

COMPARATIVE AND EXPLANATORY OVERVIEW: CMS VS. ROLLERMILL-SYSTEM



Throughout the world big mills are dominant in central areas in the production of flour from grain. These mills are working based on a conventional, very complicated multiple rollermill-system. This technology is acknowledged in industrial countries, but especially in **decentralised areas** of developing countries the **multiple rollermill-system overstrains the personal, technical and infra-structural resources.**

To meet the special needs of those countries, a short-milling-system (milling process in only 2 to 3 steps) was developed in 1982 and since then has continuously been improved. **The target, to produce high quality flour and to achieve an optimized extraction rate, is being fulfilled by the innovative CMS-milling-system!**

CMS TECHNOLOGY

- comparatively **low investments** are necessary
- also **high profitability at low capacities** can be achieved
- **no need for highly qualified personnel** for the operation of the mill is required
- the **machines are easy to operate** and mostly **maintenance-free**
- **different kinds of grain can be milled** by one and the same machinery

Only our company uses the patented CMS-system!

ROLLERMILL TECHNOLOGY

- very costly investments are necessary
- profitability is only possible through high capacity
- personnel must be highly qualified
- regular and high maintenance-expenses with special technical knowledge (e.g.: maintenance of fluted rollers)
- no flexibility, as the machinery is specialized on one kind of grain only (e.g.: milling of only wheat or only maize).

All our competitors use the rollermill-system!

CMS CLEANING SECTION



THE CMS CLEANING PROCESS

Gentle wet-scouring

When cleaning wheat and rye the **valuable germ buds** (with their high content of vitamins and trace elements) **remain** and are stabilised **in the flour** through the patented CMS-process!

THE CONVENTIONAL CLEANING PROCESS

Impact-scouring

The **valuable germ buds** are mostly knocked off and **separated** for feeding purposes or are heat-treated and added to the flour. This process decreases the nutrient value of the flour.

CMS MILLING SECTION



THE CMS MILLING PROCESS

The CMS milling-system uses a **combination of roller-milling and impact grinding**.

The first crushing step, as in conventional systems, takes place on fluted rollers (**just 1 roller mill**). Whereas in the connected sieving on the plansifter, the milling product is sorted out into coarse bran, semolina and flour.

The further **milling takes place in 2 patented steps only** on desintegrators. They disintegrate the milling product through impact.

The free impact leaves the elastic elements (= coarse bran particles) complete, but friable/inflexible elements (= semolina) of the endosperm-parts of the grain corn are **milled to flour in one step only**.

This CMS-method guarantees, that only the optimum of each crushing-procedure is applied!

THE CONVENTIONAL MILLING PROCESS

Grain is crushed by fluted roller mills through squeeze and shearing power. This kind of crushing takes place on so-called roller mills, whereby the milling of the grain is done by two parallel running rollers, which are arranged adjustable to each other and which have a fluted surface. To reach the desired fine flour quality, **20 – 25 steps (= roller mills and plansifter sections!) are needed** with this kind of system, whereby each step consists of crushing and sifting.

If you use this system (which has been developed and is useful for central big plants) on **small plants** you tend to shorten the process. What was done correctly in 20 steps should now function in 6 steps.

The machines are overloaded, wear-off happens fast and the machines mill with too high temperatures (The rollers are too hot). The flour extraction is low, but the use of energy is very high. Furthermore: The corrugation of the fluted rollers wears off much sooner and the maintenance by trained specialists on special and expensive machines is almost impossible in decentralized areas. These disadvantages result in a low profitability of the plant!