



Silos systems engineering

with fascinating capacities

| | | | |
|----|--|----|-------------------------------------|
| 4 | Why wood? | 34 | Winter road maintenance concepts |
| 6 | Wood silos | 36 | Service and maintenance |
| 16 | Special silos | 38 | About us |
| 18 | Conveyor technology | 39 | Contacts |
| 24 | Brine technology | | |
| 30 | Measuring and weighing technology | | |
| 32 | Complete solution for storing grit material | | |

Timber is unbeatable – a building material and its impact

Choosing certain materials for a building or space can promote and emphasise a specific approach, attitude to life or image. In fact, we now know that the right material can do even more than just this.

50 percent

Wood is made up of 50% carbon, which trees absorb from carbon dioxide in the atmosphere.

Tree rings don't just tell us about the age of a tree, but also about changes in climate.

60 metres

Spruce trees can grow up to 60 metres in height, making them Central Europe's tallest native trees.

Spruce is the most common tree species in Germany, Austria and Switzerland.

364 cubic metres

Europe's leading countries in terms of timber stock per hectare of forest are Switzerland with 364 m³, Austria with 351 m³ and Germany with 336 m³.

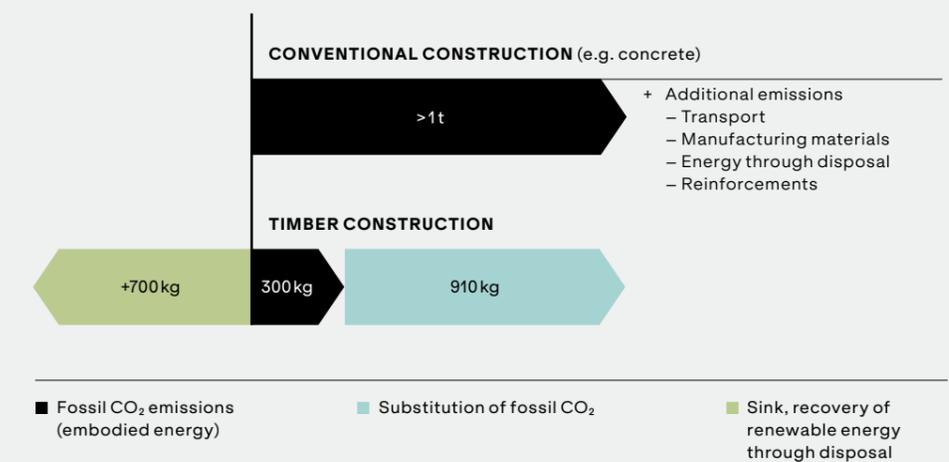
'Healing architecture' harnesses the benefits of certain spatial arrangements and materials to actively support and promote patient recovery. Studies show that a green environment has a relaxing effect on the mind. Recovery is more successful, for example, in hospital rooms with trees outside the window.

from the essential oils contained in coniferous wood. These have an effect even when we're not out in the woods. In other words, our pulse slows even when we are surrounded by wood inside our own four walls.

The power of the forest at home

We also know that when we walk in woodland, our heart rate is lower than when we walk through town. The heart receives more oxygen, which has a positive long-term effect on our life expectancy. Part of the reason for this comes

A comparison of CO₂ emissions per m³ Source: Lignum



Every cubic metre of conventional building material releases more than 1t of CO₂ when used. By contrast, every cubic metre of timber avoids 900 kg of CO₂ and in fact sequesters an additional 700 kg of CO₂.

Silos are best when made from wood

Blumer Lehmann is a timber construction company with tradition. We've been using wood as a material to develop innovative building solutions since 1875. The renewable material wood is perfectly suited for storing salt and other bulk goods such as coffee and cereals. Wood generates no heat, meaning no condensation is formed in the silo. There is also natural protection against corrosion. The statics for wood and steel constructions make possible silos of up to 1200 m³ in volume.

Naturally sustainable and innovative

At Blumer Lehmann we are dedicated to wooden silos. We are passionate about developing forward-looking ideas and creating added value today that will endure for many tomorrows. We take responsibility for, and shape the future with, wood as a material.

We are committed to the environment with sustainable solutions and energy-efficient production. We maintain fair, partner-based dealings with all contact partners, customers, colleagues and suppliers.

Certified commitment

We are committed to the sustainable use of wood. In both our strategic direction and in day-to-day life. Our wood comes from sus-

tainably cultivated forests. Our wood is certified Swiss and approved by the Forest Stewardship Council. We work according to ISO 9001 and the EKAS guidelines for occupational safety.

→ Ask for a silo made from wood from sustainable forestry and of sustainable origin. We'll be happy to advise you.

WOODEN SILOS IN ALL SIZES AND DESIGNS – BUILT INDIVIDUALLY FOR YOU

- Small silos (5–40 m³)
- Plate silos E4 (40–75 m³)
- Round silos (75–800 m³)
- Large silos E12 (300–1200 m³)
- Modular silos (50–500 m³)
- Attachments and accessories



Domdidier (CH),
round silo with 2 × 600 m³
capacity

Wooden silos in all their variety

Small, flexible silos

The square-shaped small silos – sized 5, 10, 15, 20, 25, 30, 35 and 40 m³ – are ideal for communities with low salt consumption or for external support points. We developed the “Welaki silo”, which has a grit capacity of 7 m³, especially for winter road maintenance. Temporary storage capacities can be made available and gritting vehicle routes can be optimised using our small silos. They can be used flexibly and only

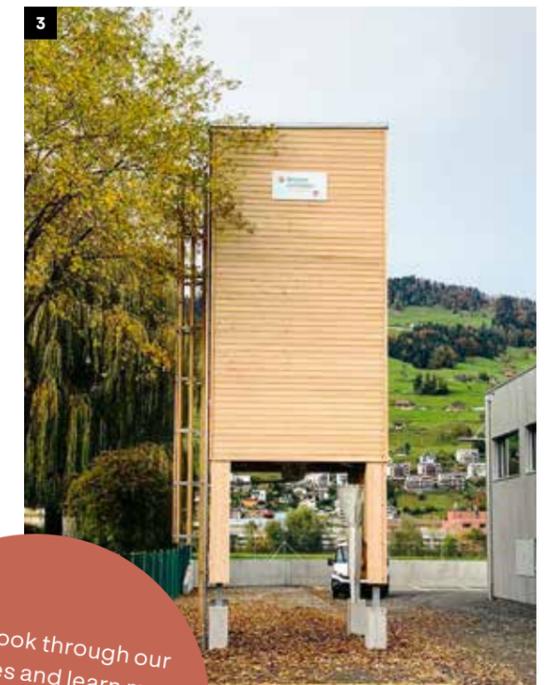
need a simple base. The body of the silo is made from wood and the base is made from galvanised steel. Transport and assembly are very easy with a lorry-mounted crane.

