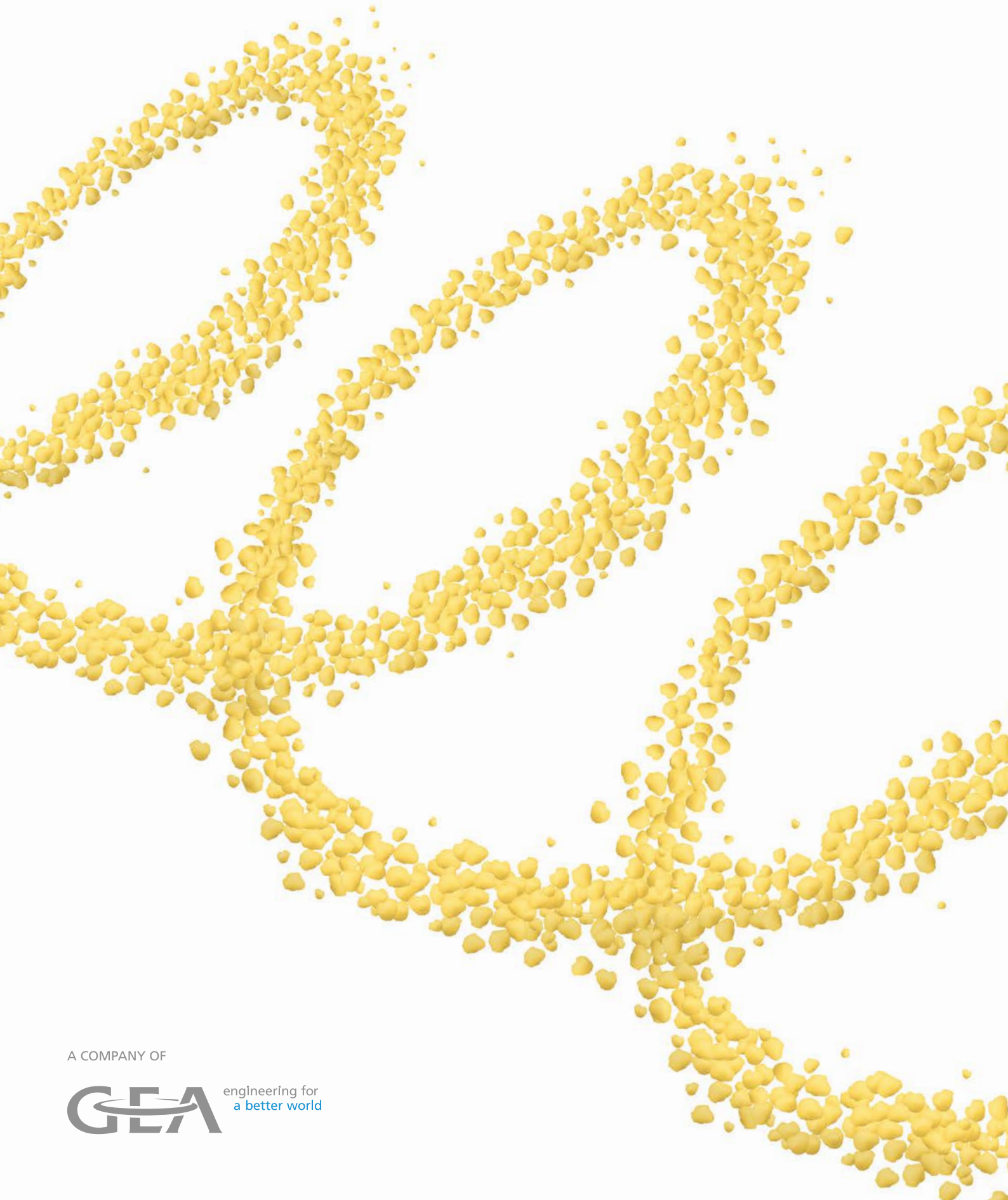


# COUS COUS PRODUCTION LINE

**Pavan**  
PASTA AND EXTRUDING TECHNOLOGIES



A COMPANY OF

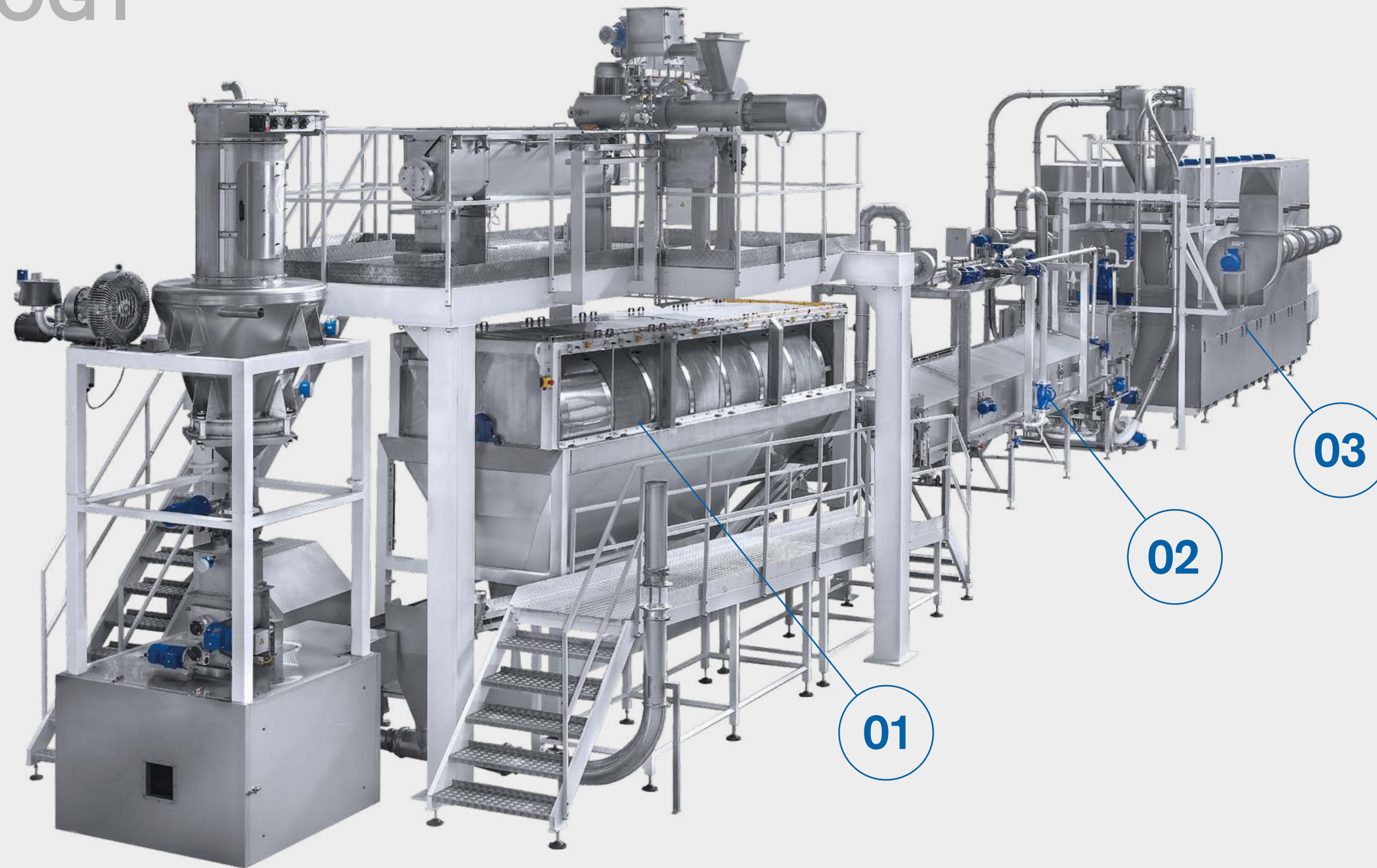


engineering for  
a better world



# FROM LOCAL TRADITION TO CUTTING EDGE TECHNOLOGY

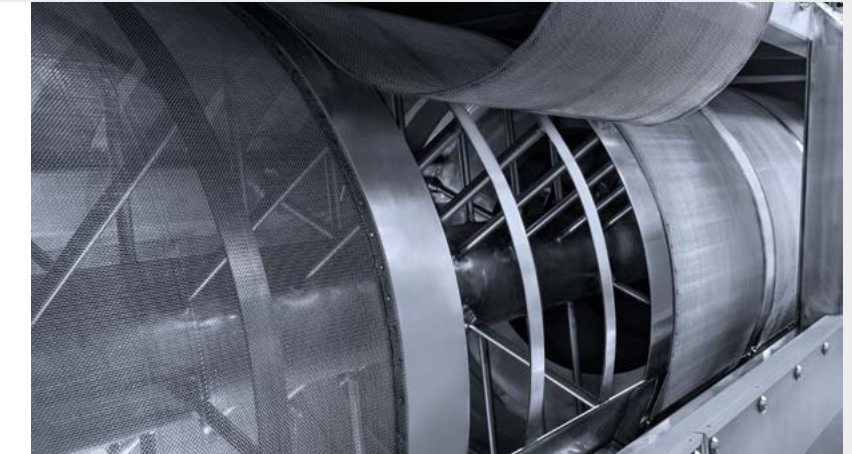
The technological capacity of Pavan machinery to industrialize a process that has an artisanal tradition going