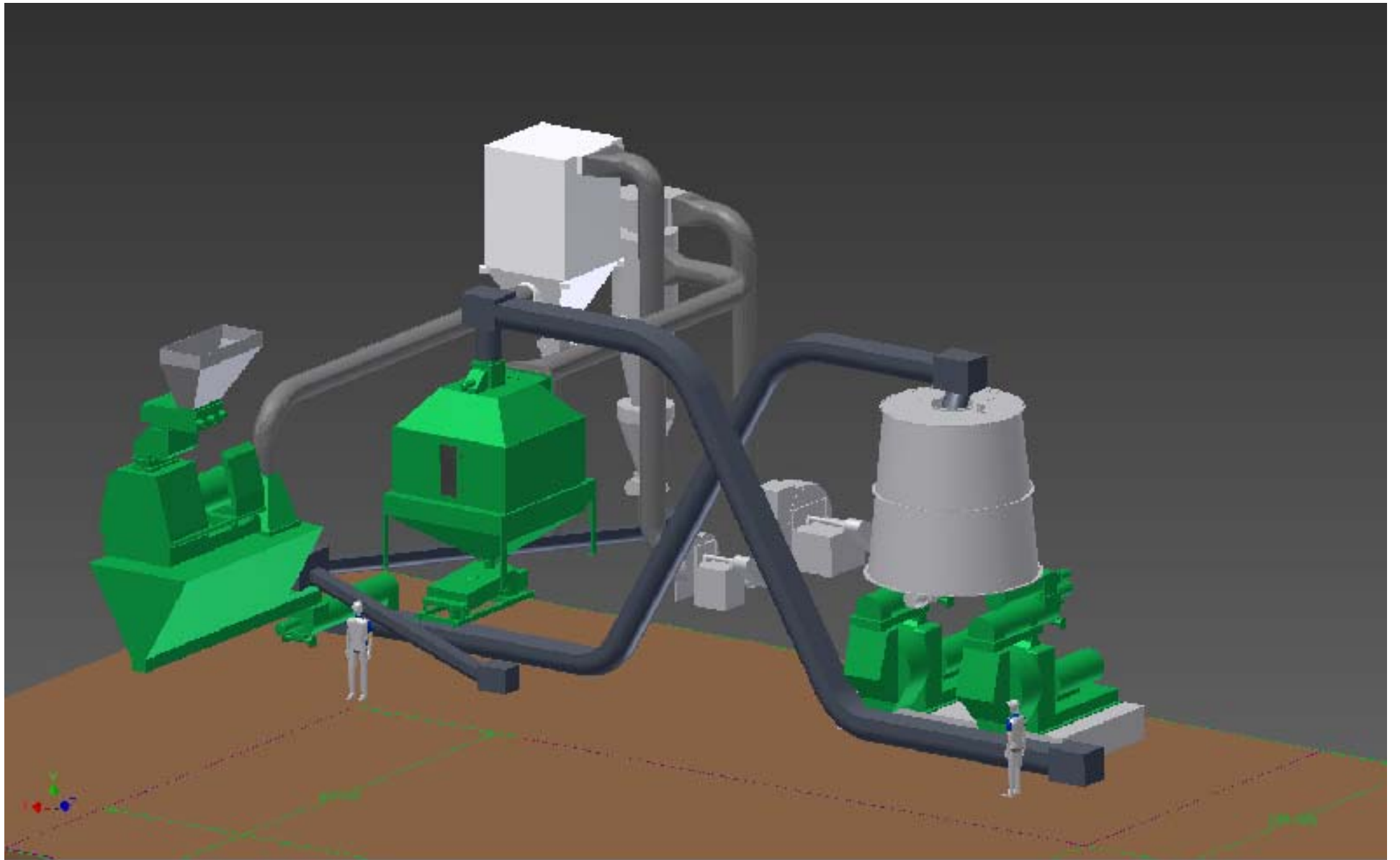


# Horizontal Flow



# Horizontal Flow







### Water addition after hammermill

- Add water so it can soak
- Create homogeneous moisture in each particle, especially after dryer
- Controlled flow from hammermill
- Conditioner model LL or LT for larger capacities





**Moisture measured at inlet of ripening bin with online moisture analyzer**

**Stable moisture for stable process conditions**

- Optimizes pellet quality
- Minimizes energy usage
- Provides longer die and roller life





## Mixing bin or vertical bin:

- Variations in moisture
- Variations in product type



## Vertical bin:

- First in first out
- Larger volume, longer retention time



## Mixing bin:

- Homogenizes the raw material
- Limited retention time

# Equipment Selection

## Hammermills



- When selecting a hammermill for wood grinding it is important to use the correct constant based on the size of incoming material.