SMALL SILO DESIGN

| Silo dimensions (m) | 2,29 × 2,29 | 2,76 × 2,76 |
|--------------------------|-----------------|-------------|
| Clearance height (m) | 3,00 | |
| Clearance width (m) | 2,25 | 2,85 |
| Installation surface (m) | 3,62 × 3,00 | 4,20 × 3,00 |
| Volume (m ³) | Silo height (m) | |
| 40 | 10,08 | |
| 35 | 9,36 | |
| 30 | 8,64 | |
| 25 | 7,92 | |
| 20 | 7,20 | |
| 15 | 6,50 | |
| 10 | 6,30 | |
| 5 | 5,37 | |



- 1 St. Gallen (CH), 7 m³ Welaki
- 2 Bachs (CH), 25 m³ Small silo with special treatment
- 3 Wil ZH (CH), 30 m³ Small silo made from larch wood
- 4 Ferrera (CH), 10 m³ Small silo with a folding roof



Four-sided silos (E4)

Our square silos, which have capacities of 40, 50, 60, 70 and 75 m³, are ideal for an average community and their grit requirements. E4 silos are plate silos made from wood. For additional weather protection, we clad our silos with back-ventilated exterior cladding.

PLATE SILO DESIGN

| Silo dimensions (m) | 3,34 × 3,54 |
|--------------------------|-----------------|
| Clearance height (m) | 3,40 |
| Clearance width (m) | 2,80 |
| Installation surface (m) | 3,60 × 3,40 |
| Volume (m ³) | Silo height (m) |
| 75 | 12,27 |
| 70 | 11,80 |
| 60 | 10,88 |
| 50 | 9,97 |
| 40 | 9,31 |
| 30 | 8,53 |

Take a look through our references and learn more about our wooden silos at blumer-lehmann.com/silo/wooden-silos

- 1 Gurmels (CH), 75 m³ Square silo (E4) with special treatment
- 2 Illgau (CH), 60 m³ Square silo (E4) with a larch facade and special base
- 3 Buochs (CH), 60 m³ Square silo (E4) with a larch facade



Classic round silos

Round silos with a capacity of 75 m³ to 800 m³ are not just suitable for salt; they're also suitable for other types of grit, e.g. crushed stone. These classic silos are among our bestsellers. Not least because they offer the traditional benefits of wooden silos while being relatively inexpensive.

- 1 Apeldoorn (NL), 2 × 400 m³ Round silo with cylindrical cladding made from larch wood and V-shaped supports.
- 2 Siere (CH), 1 × 400 m³ Round silo made from larch wood with three-stem supports.
- 3 Stuttgart (DE), 4 × 200 m³ Round silo with cubic supports

THREE SILO DESIGN

| Ø silo (m) | 4,70 | | 5,70 | | 6,20 | | 6,60 | | 7,20 | | 7,90 | | 9,00 | | |
|--------------------------|-----------------|-------|------|-------|------|-------|------|-------|------|-------|-------|-------|-------|------|-------|
| Clearance height (m) | 4,40 | | | | | | | | | | | | | | |
| Clearance width (m) | 3,60 | 3,85 | 4,80 | 4,60 | 4,85 | 5,25 | 5,30 | 5,30 | 5,25 | 5,70 | 6,20 | 6,60 | 6,50 | 6,80 | 7,35 |
| Support base | V | K | Y | V | K | Y | V | K | V | K | V | K | 3S | K | 3S |
| Volume (m ³) | Silo height (m) | | | | | | | | | | | | | | |
| 800 | | | | | | | | | | | | | | | 23,90 |
| 700 | | | | | | | | | | | | | 24,80 | | 22,30 |
| 600 | | | | | | | | | | | | | 22,70 | | |
| 500 | | | | | | | | | | | 22,30 | | 20,60 | | |
| 450 | | | | | | | | | | 21,05 | | 19,50 | | | |
| 400 | | | | | | 22,70 | | 21,15 | | 19,80 | | 18,45 | | | |
| 350 | | | | | | 20,90 | | 19,65 | | 18,55 | | 17,40 | | | |
| 300 | | | | | | 19,20 | | 18,15 | | 17,30 | | 16,45 | | | |
| 250 | | | | | | 17,35 | | 16,70 | | | | | | | |
| 200 | | | | 16,80 | | 15,70 | | 15,20 | | | | | | | |
| 150 | | | | 14,75 | | | | | | | | | | | |
| 100 | | 13,90 | | 12,75 | | | | | | | | | | | |
| 75 | | 12,35 | | | | | | | | | | | | | |
| 50 | | 10,95 | | | | | | | | | | | | | |

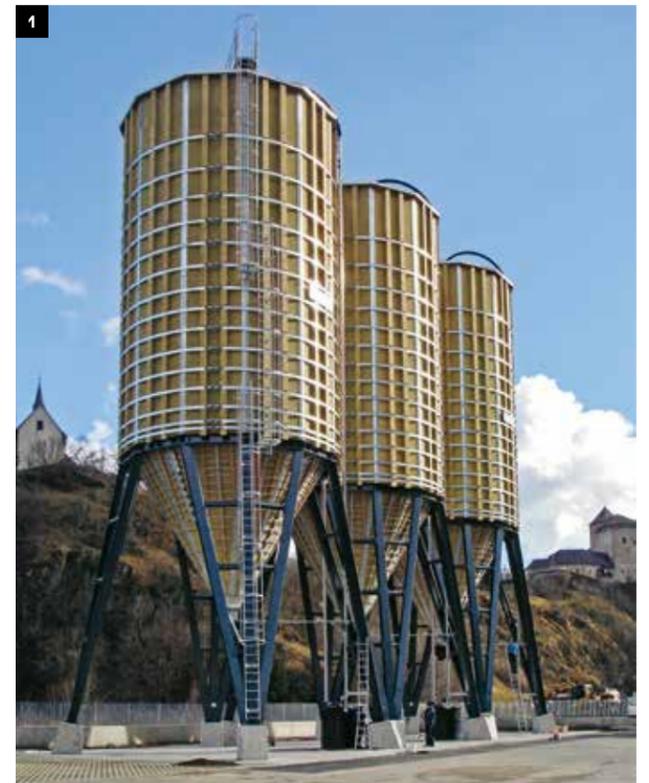
Y = Y-shaped
V = V-shaped
K = cubic
3S = three-stem

Twelve-sided large silos

The twelve-sided large silos contain up to 1200 m³ of grit. We produce these dodecagon silos as pre-fabricated structures. With a steel base and capacious wooden body, these silos are designed to store large quantities of grit without taking up a lot of space on site.

BIG SILO DESIGN

| | |
|--------------------------|-----------------|
| Silo dimensions (m) | 9,00 |
| Clearance height (m) | 4,40 |
| Clearance width (m) | 7,15 |
| Installation surface (m) | 10,65 × 10,65 |
| Type of support | three-stem |
| Volume (m ³) | Silo height (m) |
| 1200 | 30,40 |
| 1100 | 28,80 |
| 1000 | 27,20 |
| 900 | 25,60 |
| 800 | 24,00 |
| 700 | 22,40 |



- 1 Sterzing (IT), 3 × 600 m³ Silo Twelve-sided silo (E12)
- 2 Haigerloch (DE), 1 × 750 m³ Twelve-sided silo with facade cladding
- 3 Lenzhard (CH), 6 × 400 m³ Twelve-sided silo (E12)
- 4 Bern (CH), 3 × 900 m³ Twelve-sided silo (E12) with facade cladding



