



# INTELLIGENT SOLUTIONS FOR SCREENING BULK MATERIALS

# WE PROCESS THE FUTURE







# PROCESSING VALUABLE RESOURCES WITH CARE, EFFICIENCY AND INNOVATIVE SOLUTIONS.

The Binder+Co group's machines and systems are the ideal platform for the efficient preparation and conservation of valuable resources from primary and secondary sources. Founded in 1894 by Ludwig Binder, today Binder+Co is the world leader in processing glass cullet and sorting hard-to-screen bulk materials.

With a portfolio covering six process categories - crushing, screening, wet processing, thermal processing, sensor-based sorting, bagging and palletizing - we offer customers

great expertise and an extensive product range from a single source.

Our understanding of the interplay between these process steps enables us to provide high-performance, customconfigured solutions and so decisive economic and technical advantages.















The range of screening machines from Binder+Co covers conventional screens such as circular motion and linear motion vibrating screens through to special-purpose machines such as resonance screens, the BIVITEC flip flow screen for bulk materials that are difficult to screen, and elliptical screening machines. Binder+Co screening machines are used in a wide range of applications: as heavy-duty screens, dewatering screens, for screening wet material, filler removal or for wet and dry screening.

# **CONSTRUCTION RAW MATERIALS**

- Limestone
- Greywacke
- Diabase
- Basalt
- Granite
- Gravel
- Marble
- Gneiss
- Dolomite
- Amphibolite



# **INDUSTRIAL MINERALS**

- Quartz sand
- Feldspar
- Oldopai
- GypsumLimestone
- LITTICS
- Clav
- Bentonite
- Lava
- Marble
- Perlite
- Magnesite
- Slate
- Slate



# DEMOLITION WASTE

- Construction waste
- Waste wood
- Plasterboard



# WE SCREEN

# **EARTH AND COMPOST**

- Compost
- Earth
- Biomass



# IRON AND STEEL INDUSTRY

- Sinter
- Coke
- Slag
- Flux



# **MINING**

- Gold ore
- Iron ore



# **EFFICIENT SCREENING**

Binder+Co has been a global leader for decades in the screening of bulk materials from the classic mining industry, industrial minerals, as well as a variety of recyclable materials. Our innovative strength has led to the development of two trendsetting screening machines: the resonance screen and the BIVITEC flip flow screen. Both are an integral part of the industry today. In our Binder+Co technical center, we do feasibility testing, simulate customer's operational conditions and develop solutions to fit, to ensure the optimum machine design.

# WOOD

- Wood chips
- Sawdust



# DOMESTIC AND COMMERCIAL WASTE

- Domestic and commercial waste
- Shredder fractions



# IT ALL!

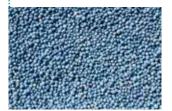
# SALT

- Rock salt
- Sea salt



# **FERTILIZERS**

- Artificial fertilizers
- Potash fertilizers



# **RECYCLABLES**

- Glass
- Electrical and electronic scrap
- Technical plastics
- Gypsum
- Refuse-derived fuel
- Sludge







# **TASK**

With the BIVITEC flip flow screening machine, Binder+Co starts where conventional vibratory screens become inefficient and less economical. Difficult products, such as damp, stalky and leafy materials or matted substances block the screen openings of conventional vibratory screens, thus making efficient screening impossible.

# **OPERATION**

The BIVITEC provides a simple solution to these challenging demands: with the help of resonance, a driving mechanism provides two vibratory movements in which the flexible polyurethane mats are expanded and compressed in turns, and the difficult-to-screen product is separated at high acceleration. The dynamically excited screen mats thus remain free and allow efficient screening.

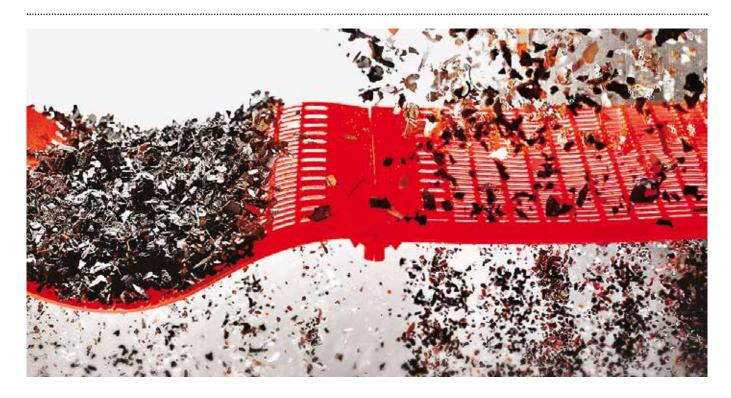
The BIVITEC vibratory screening machine copes with a wide variety of tasks and is used in traditional dry and wet screening as well as for screening hard-to-screen material. The BIVITEC screening technology has already proved what it can do for decades, in the processing of construction raw materials, industrial minerals, salts, ores, in the coal and steel industries and in the recycling industry.

