

A black and white photograph of an industrial facility. On the left is a tall, multi-story steel structure with many levels of walkways and railings. To the right are two large, cylindrical storage tanks with metal railings on top. A network of pipes and valves is visible in the foreground. The sky is bright with some clouds. A red rectangular overlay covers the bottom half of the image, containing the company logo and slogan.

SIMATEC

**innovative.
customised.
container-mobile.**

FACTS

4 container-mobile chamber filter units which you can rent for your on-site work

2 main locations:
Switzerland and
Germany

260 YEARS

of professional experience (and always growing) which you can lean on at any time

CEMENT SLURRY

processing is one of our specialties

2465 MAMSL

Our highest-elevation, automated gravel plant for the AXPO pumped storage power station project “Linthal 2015”

EDITORIAL



Thomas Kopp
Executive Management
Simatec Maschinenbau AG



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Executive Management
Simatec Maschinenbau AG

The future is now. And we are in the middle of it. Our traditions, our values and our philosophy is what drives us. These three pillars motivate us every day to find persuasive answers to questions about machine and plant engineering. What this means to us and what products and services you receive from us can be found in this brochure.

Innovative

The Simatec team consists of experienced, curious, creative employees. Specialists who look for and develop innovative solutions to every task. We welcome any task, no matter how small, large, difficult, routine, or impossible-seeming it may be. We deal honestly and transparently with our suppliers. Our team spirit is open and interdisciplinary. Both are keys to success.

Customised

You get more from us. We build machines and design plants and go the extra mile for your company. Sophisticated handling of a wide range of slurries, planning and design of a complete, turn-key gravel processing plant? We rise to any challenge and find a solution which is precisely matched to your conditions. As our customer, you can count on our services going beyond the ordinary – today and tomorrow.

Container-mobile

With the construction of the first container-mobile gravel preparation system including water processing – at the ARGE tunnel Eppenberg, we have made our mark. Container-mobile plants work on the prin-

ciple of modularity. The plant consists of individual machines and components housed in standardised containers: from the filter presses for rapid deployment on site, to complete systems for easy implementation. The use of container-mobile systems gives you a new way to increase the productivity of your processing plant. We live by quality without compromises. This is reflected in such innovations and in our daily work.

We have been building on our values right from the start: highly motivated employees, a distinctive quality approach, and consistent alignment to customer needs. In the end, it is our employees who make sure that you get the maximum benefit. As diverse as our jobs may be, they all have one thing in common: we take responsibility and provide comprehensive support – from the initial discussion through early sketches, planning and execution, to successful commissioning of your plant.

Achieving success with and for our customers is our incentive. We boldly embrace and implement new ideas, develop exceptional solutions for every purpose, and always try to be a small step ahead. This means that you benefit from our years of expertise in gravel and water processing and its associated new developments.

On the following pages, you can discover the possibilities that we offer. We will face any challenge, including yours.

Thomas Kopp und Jakob Aeschbacher
Executive Management Simatec Maschinenbau AG



Filter cake depot
Ruefswil gravel plant
Ufhusen

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“A problem is
halfway solved
when it is clearly
defined.”

Mathias Ochsenbein
Customer Service



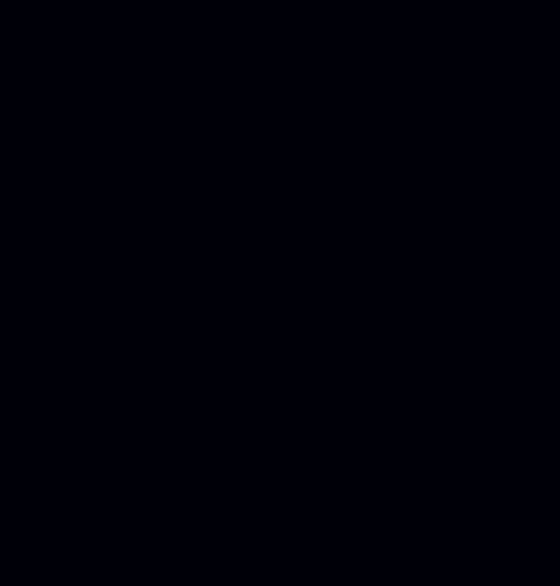
“The ingenuity of
a design lies in its
simplicity.
Anyone can make
things complicated.”