Module silos

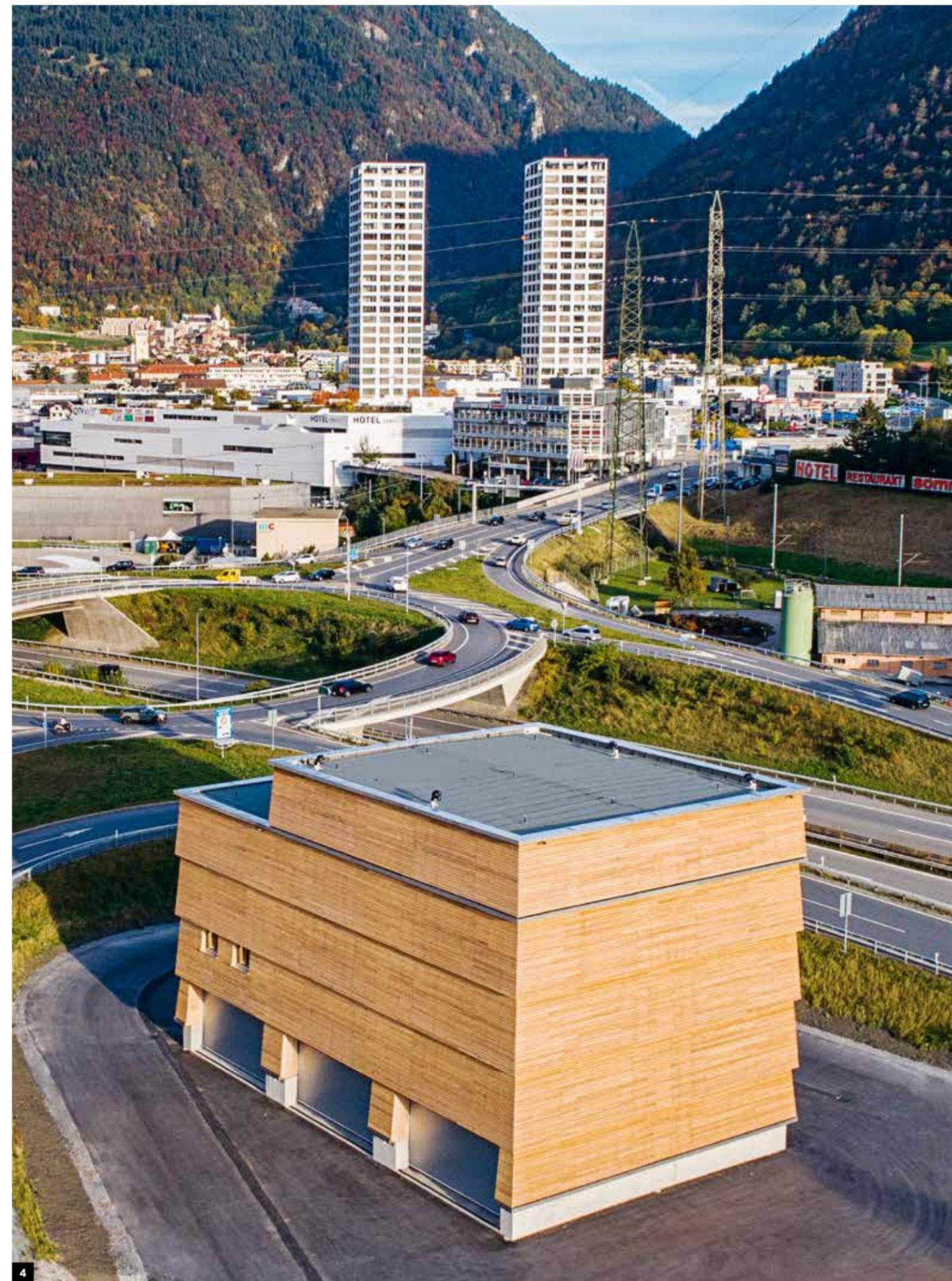
In addition to their functionality and efficiency, the architecture of silos is becoming increasingly important. The shape and size of a silo – as well as the choice of materials for the facade and base – offer a lot of leeway for architectural design.

Get in touch with us early in the project. We can coordinate the technical, functional and design requirements and demands when planning your system. And take full account of the ideas and requirements of your architect.

- 1 Fribourg (CH), 4 × 400 m³
Modular silo with facade cladding
- 2 Olivone (CH), 1 × 150 m³
Modular silo with a larch facade
- 3 Le Sépey (CH), 2 × 200 m³ Modular silo on a special concrete base
- 4 Chur (CH), 4 × 500 m³ and 1 × 300 m³
Modular silo with larch facade

AUSFÜHRUNG MODULSILOS

| Silo dimensions (m) | 4,00 × 4,00 | 5,00 × 5,00 | 5,50 × 5,50 | 6,00 × 6,00 | 7,50 × 7,50 | 8,00 × 8,00 |
|--------------------------|-----------------|-------------|-------------|-------------|-------------|-------------|
| Clearance height (m) | 4,40 | | | | | |
| Clearance width (m) | 3,40 | 4,35 | 4,80 | 5,30 | 6,80 | 7,30 |
| Installation surface (m) | 4,40 × 4,85 | 5,35 × 5,85 | 5,80 × 6,31 | 6,30 × 6,81 | 7,80 × 8,26 | 8,30 × 8,78 |
| Volume (m ³) | Silo height (m) | | | | | |
| 500 | | | | | | 17,21 |
| 450 | | | | | | 16,43 |
| 400 | | | | | | 15,64 |
| 350 | | | | | 15,83 | |
| 300 | | | | | 14,51 | |
| 250 | | | | 15,48 | | |
| 200 | | | | 13,92 | | |
| 150 | | | 12,87 | | | |
| 100 | | 11,66 | | | | |
| 75 | 11,77 | | | | | |
| 50 | 10,17 | | | | | |



Fittings and accessories

Attachments and accessories in various materials and designs complete the wooden silo and make day-to-day operation easier. We plan attachments and accessories in accordance with your requirements and wishes so that your plant is optimally matched to your business.

Looking for something extra to make your operation easier? Then contact us on: +41 71 388 58 58

OPERATING PLATFORM

- 1 Wooden platform made from larch wood, roofed
- 2 Galvanised steel platform, roofed



ASCENDING THE SILO

- 1 Wooden ladder
- 2 Galvanised steel ladder



ROOF PLATFORM

- 1 Wooden platform made from larch wood
- 2 Coated steel platform
- 3 Coated steel platform, with GRP grate (glass fibre reinforced plastic)
- 4 Galvanised steel platform



STEEL CONSTRUCTION COATING

- 1 Galvanised steel construction
- 2 Galvanised steel construction, duplexed



KNOCKER / SHAKER

- 1 Oak knocker
- 2 Steel knocker
- 3 Unbalanced shaker



FILLING FUNNEL

- 1 Fill funnel, swivel-mounted, adjustable height
- 2 Electric loading chute, adjustable height
- 3 Manual loading chute, adjustable height



DIVERSE

- 1 Manual filling level measurement
- 2 Valve with funnel heater
- 3 Loading mirror
- 4 Distribution cone



BRINE GENERATOR CONNECTOR

- 1 Salt outlet with gate valve
- 2 Discharge screws
- 3 Discharge screws with cyclone
- 4 Discharge screws with a downpipe



Flexible silos for all kinds of grit

We design special customised silos to meet your specific requirements and to suit the type of grit. The design options are almost limitless. Application areas, space conditions, special requirements – we are flexible and have the expertise to plan and implement your customised silo.

