

M2



Crumbler ROmiLL M2
awarded with the main prize
GRAND PRIX
at the international fair
TECHAGRO 2004 in Brno



The crumbler ROmiLL M2
was awarded with the main Prix
"The Golden Spike"
at the international show
ZEME ŽIVITELKA 2003
in České Budějovice



PRINCIPLE

The machine takes part in technology of the so-called split harvest of wet grain and its ensilage. It is used for processing maize and wet grain of various kinds of grains, legumes, mainly in colder regions where the crop does not mature. This is an economically highly effective method of post-harvest treatment. This method has found its first European use in Finland and England. Now it is spreading dynamically all over Europe, even in the very hot southern regions. Farmers, regardless of regional conditions and differences in breeding kinds, convert to this method of feed processing. Owing to significant costs savings, they can get ahead and gain competitive advantage at animal products market.

SUMMARY OF ADVANTAGES:

- › The feed texture can be varied according to the requested fineness both for cattle and monogasters.
- › The feeding value of the wet ensiled grain processed by roller method, boosts digestibility and also production effectivity.
- › Costs savings reach up to 33 €/t.
- › Throughput of 40 t/hr is reached by power input of mere 120 HP.

SPECIFICATION

M2 model is the most powerful ROmiLL wet grain crumbler. It is used mainly by harvesting service companies. It is designed for operation in the field, perhaps even at ensiling place.

The machine is connected as a semi-trailer to an at least 120 HP tractor which also drives the machine. During the field operation, the crumbler's hopper is filled (up to 9 m³) by passing the grain from harvesting thresher's hopper. One M2 crumbler fully covers continuous operation of two harvesting threshers, even at the highest yields. During operation at ensiling place, the hopper is filled usually by a front loader, with the possibility to remove the 3.5 m³ hopper bucket. The grain is crumbled according to required different product texture for cattle and monogasters by setting appropriate gap between rollers. After crumbling, the product is sprayed by preservative, optionally by water for higher requested moisture. The processed product is then ensiled by optimum 30 to 40 % moisture – stored with maximum possible removal of air, for example by pressing to bags or by bedding in silo pits, etc.

BENEFITS

Processing of grains by this method immediately after harvesting, enables to reach unrivally lowest costs. In the conditions and price relations of the Czech Republic, the savings by withdrawing the drying of maize grain are about 20 – 33 €/t. For about 9 t/ha yield, the costs range from 13 to 17 €/t. In summary, this method provides cost savings about 33 €/t. The diesel consumption of ROmiLL roller crumbler is about 0.5 l/t – that is by 2 l/t lower than by a hammer mill of equal throughput.

The feed processed by the method mentioned, contains more water-soluble sugars, is better digestible and has higher usability of soluble nitrogen. It optimizes starch ratio in paunch and small intestine. This lowers occurrence of paunch acidosis.

OPERATING SPECIFICATIONS		M2
tractor drive		120 HP
throughput (wet maize grain)	cattle	30 to 40 t/hr
	pigs*	15 to 30 t/hr
hopper with bucket		9.0 m ³
hopper without bucket		3.5 m ³
curb weight		5600 kg

* if the request for finer feed texture for pigs persists



Mobile concept

The frame of the machine with hopper is attached to the two-axle chassis. All other machine components are attached to the frame and chassis. The semitrailer has pneumatic brakes connected with tractor. It is approved for road traffic up to 40 km/hr. The stability of the machine and its horizontal plane is assured during operation by four hydraulic struts, connected to tractor hydraulics and controlled from one point. Three independent electric circuits for end, brake and direction lights - preservative sprayer pump, and electric accessories - are fed by tractor.

Mechanical processing of grain

Grain is crumbled by two ROMiLL roller mills series 900, specially designed for processing of wet grain. The crumblers are driven from tractor by a cardan shaft.

Transport of processed product

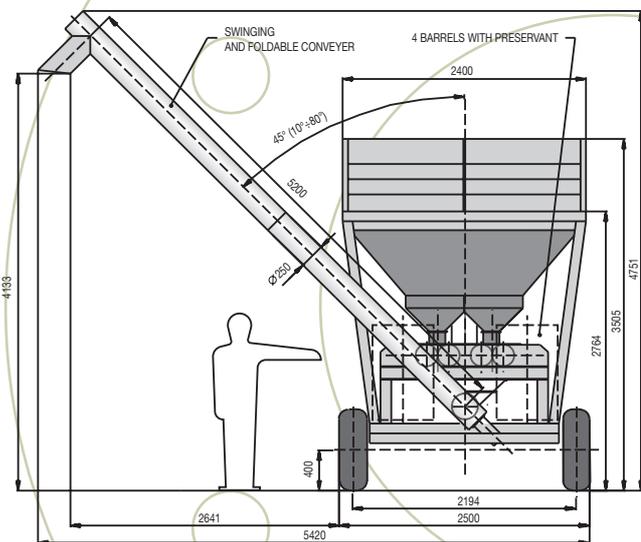
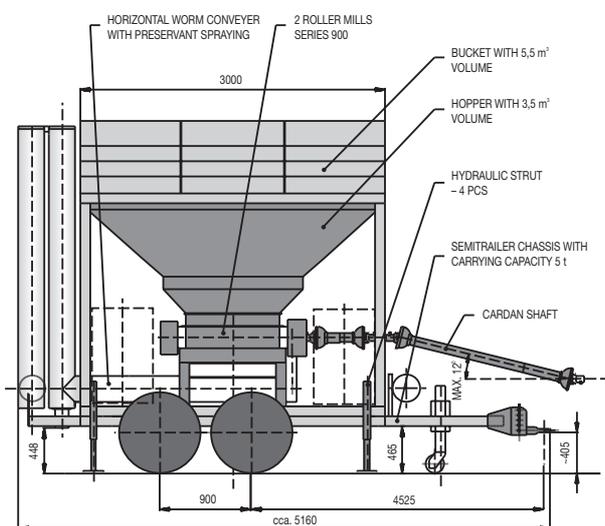
The discharge hopper located under the mills, vents to the collecting horizontal conveyer that transports grain to vertical discharge conveyer with possibility of positioning the outlet. Both tubular/worm conveyers are made of stainless steel. The torque from crumblers' drive is transferred to the conveyers mechanically through a security slip clutch.

Preservation

Preservatives are sprayed on crumbled grain in horizontal conveyer by acids applicator with a flow rate meter. Four barrels with preservative with total 800 ltr volume are located directly on the machine. This corresponds to a average consumption for one silage bag. A lifting device makes for handling with full barrels.

Optional moisturing

Similarly as the preservative sprayer, a water inlet (usually from an independent tank) vents to the horizontal conveyer. It is used for optional moisturing of the processed grain.



Basic accessories

- > cardan shaft
- > preservative sprayer
- > sound and light signaling of operational conditions that require an attendance intervention
- > lighting for night operation
- > 50 l tank for supply water for basic hygiene
- > two lockable boxes for tools, supplies, etc.
- > ladder for access to hopper

Optional accessories

- > removable chemical WC
- > hood for protection against sun and rain
- > seat

LONG LIFETIME OF ROMiLL ROLLER MILLS

- > robust design
- > high abrasion resistance of rollers
- > stabile alignment of rollers
- > protection of rollers against damage by hard objects by a unique mechanism
- > reliable gears