## Grinding Constants

Hard & soft wood 8-12% moisture

- Sawdust 8 – 10
- Shavings 7 – 8
- Chips 1" x 1" x 3/8" 4 – 4.5
- Chips 1-3/16"x1-3/16"x3/8" 3.5 - 4

## Hammermill screens

PELLETS

$\frac{1}{4}$ " –  $\frac{5}{16}$ "

SCREEN HOLE

16/64th - 20/64th



# Ancillary equipment for hammermill



## Ancillary equipment for hammermill

VFD Screw Feeder

Air Siphon Feeder

Air Assist package Alt II style III filter

## Equipment Selection

### VFD Screw Feeder



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## Equipment Selection



ASF Feeder

## Equipment Selection



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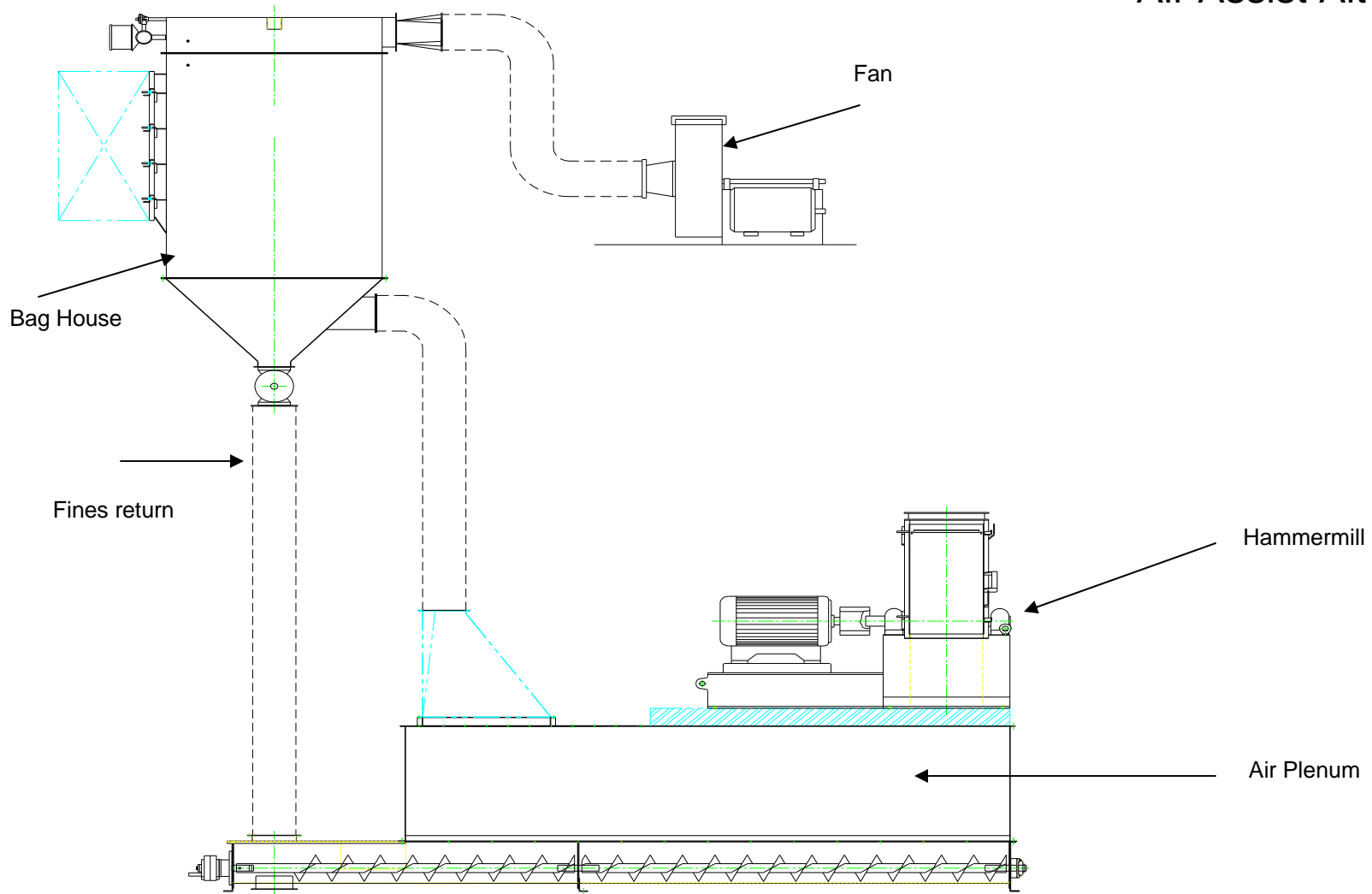
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# Equipment Selection

