

Installation example:

STUMHOFER

The business of the Stumhofer family is situated in one of the most beautiful places in Germany, in Chieming am Chiemsee.

The medium-sized craftsman's enterprise focuses on high quality and also realises these with a modern raw material processing plant.

The business employs about 15 staff and thus represents a majority of German crafts enterprises. The quality bakery is attached to a cosy gazebo-style café.



Description of facility:

The objectives of automation:

- 1) Flour, water, ingredients and natural sourdough should be automatically metered and weighed at the kneading points. In addition other hand-added ingredients such as raisins, fat, etc., should be weighed by an online ingredient scale based on the recipe and controlled by the computer.
- 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.
- 4) The 3-stage rye sourdough should be produced fully automatically according to own recipe.
- 5) The dough temperature controls should ensure the dough quality.
- 6) 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 4 rectangular indoor silos with aluminium fluidised bed discharge and a discharge capacity of 1 to/h. The total silo capacity amounts to 18 tonnes of flour. The silo filter consists of cover filters. The silos are situated in the raw materials storage room in the cellar. The silo bulking and flour feeding is pneumatically carried out by blowers from the machine room. The silo filling takes place over individually laid silo filling pipelines.

Storage 2:

The small components consist of 1 ingredient machine Compo 3000 with 14 ingredient containers, each with 60-litre capacity for salt, bakery improvers, grains, spices, sugar, etc. The Compo is made of stainless steel. The weighing and discharge capacity amounts to 6 loads per hour. The Compo

is situated in the raw material storage space. The small components feeding takes place pneumatically by blowers from the machine room. The filling of the Compo takes place directly in the Compo.

Flour-ingredient feeding:

The flour feeding system consists of a conveyance line to the bakery with branching to the sourdough machine Europro 500 and to its automatic flour filling. For hygienic purposes, all flour and ingredient lines are pneumatically driven. The pipelines are made of stainless steel. A pipe filter machine is used behind the silos.

Storage – production:

The production and storage system of predough consists of 1 Europro 500 sourdough machine for automatic 3-stage rye sourdough with a capacity of 500 litres. The machine has an automatic heating and cooling system and is equipped with an automatic cleaning programme.

Liquid metering:

Two water mixing and metering equipments for hot, cold and icy water are assigned at the target points – bakery and Europro.

Weighing:

The weighing of flour and small components takes place in a hopper weighing machine with standard filter. The weighing machines are pneumatically filled. It has a capacity of 150 kg. This weighing machine is situated in the bakery with rotating discharge pipeline to 2 kneaders. The target point has an online hand-add ingredient scale controlled by the recipe computer for special ingredients like raisins, spices, nuts, fat, ice, etc. Flour scales are integrated in the hand-add ingredient scale tables.

Controls:

The load control of the facility is performed decentrally in 3 switch cabinets. The Backcontrol software is used. One 15" touch-screen command unit has links to the office, remote messaging and remote maintenance.



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ingredient dispenser 14 x 60 litres