Mong Tuyen Bui
Construction



“Either we
find a way or we
make one.”

Markus Gerber
Sales



“To build tall
towers, you have
to spend a long
time on the
foundation.”

Christian Zogg
Project Manager

WHO WE ARE

Simatec plans and designs technically innovative stationary and container-mobile plants, aligned to specific customer needs, for the stone, soil, and recycling industries. In-house production of screening machines, filter presses, and roll crushers rounds out the Simatec product range.

Simatec sells products from their locations in Switzerland and Germany around the world. The company has high standards for production quality. Therefore, Simatec works closely with well-known manufacturers. The entire value chain has a high-quality standard which is further enhanced by the label “Made in Switzerland”. Simatec expertly combines proven technologies with innovations, giving rise to the perfect solution for every task.

Extensive and flexible service is a central point. Simatec thus does not mass-produce machines and plants but rather consults with their customers thoroughly. This includes planning, design, and optimization in order to create customised solutions. The maintenance and service of machines and plants are also part of Simatec’s services.

The Simatec team consists of engineers, process specialists, technicians, and designers. Together they have many years of experience in planning and manufacturing simple to complex plants. The experts are dedicated producers and innovative lateral thinkers who set the cornerstone for good cooperation and high customer satisfaction every day. Flexibility, reliability, and integrity are values which Simatec embodies both inwardly and outwardly. Simatec also works to protect resources and treats its customers fairly. Simatec does what it promises.

PLANT CONSTRUCTION

Simatec provides complete system solutions for plant construction: from turn-key plants or components throughout the stone and soil industry as well as the recycling industry. In machine construction, the product range has been expanded to include filter presses. This has made Simatec into a strong, expert partner for the entire field of water processing.

New plants, renovations, or conversions – Simatec provides expert advice from conception to planning and on to production, construction, and commissioning. The planning and implementation of plants incorporate many years of experience and an extensive environmental analysis. This ensure high operational reliability and availability of the plants.

Container-mobile concept

Simatec specialises in planning, designing, and operating container-mobile plants. The plant concept is based on setting up various plant components in standardised containers. These complete plants are constructed using the Lego principle and provide the same performance as stationary gravel plants. For this reason, the plant concept is especially well suited for temporary deployment such as in tunnel construction. One significant advantage is the size of the footprint required which is not usually the same at a construction site as in a stationary plant. Simatec also has experience operating personnel who can run these plants on a rental basis. Once deployment is complete, the container-mobile plants are completely dismantled, serviced, and stored or used immediately for the next application.



Stationary gravel plant



Container-mobile gravel plant

MACHINE CONSTRUCTION

The Simatec product range includes three commonly used components which are critical to processing. Simatec's experience as a machine builder flows into every aspect of plant construction, and vice versa, experience in plant design flows into machine construction. This produces knowledge which you benefit from.

Filter presses

Simatec filter presses are used wherever wastewater is processed and solids are separated from liquids in order to then recycle or dispose of them. Filter presses from Simatec are suitable for tough conditions in gravel plants or quarries as well as for more fragile usage in the chemical and food industries. Every filter press is individually matched and tailored to the requirements of water removal.