## Air Assist Alt II



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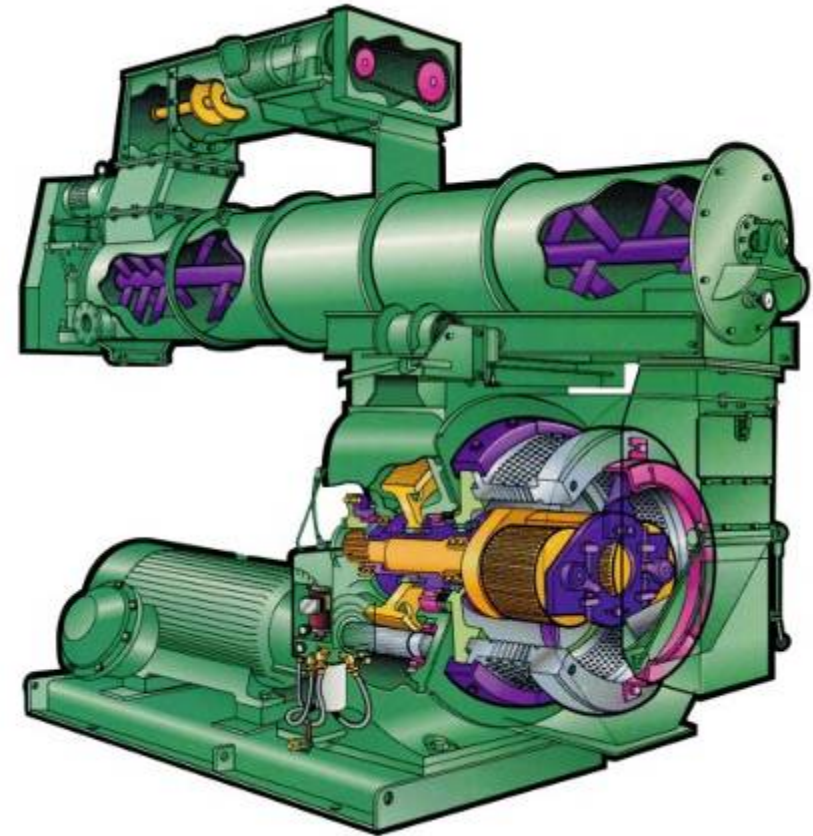


# Pelleting



## Model 7900 pellet mills

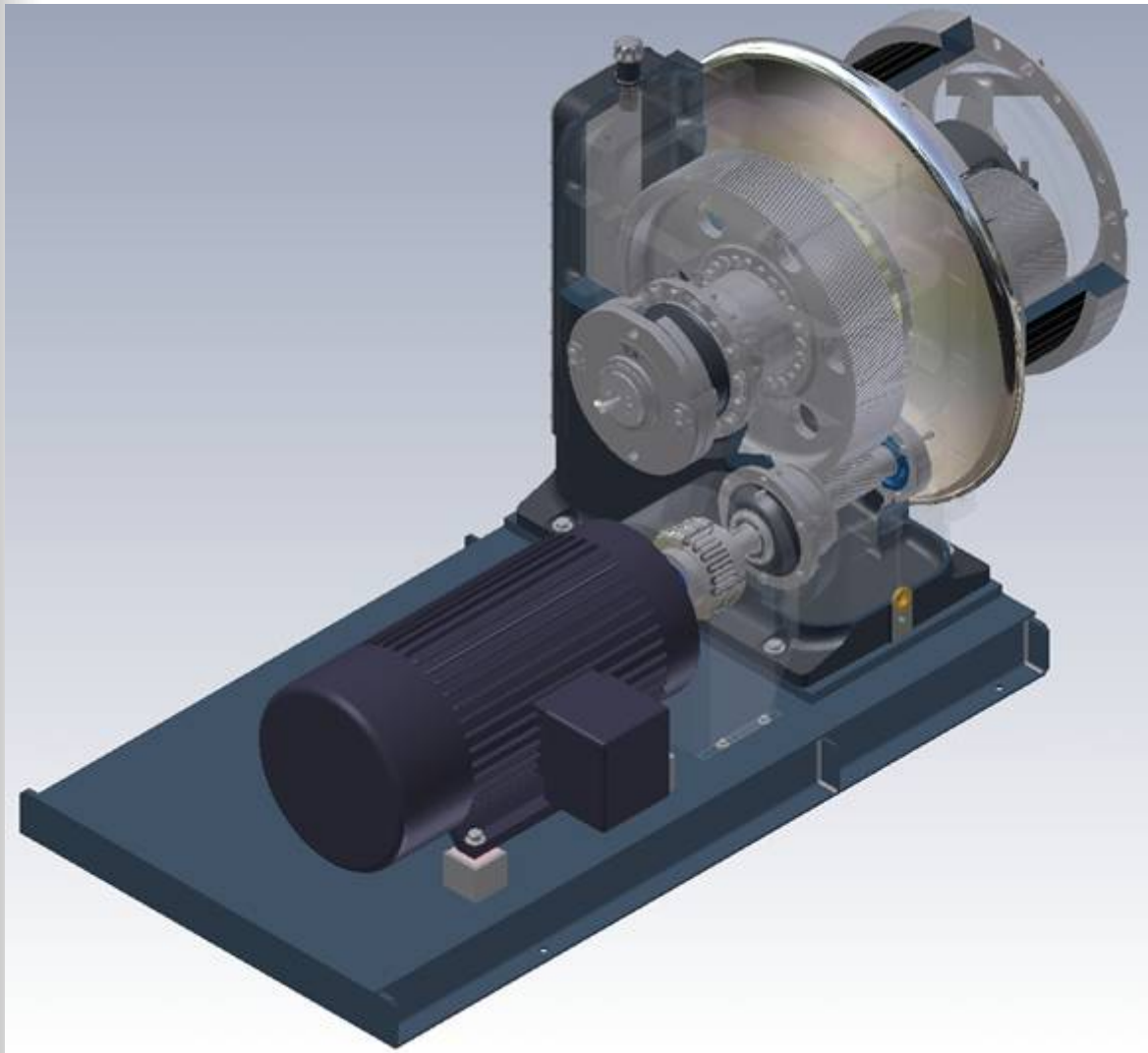
- 7930-4 with 400 Hp.
- Capacity 4 – 5 t/h