Glass fibre reinforced plastic silos

GRP silos in small sizes from 30 to 250 m³ complete our range of silo constructions. They are particularly suitable for storing rock salt. We can supply you a wide range of attachments and accessories such as sliders, filter systems, weighing and conveying technology and safety devices.

A silo for every bulk material

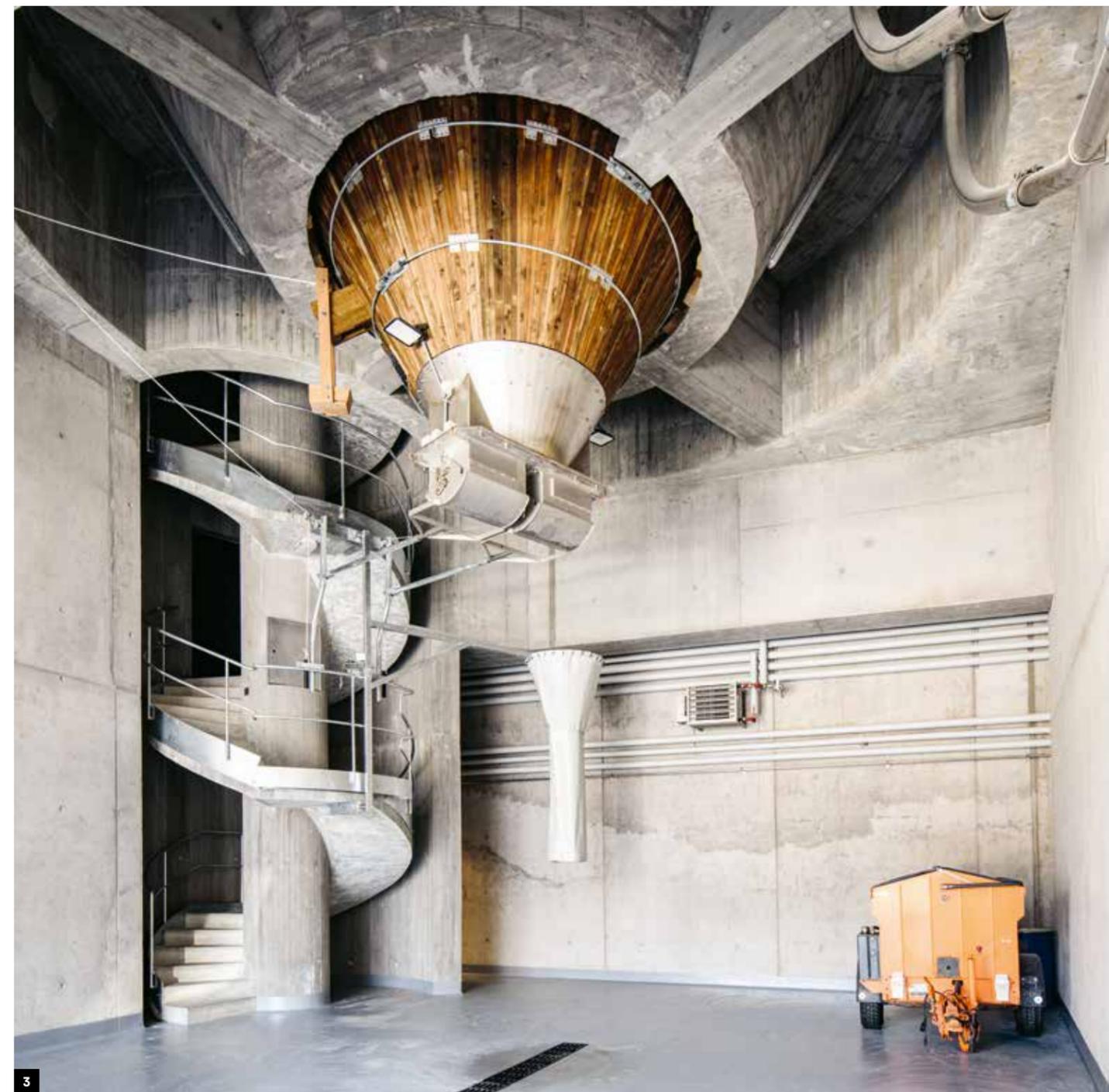
Our wooden silos have excellent properties and are suitable for storing bulk goods: from grain,

coffee and pellets to marble granules. Our silos have many applications, meaning they can be used in a wide range of industries.

Customised silos

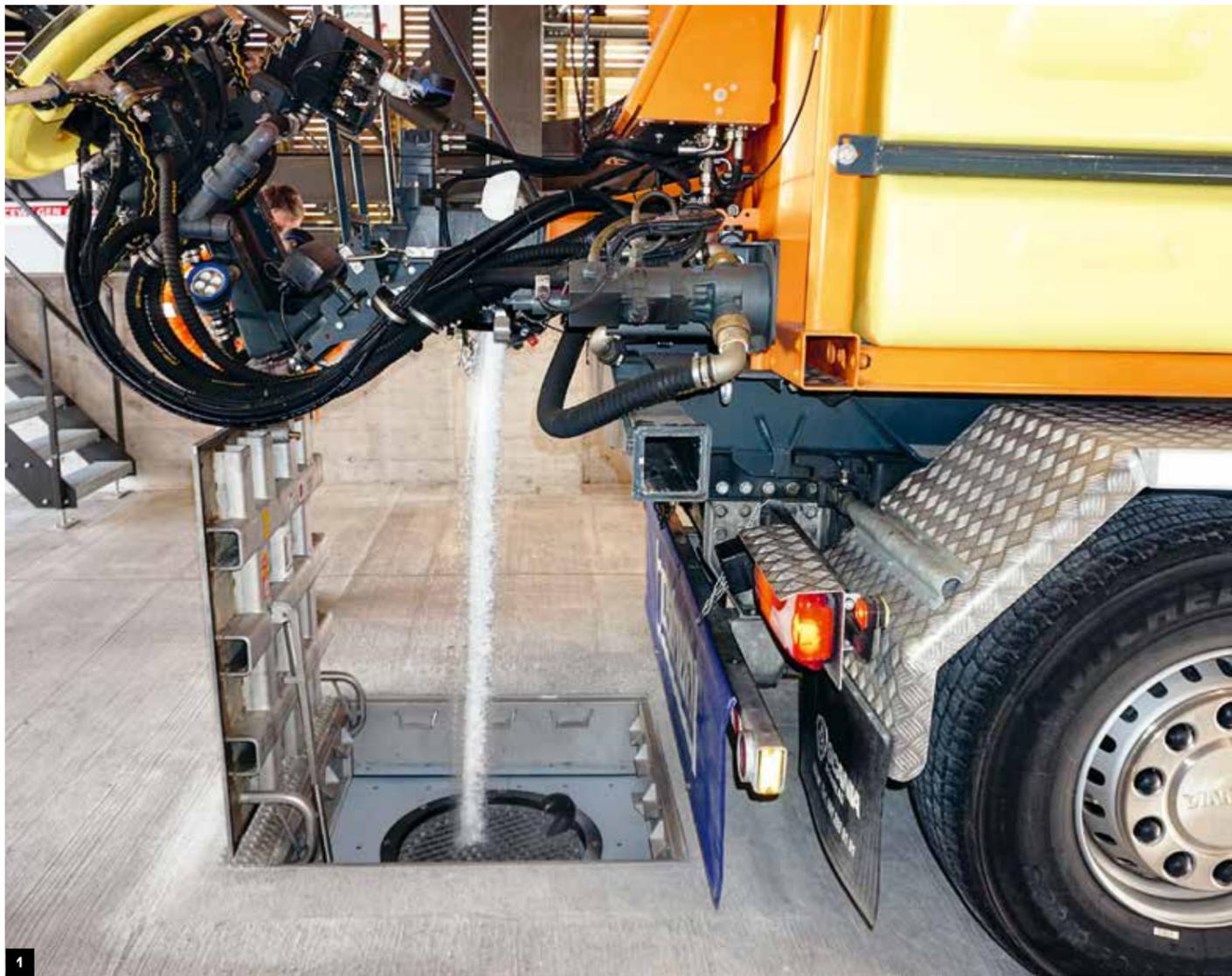
We plan your customised installation silo to exactly match the stored product and your ideas. Together, we can develop the right installation solution for you depending on the surroundings, area of application, space conditions and your design ideas.