back a century is most effectively shown in the couscous line. This is a process which requires maximum precision in both the size and the composition of the dough, which comes from years of experience and innovation developed through a close relationship with clients and final consumers. The final product is excellent both in terms of quality when cooked, and precision of form and color.



## A LOOK AT THE HEART OF PAVAN TECHNOLOGY

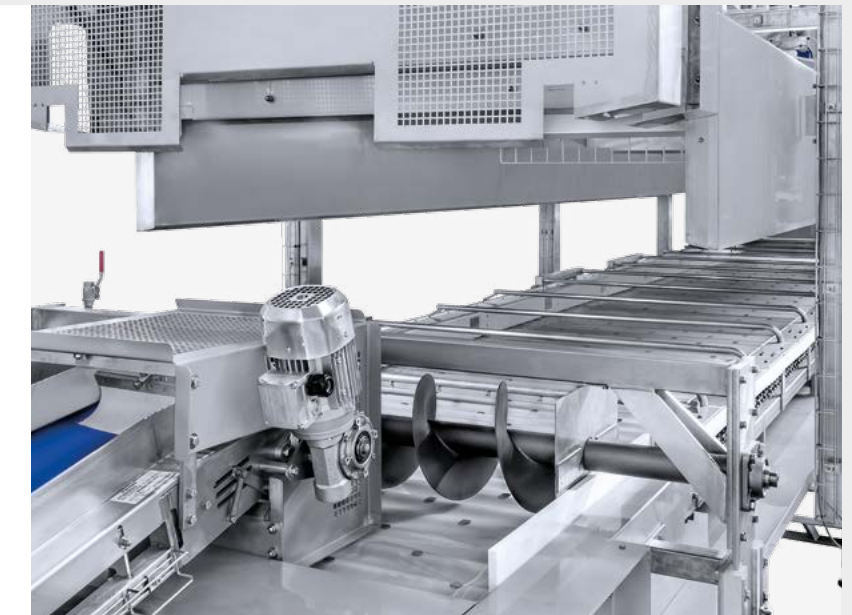
### 01 CALIBRATION ROLLERS

The rollers simulate the manual rolling movement and achieve the same results in terms of quality. Thanks to their particular structure, made of a stainless steel mesh, the rollers allow the product to be separated according to the dimensions required by the client, and to simplify maintenance and cleaning operations.