Filtration water

Screening machines

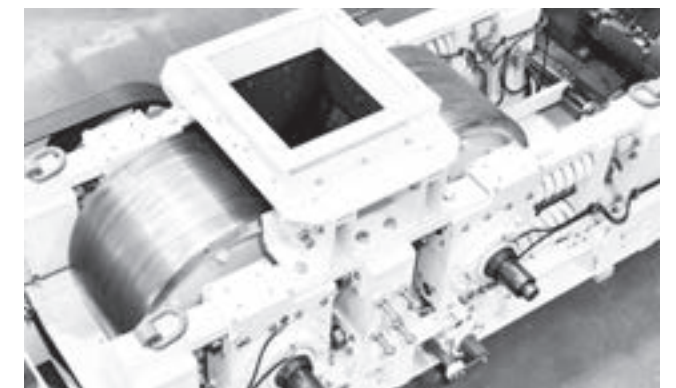
Wet or dry screening, as a preliminary separator, a load relief screen, or in the washing and dewatering process: Simatec has the right screening machine for you and your requirements. Thanks to three different vibratory systems – the ellipse, the linear vibrator, and the circular vibrator – Simatec covers nearly any requirement. With an expert procedural design of the appropriate screening machine, Simatec guarantees that the desired or required screening quality will be achieved.



Wet screening

Roll crushers

From the far North came the request for an additional order of a roll crusher and the product was completely reworked and built. The advantage of the roll crusher is that it crushes gently, with little wear. It is very well suited for secondary and tertiary crushing. Whether standard or mass-production roll crushers, Simatec always combines proven methods with new technologies, thus providing the perfect solution for every situation.



Roll crusher WB 650/1100

SERVICES



Consultation and planning

Simatec consultation and planning are individually targeted to the needs of the customer. All parameters are analysed, and potential difficulties throughout the project are considered. During planning, the entire production process is incorporated. From the initial sketch to the turn-key plant, everything comes from a single source. For small reconfigurations or process optimisation in existing plants, Simatec also provides services to its customers with its technical expertise.



Service and maintenance

The care and keeping of machines and plants is just as important as proper planning and construction. It extends service life and increases operational reliability. When a plant or machine has operational reliability, it means less or no downtime. Simatec service technicians are happy to provide advice and help.



