

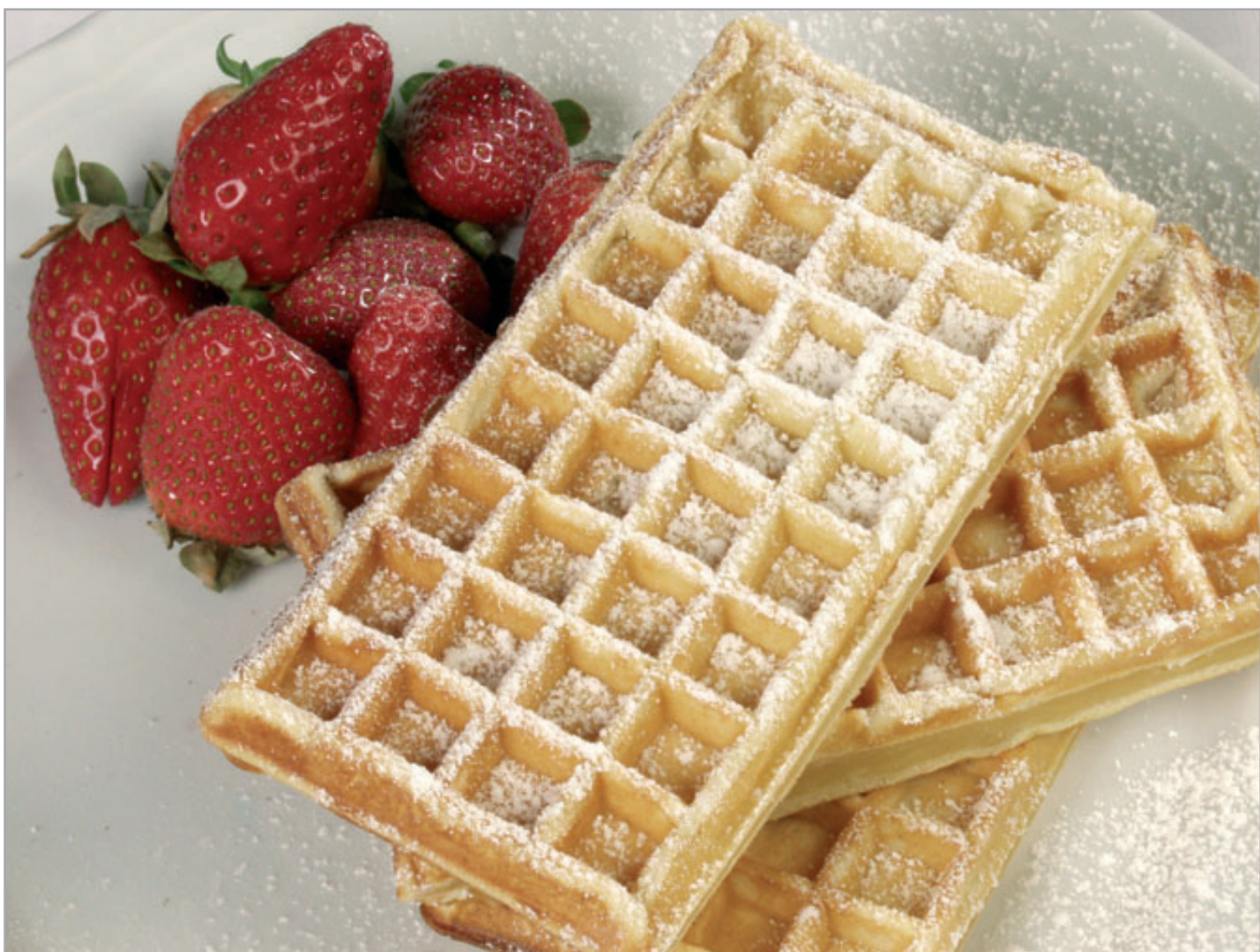
## Installation example:

# RUNG

In Herxheim in Southern Pfalz, the firm Ernst Rung has been running a special manufacturing business since 30 years for the production of ready-made baking mixes. The French speciality crêpes, waffles and ready-to-bake products take the central stage in the product line.

This business is run with extraordinarily high standards of quality and hygiene. Freshness, absolutely consistent quality and hygiene are the main features of the corporate philosophy of the Rung firm.

In order to guarantee these, Ernst Rung set up machinery of a very high standard. (Attached, fully automatic and computerised raw material and packaging plant.)



# Description of facility:

## The objectives of automation:

- 1) Cornflour, egg yolk powder, cream powder, sugar, salt, etc., should be precisely and automatically weighed, and conveyed to a central weighing machine, filtered and mixed. Moreover, the mixed product should be conveyed to an automatic packaging plant.
- 2) The delivered raw materials should be manageable by a raw material access accounting system.
- 3) The delivery, storage, conveyance and processing of raw materials should be hygienic and extensively dust-free. The compo ingredients should be filled by a bag dump with pneumatic suction.
- 4) A traceability of raw materials and recipes with evaluations and statistics should also be available at the office.

