

# New Generation of SCHULE Shelling Machines for Multifunctional Application

## VERTICONE

Since 1892 SCHULE Mühlenbau have been well acquainted with all cereals-producing countries in the world and the corresponding cereals treatment methods. In the last years SCHULE have supplied large rice processing plants and parboiling plants: rice mills with an input capacity of approx. 20 t/h and parboiling plants with an input capacity of 15 t/h as well as all auxiliary equipment, such as pre-cleaning, silos, husk discharge and combustion plant, steam plant, polish discharge, packing and storage of the finished products. Rice mills and parboiling plants with very high capacities are the speciality of SCHULE Mühlenbau.

### VERTICONE – The New Shelling Machine for Cereals and Other Products

The new shelling concept for gentle treatment of different products, with which it is possible to remove the surface of a grain kernel layer by layer.

### Two successful applications of the new Schule "Verticone"

The VPC 480 has already been tested in practice in different sectors worldwide, for example for shelling of barley, malt, durum and soft wheat, peas and lentils.

### 1. Defined Shelling Effect

The R&D department of one of the most important starch producers in Europe focuses on the development of environmentally-friendly and effective technologies for the extraction of valuable products from potatoes and grain. During several years of joint research work, the starch producer and SCHULE have developed a treatment process for a special type of barley, with which a larger part of the raw material can be made use of. With the SCHULE shelling machine, type VPC, we succeeded in developing a machine which can be used in several industries which require a gentle and controlled shelling of their products.

### 2. Gentle Shelling

The shelling machine in the mill causes a reduction of the surface shell (bran), if possible without affecting the aleurone layer. The gentle and controlled shelling with the SCHULE shelling machine VPC does not only increase the capacity and save energy, but the first coarse meal passages also have a lower bran content. Furthermore, the percentage of high-quality semolina is increased.



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## The Mode of Operation of the Verticone

The product is fed into the machine by means of a vertical pipe. A screw presses the product into the shelling chamber. For vertical shelling from top to bottom, the machine is equipped with abrasive conical grinding disks, which are provided with air channels. The smaller diameter of the shelling rotor is at the top, right below the feeding screw, the bigger one at the bottom, directly above the outlet.

The shelling effect can be influenced by adjusting the shelling gap, i.e. during operation of the machine the gap between the grinding discs and the screens can be changed by vertical height adjustment of the shelling rotor. This results in an optimum adaptation to different product sizes as well as in an adjustment of the shelling degree.

Further possibilities for exercising influence on the shelling degree are the grain size of the grinding discs, the design of the screens and braking strips in the working chamber as well as the adjustment of the weight-loaded outlet plate. An optimum automatic control system ensures continuous operation and a uniform shelling degree. Besides, the machine can be started and stopped without the assistance of personal.



The new conical shelling machine Verticone can be used for the following products: rice, wheat, rye, durum, bulgur, barley, peas (yellow, green), lentils (green, red), dry beans, pepper (black), millet.

## Special Features of the Verticone:

- New conical shelling principle
- Abrasive grinding discs
- Finely adjustable working gap (distance between grinding discs and screens) for adaptation to different products
- Counterweight for fine adjustment
- New product cooling system (low temperature increase during shelling)
- Effective bran aspiration
- Long service life of the discs and screens
- Easily accessible wear parts (easy to maintain)

## Adjustment of the Shelling Degree through:

- Capacity per hour
- Gap adjustment between screens and grinding discs
- Thickness of the brakes
- Variable counterweight for the counter-pressure plate at the outlet

## The advantages:

- Controlled shelling due to the conical shelling principle which is linearly adjustable for all types of cereals
- Pre-shelling in flour meals
- Mycotoxin treatment, reduction of DON
- Higher quality of coarse meals
- Higher yields of light flour and semolina
- Higher mill capacity
- Capacity of up to 16 t/h
- Drive power of up to 90 kW
- Compatible with PLC
- Tried and tested

Verticone in a durum wheat mill in Italy