

# Engelsmann Vibration Sieves:

Universal, economic, compact.



- JEL Konti II
- JEL Fix
- JEL TWS
- JEL EasyVib
- JEL VibSpeed



## Welcome to the Experts for Bulk Solids Processes

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Founded over 140 years ago, J. Engelsmann AG focused on the specific needs of the bulk solids industry very early on. Whether machines for screening appliances or plants for filling and emptying big bags, Engelsmann designs, manufactures and distributes process solutions for almost all kinds of bulk solids across the world.

The state-of-the-art manufacturing technologies and a quality management system that complies with ISO 9001:2008 ensure that all Engelsmann products are highly safe and of an excellent quality.

„We make short work of your bulk solids“, is our motto. By specializing on our key business screening technology and big bag plants, we combine years of experience with our expertise in planning, manufacturing and assembling process plants for screening, mixing, conveying, dosing and weighing. High quality product solutions in laboratory technology and drum hoop mixing systems complete our product portfolio.



### Your safety is our priority

A comprehensive range of services complements our portfolio and provides you with a solution that is tailored to your needs and from a single source. Our fast, local replacement parts service means that we avoid long periods of inactivity and help to reduce breakdown costs.

However, our range of services is not limited purely to „managing emergencies“. An extensive service portfolio accompanies the operating life of our machines and plants, from putting them into service right up until the end of their service life.

### Small-scale testing for large-scale applications

We use our pilot station to optimize procedural parameters in downscaled plants so that they can later be used in production processes in larger plants.

Upstream tests are used to certify bulk solids processes and to compile production processes and throughput rates efficiently. We would be happy to run tests together with you upon request.



## Flexibility is their Advantage: The Vibration Sieve Family

Screening machines from Engelsmann are in operation across the world. In addition to vibration screening machines, the company's product portfolio includes long-stroke and centrifugal screening machines. In all sectors where screening needs to be efficient and cost-effective but also be highly flexible, vibration screening machines from Engelsmann are certainly difficult to surpass.



Low noise emission

### Works the same, just smoother and quieter

The machines' imbalance vibration motors which run lengthways in the direction of the screening process oscillate in time with one another and synchronize themselves automatically during operation. A more regular, silent operation is the result.



High flexibility

### Opportunities for different industries

Whether powdered, granulated or oily products, Engelsmann vibration screening machines are installed as protective, control or classification screens at different points in the production process. Its flexible range of applications makes it preferable for use in the chemical, pharmaceutical, plastics and food industries.

### Convincing facts

- High screening output by reducing delay time considerably
- Vibration motors run silently
- Short downtime thanks to a simple, quick change of screens
- Modular construction allows the machines to be adapted
- Designs available in ATEX or also in GMP upon request



Less floor space required

### Made compact for smaller spaces

Engelsmann vibration screening machines also fit nicely into tight or narrow spaces. Their compact, extremely flat design means that they can also be integrated into existing plants.



Maximum operating efficiency

### Getting your ROI in sight

When it comes to making vibration screening machines efficient and cost-effective, we certainly do not cut any corners when drawing up our designs. Its modular design makes it easy to handle and quick to clean. A lower number of wearing parts also reduces the need for maintenance and replacement parts to a minimum. Your calculable advantages: Long operating times and lower life cycle costs.

## JEL Konti II – The Classic

The JEL Konti can be used for various bulk solids and screening tasks. The operation and maintenance of the machine can be done entirely without tools. In addition, the dead-space-

free screen trough with increased radii allows for a simple and residue-free cleaning of the vibration screening machine.



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### High-performance and versatile

The single or double-deck JEL Konti can be used for the grading and separation of over and undersized particles, or it can even be used for protective screening. Thanks to its compact construction, the JEL Konti can also be integrated into existing systems later on. With screening surfaces ranging from 0.18 to 4.0 m<sup>2</sup>, the JEL Konti can achieve a high specification screening output of up to 30 t/m<sup>2</sup> per hour.