In addition, the BIVITEC flip flow screen is also used as a space-saving and low-maintenance alternative to conventional screening machines in the screening of unproblematic bulk material.

Together with our cooperation partners, we also offer the BIVITEC flip flow screen in a mobile version.

Machine data	
Number of screen decks	1 – 4
Fully usable screen width (m)	0.6 – 3.5
Fully usable screen length (m)	2.5 – 12
Screen area/deck (m²)	1.5 – 42
Screen inclination	0° – 24°

# **BIVITEC FLIP FLOW SCREEN**



# **PERFORMANCE DATA**

Material data	
Feed rate	Up to 1000 t/h
Granulometry (bulk density <1 t/m³)	0 – 500 mm (when screening light materials up to max. 700 mm)
Granulometry (bulk density >1 t/m³)	0 - 200 mm (with protection deck)
Screening mats	
Aperture sizes (mm)	80 μm - 150 mm
Aperture shapes	Long, round, square holes and precision mesh
Special mats	For compost, acidic/basic materials, abrasive feed material (for example broken glass), filler removal of crushed sand
Protection deck	Wire, polyurethane, perforated plates, 3D screens

# **DESIGNS**

BIVITEC screening machines are available in a broad variety of designs: from **single deck** to **multi-deck machines**, in which the intermediate decks can be built over the whole length of the screen or depending on the task over only a section of this.

Thanks to the additional oscillating masses of the screen frame in BIVITEC systems, BIVITEC screening machines can be combined with a conventional screen deck for easy-to-screen tasks or as protection screening deck.

The **Banana BIVITEC** offers an ideal solution for screening difficult materials with a high fines content in the feed material and also for implementing two grain-size separations on one single screen deck.

It combines the benefits of banana screens with those of the BIVITEC:

- The constant curvature radius prevents changeovers when going from steep to flatter screening inclinations.
- High material speeds on the screen deck and relatively smaller layer heights on the discharge side bring about considerably higher specific throughput rates.
- Significantly lower material speeds, increasing dwell time resulting from this, and layer formation in the discharge side of the screen decks produce significantly improved grain-size separation.

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# **RESONANCE SCREEN**



### **TASK**

Resonance screening machines are used for end products with highest screening quality and for cut points of up to 70 mm in dry and wet screening of round and square grains as well as fishy (flaky) material.

With a low overall height, up to 6 end products can be separated with one machine. Since no dynamic forces are released during screening, light substructures are sufficient. Cost savings also result from the elimination of additional conveyor belts.

# **OPERATION**

Resonance screening machines are guided by suspension arms, work on the ejection principle and execute a linear movement. Two rocker arms with identical weights are bedded in rubber sleeves and connected to the suspension arms to provide a maintenance free mechanism. Both rocker arms are excited by an eccentric drive whose connecting rods are secured to elastic spring mountings. The energy transferred from the vibratory system by these elastic springs is relatively little compared to other screening systems.

Drive is achieved by electric motor and v-belt. Mounting is on suspension arm supports and steel base frame which in turn is mounted on antivibration blocks.

Machine data		Material data	
Number of screen decks	1 – 2	Feed rate	Up to 800 t/h
Fully usable screen width (m)	0.8 - 2,4	Granulometry (bulk density >1.0 t/m³)	0 – 100 mm
Fully usable screen length (m)	2.3 - 14.9		
Screen area/deck (m²)	1.8 – 36		

Screening mats	
Aperture sizes (mm)	1 – 70
Aperture shapes	Long, round, square holes
Screen media	Polyurethane mats, wire mesh, perforated metal

# **CIRCULAR VIBRATING SCREEN**



# **TASK**

Binder+Co circular vibratory screens are particularly suited to the efficient screening of materials with a tendency of blinding, because the rotating acceleration vector easily ejects clamping materials. Circular vibrating screens are used primarily for reducing loads on crushers, as pre-separators and for screening of end products. Their application is classical screening of medium to coarse fractions up to 150 mm.