- 1 Schopfheim (DE)
3 × 100 m³ GRP Silo
- 2 Erkner (DE),
2 × 200 m³ GRP Silo
- 3 Bernina (CH),
1 × 400 m³ Installation
silo with partition wall
- 4 Roggwil (CH),
A. Vogel AG,
1 × 20 m³ Pomace silo
- 5 Uzwil (CH), Bühler AG,
1 × 150 m³ Pellet silo
- 6 St. Urban (CH),
Grüter family,
1 × 100 m³ Food silo
- 7 Winterthur (CH),
Mühle Heiterthal,
1 × 200 m³ Grain silo



Efficiency thanks to conveyor technology

The efficiency of a silo system depends heavily on the efficiency of the conveyor technology. Different systems of stationary or mobile conveyors are used depending on individual needs and processes.



1

Mobile return conveyor systems

Mobile return conveyor systems are mainly used to return salt from the vehicles into the silo and to refill the silos after any revisions. Due to their compact design, they can be transported easily and used flexibly for winter road maintenance – at external support points, for example. They are available in electric and power take-off designs.

Underfloor return conveyor systems

The underfloor return conveyor system with an electric drive is for returning the salt from the gritting vehicle to the silo. Thanks to the installation of a shaft in the ground, it is possible to return it after winter road maintenance, even with the smallest vehicles. The double cover, which is also used for maintaining the system, can optionally be designed to be accessible by vehicles (class E).



2

- 1 Under floor conveyor system
- 2 Electric return conveyor system with a funnel
- 3 Electric return conveyor system
- 4 Return conveyor with power take-off shaft



3



4

Modular conveyor systems

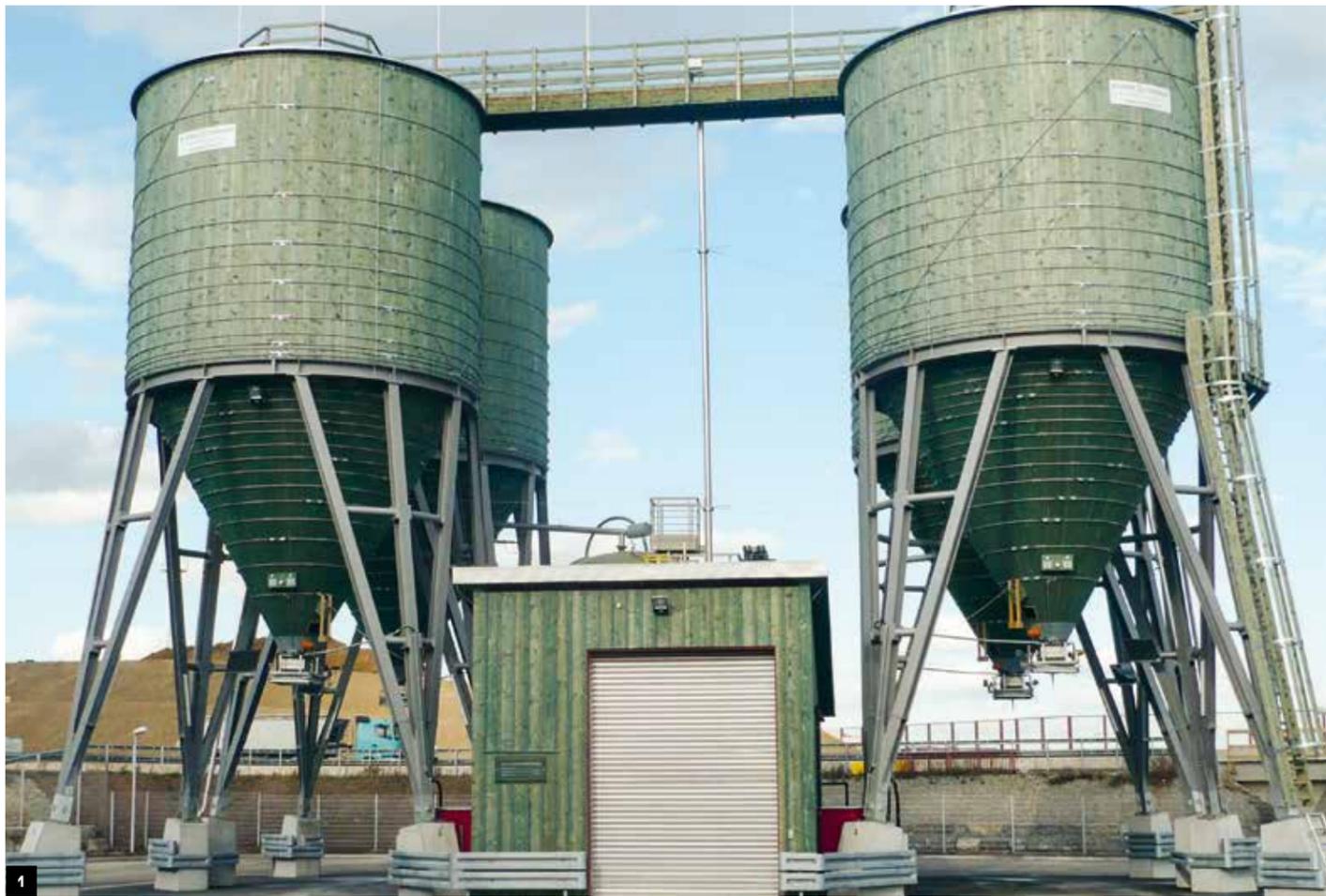
Efficient and reliable modular systems are suitable for providing greater efficiency at winter road maintenance support points. They help with loading gritting vehicles by blowing the salt from the store into the loading silo. From there, the grit is transferred to the vehicle loading areas. Modular conveyor systems can be installed in existing and new salt stores. Their advantages lie in their flexibility, economic efficiency and safety.

Stationary conveyor systems

Stationary underfloor and above-floor conveyor systems with an electric drive feed the loading silos in the salt storage depot. By means of a wheel loader or a conveyor belt, the salt reaches the large funnel above the rotary feeder. It releases the salt in doses into the air current that is blown into the silo from the compressor provided through the conveyor line. Stationary conveyor systems are adapted to, and designed for, conditions on site.

