GEA MicroWet grinding system

Wet grinding for even better coffee flavor

Advantages of GEA MicroWet grinding system

Able to process higher concentrations of dry matter more cost-effectively, MicroWet can be used with both spray dried and freeze dried instant coffee. Further advantages include the better use of your drying capacity and a 100% yield from coffee beans added to the micro grinding system. MicroWet can be integrated in an existing coffee line or work as a standalone system.

Our process incorporates wet grinding and operates at a low temperature (which can be adapted to meet specific customer requirements), which captures and preserves the flavor and aroma of the coffee bean and delivers a better tasting end product. Plus, the process produces material with a particle size of approximately 30 µm for an improved mouthfeel.

Wet versus dry grinding

Compared with traditional dry grinding, the wet process retains significantly more of that all-important flavor. The aroma derived from the very finely milled roasted coffee is preserved within the coffee extract and the dry matter volume obtained is much greater.

Benefits

- increased drying capacity
- used for both spray dried and freeze dried instant coffee
- 100% yield from coffee beans added
- optimal preservation of flavor and aroma from added coffee beans

Process Description

To prevent the loss of valuable aroma components, the micro grinding of roast coffee beans is done just before the concentrated coffee extract is dried.

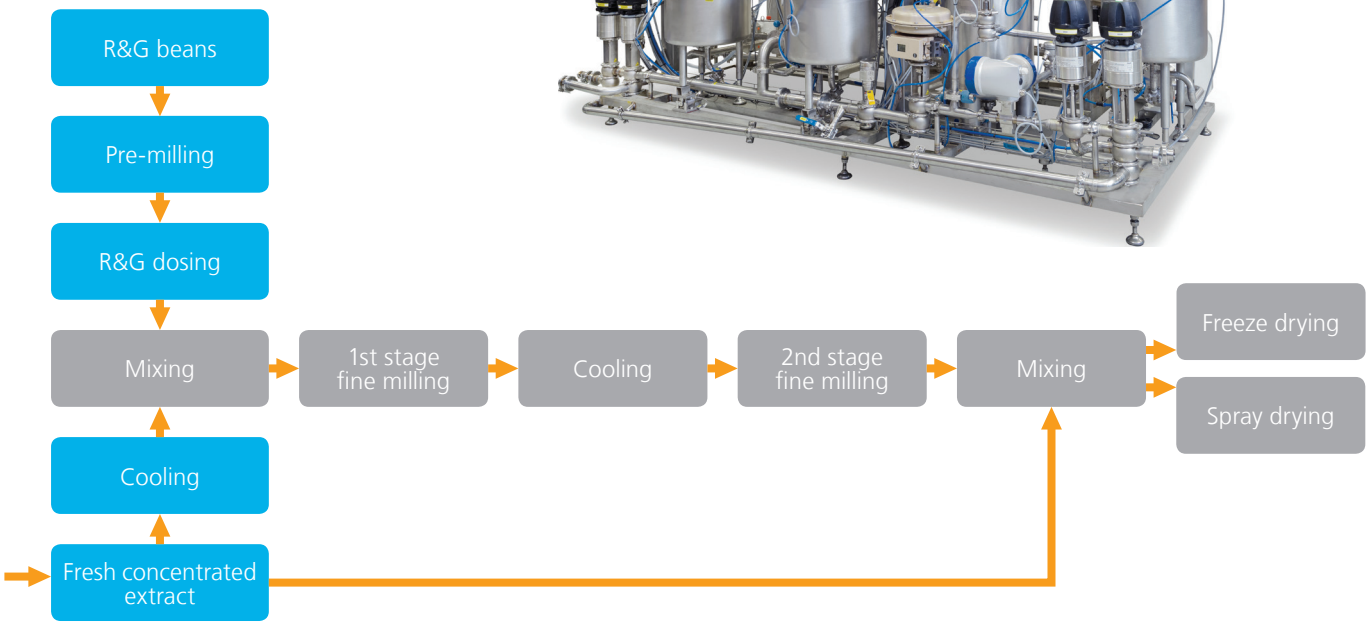
As the concentrated coffee extract is transferred to the dryer (freeze or spray), a proportion of the stream is diverted and cooled to a low temperature, then thoroughly mixed with pre-ground coffee beans.

After mixing and cooling, the extract is milled, cooled again and milled for a second time. The low temperature is a critical aspect of enhancing the taste of the coffee.

Both the primary and secondary milling is done using corundum stone mills, whereby the size of the roast and ground (R&G) coffee can be controlled by optimizing the quality of the stone, the distance between the stones and the speed of the mill.

After the second milling, the two streams are carefully mixed together. Now comprising e.g. 15% of finely ground R&G coffee beans, the combined extract is ready to be dried.

Data for standard execution	
Extract inlet feed capacity	Up to receipt of 3,000 kg/h extract
Roast coffee dosing	Up to 100 kg/h roast coffee (adjustable)
Particle size	D(v, 50) ≈ 20 µm, D(v, 90) ≈ 60 µm
Extract with R&G, outlet temp.	≈ 30°C, max. 40°C



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