- Heavy Duty Low Speed Gearing

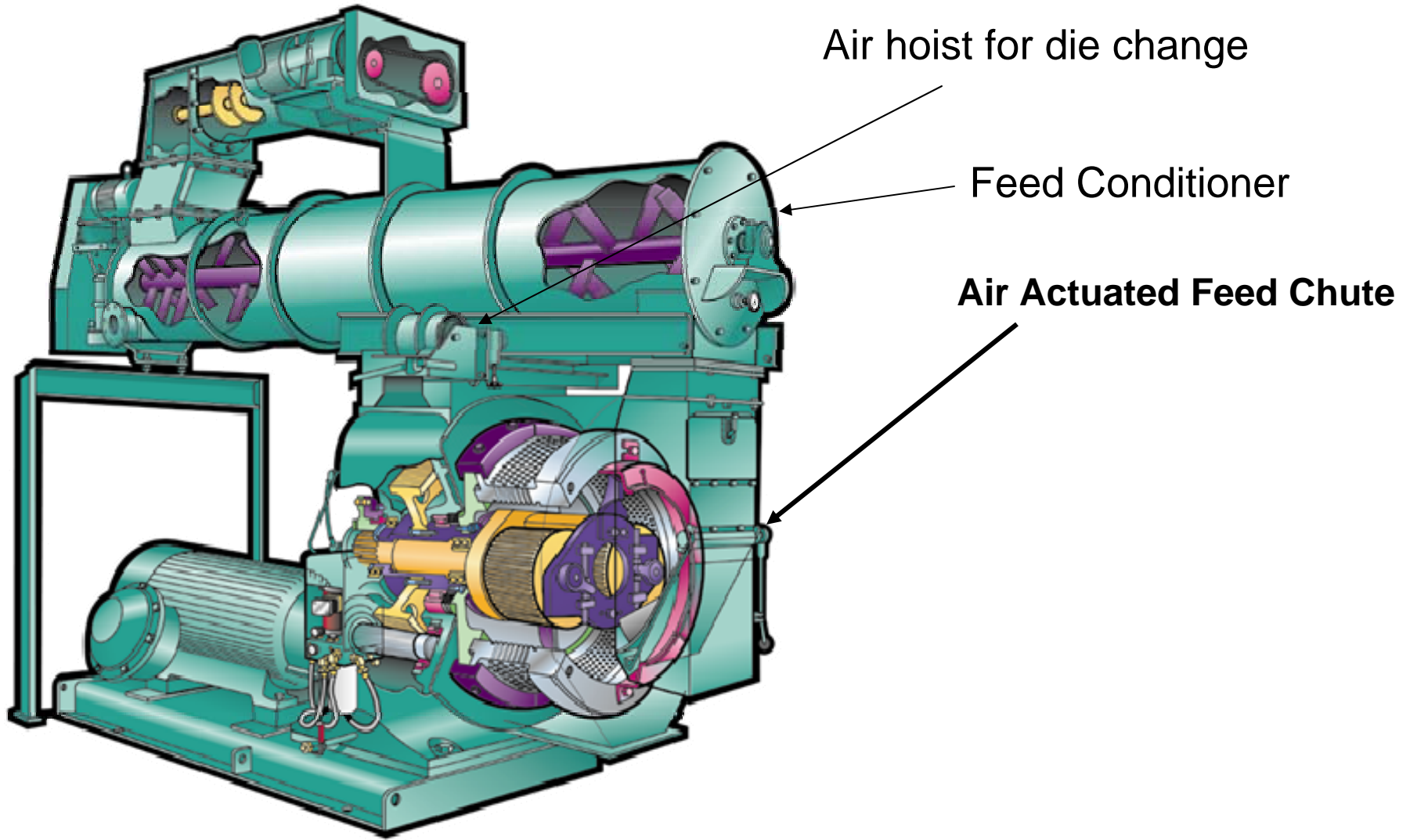




# CPM Gear Box



Shear Pin  
Protection



## Standard features on wood pellet mills



- Closed End Corrugated Roller Assemblies with Spherical Bearings.
- Bear Claw Die Clamp
- Doors set-up with ability to use four knife post
  - If pellet length is an issue, cutter bars can be added
- Air Actuated Feed Chute
- Forced Lubrication (7700-7900 only)
- Auto Lube system
- 18IN6.5 Conditioner at 300 rpm

