

Good Vibrations

pro



WE PUT TECHNOLOGY IN MOTION™

March 2008

I Never Met a Chocolate I Didn't Love

by Win Nye & Jim Ling

Chocolate is produced around the world in many forms, colors, and shapes with varying quality and texture depending upon the final product or use. Many manufacturers include a Sweco Separator in their processes. We will detail a typical process used to produce chocolate for very high quality, smooth, dark chocolate. Though specific to a certain manufacturer of fine dark chocolates, a very similar process utilizing slightly different mesh screens is used for other high quality chocolates. This is a general summary of Chocolate Liquor Screening for Fine Dark Chocolate, the segment of the industry that today has the greatest growth in the market.

The process begins with recovery of nibs, the soft contents of a bean. The nib recovery step is crucial to the process because it is important to separate the shells from their valuable contents since the shells contain dangerous carcinogens. This

is accomplished via a Sweco Round Separator. To aid in this process the screeners removing the shells have ball trays installed to keep the screen clear for production.



After shells are segregated from the nibs, they are disposed of and the desired product is passed to a hammer mill for size reduction. Next,

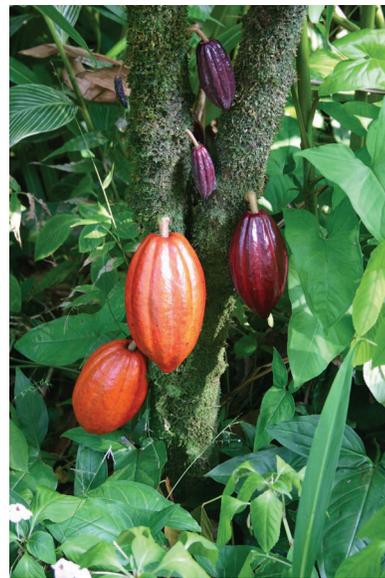
cocoa liquor is added to the product and the material is pumped to receiving tanks for collection before further size reduction in a disk mill. This mill produces liquor containing milled nibs with an average particle size of 20 microns (typically 18-22 micron range). The material produced thus far is known as 20 Micron Liquor. More coarse products than this, in more common chocolate, are produced in 40 Micron Liquor by the same method using

different mesh screens.

20 Micron Liquor is pumped to a Sweco Separator at approximately 180-200 degrees Fahrenheit. At this stage, the prevention of heat loss is critical to allow the liquor to remain free flowing. Special modifications are required on the top frame to allow a slight head of liquor to enhance the flow through the screen. Since the product is on the screen with a slight head, additional modifications are required for the table frame to

equalize pressure between the top and bottom side of the screen.

Typical processing of the chocolate results in rejects of less than 3 percent. The oversize material is circulated again through the disk mill until it eventually



A cacao tree with fruit pods

becomes good product.



Florence, KY
Macon, GA
Tulsa, OK
USA

Tlalnepanitla
Mexico



Edinburgh
Scotland

Nivelles
Belgium



Barcelona
Spain

INFINITE APPLICATIONS, DEFINITE SOLUTIONS™



Keep Your Separator Running & Reduce Your Downtime

Every processing company around the globe knows the problems associated with equipment downtime. Billions of dollars each year disappear because of lost production due to the downtime of equipment: production lines shut down; workers are forced into other duties, or worse, do nothing; and money is lost with every passing second.

Over the years Sweco has developed several machines and systems to help in the reduction of downtime, but nothing beats the old adage of . . . “Be Prepared”. The Boy Scouts had it right when they coined the phrase as their motto.

Being prepared for a downed piece of equipment is as intuitive as owning the piece of equipment in the first place. Each Sweco Round and Rectangular Separator comes with a recommended spare parts list. These are spares that Sweco suggests that its customers keep on-hand at all times in case of a breakdown.

The recommended spare parts list for a Round Separator includes:

Part Description	Quantity
Clamp Ring Assembly	1
Channel Gasket	2
Center-Tie-Down Assembly	1
Spring	12
Tech-Lube Kit	1
Spool	24
Screens (each mesh size)	3

The recommended spare parts list for a Round Motion Rectangular Separator includes:

Part Description	Quantity
Screen frames	3
Motor	1
Support springs	4
Bearing bracket assembly	1
Pneumatic seals	3
Long screen gasket	1
Short screen gasket	1
V-belts (matched set)	2
Clamps with toggle	2
Grease cartridge	1
Screens (each mesh size)	3

The recommended spare parts list for a GyraMax™ Gyrotory Sifter includes:

Part Description	Quantity
Support hanger	1
Inlet flexible connector	2
Discharge flexible connector (each outlet)	2
Ball tray balls	one set
Screens (each mesh size)	3



Berra
Italy



Mumbai
India



Shanghai
China



Singapore



Victoria
Australia

SOLUTIONS THAT MAKE SEPARATION SIMPLE™



FEATURE PRODUCT

Industrial Treatment Services

Sweco, renowned for its different solids and liquids separation technologies, has expanded their services to supply fluid processing equipment and waste management services to a variety of industries. These services include the sales and rental of equipment, one-time and ongoing cleanup services, and design and manufacture of complete turnkey systems for handling of waste streams. Sweco is committed to supplying the correct equipment to produce the most economical solution and the greatest ROI possible.

