



Batchwise refining of chocolate, compounds, coatings, spreads and fillings based on high quality standards

The product

The Duyvis Wiener patented UNIROTO is an installation designed to combine the advantages of two very different, but well proven chocolate processing systems.

The first system is the Duyvis Wiener process, which utilizes the Duyvis Wiener ball mill, Taste-Changer, automatic lecithin dosing and premixer. The second system is the Refiner Conche, which has been used for many years as a compact chocolate production machine.

The Refiner Conche is an excellent coarse grinder and the Duyvis Wiener ball mill an efficient fine grinder. Combining these two machines together with the Taste-Changer into one installation, the result is a complete chocolate processing plant, the Unirot. This Unirot concept is highly efficient and cost effective.

The following types of Unirot are:

- Unirot 500 with batch capacity of 500 kg;
- Unirot 1500 with batch capacity of 1500 kg;
- Unirot 3000 with batch capacity of 3000 kg.

The complete Unirot system includes the following modules:

- one Refiner Conche;
- one Duyvis Wiener ball mill;
- one Taste-Changer complete with ventilator and heating element;
- connecting piping, jacketed for product temperature control;
- one electrical control panel for automatic operation.

Specific advantages are:

- reducing processing time;
- better particle-size distribution;
- better viscosity and yield values.



The process

The Refiner Conche is charged with the liquid components, such as cocoa butter (or vegetable fat), cocoa mass and followed by the solid ingredients, such as cocoa powder, milk powder (for the production of milk chocolate) and finally sugar (crystal or powdered sugar).

Once circulating, the product pump feeds the premixed mass from the Refiner Conche via the ball mill refiner and the Taste-Changer back into the Refiner Conche. Depending upon recipe the circulation can be started either as soon as the mass is mixed or part way through the process.

The Taste-Changer, also a Duyvis Wiener invented unit, has a most important function. This unit, reduces volatile acids and moisture and adds shear forces to the mass improving the viscosity. It consists of a profiled disc which rotates at high speed in a housing. The chocolate mass is fed into the top of the housing and is subjected to shear forces caused by the pin disc arrangement. Preheated air is then blown through a separate slot and is brought into intense contact with the mass when this is spread by the disc.

During the circulation process the entire mass is simultaneously ground and conched, until the required end product is obtained, which will be discharged from the Refiner Conche with the transport pump. The exact processing time is a matter of practical experience and composition of the recipe. Once set, the cycle time is automatically controlled and no supervision is required during the operating process.



The other advantages of the UNIROTO are:

- compact floor area;
- no skilled staff required for machine operation;
- minimal number of man hours required per charge;
- totally closed system, therefore hygienic;
- very low power consumption;
- suited to use crystal or powdered sugar;
- fully automated process possibility;
- only staff attendance required during loading and unloading;
- rework can be used in the recipe;
- consistency of product not dependent on operator's experience.

The specifications

Technical data	Batch capacity	Processing time *	Type Refiner Conche	Type Ball mill	Total installed power
UNIROTO 500	500 kg	4-6 hours	RC 500	W-30-G	40 kW
UNIROTO 1500	1500 kg	5-8 hours	RC 1500	W-105-G	74 kW
UNIROTO 3000	3000 kg	5 hours	RC 3000	W-85-G	148 kW

* Processing time will vary depending on the type of recipe, usage of ingredients and the initial and end-fin



Unirot 500



Unirot 1500



Unirot 3000

Duyvis and Wiener

B.V. Machinefabriek P.M. Duyvis is a machine-building company with more than 120 years of experience. It is situated in the oldest industrial region of the Netherlands where most of the cocoa and cocoa butter processing factories are located.

Duyvis is specialized in engineering, producing and installing processing machines for the cocoa and chocolate industry. With its excellent engineering and mechanical team Duyvis holds an impressive record in providing innovative solutions to the industry in general and the cocoa and chocolate industry in particular.

Duyvis is also specialized in modifying, overhauling, repairing and maintaining all kinds of equipment worldwide. The Duyvis team is able to provide a technological solution to every problem, paying attention to preventive maintenance and striving to find the best technical solutions and operating practices.

Since 2004 **Wiener** is part of the Duyvis Group. Wiener is an innovative and dynamic company with a strong position in the cocoa, chocolate and confectionary market. It is worldwide recognized as manufacturer and supplier of cocoa and chocolate process machinery and turn-key projects for cocoa, chocolate/compound, ice cream, bakery and the candy industry.

Wiener and Duyvis engineers, start-up technicians and process development experts joined forces and are working side by side to guarantee process and product innovations. The integrated laboratory in Koog aan de Zaan is available for testing food products in general and cocoa, chocolate, cream and compound in particular. A database of more than 25 years of data is available.

The combined know-how of Duyvis and Wiener will ensure the continuation of the high quality standard as well as excellent service. This is the result of combining two companies, which have together more than 200 years of experience.

Contact us and we will help you reduce your processing costs of cocoa, compound and chocolate production.



COCOA, COMPOUND AND CHOCOLATE EQUIPMENT

WWW.DUYVISWIENER.COM



P.O. Box 10
1540 AA Koog a/d Zaan
The Netherlands

Schipperslaan 15
1541 KD Koog a/d Zaan
The Netherlands

Phone: +31 75 6 126 126
Fax: +31 75 6 158 377
Email: sales@duyviswiener.nl





UNIROTO

BATCHWISE REFINING OF
HIGH QUALITY CHOCOLATE/COMPOUND



WIENER