## The components of automation:

### Storage 1:

The large components consist of 1 rectangular indoor silo with aluminium fluidised bed discharge and a discharge capacity of 1 to/h. The total silo capacity amounts to 6 tonnes of flour. The silo filter consists of an attachment jet filter. The silo filling takes place over a tank lorry connection pipeline to the silo.

### Storage 2:

The small components consist of 1 ingredient machine Compo 800 with ingredient containers of capacities: 3 x 400 litres, 4 x 300 litres for egg yolk powder, cream powder, sugar, salt, etc. The Compo is made of electropolished stainless steel. The weighing and discharge capacity amounts to 12 loads per

hour. The feeding of the small components takes place through pneumatic suction. The filling of the Compo takes place by means of bag dumps and pneumatic suction in the Compo.

### Flour-ingredient feeding:

The flour conveyance consists of a feeder line to the weighing machine. For hygienic purposes, all flour and ingredient lines are pneumatically driven. The pipelines are made of stainless steel. An eddy-current sieve machine is attached behind the weighing machine.

### Weighing:

The weighing of flour and components takes place in a hopper weighing machine with jet filter. The weighing machine is pneumatically filled and is automatically emptied into the mixer over an eddy-current sieve machine. It has a capacity of 150 kg.

### Target container for ready mix

From the mixer, the ready-made mixes are pneumatically conveyed to a storage container with full and empty signals. From the container, it is automatically metered in the bag fill plant.

### Dust exhaust

A central dust exhaust (Aircontrol) aspirates the dust from all containers and the ingredient machine.

### Controls:

The load control of the facility is performed decentrally in 3 switch cabinets. The recipe computer HB50 is used as software. One 10" touch-screen command unit has links to the office.



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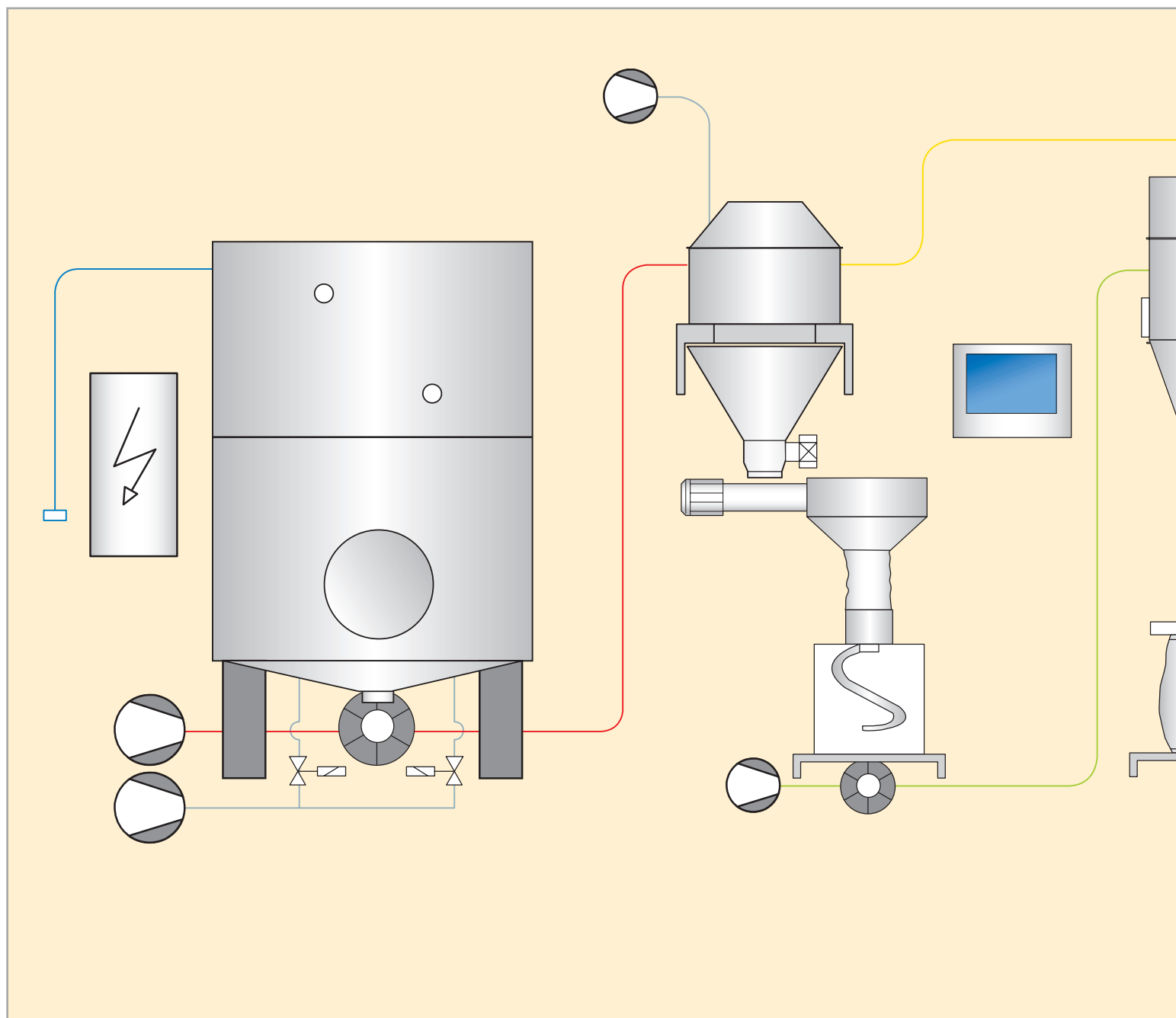