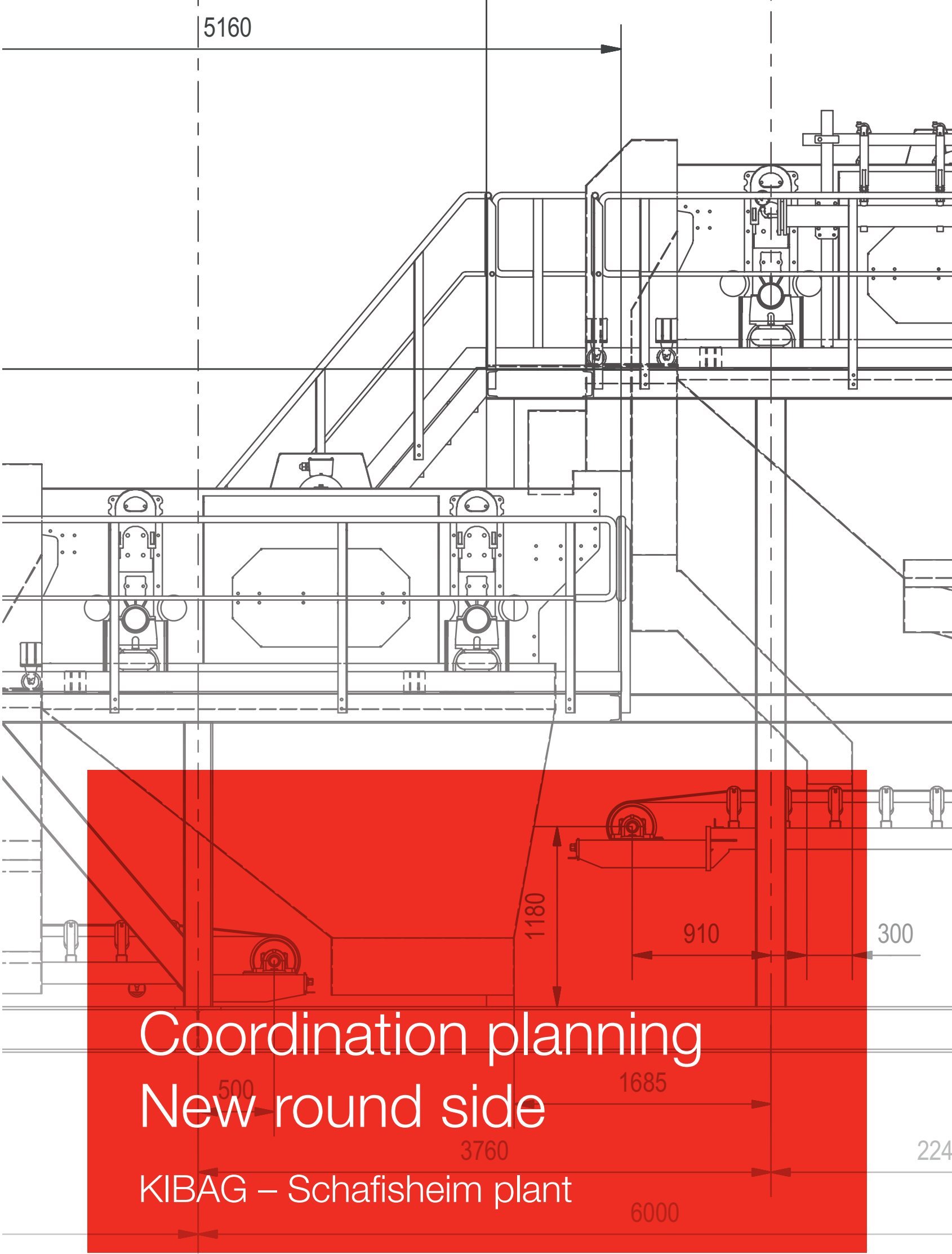
Customer service

The customer is king, and customer service is the highest priority. The most common spare parts are always in stock at Simatec. This makes it possible to keep delivery times and distances short and to process customer concerns as quickly as possible.



Renting of container-mobile plants and operating personnel

Do you need a plant for temporary use, but don't have the option of setting up a fixed, stationary plant? Simatec rents out suitable plants and provides expert personnel on a contract basis. You can count on experienced operations managers from Simatec when it comes to operating a temporary, container-mobile plant with optimal resources and costs.



CONTAINER-MOBILE PLANTS

Container-mobile solutions from Simatec provide great flexibility in a small footprint.

With modular construction, the plants can be configured individually as needed for each application. The individual components are installed in standardised containers. Depending on the material flow required for the process, they are placed on top of or next to each other. A plant is thus built, component by component, which covers all the requirements exactly as a stationary plant would do.

The only limitation of the container-mobile concept is the size and weight of individual components. The standardised containers are 10-foot, 20-foot, 30-foot, and 40-foot sizes. The weight is defined by the maximum permissible values of road transportation laws.

The strengths of this concept are especially clear when the use is for a limited time. Once their use is no longer needed, the plants can be dismantled and transported away. A classic application is at construction sites or underground in tunnels.



Installation of a container-mobile gravel plant

ARGE Tunnel Eppenberg

MODULARITY
PRINCIPLE

SPACE-SAVING

TEMPORARY USE



STATIONARY PLANTS

Simatec provides complete system solutions for plant construction, for turn-key plants or components, or even small reconfiguration or overhaul projects. This field is specialised in the processing of gravel and sand, gravel, quarry material, recycling material, and contaminated soil.

The expansion of the product range to include filter presses and the inclusion of the associated specialists in this field have made Simatec a strong, expert partner for complete water preparation and sludge dewatering projects.

The Simatec team of engineers, process specialists, and technicians has many years of experience in the technical fields listed above. Simatec provides optimised plants and systems and applies extensive expertise to operational processes as well. Services also ensure a high level of operational reliability and availability for Simatec plants. For installation work, whether extensive or minor, Simatec uses its own personnel. This ensures that their own quality requirements are met for their customers.

Walliswil gravel plant

Walliswil near Niederbipp

COMPLETE
SOLUTIONS
FROM A SINGLE
SOURCE

HOLISTIC
APPROACH AS
A MACHINE
AND PLANT
PROVIDER

EXPERIENCE
FROM OUR OWN
OPERATIONS



Panel packet Filter press

ARGE Tunnel Eppenberg

FILTER PRESSES

Filter presses are used to separate solids from liquids. The dewatered solids can be recycled or properly disposed. They are used in many areas. Besides the stone and soil industry, filter presses are also found in the chemical industry, paper industry, municipal sewage treatment plants, and the food industry.