## Narrow track rollers with spherical bearings



Spherical bearings easy to fit  
More consistent roll life

Narrow track = lower load  
Lower load = longer bearing life



# ***Grease lubrication for rollers***



***Automatic lubrication system and flow control for rollers.  
Each roll receives 120 gr / h. grease (Shell Albida SLC 460)***

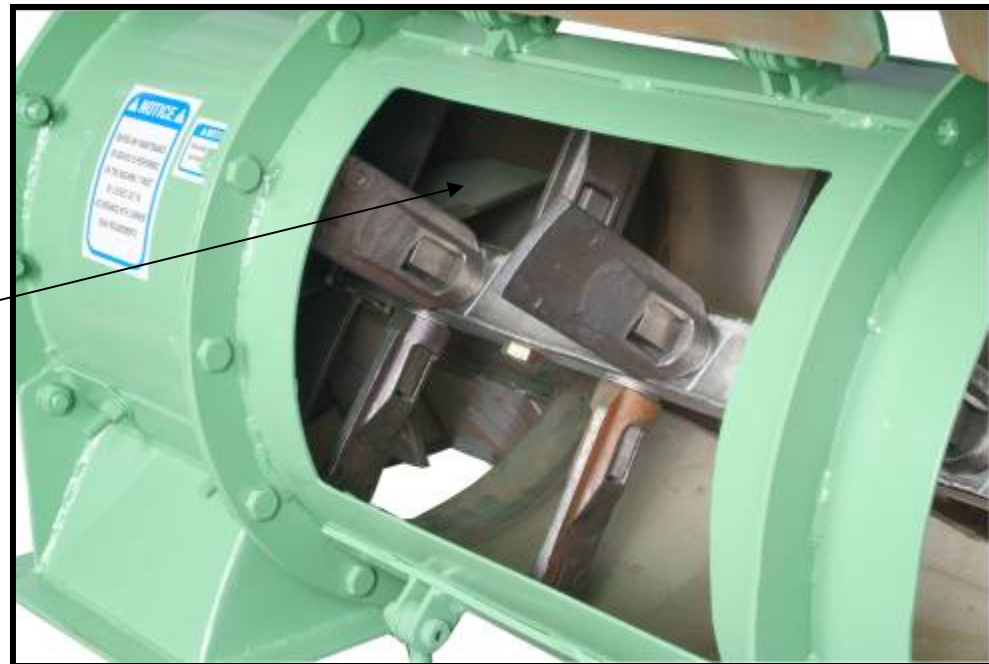


## Conditioner model 18INF6.5

- Shaft speed 300 rpm optimum speed giving minimum pulsing
- Spider fitted at conditioner outlet to reduce pulsing