- 1 Mid-floor conveyor system
- 2 Feeding of a modular conveyor system
- 3 Modular conveyor system
- 4 Diesel conveyor system
- 5 System components: funnel and star feeder





1

Timesaving hopper conveyors

Hopper conveyors are used for fast unloading of commercial vehicles. Largely built-in, hopper conveyors are equipped with a rolling or floor gate and thus ensure weather-independent unloading. The commercial vehicle unloads the grit quickly and in a protected manner by means of a tilting or sliding floor mechanism. The grit then runs through a funnel or buffer silo embedded in the floor to the rotary feeder. By means of compressed air, the salt reaches the corresponding silo via the pipe system. A valve on the rotary feeder allows repairs without further salt running down from the funnel.

Protective filter systems

Dust unavoidably develops when filling silos using compressed air. To protect people and the environment, it is therefore recommended to use filter systems, especially in the case of silos with a high salt turnover or in the direct vicinity of densely populated areas. Our self-de-

veloped filter systems prevent soiled exhaust air from polluting the environment. They can be adapted individually to the requirements in type and size.

Pipeline routing

We plan, calculate and mount piping from the conveyor system to one or several silos so that the grit finds the direct route. In the case of multi-systems, pinch valves on the lines allow the desired silo to be filled in a targeted manner. The compressed air required for this is specially prepared for the external area using an air drying system, so that the functionality is ensured even at low minus temperatures.



2



3

You will find detailed information regarding the versions and options of the conveyor systems at blumer-lehmann.com/silo/conveyor-technology

- 1 Hopper conveyor with small roofed building
- 2 Hopper conveyor with flap
- 3 Filter house with pipe routing

Brine technology for icy conditions

The combination of grit and salt solutions in winter road maintenance achieves very good results, is more economical and pollutes the environment less. Pre-wetted salt is an essential aspect of winter road maintenance.

In our production facility, we take containers, tanks and components made of glass fibre-reinforced plastic or thermoplast, all made especially for us according to our own design, and use them to assemble systems for the manufacture and storage of brine. The simple construction and the programmable logic control technology complement the functionality of our systems. In the brine technology as well, we offer everything you need from a single source, from consulting to planning, manufacture and assembly to the all-round service.

For the production of ready-to-use brine, we develop salt solution systems for many fields of use. Depending on the system, the control regulates all brine production processes including the correct brine concentration automatically.

Various sizes of salt solution systems with different technical equipment are available to choose from:

- as a silo salt solution system with its own salt stock up to 75 m³ and 50 m³ brine in one unit
- as a compact device for attaching to a salt storage silo
- for self filling with road salt by means of conveyor technology from a flat store

The ready-to-use brine goes from the integrated storage tank either directly into the gritting vehicle or into external storage tanks. In the process, the brine concentration is electronically checked and regulated.

OUR WIDE PRODUCT RANGE FOR YOUR INDIVIDUAL BRINE SOLUTION

- Salt solution systems
- Brine tank systems
- Tank technology
- Pump systems
- Control programmes
- Controls
- Operator guidance
- Error diagnosis / remote enquiry and maintenance



Vienna (AT), 2 × 500 m³ round silos and 3 × 45 m³ brine storage tanks with brine generator.

Salt solution systems

Our self-developed salt solution systems are convenient for producing ready-to-use brines for a wide variety of uses. Depending on the system, the control regulates all brine production processes including the correct brine concentration automatically.

The systems are available in various sizes and with different technical equipment:

Pico – simple and cost-efficient

Our small salt solution system Pico is the ideal first system for winter road maintenance with individual vehicles. The system is simple and operated manually. And the flexible positioning beside an existing salt store is cost-efficient.

Basis – compact and weather-resistant

Brine mixing facility Basic achieves the performance of a traditional system at a fourth of the structural size and can therefore be integrated optimally into existing silo systems. Additionally, it impresses thanks to the selection of materials and precise workmanship with a modern look. The polyethylene housing is weather-resistant, durable and corrosion-free.

Quanto – fully automatic and modular

The brine mixing facility Quanto produces a concentrated salt solution for winter road maintenance automatically and continuously. Thanks to its modular design, the system can be adapted or expanded flexibly according to your requirements. “Quanto” stands for “quantity” and the high solution performance of the system. Choose from various diameters and structural heights and the different storage volumes and solution speeds that result from them.

BRINE GENERATOR

| Type | Quanto 24 | Quanto 30 |
|------------------------|-------------|-----------|
| Ø salt solution system | 2,40 | 3,00 |
| Installation surface | / | |
| Volume (m³) | Tank height | |
| 18 | / | |
| 12 | 3,3 | / |



- 1 Künten (CH), Pico salt solution system
- 2 Loveresse (CH), Basic salt solution system
- 3 Fribourg (CH), Quanto salt solution system



Silo salt solution systems

Solo – variable and independent

The Solo system produces a ready-to-use salt solution with its own salt storage and brine volume. Brine production takes place on an automatically controlled basis. With the integrated pump system, the brine is released directly to the winter road maintenance vehicle. The system can be variably expanded in regard to silo size and brine store.

Vario – Automatically controlled and efficient

Vario is an expandable system for producing a ready-to-use salt solution with its own salt storage volume. The brine produced is conveyed into external storage tanks by means of a pump control to maintain its storage volume. It can thus continuously store a storage volume. Delivery vehicles fill the system with salt. Operation is controlled automatically. Special technical processes enable a high solution performance.

- 1 Sonthofen (DE), Solo silo salt solution system
- 2 Calau (DE), Vario silo salt solution system
- 3 Calau (DE), Vario silo salt solution system with storage tank

1



1 Brine tank system
2 Brine tank system with several tanks

Flexibly installed brine tanks

Salt solutions such as NaCl, CaCl and MgCl are stored in plastic tanks with a filling quantity of up to 250 m³. Depending on the scenario, the tanks can be made to stand or to lie flat. The tanks can be filled with ready-to-use or concentrated brine directly from the salt solution system or via a tank vehicle.

- Variants for filling the gritting vehicle tank:
- Pump systems – transport the ready-to-use brine directly from the storage tank into the gritting vehicle tank.
 - Brine mixing facilities – convey concentrated brine solutions from the storage tank with the addition of water during the filling into the gritting vehicle tank.

BRINE STORAGE TANK LYING

| Ø storage tank | 3,0 m | 3,5 m |
|--------------------------|-------------|-------|
| Installation surface | | |
| Volume (m ³) | Tank length | |
| 150 | 16,35 | |
| 100 | 15,18 | 11,40 |
| 80 | 12,20 | 9,25 |
| 60 | 9,22 | 7,35 |
| 40 | 6,24 | |

BRINE STORAGE TANK STANDING

| Ø storage tank | 3,0 m | 3,5 m |
|--------------------------|-------------|-------|
| Installation surface | | |
| Volume (m ³) | Tank length | |
| 60 | 7,35 | |
| 50 | 6,33 | |
| 40 | 6,67 | |
| 30 | 5,26 | |
| 20 | 3,84 | |



Measuring and weighing technology

Today, highly automated complete plants are part of the standard in winter road maintenance. Suitable technologies are available to you according to your requirements, from the simple manual level measurement with pulley and external display on the silo to the fully automated complete plant with state-of-the-art measuring technology. Thus, you can always keep track of your inventories. Existing silos can also be retrofitted subsequently.