# **OPERATION**

The Binder+Co circular vibratory screens operate according to the ejection principle, describing a near circular motion. Adjustable unbalance masses allow for fluctuating feed rates. In order to keep the material layer low, circular vibrating screens are always inclined downwards. The speed and amplitude of the vibration are adjustable thus the circular vibrating screen achieves the best results for the respective screening task.

Drive is by electric motor and cardan shaft to the main drive shaft equipped with a single unbalance weight. Where required additional v-belt drive can be provided. The drive shaft is mounted on heavy duty roller bearings sets, lubricated with grease or oil. Like the linear vibratory screens, circular vibratory screens are mounted on rubber springs and additionally available with air springs.

Machine data		Material data	
Number of screen decks	1 – 3	Feed rate	Up to 1000 t/h
Fully usable screen width (m)	0.8 – 3.1	Granulometry (bulk density >1.0 t/m³)	0 – 300 mm
Fully usable screen length (m)	2 – 12		
Screen area/deck (m²)	1.6 – 37.2		

Screening mats	
Aperture sizes (mm)	2 – 150
Aperture shapes	Long, round, square holes
Screen media	Polyurethane mats, wire mesh, perforated metal

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# **LINEAR VIBRATING SCREEN**



# **TASK**

Linear motion vibrating screens from Binder+Co are used for the precise screening of bulk materials, since they work with horizontal or very low inclination of the screen surfaces. They are primarily used for high quality end products, for fine, medium and coarse cut points up to 200 mm and for materials such as round grain, square grain, and in steel processing. The applications range from dry and wet screening to use as dewatering screens.

# **OPERATION**

The Binder+Co linear vibratory screens operate according to the ejection principle, describing a near linear motion. The unbalance masses and inclination of the vibratory screen can be adapted to the specific application.

Long construction lengths also allow for several cut points on one screen deck. The oil-bearing drives of the linear vibrating screen guarantee smooth, continuous operation with highest reliability.

# **PERFORMANCE DATA**

Machine data		Material data	
Number of screen decks	1 – 3	Feed rate	Up to 1300 t/h
Fully usable screen width (m)	0.6 – 3.6	Granulometry	0 – 300 mm
Fully usable screen length (m)	2 – 11		
Screen area/deck (m²)	1.2 – 43.2		

Banana design for high feed rates and accurate screening

Screening mats	
Aperture sizes (mm)	4 – 150
Aperture shapes	Long, round, square holes
Screen media	Polyurethane mats, wire mesh, perforated metal plates

# **ELLIPTICAL SCREEN**



# **TASK**

Elliptical motion vibrating screens are mainly used with limited installation heights for dry or wet screening. The compact design and low screen inclination of the elliptical motion vibrating screen enable a minimal space requirement in terms of both height and width. In addition, blinding is prevented by the elliptical vibration. For demanding screen tasks the elliptical vibrating screen can be designed with a BIVITEC system.

# **OPERATION**

The elliptical motion vibrating screen is driven by two counter rotating unbalance exciters with different unbalance. This creates an elliptical basic vibration, which ensures the prevention of clogging particles on the screen deck. The elliptical vibration can be manipulated by adjusting the unbalance masses and can be adapted to the individual application.

# **PERFORMANCE DATA**

Machine data		Material data	
Number of screen decks	1 – 4	Feed rate	Up to 1000 t/h
Fully usable screen width (m)	1 – 3,1	Granulometry	0 – 300 mm
Fully usable screen length (m)	4 – 11		
Screen area/deck (m²)	4 – 34.1		

Banana design for high feed rates and accurate screening

Screening mats	
Aperture sizes (mm)	80 μm – 150 mm
Aperture shapes	Long, round, square holes
Screen media	Polyurethane mats, wire mesh, perforated metal plates

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# **RECYCLING SCREEN**



# **TASK**

Binder+Co has developed recycling screens for demanding tasks in the recycling industry. The screen decks are equipped with bar or 3D screens.

These screening machines can be configured with a BIVITEC system in the lower deck. By combining two different screening systems in one machine, fewer conveying elements and substructures are necessary. The screening parameters can be easily adapted to the feed material.