A modifiable screen inclination (from 3° to 7°, Standard: 5°) and the easily adjustable vibration motors (from 15° to 75° in 15° intervals or parallel to the screen surface) allow the machine to adapt to different product and screening requirements.

Integrated cleaning options for the screening mesh include an ultrasound, or triangle cleaning system. With additional equipment such as a mobile base frame or the installation of CiP cleaning, the JEL Konti can be flexibly adjusted to accommodate different needs.

### Simple handling and residue-free cleaning

To minimize downtime and to eliminate the danger of incorrect operation, the JEL Konti can be operated and maintained entirely without tools. The screen insert can be pulled out from the front of the machine, just like a drawer, in a few simple steps without having to separate the machine from the product feed and output.

There is also very little effort required when it comes to cleaning the machine. The light-weight machine cover allows for a tool-free and quick access to the inside of the machine, which has a dead-space-free design and increased radii – with a simple and residue-free cleaning guaranteed.

For particularly high hygiene requirements, the JEL Konti is designed according to guidelines such as GMP, FDA, BfR or 1935/2004 and is available in various surface treatments and roughnesses.

### Convincing facts

- Faster screen change due to the screen insert which can be pulled out from the front
- Minimal maintenance requirements thanks to the low number of wear parts
- Simple and residue-free cleaning thanks to the dead-space-free design
- High screening capacity thanks to a lower product dwell time
- Versatile options for adaptation to suit a wide variety of product properties
- Simple handling thanks to the ergonomically-shaped cover and tool-free operation
- Cleaning on the spot (CiP) without having to disconnect the product feed and output





## Application Examples

The JEL Konti can be used in the chemical, plastic, food and pharmaceutical industries, and is also commonly integrated into existing systems thanks to its compact design. The

following examples of use give you an overview of the wide performance spectrum of the JEL Konti.



### Separation of dust particles from catalysts

#### Detailed requirements

- Dedusting of catalysts to ensure high product quality
- Adjustment to various catalyst products
- Quick screen changing to minimize downtime

#### Machine design

- Adjustable screen inclination
- Regulable vibration amplitude
- Adjustable vibration motor
- Dust-tight machine design, up to 50 mbar

#### Convincing facts

- Several different catalysts can be screened on one machine thanks to the adjustable screen inclination and vibration amplitude
- Tool-free changing of the screen insert without having to dismantle the machine
- Dust-tight screening process guarantees a clean production environment, even with fine powder products



### Classifying pharmaceutical precursors

#### Detailed requirements

- Screening solution with high selectivity for the separation of oversized particles in the production process
- Clean integration into the existing production system
- High demands placed on the surface finish
- Reduced cleaning times
- Construction and qualification according to GMP guidelines

#### Machine design

- CiP cleaning with integrated washing nozzles
- Ultrasound screen cleaning
- GMP-compliant design with polished (no contact with product) and electro-polished (contact with product) surfaces

#### Convincing facts

- Separation of oversized particles with a selectivity of over 99%
- Consistently high through-put thanks to the ultrasound cleaning of the screen mesh
- CiP cleaning significantly reduces downtime for the machine cleaning
- Dead-space-free screening trough guarantees hygienic machine use

## JEL Fix - Small but Mighty

Whether in the laboratory, production or pilot plants, JEL Fix is particularly suited to small spaces since it has a low design height and requires less floor space. The round screening machine is available in a range of designs and is suitable for

continuous or discontinuous screening processes. It can be assembled and cleaned in just a few steps.



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### Coarse materials screened in double-quick time

The JEL Fix series was designed for continuous and discontinuous screening processes for separating foreign objects or large particles from production processes that require a particle range of 25 µm to 20 mm.

For continuous screening processes, the round screening machine is equipped with an outlet for coarse materials which removes any remaining large particles from the screen mesh. The result: the screening process no longer has to be interrupted to inspect the surface of the screen. The JEL Fix machine with a coarse material outlet is available with a screen diameter of 500 mm (JEL Fix 50).