Spider

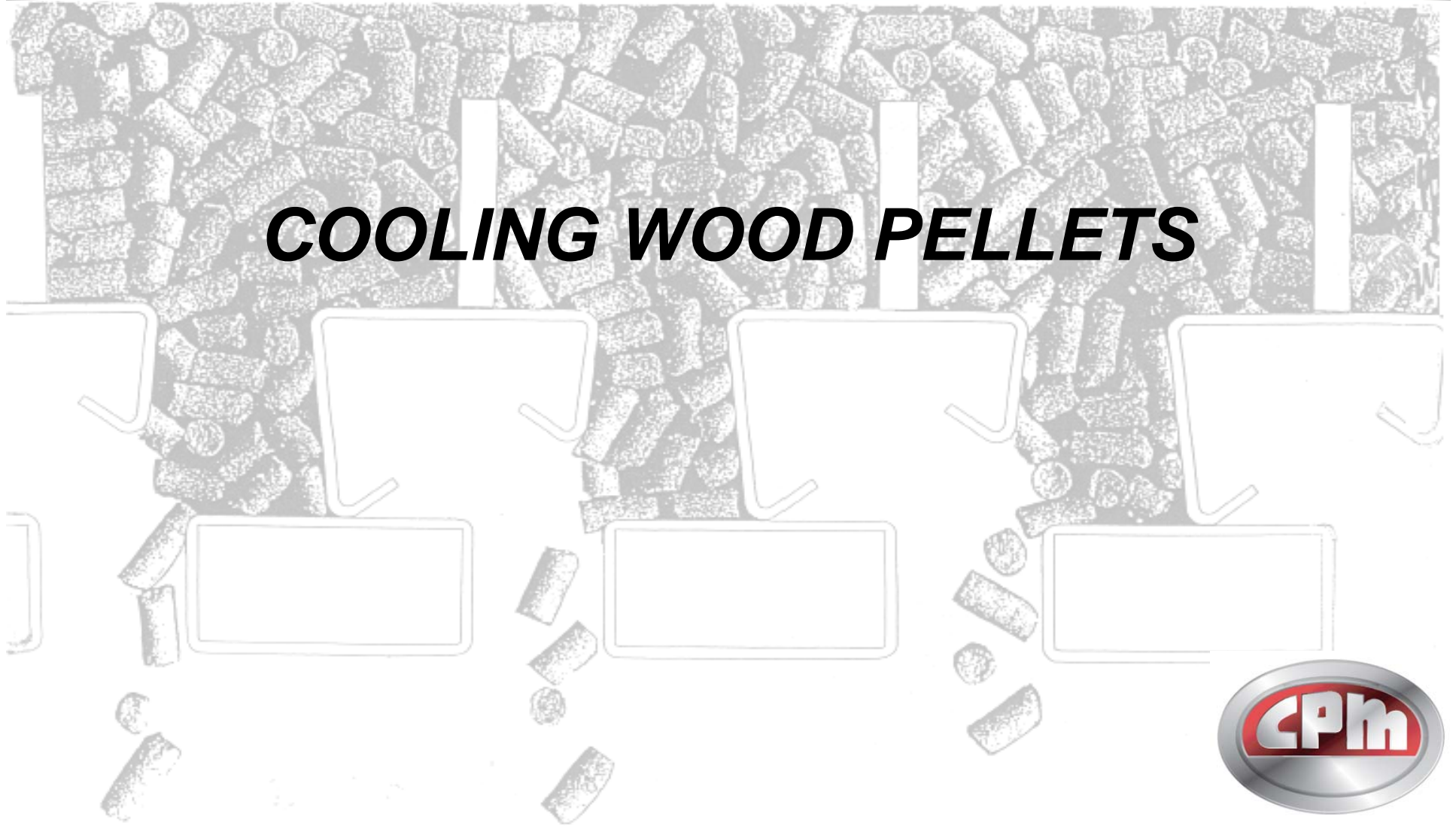


## **C18INF6. Infusion Conditioner**

- Right Hand Access Doors
- Inlet Magnet & Housing for Conditioner
- Short Retention Inlet Drive with stainless steel clad shaft
- Shaft Mounted Gear Reducer, 7.5 Hp. 300 RPM, shaft speed
- Base Frame for 7930 Pellet Mill



# ***COOLING WOOD PELLETS***



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*Remove heat and moisture  
to acquire:*