special enterprise for the production of finished baking mixtures



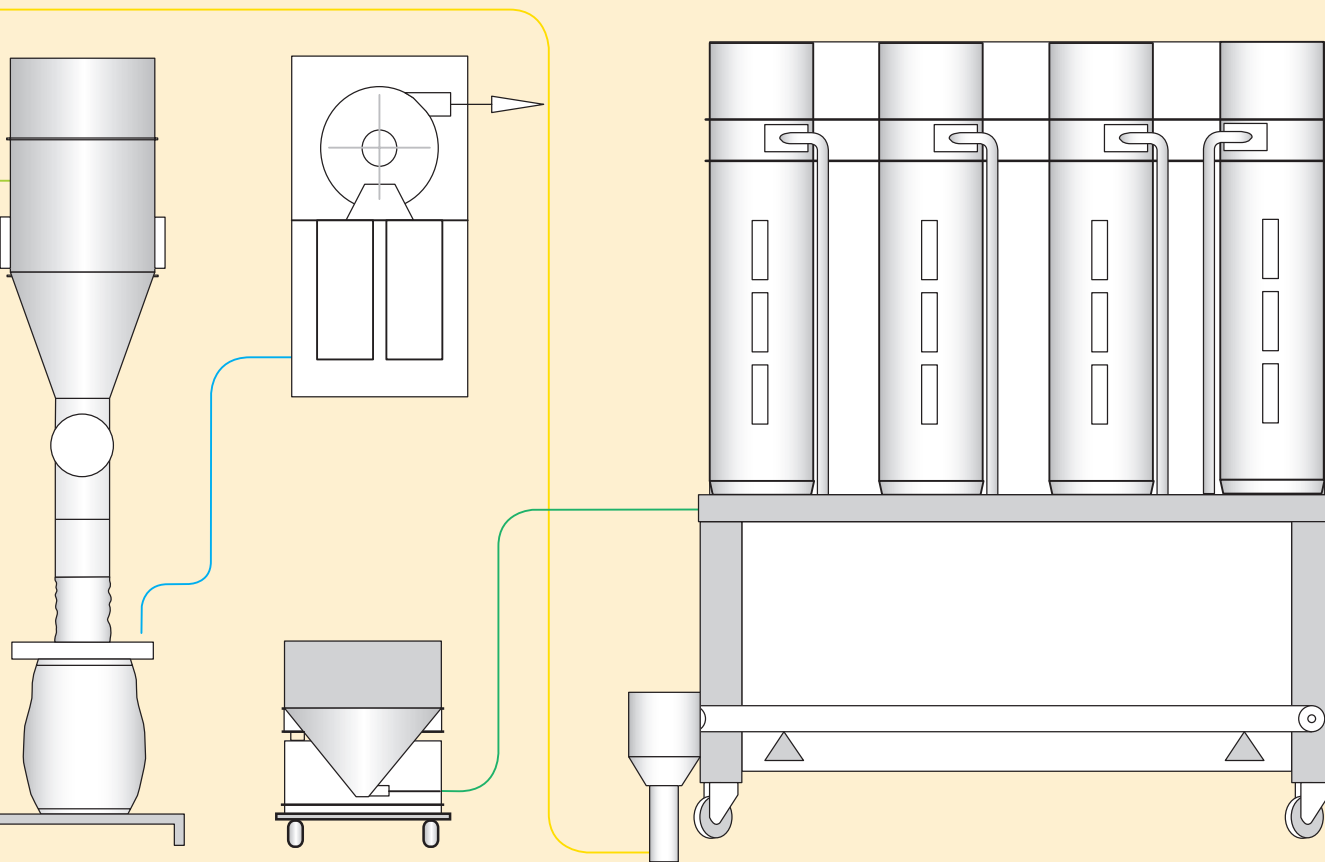
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### Overview of installations:

Item	Description	Units
A	Flour silo, aluminium, rectangular, indoor	1
B	Silo filling with pipeline shifted outdoor	1
C	Pneum. bulking f. fluidised silo bed	1
D	Pneumatic flour feeder line 1 for weighing machine	1
E	Pneumatic suction feeder line in the Compo	1
F	Compo 800 with suction bag dump	1
G	Pneumatic Compo feeder line in the weighing machine	1



Item	Description	Units
H	Flour and ingredient weighing and eddy-current sieve machine	1
I	Storage container for ready mix and sagging plant	1
J	Pneumatic ready-mix line to the storage container	1
K	Central exhaust	1
L	Recipe computer	1
M	Switch cabinet	3

