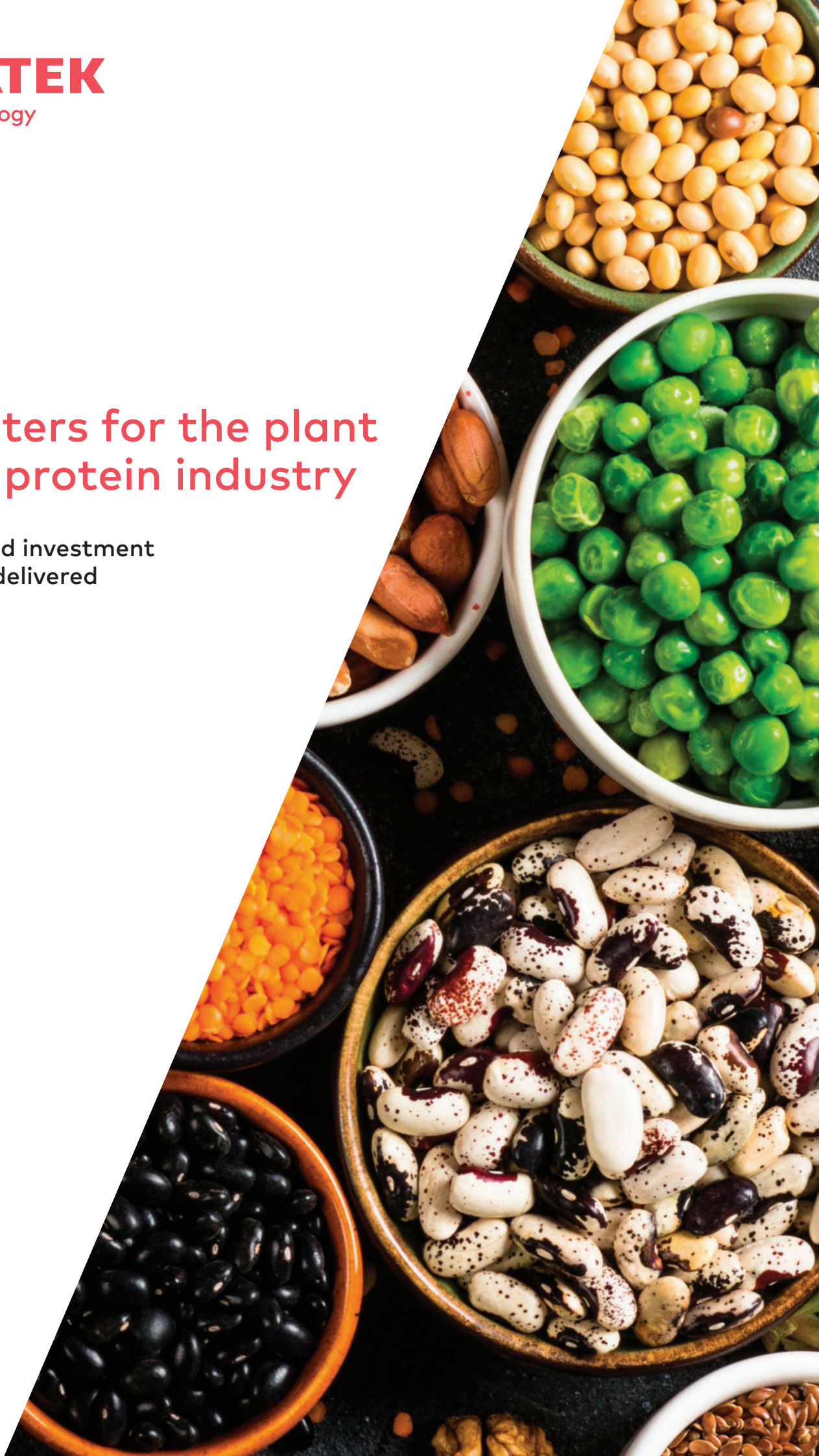
SIMATEK
Filter Technology

Bag filters for the plant based protein industry

An optimized investment
Effectively delivered



Where Simatek can contribute to your process

Process diagram

1 2 Cleaning

1 2 Dehulling

1 2 Dry grinding

1 2 Air classification

Wet processing: grinding and separation

Separation of starch and fiber fraction

Starch dewatering

Fibers dewatering

Protein processing

4 5 Drying of starch

4 5 Drying of fibers

4 5 Drying of protein

2 Powder transport and storage

2 Powder packing

3

Simatek bag filters for your needs

Dust collection and aspiration

1

SimSpot spot filter

Pressure shock resistant (PSR) small bag filter with a built-in fan that can easily be installed on conveyors and bucket elevators.

