



## Tech Update -- Pellet Making Equipment

By Tony Kryzanowski

### **California Pellet Mill (CPM)**

As the world's largest manufacturer of pellet mills, CPM has been a leader in developing specialized pellet mills and dies to produce wood pellets efficiently and economically.

Innovative engineering and design have been combined with the latest manufacturing technology in CPM equipment. The pellet mills are built to operate 24 hours a day under tough running conditions, to match the necessary output requirements. Extensive field research has proven the one-piece cast gearbox can produce continuously in the most adverse conditions worldwide. Most gearboxes feature pressurized oil lubrication onto helical gears. The smart, no-nonsense design and CPM's high standards ensure long, trouble-free use, the company says.

CPM pellet mills provide all the tools to produce pellets at high capacity, with low energy consumption and superior pellet quality. Due to a special die and roller design, production costs have been reduced to a minimum. CPM pellet mills have proven to be among the strongest and most reliable machines on the market. [www.cpm.net](http://www.cpm.net)

### **Pellet Systems International Inc. (PSi)**

Pellet Systems International Inc. (PSi), based in Nackawic, New Brunswick, is a leading supplier of pellet manufacturing equipment.

The PSi pellet mill uses innovative technology, providing a significant change in the way wood mass is formed into pellets, resulting in a substantial reduction in production power demand compared to traditional methods. PSi pelletizers use a double die configuration, allowing higher input moisture, and reduced maintenance.

Pellet Systems International provides turnkey solutions for the manufacturing of pellets. It custom engineers and designs equipment to adapt to each individual situation and integrates all aspects of a plant into the design.

Pellet Systems International develops machine configurations for log handling, size reduction, and pellet meal transport. The configurations integrate third party drying systems, the PSi pelletizer, and storage and transport equipment.

Pellet Systems International integrates third party bagging operations for product packaging and bringing pellets to market.

[www.pelletsystems.com](http://www.pelletsystems.com)



### **Comact/Promill-Stolz**

Comact has allied with Promill-Stolz to manufacture, supply and service pellet mill equipment in North America. The company can now offer turnkey projects for sawmills and pellet mills.

Promill-Stolz from Seville, France, was founded in 1951 and is known as a leader in northern and southern Europe in the pellet industry. It has sold more than 200 pellet mills.

Its pellet mills feature a simplified die system, sturdiness, reliability, and low maintenance.

Comact says the Promill-Stolz pellet mill has half the maintenance costs compared to gearbox-type pellet mills. It features a simplified die installation by thermal expansion to reduce pellet mill vibration, and uses standard components well known in the industry. [www.comact.com](http://www.comact.com)

### **Bliss Industries**

Bliss Industries, LLC is a leading manufacturer of wood and biomass size reduction equipment for residential, commercial and industrial fuel. Founded in 1981, Bliss Industries maintains a reputation for manufacturing among the most efficient, reliable and well-built equipment in the industry.

Bliss manufactures an extensive line of pellet mills and coolers for biomass pelleting, processing and cooling.

Bliss hammermills were developed from listening to customers' suggestions. Overall reliability, maximum efficiency, ease of operation and maintenance combine to provide lower operating costs to each owner. With the ability to provide a wide range of diameters, tip speeds and drive power, Bliss is able to meet customer requirements.

[www.bliss-industries.com](http://www.bliss-industries.com)

### **Briquetting Systems**

Briquetting Systems offers briquetters that make industrial fuel pucks and consumer fuel products. They are available from capacities as low as 500 pounds per hour--plants designed to suit local markets--to a half million ton per year plant. This is possible because of their modular system design. They are available in three configurations, each in capacities to suit: mobile design in 20 foot ship containers, in plant installations, as well as press systems positioned inside two-story steel fuel silos, which have 400 cubic yard storage capacity.

The cost of operation and capital for fuel puck manufacturing is substantially less than pellets, says Briquetting Systems. Fuel pucks can be used in most applications where pellets are used, and have similar heating values and bulk densities.

Multiple systems are available for processing green slash and small diameter logs. Taking advantage of the equipment's portability, the equipment can be taken to the source of the fibre, thus maximizing logistics and transport costs.