BWI-weighing hooper with swivelpipe

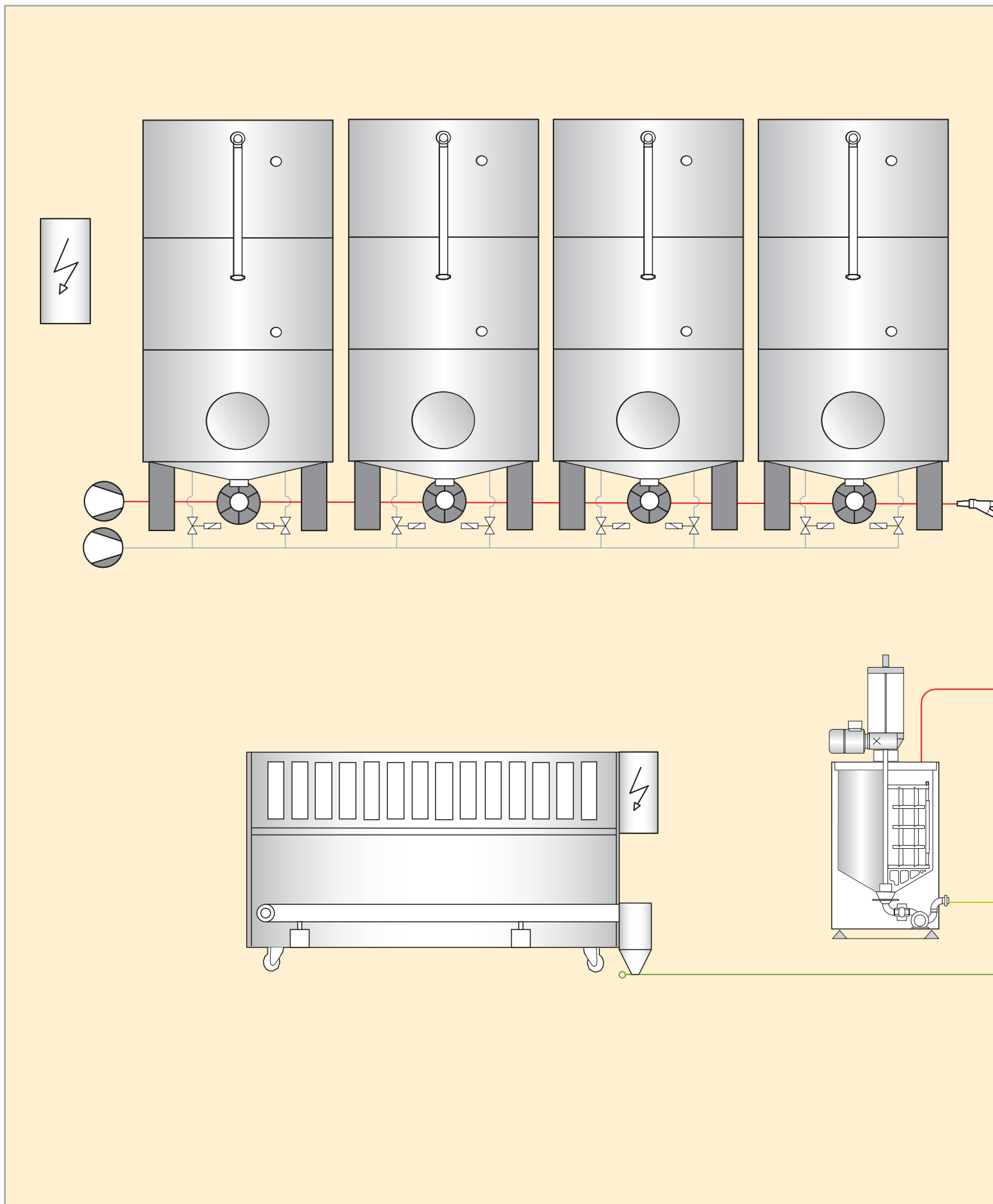


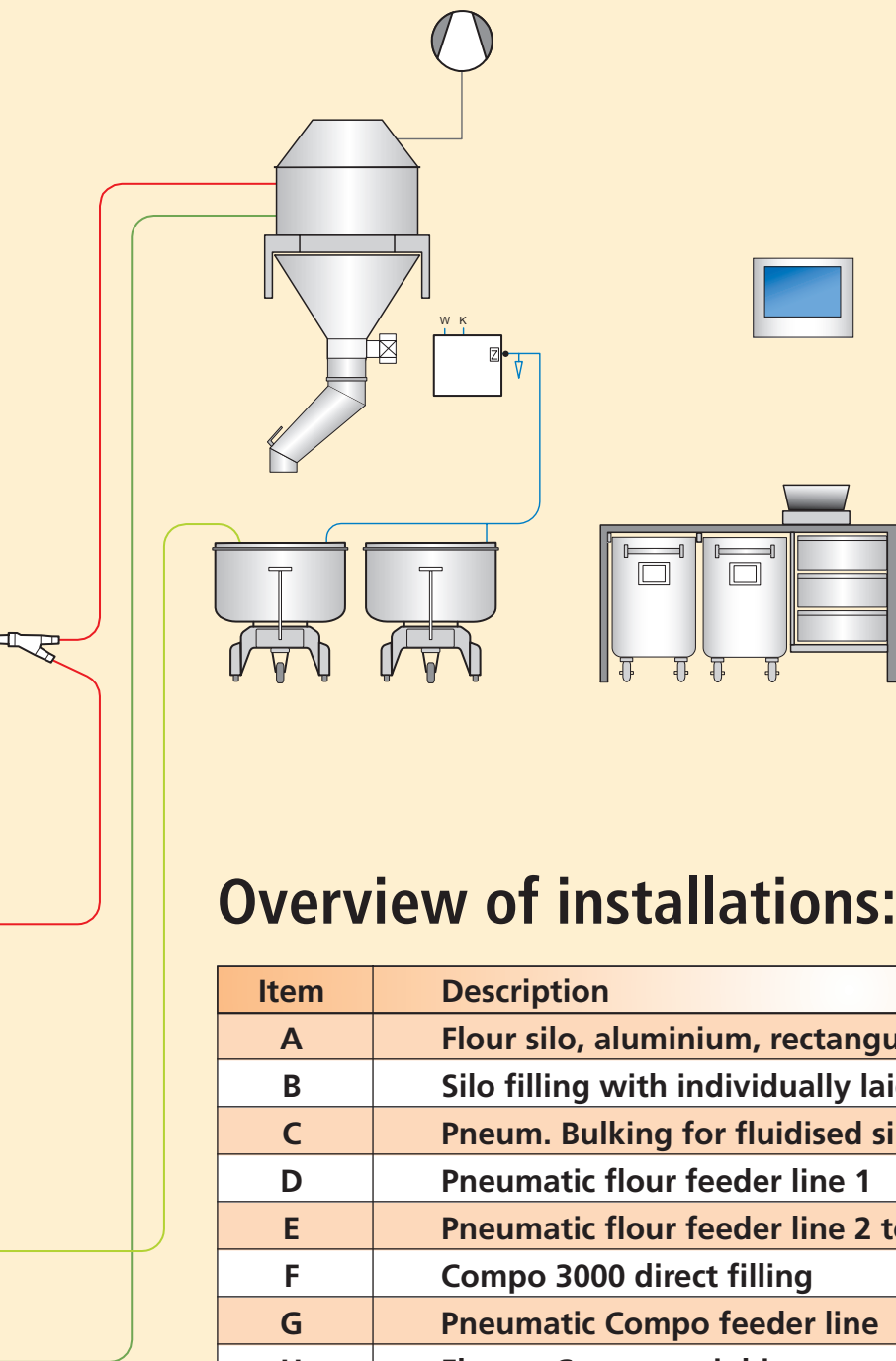
The way to success!



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Overview of installations:

Item	Description	Units
A	Flour silo, aluminium, rectangular, indoor	4
B	Silo filling with individually laid pipeline	4
C	Pneum. Bulking for fluidised silo bed	1
D	Pneumatic flour feeder line 1	1
E	Pneumatic flour feeder line 2 to Europro	1
F	Compo 3000 direct filling	1
G	Pneumatic Compo feeder line	1
H	Flour + Compo weighing	1
I	Sourdough facility for rye sour	1
J	Liquid feeder line for rye sour	1
K	Water metering	2
L	Hand-add ingredient scale	1
M	Recipe computer	1
N	Switch cabinet	3