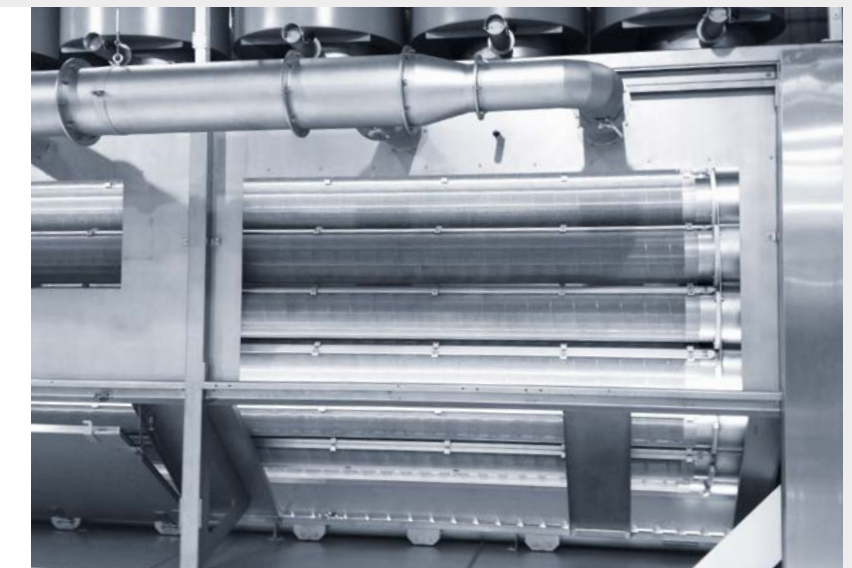
### 02 STEAM COOKER

Pavan technology has permitted the development of a steam cooker which is able to produce high quality couscous using very little energy. The correctly sized product coming from the calibration rollers is evenly spread out throughout the conveyor belt by a screw feeder. Here the couscous is evenly cooked by vapor injected from the bottom and rising to the top throughout the cooker. At the end of the process the two crushing axles mix and turn the grains of couscous all along the conveyor belt in such a way as to avoid the creation of clusters and favor an even gelatinization.



### 03 ROTARY DRYER

The rotary dryer, which was designed specifically for the couscous lines, is extremely efficient, ensuring simplicity of use and of cleaning. It works with a wide range of temperatures (up to 130 °C) and has a large free surface area, which maximizes the flow of air. Its high efficiency is made possible by its special structure, which keeps the couscous in constant movement and rapidly dries the grains, as well as a product recovery and recycling system which reduces losses to zero.





## PHASES OF THE PRODUCTION PROCESS

### 01 Premix 1 and 2:

Flour and water are first mixed with the recycled grains that are too small, and then with the grains that were ground too large.

### 02 Mixing tank:

The time the dough spends in the tank allows it to achieve a high production of granules of the right size during the calibration phase, thus reducing the quantity of recycled product.

### 03 Calibration rollers:

These define what the optimum size of the couscous grain is by way of their rotating motion, which selects only those grains that fall within the preset parameters. The other grains are instead directed to the premix phase (grains that are too large are ground first).

### 04 Steam cooker:

The correctly sized couscous is spread on a carpet and cooked by the vapor injected throughout the whole machine.

### 05 Rotary dryer:

The drying process is particularly efficient, thanks to a system specifically designed to keep the product continuously moving. Then the recovery system directs grains that are too small to a buffer and consequently reintroduce them into the premix.

### 06 Cooler:

In this phase the cooling is optimized so as to avoid affecting the product quality during the successive storage phase.