# **OPERATION**

Screen media

Binder+Co recycling screens operate according to the ejection principle, describing a near circular motion. This type of screening machines are ideal for fluctuating feed rates, because the easy to adjust unbalanced masses enable the machine to be adapted to changing feeds.

# **PERFORMANCE DATA**

Machine data	
Number of screen decks	1 – 3
Fully usable screen width (m)	0.8 – 3.1
Fully usable screen length (m)	3 – 12
Screen area/deck (m²)	2.4 – 37.2
Material data	
Feed rate	Up to 300 t/h
Granulometry (bulk density <1.0 t/m³)	0 – 500 mm
Screening mats	
Aperture sizes (mm)	4 – 150
Aperture shapes	Long, round, square holes

3D-screens, bar screens, polyurethane mats

# **HEAVY-DUTY SCREEN**



# **TASK**

The tough heavy-duty screens from Binder+Co are used as a preliminary stage for crusher relief. Heavy-duty screens reliably accomplish high feed tonnages and grain sizes up to 1000 mm.

# **OPERATION**

Binder+Co heavy-duty screens operate according to the ejection principle, describing a near circular or linear motion. This type of screening machines are ideal for fluctuating feed rates, because the easy to adjust unbalanced masses enable the machine to be adapted to changing feeds.

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# **DEWATERING SCREEN**



# **TASK**

The low-maintenance and low operating cost dewatering screening machines from Binder+Co work with proven dewatering mats on inclined screen decks. Both the deck inclination and the vibration parameters can be flexibly adapted to the individual application or requirement, to guarantee high efficiency and the best possible quality output.

# **OPERATION**

The solids-water mix is fed on the dewatering screen. Due to the linear movement of the inclined screen deck the solids-water mix is transported over the dewatering screen mats. The screen overflow is the dewatered product, while the water partially enriched with fines is discharged into the screen underflow.

Machine data	
Number of screen decks	1 – 2 (upper deck for protection)
Fully usable screen width (m)	0.4 – 3.1
Fully usable screen length (m)	1.2 – 7
Screen area/deck (m²)	0.5 – 21.7
Material data	
Feed rate	Up to 350 t/h solids
Granulometry	0 – 63 mm
Screening mats	
Aperture sizes (mm)	Dewatering, desludging
Aperture shapes	Long holes, across or in conveying direction
Screen media	Polyurethane mats

# **FEEDING AND DISTRIBUTION UNITS**



Vibrating feeders are essential in many steps in the processing of bulk materials. They guarantee optimal feeding to the machines, ensure the correct distribution of the material, and are used for the material discharge. Their robust design also withstands demanding environmental conditions, and they are easy to operate and maintain.

### **VIBRATING FEEDERS**

Vibrating feeders are used for feeding and discharging. Clog-free designs have proven successful for problematic bulk materials. Vibrating feeders can also be supplied in a heavy duty version.

# **SCREEN VIBRATING FEEDERS**

Screen vibrating feeders are used for the transport of bulk materials and for the separation of small and micro parts. Stainless steel versions are mainly used in the food industry.

### **SCREEN DISTRIBUTION VIBRATING FEEDERS**

Screen distribution vibrating feeders provide a constant material feed, separation of small grain sizes as well as the optimal distribution of bulk materials.

### **DISTRIBUTION VIBRATING FEEDERS**

Distribution vibrating feeders ensure the optimal distribution of bulk materials.

### **PIPE VIBRATING FEEDERS**

Pipe vibrating feeders are up to 50 m long and are used for gentle and dust-free conveying of bulk materials. They mainly process granulates, artificial fertilizers or sand. Pipe conveyors are designed in single-mass oscillation or resonance systems.

### **ADDITIONAL EQUIPMENT & DESIGN**

Moveable - rollers and rails for better machine accessibility

Air springs to reduce the dynamic loads

Dust-proof design with covers, dedusting connection and sealing frame

Stainless steel design for the food industry

Special design for bulk materials which tend to clogging

Optimum wear protection for a wide range of applications: plastic, stainless steel, Vaudit, Hardox and ceramic wear protection



# **AFTER SALES SERVICE**



# MACHINES, SYSTEMS AND ALL-ROUND SERVICE

Our vibrating screens are hard at work on six continents. We offer innovative systems and processes that give our customers a decisive competitive advantage, alongside first-class product quality that includes high availability and rapid rectification of faults and problems by our worldwide after-sales service team.