Fuel pucks can be used for heating greenhouses, institutional heating as well as co-firing electric generation plants.



Briquetters have been used for processing torrefied fibre, which is a new development. Also fuel pucks are available in quartered fashion, which is the size of cubes but denser. In this way, fuel pucks can be fed through all types of feeding and transport systems similar to those used for pellets. [www.briquettingsystems.com](http://www.briquettingsystems.com)

### **Andritz**

Andritz Feed & Biofuel has provided rugged, 100 per cent North American-manufactured pellet mills for over 40 years. The company has the experience to maximize production and minimize costs, with over 100 wood pelleting installations in North America.

Andritz offers hammer mills, pellet mills, coolers and screeners for operations. Also available are dies and rolls--manufactured by the company--along with fully staffed and capable service and parts departments for after sales support. [www.andritzsprout.com](http://www.andritzsprout.com)

### **Buhler**

Buhler has accumulated decades of experience in the field of pelleting technology and is a highly successful supplier of this technology. The company has been active in biomass pelleting since 1996. Buhler built one of Europe's largest facilities and supplied the grinding and pelleting section of the world's largest wood pelleting plant in Florida.

Buhler specializes in engineering and supplying a complete solution for services and equipment after the wood yard, including: belt-or-drum-dryers from Buhler-Aeroglide including burner; sizing with the company's Vertical Hammer Mill DFZK, which operates without aspiration air; conditioning and pelleting with the company's Wood Pellet Mill RWPR-900.138 (up to 450 hp motor); cooling with a countercurrent cooler or belt cooler; screening with an Oscillating Sieve DFTA or a Round Sieve DFTD; bagging or bulk -out loading; electrical control system including MCC and PLC; and, installation supervision, commissioning and start-up for the mechanical and electrical equipment.

Buhler provides solutions for whole plants, plant sections or single machines. [www.buhlergroup.com](http://www.buhlergroup.com)

### **SBC Firemaster International**

SBC Firemaster International is pleased to present the PelletMaster Mod-Mill.

This modular design has taken the components of a pellet plant, and downsized them so they can be transported in traditional shipping containers. The PelletMaster Mod-Mill is custom configured for each application and allows for independent operation, small site locations or large scale production, and the ability to relocate at greatly reduced costs. The following modules are available: dryer, hammer mill, pellet press, cooler, conditioner and bagger. Items can be added or subtracted, depending on an operation's requirements.

SBC Firemaster International's design and engineering team will work directly with its clientele to provide the equipment they need.

Whether a business is replacing a beehive burner, using slash piles or looking to make a profit from their residual fibre, the PelletMaster will provide a profitable solution, the company says.



With the PelletMaster, the capital costs of equipment and infrastructure are greatly reduced, allowing for affordable start-up of operations. The company's current production timelines are 150 days from down payment to full operation.

[www.sbcfiremaster.com](http://www.sbcfiremaster.com)

## **KAHL**

It is possible to crush wood chips, wood shavings, sawdust and other lumpy biomass using the KAHL pan grinder mill.

The wood chips are ground between pan grinder rollers and die. This grinding process is appropriate for wet and dry raw material. The capacities of this system range from a few hundred kilograms to 20 tonnes per hour and more.

The advantages to this system include: low energy consumption; a low space requirement; no need for aspiration systems, cyclone filter and exhaust air plants; no ATEX problems; no noise protection measures; and, silent operation.

The KAHL agent in Canada is SARJ Equipment in Newmarket, Ontario. [rbmacarthur@sympatico.ca](mailto:rbmacarthur@sympatico.ca)

## **Silvana Trading/Sweden Power Chippers AB**

The Scandinavian company Sweden Power Chippers AB produces and provides complete solutions for small scale pellet manufacturing. Their products are distributed in Canada by Silvana Trading.

The PP300 twin unit converts wood into 5 to 12 millimetre diameter pellets, and has a capacity of between 250 and 700 kilograms per hour.

The material that is used--such as sawdust or cutter dust from pine and spruce, with a moisture content of up to 15 per cent--must be free from contaminants. Material larger than 3 millimetres must be ground down in a grinder. It is fed into the intake and falls onto the feeder wheel, which pushes the material into the matrix.