Needs-based automation

Your silo system can be equipped with various automation systems according to your desired requirements:

- Pure display system
- Manual system
- Semi-automatic
- Fully automatic
- Top automatic

Convenient salt manager

The salt manager offers maximum peace of mind for managing your systems. On an online platform, grit stocks can be recorded and managed. Thanks to the modern measuring

and weighing technology of our systems, you always have an overview in real-time of the current salt stocks and salt receipts of all the silos. Mobile radio modules transmit the levels of your systems to silos and brine tanks. And an ID chip allows you to evaluate the salt consumption of the individual vehicles or routes.

- 1 Measurement using resistive wire strain
- 2 Control section with ID recognition
- 3 Thanks to top automatic, an overview of the level as seen from the vehicle



Bespoke storage solutions

Would you like to optimise the efficiency and the workflow of your existing system? Are you planning a new maintenance depot with smart processes? We design and implement individual solutions according to your specific requirements.

Consulting, planning & development

From the silo with a small volume to the modern, fully automated silo system, you receive from us the complete solution with a comprehensive logistics and automation concept exactly for your operations. We offer everything from a single source, from consulting to planning, to development and manufacture, to on-site assembly.

Modern control technology

Reliable and smart technology increases the efficiency of your silo system. Therefore, together with you we define the control that optimally corresponds to the processes of your plant. The interplay of state-of-the-art control technology, experienced plant personnel and our expert staff guarantees the highest efficiency and the greatest possible safety.

Large storage capacities

Our salt warehouses guarantee security for the salt supply. The salt is always available in large quantities, in order to feed loading silos or produce brine. We plan the warehouse according to your preferences on dimension and structure.

WE OFFER A WIDE PRODUCT AND SERVICE RANGE:

- Wooden silos from 5 to 1,200 m³ for various grits
- Mobile wooden silos to suit city and local needs
- Modular silos with individual design
- Grit warehouses and large salt warehouses
- Brine facilities and brine generators
- High-performance conveyor systems
- Brine technology
- Glass fibre reinforced plastic silos (GRP silos) from 30 to 250 m³
- State-of-the-art controls
- Automation and data processing
- Modern measuring and weighing systems
- Service and maintenance
- Renovation and modernisation

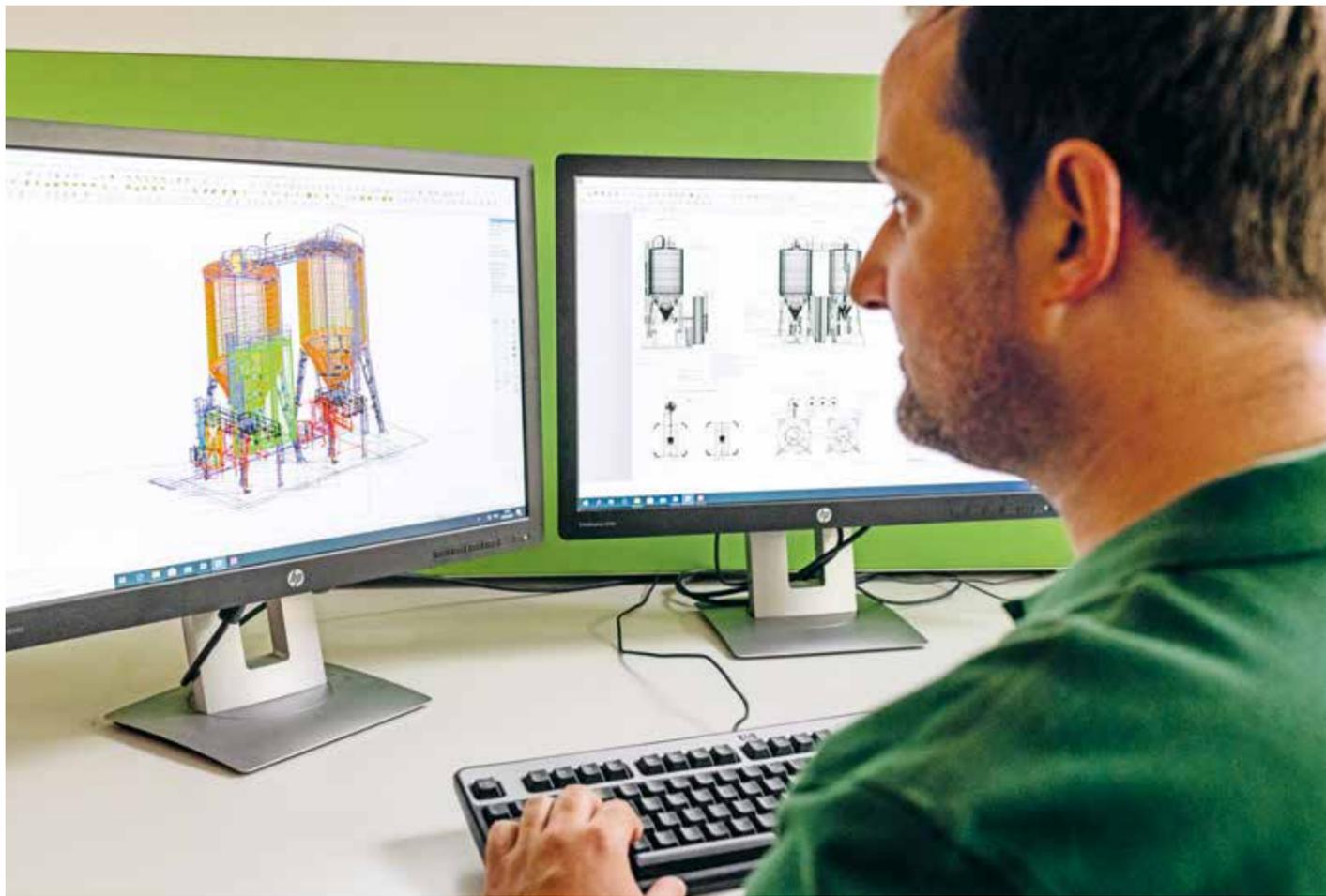
In Chur there is a complete plant with every option included:
blumer-lehmann.com/silo/automation-systems



1 Fahrbinde (DE), complete plant with salt warehouse, 1 × 100 m³ round silo, brine technology and conveyor technology

2 Bad Rappenau (DE), complete plant with salt warehouse, conveyor technology and 1 × 200 m³ round silo





Winter road maintenance

Efficient winter road maintenance in a city or local community needs a concept that is precisely tailored to the particular needs and circumstances.

Our logistics concept contains a central grit store with suitable storage capacity and equipment that, with smaller silo units, forms a perfectly coordinated storage network that optimises routes and saves time and costs.

Numerous successfully implemented winter road maintenance concepts in various European cities are testament to our experience. Our silo construction experts are characterised by outstanding expertise in design, planning and construction. Therefore, expect from us high-quality and safe systems that meet the highest architectural standards.