Sweco has equipment available for sale or rental in the form of Centrifuges, polymer systems, hydrocyclones, shakers, and much more. Additionally, one-time and ongoing cleanup services is available for sludge dewatering, pond dredging and dewatering, product recovery, solids

solidification, TSS reduction, and more. Finally, Sweco will design, manufacture, and start up a system designed specifically for your needs.

We can start it up, optimize it, train your operators, commission the system and turn it over to your operators after a qualification period. Sweco Industrial Treatment Services can formulate a commercial agreement which specifically addresses your needs including rental, one-time services, and system sales with lump sum, cost per ton, daily and hourly rates, depending on your needs.

Sweco also offers Mobile Dewatering Equipment, consisting of trailer-mounted centrifuges and chemical hydration and dosage systems that have the ability to dewater a wide range of material. These trailer- or skid-mounted units can easily be mobilized to your location for temporary or long-term processing. Sweco also

offers auxiliary equipment such as skid-mounted mix tanks, screening machines, hydrocyclones and feed pumps to complete an equipment

configuration to address most dewatering requirements. We have access to filter and belt presses, as well as hydraulic dredges, which are frequently included in a total Sweco dewatering package. Sweco employs project managers and service personnel who are experts in the installation, operation, and management of this equipment.

Sweco is backed by a state-of-the-art testing facility that will analyze your process stream prior to making recommendations. These preliminary tests identify the most efficient equipment, chemicals and method to most effectively process your waste stream.

You can be assured that Sweco has the equipment you need for your wastewater process.



**Sweco MudCleaner
(Shaker with Hydrocyclones)**



Sweco CD600 Centrifuge



DID YOU KNOW?

63,000 and counting . . .

Sweco began manufacturing vibratory separation equipment back in 1942. Through superior engineering, unmatched quality and performance, and unprecedented sales experience Sweco was able to evolve into the global leader in separation equipment for the process industry.

As of year-end 2007, Sweco has shipped well over **60,000** machines worldwide. And we don't plan on slowing down anytime soon.

Here are a few interesting facts from 1942, the year that Sweco began producing Vibro-Energy® Separators:

- ⁴² US President Franklin Delano Roosevelt and the rest of the world are immersed in WWII
- ⁴² June 12, Anne Frank receives a diary for her thirteenth birthday
- ⁴² August 30, Luxembourg is formally annexed to the German Reich
- ⁴² November 26 - The movie Casablanca premiered at the Hollywood Theater in New York City
- ⁴² January 17, Muhammad Ali, born
- ⁴² June 18, Paul McCartney, born
- ⁴² July 13, Harrison Ford, born



CHECK OUT OUR ...

Safety Measures

Sweco and our parent company, M-I L.L.C., take safety very seriously. We have even gone so far as to dedicate an entire team to working towards the improvement of the safety of our employees, our customers, and the environment. Our HSE (Health, Safety and Environment) team of specialists work daily to assure that everyone and everything involved at Sweco (and beyond) is healthy, happy and safe.

Like most companies, Sweco measures recordable injuries, lost work time, and several other criteria. These numbers are then compared to the national averages to track performance. Even though performance is consistently better than that of the national averages, Sweco continually strives for excellence in all that we do.



**MANTOVANI
VICENTINI S.R.L.**

And it's working! As of this publication date, Sweco's affiliate, M&V S.R.L. in Berra, Italy, has gone 2,773 straight days without a recordable injury in their manufacturing facility.

Now that's taking safety seriously.

Sweco On The Road

Interested in seeing our equipment first hand? Here's where we'll be for the remainder of 2007.

IM Conference (Athens, Greece)
Dates: March 30 - April 2, 2008

IFAT (München, Germany)
Dates: May 5-9, 2008

Powder & Bulk Solids Conference/Exhibition
(Rosemont, Illinois)
Dates: May 6-8, 2008

World Palm Oil Summit & Exhibition
(Jakarta, Indonesia)
Dates: May 21-23, 2008

SPCI (Stockholm, Sweden)
Dates: May 27-29, 2008

INFOVRAC (Paris, France)
Dates: July 17-19, 2008

Powtech (Nürnberg, Germany)
Dates: September 30 - October 2, 2008

Pack Expo/Process Expo (Chicago, Illinois)
Dates: November 9-13, 2008



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