The quiet vibration motors can be equipped with a frequency regulator and can therefore be adjusted to suit different screening specifications. The delay time of the product being screened can also be changed manually and adjusted to suit the screening properties required.

### Easy going - handling and cleaning

With a low design height of 195 mm, JEL Fix 50 is certainly designed for integration into existing plants. Its compact design also makes it easy to operate the vibration screening machine. In just a few steps, you have access to the screen ring which can be easily dismantled and changed. The screening mesh can either be kept clean using an ultrasound or triangle cleaning system.

### Diverse range of designs

The JEL Fix series is available in a GMP compliant design with smooth, electrolytic polished surfaces and in a gas-proof design for use in the pharmaceutical or food industries. For use in the explosive substances sector, an explosion protection version of the compact vibration screening machine is available. Depending on your requirements, the JEL Fix version can be equipped with either a stationary or mobile base frame.

### Convincing facts

- Compact design with low design height for limited space
- Delay time of the product on the screen mesh can be adjusted
- Can be integrated into existing plants
- Quick and simple to clean thanks to direct access to the machine
- Available in gas-proof, GMP or ATEX designs upon request
- Also available for continuous screening





## Application Examples

JEL Fix is predominantly used for protective and control screening of dry and fluid bulk solids and is used in all sectors where there is little assembly space available or where screening applications have to be integrated into existing plants.

Its range of sizes and designs means that the JEL Fix series can be adjusted to fit the screening task required.



### Control screening detergents

#### Detailed requirements

- Prevents finished products from being contaminated with foreign objects
- Control screens are integrated into existing plants
- Mobile for possible relocation

#### Machine design

- Mobile base frame to make it possible to move the machine
- Inlet and outlet control
- Outlet for coarse material

#### Convincing facts

- Cost-effective integration into the production process
- Quick and simple relocation
- Continual screening of over-sized particles during the screening process



### Protective screening for pharmaceutical precursors

#### Detailed requirements

- Prevents foreign objects from entering any additional production processes
- Quick cleaning options
- Complies with pharmaceutical hygiene regulations

#### Machine design

- Screen mesh with a mesh diameter of 100 µm
- Screen cleaning using ultrasound
- GMP design with smooth, e-polished surfaces and sealants that are FDA compliant
- Base frame with adjustable wheel height

#### Convincing facts

- High screening ratio
- Screen is changed quickly by being able to dismount it easily without tools
- Time is saved when cleaning by relocating the machine

## Your Silo's Companion: JEL TWS

The JEL TWS vibration screening machine is a quality control sieve to protect production plants and end products from contamination. It is particularly suited to being integrated into the delivery pipeline when emptying tankers or can be used

for silo filling that uses pneumatics. The JEL TWS can be equipped with a mobile base frame upon request so that it can be moved.



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### A screen for coarse materials

With a screen diameter of 500 mm and 800 mm as well as a screen surface area of up to 0.5 m<sup>2</sup>, the JEL TWS screening machine really shows what it can do by reaching a maximum throughput rate of up to 30 t/h on gas-proof designs of up to 2 bar. TWS screening machines are designed for mesh diameters of between 1 mm and 20 mm. Smaller mesh widths are available upon request.

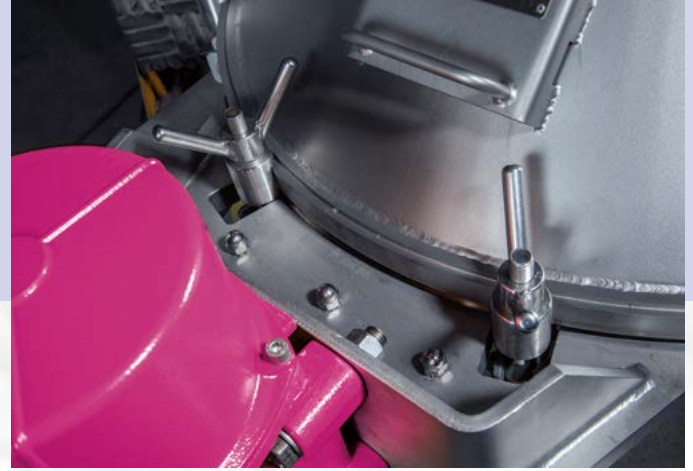
### A first-class structure for easy cleaning

JEL TWS machines are designed in stainless steel as standard. The structure of the machine interior aids and simplifies cleaning. The screening cover can be opened without having to use a tool as it has a quick-release catch. This means that the screen insert underneath can be removed or changed quickly and easily.