As the pressure and temperature increase, the material is bound together into pellets, which emerge from the matrix on the outside and fall down through an outlet on the protective cover. The temperature of the pellets is then reduced in a cooling tower before transfer to storage. [www.pelletpress.com](http://www.pelletpress.com)

## **Hole-In-One Enterprises**

A new portable wood fuel pellet mill that is said to be revolutionary is now available through a Canadian company near Winnipeg, Manitoba.

This 1.5 tonne per hour operation comes with everything from chipper and dryer to bagging. All this is possible while situated on a low bed flatbed trailer. It is now easy and cost effective to go to the biomass pile.

State-of-the-art engineering ensures that strict pellet spec standards will be met and allow market-ready product. This pellet mill design is connected to over 85 years of pellet equipment manufacturing.



All equipment can be obtained as a package unit, to be fitted on a low bed trailer for easy transport. Complete portable pellet mill detailed information is available now through the Canadian distributor, Hole-In-One Enterprises. [holein1@mts.net](mailto:holein1@mts.net)

### **UAS Canada**

UAS Canada of Abbotsford, B.C., supplies wood waste processing equipment including pellet machines, coolers, dryers, hammer mills, screeners, storage silos, conveyors of all types, fans, positive displacement blowers, dust collectors and air lock valves. The company also offers turnkey wood waste processing line design, engineering, CAD services, and project supervision. UAS designs, engineers and manufactures custom ULC-rated electrical control panels and proven PLC programming and integration with Allen-Bradley/Rockwell or Siemens products.

[www.uas.bc.ca](http://www.uas.bc.ca) or [www.agrimill.ca](http://www.agrimill.ca)

### **MÜNCH-Edelstahl GmbH**

MÜNCH-Edelstahl GmbH (Germany) manufactures pellet presses and complete lines, including pre-grinding in the range of 0.2 to 10 tonnes per hour, a special design for wood particles with a moisture content of up to 50 per cent, as well as an optional oil lubrication system for rollers for increased operation time and reduced wear. Additionally, MÜNCH supplies conditioning and sterilization systems in the range of 7 hp to 450 hp, auto control systems, crumblers, coolers, chop and hammer mills and fat-spray to the die.

MÜNCH has been working in the pelleting equipment industry for more than 40 years and is one of the leading exporting manufacturers of spare parts for pellet mills (such as dies and rollers) for all kinds of press types. Münch manufactures for its own needs, as well as for competitors demanding CNC-controlled manufacturing and drilling-units. [www.muench-gmbh.net](http://www.muench-gmbh.net)

### **Dorssers Inc.**

Dorssers Inc., of Blenheim, Ontario, is said to be the only Canadian-controlled private corporation specializing in the production of pellet mill dies, rolls and roll parts for the wood, feed and waste industries.

During the past several years, the company says it has developed superior products, adding that its production equipment is “state of the art”, using the most up-to-date gun drilling and machining technology. The company says it has the largest gun drilling facility in North America. Heat treatment is conducted in-house, assuring consistent and tight quality standards. Dorssers Inc. says its desire to provide a better product is reflected in its continued efforts to modernize its equipment. [www.dorssers.com](http://www.dorssers.com)

### **M-E-C Company**

M-E-C Company is deeply involved in the biomass fuel industry. The company has been a leader in designing and manufacturing 16 drying systems for 14 of the largest wood fuel pellet producing plants in North America and Europe.



M-E-C provided seamless environmentally compliant process machinery for plants with pollution abatement control equipment from the company's subsidiary, Pro-Environmental, Inc. (PEI). PEI is a well-known company that has supplied pollution abatement control equipment to the majority of the forest industry plants in North America.

The company's wide variety of dryer systems will process plant capacities from 5 tons per hour to 50 tons per hour. M-E-C dryers are built and fitted with appropriate components to meet each plant's needs. The company's engineers analyze customers' process operating parameters, and their review determines the type and size of equipment necessary to achieve the required plant processing capacities. [www.m-e-c.com](http://www.m-e-c.com)