For the most common applications, the Simatec fully automatic filter press is used. Thanks to their innovative sensors and mechanical systems, they are nearly unmanned during operation.

Simatec is specialised in planning and building filter presses. This means that they don't just provide a standard filter press but rather a perfectly matched filter press, individually tailored to the dewatering task.

Simatec filter presses provide many more benefits. Thanks to their optimal concept, they decisively reduce the effort required during deployment and maintenance of the filter press. Simatec filter presses also have a drying level of up to 90%, the highest possible level for dry filter cakes. They are energy-efficient in operation and use very little to no by-products or chemical additives, producing very little environmental burden. The largest series can process up to 18.5 m³ of sludge.

MINIMAL
MAINTENANCE

ENERGY-
EFFICIENT
OPERATION

LOW ENVIRON-
MENTAL IMPACT

OPTIONS



Washing robot

The mobile washing robot is equipped with a spray bar. A hydraulic system moves this spray bar up and down between the filter panels. The integrated high-pressure water stream sprays down the filter cloths on the panels, cleaning them gently and reliably.



Drip tray

The catch basin is installed below the panel packets. It catches and collects the filtered and washing water. Depending on subsequent use, this can be fed back into the closed-loop water circuit. Prior to the cake unloading process, the catch basin opens automatically, then closes again afterward.



Core blow unit

At the end of the filtration cycle, air pressure forces liquid residual sludge out of the filling channel and back into the sludge pipeline. This occurs prior to opening the filter panels. This process prevents the liquid sludge from contaminating the dry, hard filter cakes.



Membrane pressing

The filter cake is pressed again and dried even more by means of a membrane installed in the filter panel. The membrane is filled with water or air, depending on the size, after the chambers have been filled. This produces great pressure on the filter cakes.



Filter cake washing

If the filter cake is contaminated or dissolved with materials to be recaptured, it can be flushed with clean water during the pressing process. This is done by feeding in liquid from the bottom to the top and permeating it. The toxins or valuable substances rise with the water and are discharged at the top by the panel overflow.



Filter cake air drying

For sludge which is difficult to press, the filter cake is additionally permeated with air after the pressing process. This flows through the filter cake from the top to the bottom. Liquid which has been collected in the pores is also carried off.

“For Holcim, Simatec screening machines are a good choice for the future.”

Roger Gander
Plant Manager, Oberdorf Plant,
Holcim Kies und Beton AG



“Working together with Simatec is outstanding.”

Daniel Bürkli
Technical Manager, Griston Group



“It is a joy to work with the new gravel plant.”

Sinan Hoxha
Machinist, Walliswil Gravel Plant



“The reconfiguration of the grit screening system is a complete success, thanks to expert planning and execution.”

Toni Birrer
Plant Supervisor, Notter Gravel Plant



SCREENING MACHINES

Screening machines from Simatec are available with three different vibration systems. All have one thing in common: they represent an efficient classification of bulk goods at various grain fractions. With these three systems, Simatec covers many areas of screen-based tasks.

Elliptical screening machine – the innovation for maximum screening performance

The elliptical screening machine makes even more out of raw material and is characterised by high screening quality and a sharp separation cut. The vibration parameters for this mature elliptical technology can be adjusted independently of each other. It is used in wet as well as dry screening. The separation cuts are preferably in the fine or medium grain size segment. Simple, clearly arranged construction also makes maintenance and cleaning work easier on the screening machine.

Linear screening machine – efficient washing and dewatering

For washing and dewatering processes, linear screening machines from Simatec are very well suited. For classic dewatering, they are used as single-deck screening machines with a rising deck and rear wall dewatering windows. Optional side dewatering windows are available as an additional dewatering stage. Washing can be improved with efficient streaming. The two-deck screening machines are suitable for gravel or mixed gravel and sand dewatering. The top deck is used, amongst other things, as a protective deck or for rough grain classification.

