

Peeling Machines in the Chips (GB: Crisps) Industry

The DORNOW Roller Peeling Machines of the R-OW Series in the Chips (GB: Crisps) Industry

- The construction of the rollers was chosen in a way that both an **aggressive** peeling (when using bad or even scurfy raw material) and a „**gentle**“ skinning (e.g. of new potatoes or cooked beetroot) is practicable. - The granulation of the coating on the rollers has to be selected accordingly.
- The construction of the machines of the R-OW series offers a **broad range** of possibilities to optimise the desired peeling effect; this also goes for tubers and roots with a totally different skin structure: waste potatoes, fodder potatoes, new potatoes that have been sorted out.
- There were times when the potato processing factories could only get „fodder potatoes“ on the market, which are not normally used anymore for human food. Still, as a rule, the DORNOW roller peeling machines of the R-OW series could and can, given an appropriate equipment and adjustment of the peeling rollers, make rapidly a usable product from raw material of inferior quality... Thus, the DORNOW roller peeling machines are designed to give good service in bad raw material times, too...
- The **sections** on the surface of the rollers provide - due to their three-dimensional working - for a largely steady and constant whirling of the tubers and a smooth peeling. - It was our intention to arrange the rollers in a stationary way which has many advantages.
- We dispensed with superfluous technology and technical gadgets (e. g. with rotating drums in which, again, there are a lot of turning rollers). Thus, we were able to avoid, from the beginning, the use of many possible wear parts. - Certain constructional features that seem to be useful and appropriate at first sight and arise astonishment because of the way the technical components are arranged, are not necessarily bound to prove good.
- The DORNOW roller peeling machines of the R-OW series have a very **sturdy** construction. They are predestinated for a 24-hours service. The low-noise operation of the machines is guaranteed even with fast-rotating peeling rollers. They are extremely robust and have a very long service life!

- As far as the choice of an adequate machine size is concerned, we recommend to opt for a higher-dimensioned machine in order to yield good results even with bad raw material. The machines are available with volumes (diameters) in the range of **500, 600, 900, 1,100, 1,300, 1,500 and up to 2,500-mm** and with **peeling rollers** up to **4,000 mm length**.
- The high performances are achieved, accordingly, in one machine **of a piece**. (It is not necessary to connect two or three machines in stepped arrangement). Thus, you have less rotating parts and you need less spare parts and have no air consumption!
- In roller peeling machines in stepped arrangement (here, e. g. three smaller roller peelers are connected in longitudinal direction), the peeling rollers run, for example, during the peeling process, to the right, while they have to rotate in the other direction for the emptying of the various sections. There is the risk that e. g. potatoes get stuck for some time which causes unnecessary abrasion.
- The **axles** of the peeling rollers of the DORNOW roller peeling machines of the R-OW series have a big diameter. This preserves the bearings and guarantees low-noise service.
- The **bearings** have a **double protection** against humidity and dirt and are outside the wet zone. They are, moreover, treated against oxidation.
- The machines can work **without water/waste water**. This means, as a rule, considerable savings in costs. - The peeling waste is collected at a central point and can be moved on e. g. by means of a pump.
- The **V-belts** consist of elements and can be opened and closed. - V-belts, guide pulleys and bearings are subject to very little wear and tear.
- Due to the possible **micro fine-grind peeling**, the potatoes leave the machine as smooth as though they had been peeled by steam. Thus, they absorb considerably less oil during the frying process. - (Advice for **laboratory test**: „Peel“ the potatoes with a very fine emery paper to obtain a smooth surface. On the other hand use potatoes that have been peeled in the normal way with coarse carborundum. Then cut both lots and fry them in the test fryer. Determine the oil consumption!).
- **No need of expensively produced compressed air**, no compressor. These unnecessary high costs have to be added to the purchase price of such machines that work with compressed air. - As for constructions connecting roller peeling machines arranged in steps, in longitudinal direction, these machines (or machine parts) are separated from each other by long flaps which are constantly opened and closed by compressed air. We have done without such constructions, because we think they are expensive gadgets. As to the DORNOW machines of the R-OW series: Continuous and low-noise operation, controlled by adjustable worm drives.

- **No constant and virtually useless stop-and-start operations** of several peeling roller groups in the DORNOW roller peeling machines of the R-OW series! We renounced the design that necessitates this unjustifiable constructional expenditure, because it increases the power consumption considerably. -
- During one peeling process the three groups of rollers are set in motion six times (three times to the left, three times to the right) and stopped three times, too! The unnecessary energy costs have to be added to the purchase price of machines of such a type. It is a matter of fact that the starting of a machine costs a lot of electrical energy.
- No discontinuous system! The potatoes are peeled in a continuous process!
- Automatic lubrication of the bearings is possible.
- Hydraulically working auxiliary tool for removing the peeling rollers can be supplied on request.
- The peeling rollers can be mounted and taken out rapidly by means of the fast-exchange device for rollers.
- The mounting and dismantling of the peeling rollers will hardly cause any difficulties, not even to those technicians who have not yet had much experience in this field...
- The standard model is provided with jets for atomised water (water mist), divided into two groups (2/3 and 1/3) . Most of the products can be peeled without addition of water.
- If required – it is, however, not necessary – one can add some water to the machine, which does not necessarily produce any waste water.
- The dry-peeled fruit have small particles on them. If you wish to remove them totally, we can offer you various possibilities.
- The DORNOW roller peeling machines of the R-OW series use ø 150 mm rollers. The roller peelers of the "100" series have peeling rollers with a diameter of 100 mm.

It was DORNOW who built the first roller peeling machines in Europe.

Decades of experience in this field are at your disposal.

Additional types of roller peeling machines can be found online at:
www.dornow.de / Peeling machines / A. – 1.32, roller peeling machines,
"series 100".

**In addition to this treatise we can make available more papers
dealing with the subject of PEELING.**

A list of interesting articles and essays regarding the topics of the preparation and processing of tubers and vegetables and associated specialist areas can be found at our Internet site at www.dornow.de, Treatises.

**Review of your current peeling results or
before the purchase of a peeling machine or system:**

**Realistic test peelings with the most diverse peeling systems,
with the most diverse tubers and root vegetables, some fruit, with your raw
produce are possible in our Peeling Test Center!**

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