# binder+co





# OUR AFTER-SALES SERVICE

- Fast spare parts supply via efficient shipping logistics
- Prompt repair and regular maintenance for the continous optimization of machine performance and to ensure ongoing reliable operation
- Extensive assistance and advice
- 24/7 service hotline for fast problem-solving
- Training in operation and maintenance



# **BIVITEC & RESONANCE SCREEN**



With the BIVITEC flip flow screen and the resonance screening machine, Binder+Co has had a lasting impact on the screening of bulk materials. The BIVITEC screening system is used when conventional screening machines become inefficient. The resonance screen scores thanks to its low dynamic loads and up to six cut points on one machine. Both screening systems have become established in bulk material processing worldwide.

# **SCREEN MATS**



One success factor in the screening of bulk materials is choosing the right screen mats. They must not only ensure precise screening, but must also be simple to replace and durable. Binder+Co offers the optimal equipment for various applications, from steel grids, perforated metal plates, polyurethane and precision mesh.



# **VERSATILE & CUSTOMIZED**

Binder+Co not only has a wide range of screening machine products, but we also adapt the screening machines to the individual tasks and equip them with the necessary equipment. Binder+Co vibratory screens are as varied as their applications: from heavy-duty screens and dewatering screens through to very fine screening and screening of hard-to-screen bulk materials.

# **KNOW-HOW**

With more than 4000 screening machines constructed and more than 200 annual tests, we have been able to acquire extensive know-how in the manufacture of screens and their applications, from which our worldwide customers benefit.

# binder+co

# **DURABLE AND TOUGH**

Binder+Co screening machines are designed for demanding ambient and weather conditions. They master high feed rates while remaining easy to maintain. The screwless mounting system of the BIVITEC screen mats, for example, allows a simple and rapid exchange of the screen mats.



# **FINE - FINER - BINDER+CO**

The BIVITEC flip flow screening machine is our solution here. We have been involved with the removal of fines by screening since the early 2000s, and today we are able to screen industrial minerals with cut points up to 63 microns, efficiently and without clogging.



# **SIZE MATTERS**

Our decades of expertise in the production of screening machines enable us to build our screens one size bigger. Our machines are available up to a size of 42 m<sup>2</sup> per screen deck.





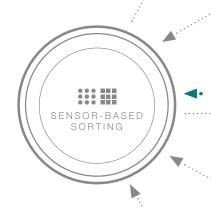
### **BAGGING • PALLETIZING**

Bagging is necessary for the practical handling, transportation and storage of bulk materials. Naturally it must be efficient in terms of operating costs. Statec Binder offers bagging and palletizing systems for many industries and many different types of bags.

# BAGGING PALLETIZING

### **SENSOR-BASED SORTING**

In recycling, sensor-based sorting is a necessary and established process step for generating high-quality secondary raw materials and reducing landfill volumes. It has also become essential in the raw materials industry, to reduce the burden on downstream processes, cut operating costs and ensure high product quality. With CLARITY and MINEXX, Binder+Co offers sensor-based sorting systems that cover a wide range of applications in the raw materials and recycling industries.