Circular vibrator – the classic for dry and wet screening

Simatec circular vibrators are often installed as preliminary separators or load-relief screens at the beginning of the technical production process. The circular motion which gives the circular vibrator its name is paired with optimal screen tilt between 10° and 20°, giving the material the right impulse and greatly reducing the risk of clump formation.

Screen deck elliptical
screening machine
Walliswil gravel plant

Walliswil near Niederbipp

AIR-SPRING
SUSPENSION
PROTECTS THE
SCREENING
MACHINE

STANDARD PU
CLAMPING WEAR
PROTECTION

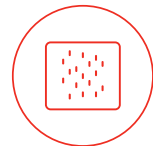
STANDARD 400
MM IMPACT DECK

OPTIONS



Spraying

Adding water to one or more screening decks helps to remove undesired components such as fine rock components or organic foreign materials. The addition of water also facilitates the classification of material which are difficult to screen. Simatec sprayers are designed to meet the processing needs of each task. They consist of a strong steel frame, separate from the screening machine, a distribution pipe, and the appropriate number of spray pipes and fan nozzles.



Dust protection

Dust in the ambient air is a health risk. It also promotes wear and corrosion of machines and plants. For dry screening, dust encapsulation is typically used. There are two types of dust encapsulation – vibrating and stationary.

The vibrating dust encapsulation consists of partial, domed covers made of a lightweight frame and thin rubber cloths stretched across. This simple design is typically not connected to a dust removal system.

The stationary design consists of a robust steel frame, separate from the screening machine. The partial rubber and sheet metal covers are mounted on this. The metal covers have connection points where the extraction lines from the dust removal system are connected. The great advantage of stationary dust encapsulation, in comparison with the vibrating style, is that there is no additional vibrating weight on the screening machine.



Electronic DC brake device

This system enables safe braking of the screening machine with low wear. The use of DC brakes can reduce maintenance costs and increase the service life of the screening machine. An integrated stop detector also helps reduce downtime and increases the operational reliability of the machines and thus of the entire plant.

“We appreciate not only the pre-sales advice, but also the first-class service.”

Marcel Brommer
Deputy Technical Manager,
Hermann Uhl



“High degree of professionalism by Simatec, from the technical design to the commissioning of the screening machine.”

Maurice Albrecht
COO, WERNY Ballastières



“We appreciate good communication between project managers and the responsible persons at the plant.”