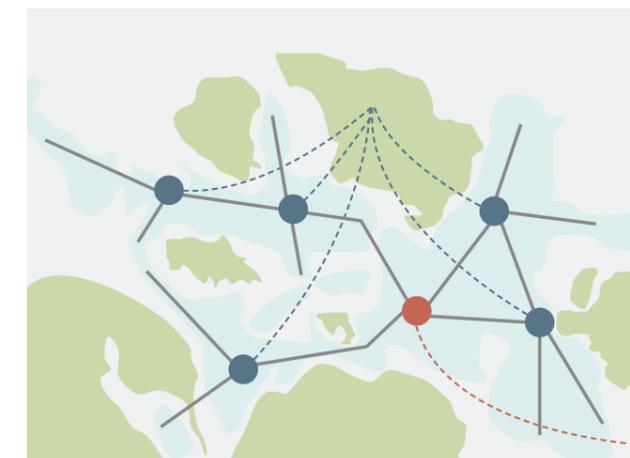
City and community concept

For safe roads and routes on the main traffic axes and in the neighbourhoods of cities and communities, well-functioning, reliable winter road maintenance is essential. Our team of proven experts analyses the local situation, the

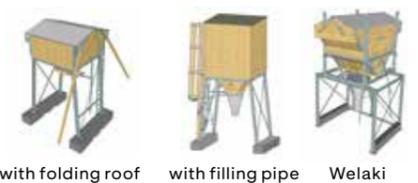
existing infrastructure as well as the winter road maintenance fleet and, in close cooperation with the responsible persons of the cities and communities, develops the logistics concept – for free and safe travel through the winter.

The starting point in the concept development is frequently a central salt store with large capacity. Small silos up to 40 m³ installed permanently or on a mobile basis are optimally spread across the city or community area and complement the central warehouse. They provide further salt capacities directly in the outer areas. Thus, empty trips are largely avoided, and time and costs in winter road maintenance are spared.

Optimised routes thanks to logistics concept



SMALL SILOS IN OUTER AREAS



CENTRAL SALT STORE



All-round service for your silo and brine facility

Our regular checks will ensure that your winter road maintenance system works flawlessly, the structure is in impeccable condition and your employees are safe when working in winter. And you save maintenance costs if mechanical defects are recognised and removed at an early stage. This helps to preserve the value and ensure the lifespan of your facility.

By analysing an existing system we can determine how best to adapt it to new requirements via, for example, a conversion, a renovation or an expansion.

Service agreement for reliable operation

Our reliable all-round service makes winter a piece of cake. Arrange a maintenance agreement with us so that you can rely on flawlessly functioning systems and efficient, safe operations. We test each component systematically

as well as holistically. We process the data and prepare a detailed overall report, a visit log as well as a measurement log for you. The detailed evaluation shows the safety and operational reliability of your facility.

A complete overview in the customer portal

By means of the maintenance portal, you can monitor your complete system very easily online. The cockpit on your screen informs you conveniently and simply about the levels of your system at all times. Messages regarding faults or reached level limits are promptly forwarded to the relevant place from the system by means of a defined message service. Withdrawal quantities, filling processes and production quantities are recorded automatically and can be evaluated directly via the maintenance portal.

Accessible information in the customer portal:

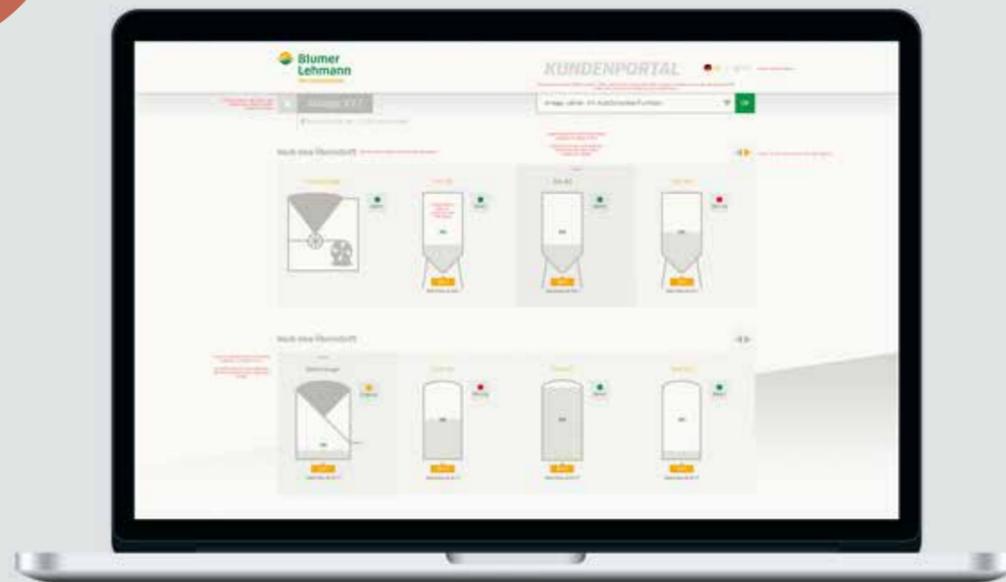
- Levels and reached level limits
- Fault notification directly to the competent body
- Filling processes, withdrawal quantities with optional, vehicle-specific assignment
- Production quantities
- Evaluation of the required grit or brine quantities

CHOOSE YOUR REQUIREMENTS FROM OUR WIDE SERVICE RANGE

- 24 h emergency service during the winter road maintenance months
- Spring and autumn maintenance
- Services for all products of all manufacturers
- Comprehensive maintenance and checks of silos, salt solution systems and conveyor systems
- Creation of measurement reports and detailed complete reports
- Maintenance of the system
- Conversion, expansion and renovation of existing systems
- Multi-year budget planning
- Detailed testing of measuring, weighing and conveyor technology



For the careful maintenance and inspection of your plant, talk to us. We are glad to support you.



Monitor your facility with ease via the online customer portal.

Production sites for trend-setting silo projects

Here at Erlenhof, we combine traditional craft with state-of-the-art technology and innovative processing techniques. Our passion is trend-setting ideas. We have the courage to implement visions. All wooden silos are manufactured at Erlenhof, our headquarters in Gossau, Switzerland.

In brine technology, we develop the best solutions – together with our German branch Blumer-Lehmann GmbH in Klosterlechfeld, Bavaria – and design and build the facilities individually for you.

And at Blumer Lehmann, approximately 40 employees work every day to create exceptional silo storage systems.



1 Production site
Klosterlechfeld (DE)

2 Production site
Erlenhof, Gossau SG (CH)



We develop your individual silo solutions

HEADQUARTER

Blumer-Lehmann AG
Erlenhof | 9200 Gossau
Switzerland
T +41 71 388 58 58
info@blumer-lehmann.com

LOCATION

WESTERN SWITZERLAND
Blumer-Lehmann AG
Avenue du Mont-Blanc 33
1196 Gland | Switzerland
T +41 71 388 52 75
info@blumer-lehmann.com

LOCATION GERMANY

Blumer-Lehmann GmbH
Am Wäldle 3 |
86836 Klosterlechfeld
Germany
T +49 8232 9597 870
info@blumer-lehmann.com



JAKOB FRISCHKNECHT

Managing Director
BL Silobau AG | Sales
T +41 71 388 58 10
jakob.frischknecht@blumer-lehmann.com



HANS-GEORG HIRT

Sales Germany | Brine technology
T +49 8232 9597 871
hans-georg.hirt@blumer-lehmann.com



LEON TRACHTE

Sales Silo and Facilities Construction |
Switzerland | International
T +41 71 388 58 73
leon.trachte@blumer-lehmann.com



ERICH EISENLOHR

Head of Service & Maintenance
T +41 71 388 58 45
erich.eisenlohr@blumer-lehmann.com



FABIAN SCHITTKOWSKI

Service & maintenance Germany
T +49 175 2283 382
fabian.schittkowski@blumer-lehmann.com

