



## The BCS Technology

### **OUR SOLUTION IS CENTERED AROUND OUR BIOMASS CONDITIONING SYSTEM OR BCS.**

This patented technology functions as a grinder-dryer-homogenizer and employs intense collision energy to simultaneously pulverize and dewater a wide variety of organic and recovered materials into fine dry powders, controlling their output size and substantially reducing their odor.

The innovative recycling heat recovery particle-collision mill design incorporates high rotational speed and high airflows to achieve simultaneous grinding and drying results without requiring supplemental heat injection. A multi-cyclone is used with the BCS' main tower to recover its heat and increase the system's throughput. The energy used for drying can be as low as one-third the energy used by a rotary drum dryer, and no secondary grinding process is normally required.

An internal size selection in the unit controls the output particle size to between 50–2,000 microns. The conditioning rate ranges between 1 to 4 Tones per hour throughput depending on the nature of the raw material, its characteristics and the moisture removal required.

To reach this capacity, the makeup air intake temperature must reach 70°C, the inside temperature of the main chamber during operation must be maintained between 65°C and 75°C, and its inside pressure must be negative. Additionally, the feeding system to the BCS machine must be synchronized with the BCS processing system as to prevent choking of the operation. This system is also equipped with an extraction fan and filter to control its gaseous effluents. We have also designed several types of demisters that can recover the moisture in the output mist, if required.



**TYPICALLY, THE BCS CONSISTS OF THE FOLLOWING PARTS, SUB-SYSTEMS AND AUXILIARIES:**

- The feeding system
- The intake airlock valve
- The internal hub and chain assembly with scrapers
- The main motor with its soft starter
- The size classification device
- The main blower and its motor
- The ducting with optional insulation
- The air heater or heat exchanger
- The cyclone(s) or multi-cyclone and their airlock valve
- The exhaust extraction fan with its motor and the exhaust air filter or demister
- The product's conveying and storage system
- The control panel with necessary PLC and touch screen control & instrument transmitters
- The supporting structures
- The wiring and cables that connect to the control panel

Model:	BCS 1000	BCS 2000	BCS 3000	BCS 4000	BCS 5000
<b>Treatment Capacity:</b> (throughput)	Up to 1 T / h	Up to 2 T / h	Up to 3 T / h	Up to 4 T / h	Up to 5 T / h
<b>Treatment Material:</b>	Wood Waste (mix of scraps chips, bark and others)	Pulp and paper sludge, wood waste, agriculture organic waste	Municipal sludge, Pulp and paper sludge, wood waste, agriculture organic waste	Municipal organic waste, Municipal sludge, Pulp and paper sludge, wood waste, agriculture organic waste, digester sludge, minerals, animal waste	Municipal organic waste, Municipal sludge, Pulp and paper sludge, wood waste, agriculture organic waste, digester sludge, minerals, animal waste
<b>Raw Material Max Size:</b>	6 cm	8 cm	10 cm	15 cm	15 cm
<b>Raw Material Moisture Content:</b>	Up to 40%	Up to 40%	Up to 40%	Up to 45%	Up to 45%
<b>Final Moisture Content:</b>	Around 10%	Around 10%	Around 10%	Around 15%	Around 15%
<b>Typical Dimensions:</b> <b>Total Footprint</b> (conveyors excluded)	4 x 4 x 6 meters	5 x 4.5 x 7 meters	6 x 5 x 7 meters 20 x 15 x 7 meters (typical for two units; conveyors included)	7 x 6 x 8 meters	8 x 7 x 8 meters
<b>Typical Weight:</b>	8 to 15 tonnes	12 to 20 tonnes	22 to 30 Tonnes	25 to 35 tonnes	28 to 40 tonnes
<b>Total Installed Power:</b>	300 kW	550 kW	700 kW	800 kW	850 kW
<b>List of Motors:</b>	Main Shaft Motor Main Blower Motor Heater Motor Feeding Conveyor Motor Sizer Motor Rotary Airlock Valve Motors (2)	Main Shaft Motor Main Blower Motor Exhaust Fan Motor Heater Motor Feeding Conveyor Motor Sizer Motor Rotary Airlock Valve Motors (2 or More)	Main Shaft Motor Main Blower Motor Exhaust Fan Motor Heater Motor Feeding Conveyor Motor Sizer Motor Rotary Airlock Valve Motors (2 or More)	Main Shaft Motor Main Blower Motor Exhaust Fan Motor Heater Motor Feeding Conveyor Motor Sizer Motor Rotary Airlock Valve Motors (2 or More) hot air fan	Main Shaft Motor Main Blower Motor Exhaust Fan Motor Heater Motor Feeding Conveyor Motor Sizer Motor Rotary Airlock Valve Motors (2 or More) hot air fan
<b>Automatized</b>	Partial	Partial	Partial or Total	Partial or Total	Partial or Total
<b>Security Requirements:</b>	Ear Plugs, Safety Goggles, Boots, Helmet and Approved Safe Environment				
<b>Maintenance:</b>	Regular Inspection and Lubrication Occasional Replacement of Consumables and Wear and Tear Parts				

*Note: The above equipment specifications are contingent upon the specified raw material parameters. Different materials and/or different material conditions may imply changes in internal parts configuration and the controls system's program*