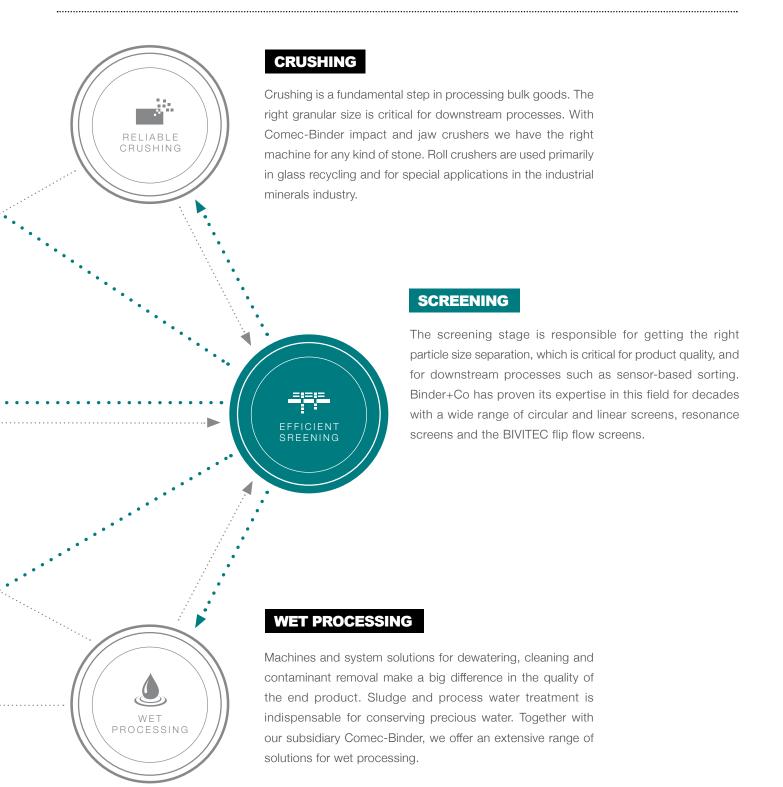
# THERMAL PROCESSING

Drying is a prerequisite for high final product quality, to reduce transportation costs, ensure storability and keeping, and facilitate downstream processes such as screening and sensor-based sorting. With DRYON we offer a system for thermal processing of all kinds of bulk materials that is reliable and easy on products, for maximum process efficiency.





# binder+co





BINDER+CO IN

# **AUSTRIA**

# binder+co

MANUFACTURING SALES AFTER SALES R&D

PROCESSING STEPS:







THERMAL PROCESSING





RELIABLE CRUSHING

EFFICIENT SCREENING

SCREENING PROCESSING

SB STATEC BINDER
highly efficient bagging and palletizing solutions

MANUFACTURING SALES AFTER SALES

PROCESSING STEPS:



BAGGING PALLETIZING

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MANUFACTURING SALES AFTER SALES

PROCESSING STEPS:



BINDER+CO IN



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BINDER+CO USA INC.

SALES AFTER SALES

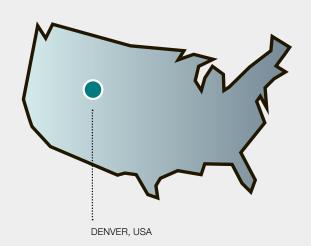
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THERMAL PROCESSING

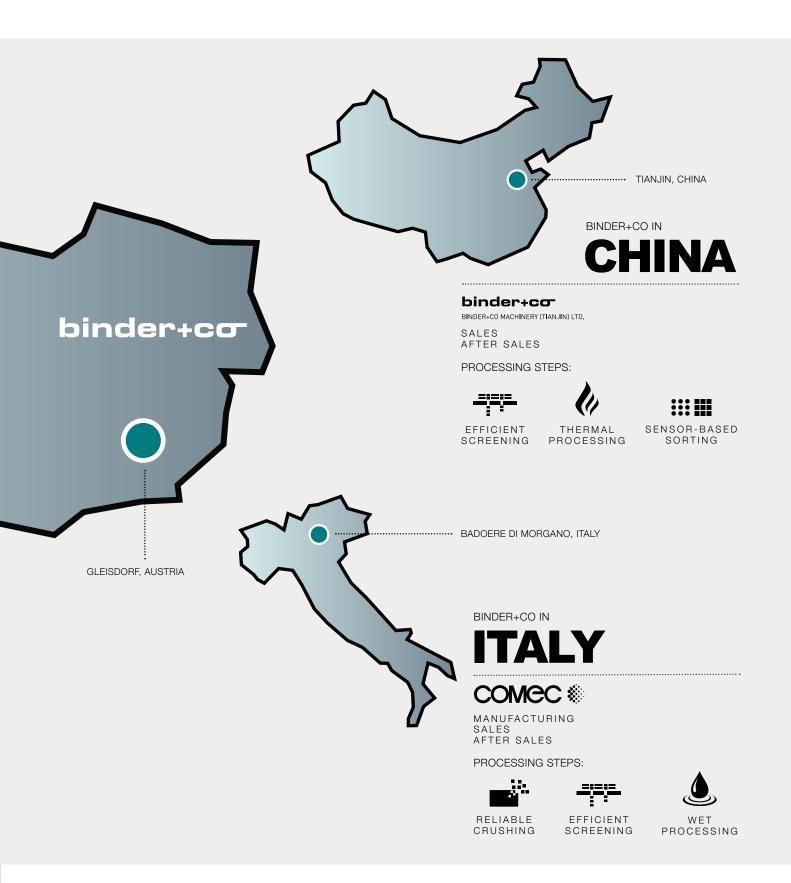


SENSOR-BASED SORTING





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# **BINDER+CO GROUP WORLDWIDE**