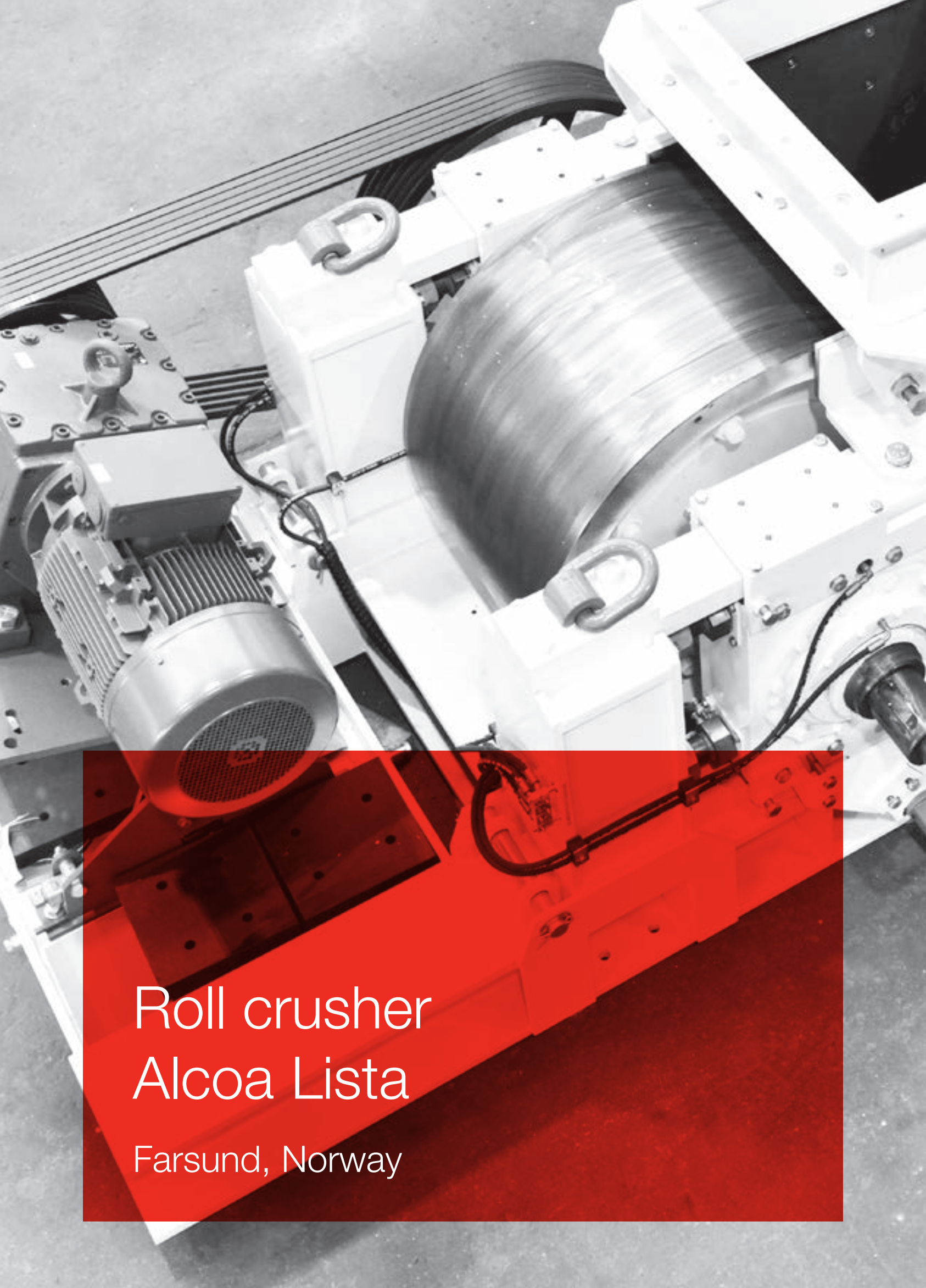
Mario Marius Muntian
Gravel Plant Employee,
Jais Gravel Plant



“The expertise and customer proximity of Simatec lead to an enjoyable cooperation.”

Arthur Jagosch
Gravel Plant Management,
KLAUS Hoch- und Tiefbau GmbH





Roll crusher
Alcoa Lista
Farsund, Norway

ROLL CRUSHERS

The Simatec roll crusher, with two smooth rollers, is used for secondary or tertiary crushing of medium to small materials. The roll crusher enables an unusually tight grain size band in the crushed product. This means that there is very little oversized or undersized material – a significant advantage.

In the crushing process, the slowly turning crushing rollers are driven in opposite directions. One crushing roller is fixed, the other is loose and is mounted on four compression springs. The latter are used to manually or hydraulically adjust the gap in order to crush the desired final product. The loose crushing roller provides clearance, which prevents damage to the rollers from large input grains or foreign objects in the infeed material. This is handled by an integrated, automated overload protection system.

When the material is loaded into the infeed of the crusher, it must be carefully and uniformly spread across the entire width of the roller. This ensures optimal utilisation of the crushing rollers, minimum wear, and uniform grain size distribution in the final product.

Various parameters, such as the circumferential speed and gap width, are carefully matched to the properties of the infeed material and the product specifications.

Even roller bodies made of high-strength chromium or manganese steel eventually show signs of wear. The rollers can be reground using the Simatec grinding apparatus for the WB 650/1100 roll crusher. The specification for the desired final product is then once again achieved with maximum efficiency.

LOW LEVEL OF
FINES IN FINAL
PRODUCT

GREATEST POS-
SIBLE CRUSHING
RATIO IN THE
FIRST ROUND

LOWER WEAR
IN CRUSHING
PROCESS

Imprint

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