Special Features

- Pressure shock resistance of 0.7 bar (PSR optional)
- Emissions: less than 10 mg/Nm³
- Filter size: up to 5,1 m² (PSR) and up to 12,6 m² (conventional)
- Product contact material: mild steel or optional stainless steel

2

SimPact 4T-R pulse jet filter

Comes in different possible inlet types strategically placed in the construction forms ensuring the efficient capture of both coarse and fine particles.

Special features

- Capacity: up to 130.000 Am³/h
- Filter size: up to 435 m² filter surface
- Filter bag length: up to 8 m
- Emissions: reduce to less than 5 mg/Nm³
- Product contact material: mild steel or optional stainless steel

3

Central vacuum cleaning system

SimVac helps to create a safe, clean working environment. Assembled with easy-to-detach pipes.

Special features

- Adaptable to different dust types
- Suction capacity to handle bulk dust loads
- Can be supplied with all pipes and fan
- Low emissions
- Applying with ATEX Directive

Process filters

4

SimPact 4T

Comes in a compact and sturdy cylindrical design with efficient down flow filtration, ensuring effective product recovery and emission control.

Special features

- Capacity: up to 120.000 Am³/h
- Filter size: up to 960 m² filter surface area
- Filter bag length: up to 11 m
- Emissions: reduce to less than 5 mg/Nm³
- Product contact material: stainless steel
- Hygienic design compliant to EN1672-2 and EHEDG
- CIP as option

5

SimPulse 3C

This bag filter represents the next generation of pulse-jet filters.
It uses a unique high air volume and low pressure jet pulsing technology that ensures a low pressure drop and long lasting filter bag life.

Special features

- Capacity: up to 210.000 Am³/h
- Filter size: up to 1.700 m²
- Filter bag length: up to 11 m
- Emissions: reduce to less than 5 mg/Nm³
- Product contact material: stainless steel
- Hygienic design compliant to EN1672-2 and EHEDG and option for 3-A
- CIP as option with unique inside filter bag CIP
- Optional Single Bag Leak Detection

Efficient handling of dust from raw materials and powder production

Simatek offers bag filter solutions for handling of dust from all kinds of plant-based protein sources to the final protein powder and the by-product fractions starch and fibre.

Emission control

Companies in the food industry are supporting and implementing regulations designed to reduce emissions in line with the tightening limits down to 2-5 mg/Nm3.
The free-flowing nature and fine particle size of plant-based powders in downstream processes necessitate the use of microfibre or membrane filter bags to meet the emission limits while ensuring as long uptime as possible.

Optimizing the output of your production.

With a Simatek bag filter, you not only limit emissions to comply with regulatory requirements, you also increase your bottom line and profits through powder recovery and the possibility of heat recovery in the downstream process.
This requires CIP'able bag filters to meet the hygienic production requirements.

Typical plant-based protein sources:

Lentils	Soy bean
Quinoa	Seeds
Peas	Beans
Chickpea	Edamame
Fava beans	Oats

Did you know.....
Powder loss from spray driers using a conventional cyclone solution is typically in the range of 0,5 to 2% of powder production. Simatek bag filter technology can reduce this to less than 5 mg/Nm3, corresponding to a loss of less than 0,02% of the powder production.

Calculation examples on bag filter powder recovery

Spray dryer powder capacity	kg/h	1.000	2.000	4.000	5.000
Powder loss using cyclones	mg/Nm^3	200	200	150	200
Powder loss using bag filter	mg/Nm^3	5	10	5	10
Operation pr. year	hours	5.000	5.000	5.000	5.000
Powder recovery from the bag filter	**kg/year**	**24.000**	**60.000**	**95.000**	**155.000**

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