### 07 End of the line:

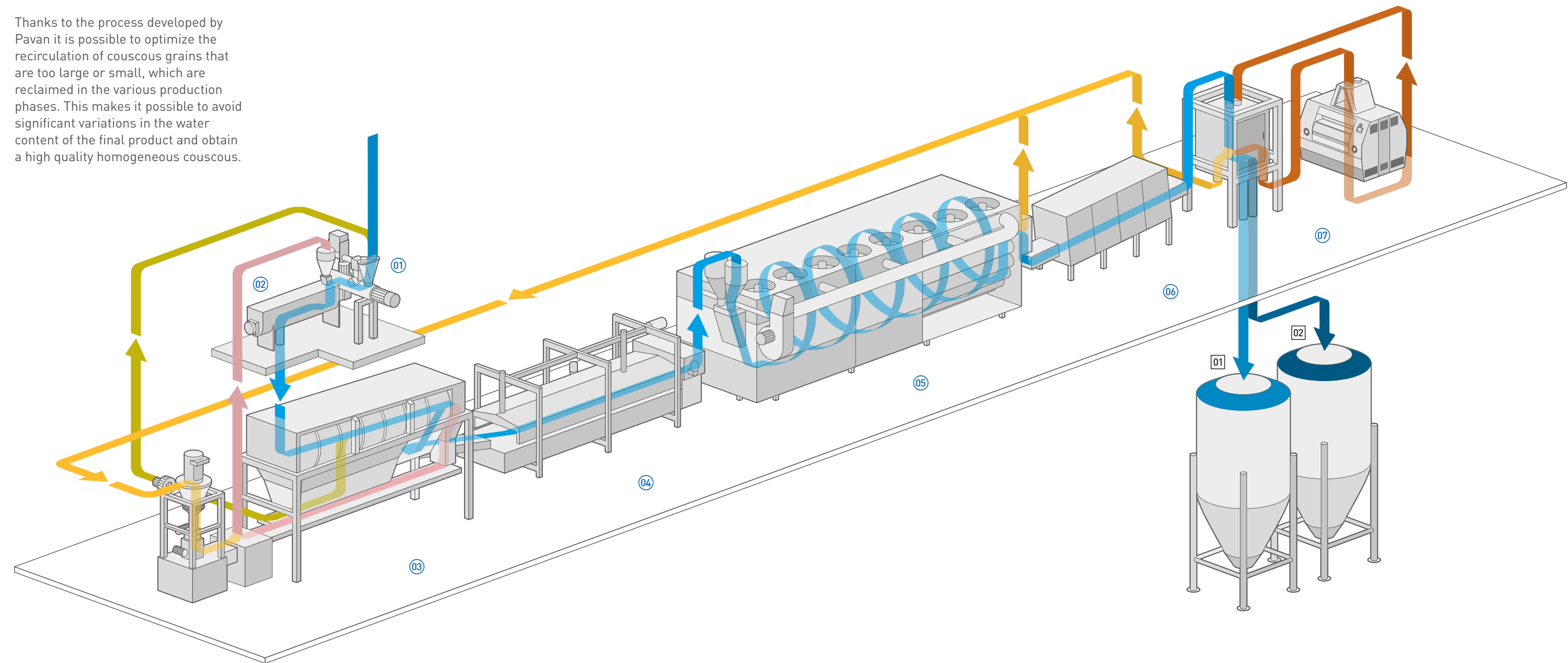
The plansifter filters the grains that are too small which return directly to the premix phase, and those that are too large which are reduced with a rolling mill. The product with the right grain size is directed to the storage phase, then to the packaging.

01 Small






02 Medium

## PRODUCT FLOW

Thanks to the process developed by Pavan it is possible to optimize the recirculation of couscous grains that are too large or small, which are reclaimed in the various production phases. This makes it possible to avoid significant variations in the water content of the final product and obtain a high quality homogeneous couscous.



## LEGEND

Too small	Fresh	
Too large	Fresh	
Too small	Dry	
Too large	Dry	
Small and medium		

## PRODUCT CHARACTERISTICS

### Water content

Generally the couscous is made up of a mix of semolina and water, with a water content of around 33-35%, which drops to 12.5% after drying.

### Density

The final density of the product (made up of medium and small sized grains) is around 750g/L

### Composition

The final product is made up of two main kinds of couscous (small and medium) whose standard sizes are defined as follows by Pavan:

**Too small:** diameter < 630µm  
**Small:** 630µm < diameter < 1000µm  
**Medium:** 1000µm < diameter < 2000µm  
**Large:** diameter > 2000µm

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