- *Dry pellets with  
hardness and strength*

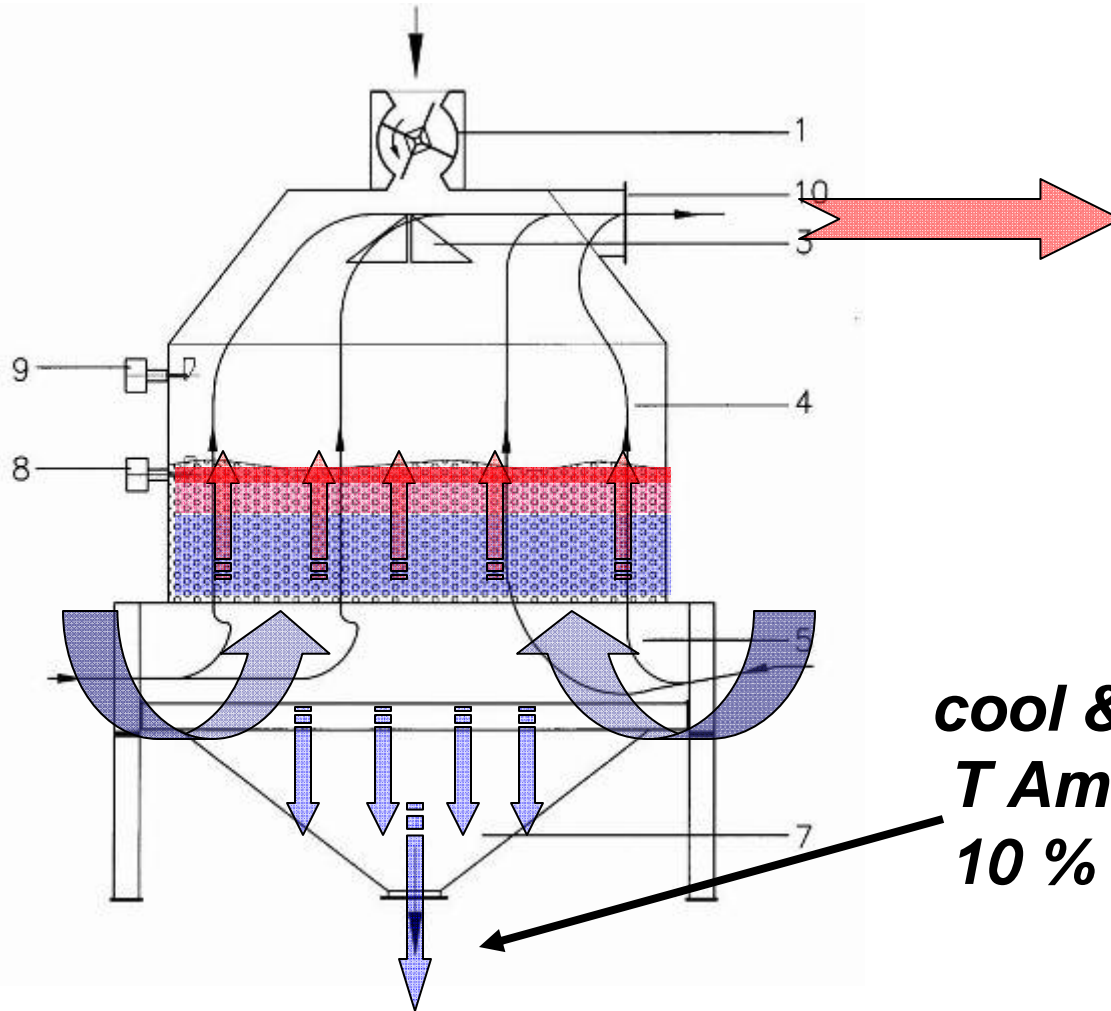
*this provides:*

- *Transport ability*
- *Storage ability*

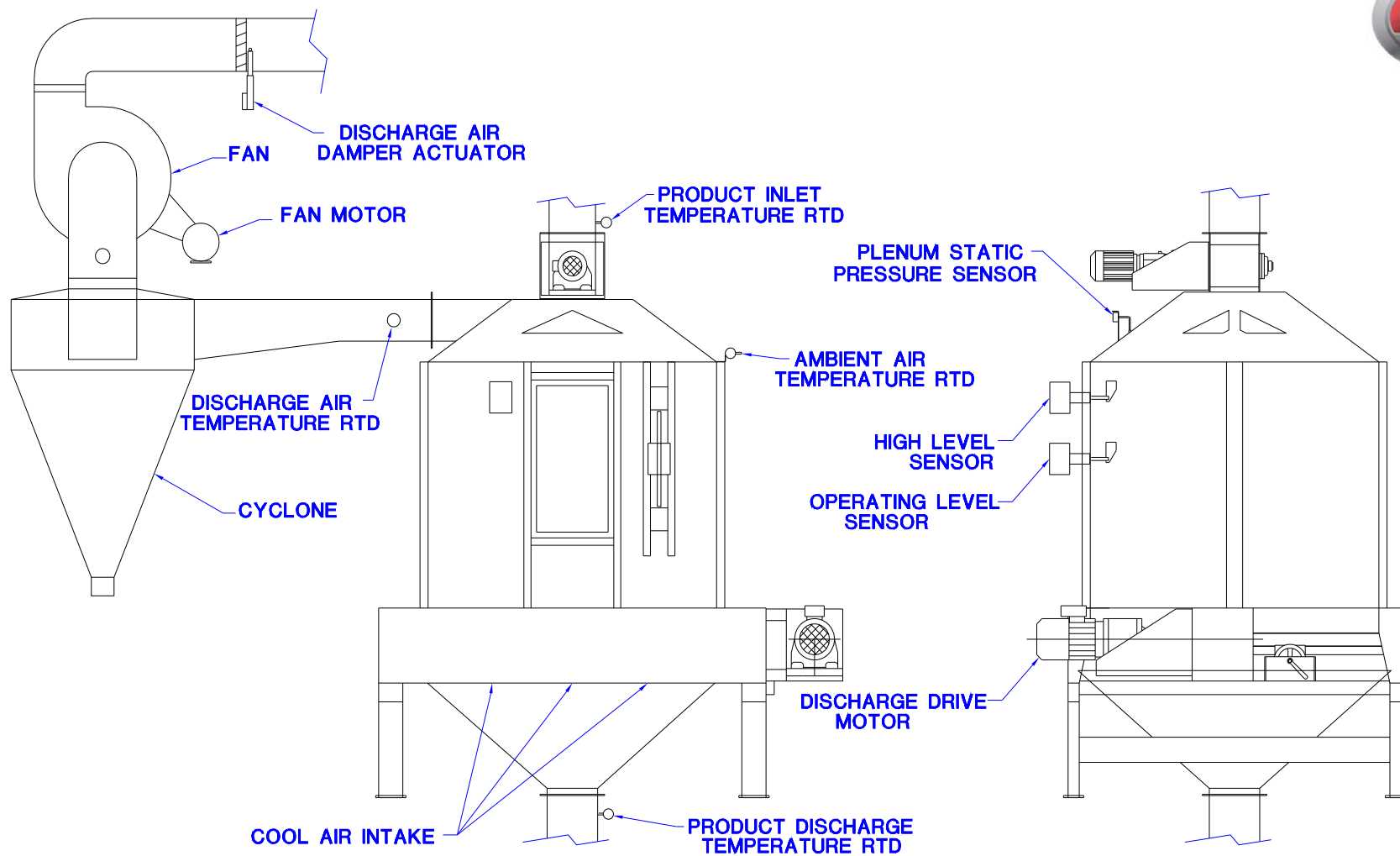


# COOLING WOOD PELLETS

*hot & moist pellets 180-230°F*



*cool & dry pellets  
T Ambient +/-10°F  
10 % or less moisture*



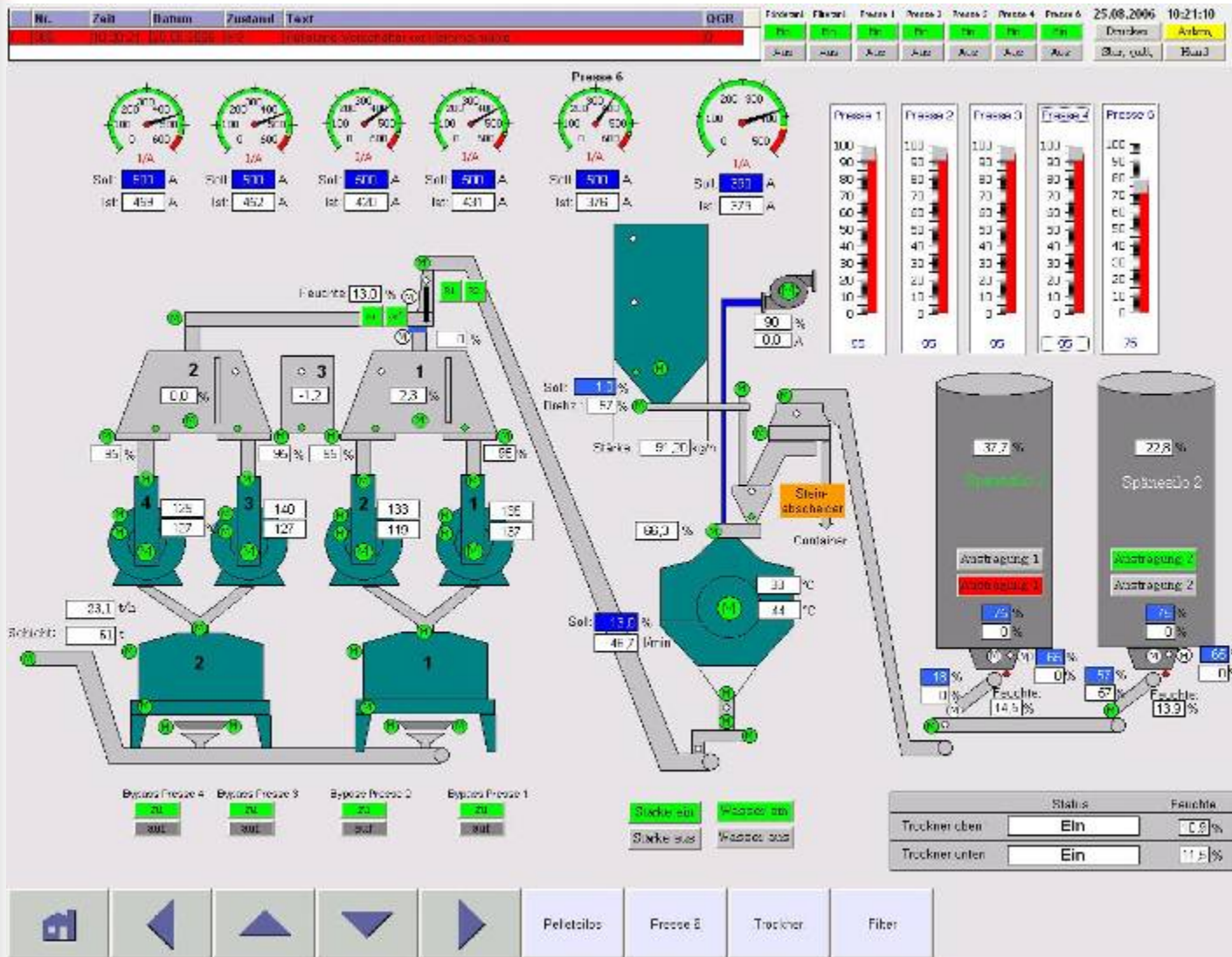
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# Pelletmill Controls



Automation is available to control all of the pelleting process.



# Thank you

Contact: Ron Fuller

Industrial Sales Manager

CPM Roskamp Champion

[fullerr@cpmroskamp.com](mailto:fullerr@cpmroskamp.com)

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