TWS screening machines are also available in GMP designs meaning they can be used in sectors with strict hygiene regulations. The ATEX version is the best option for using the machine in zones where explosive substances are used.

### Convincing facts

- Provides protection for product batches against contamination
- Quick and simple screen change
- Can be relocated to different positions
- Gas-proof design in accordance with feed pressure (up to 2 bar)
- Can be connected and disconnected the feed pipeline quickly
- Compact design where little floor space is required
- Available in GMP or ATEX design upon request



### Top trumps for mobility

The JEL TWS can be operated in different places when it is assembled on top of a base frame with two lockable trestle and swivel castors. So that on-site pipelines can be connected and disconnected quickly, the machine is equipped with an inlet and outlet which each have a coupling half. The flanged inlet and outlet pipes can be rotated and can be adjusted to the conditions on site.





## Application Examples

The JEL TWS is particularly used as a mobile protective or control screening machine in raw materials supply processes within the chemical, plastics processing and other related industries. Depending on the circumstances, the JEL TWS is

also used in sectors where strict hygiene regulations are in place or in ATEX zones in order to guarantee a high level of quality in product processing.



**Protective screening for PVC powder**

### Detailed requirements

- Protects the extruder from foreign objects
- Metal contaminants are screened out
- Can be used in areas where explosive substances are used

### Machine design

- Magnetic separator positioned underneath the screen mesh to remove fine metal particles
- Screen mesh with a mesh diameter of 2 mm
- ATEX Zone 21 on the inside

### Convincing facts

- Protects the end product from contaminants
- Simple to connect and disconnect the inlet and outlet piping
- Mobile base frame for relocating the machine to another position



**Control screening cocoa before silo**

### Detailed requirements

- Removes foreign objects before feeding cocoa powder into the silo
- Screens out wooden objects and fabrics
- Can be used anywhere

### Machine design

- Screen mesh with a mesh diameter of 2 mm
- Rotatable outlet pipe
- Specially designed discharge cone to protect the screening mesh

### Convincing facts

- Protects the production plant
- Reduces downtime needed for cleaning and maintenance
- Improved product quality

## JEL EasyVib – Simple Screening Made Easy

If screening needs to be simple, cost-effective and quickly, then choose the JEL EasyVib. With its reasonable cost price and simple operation, the JEL EasyVib is specially designed for screening tasks where machines are required to be used in a cost-effective way. Low cost prices and the extremely low

need to replace parts and carry out maintenance work make the JEL EasyVib a lucrative investment.



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### Simply ideal for separating the large from the small

JEL EasyVib was particularly designed for protective screening and for removing over-sized particles from powdery and granular bulk solids within the plastics and chemical industry. The vibration screening machine is based on a modular building blocks principle and can be used to screen a broad range of granular products from approx. 500 µm up to 10 mm. The JEL EasyVib is currently available in two different sizes with 0.5 m<sup>2</sup> and 0.75 m<sup>2</sup> screening surfaces as well as in single and double-deck designs.

### Cost-effective to purchase and to operate

When constructing the JEL EasyVib, much focus was placed on reducing maintenance times and the need to replace parts, and welding as well as using welded parts was avoided insofar as was possible. For example, this means that the JEL EasyVib has plug-in seals that have been designed to comply with FDA and which can be changed quickly. The machine can also be delivered without a lid upon request to provide a better view of the screening process.

### Convincing facts

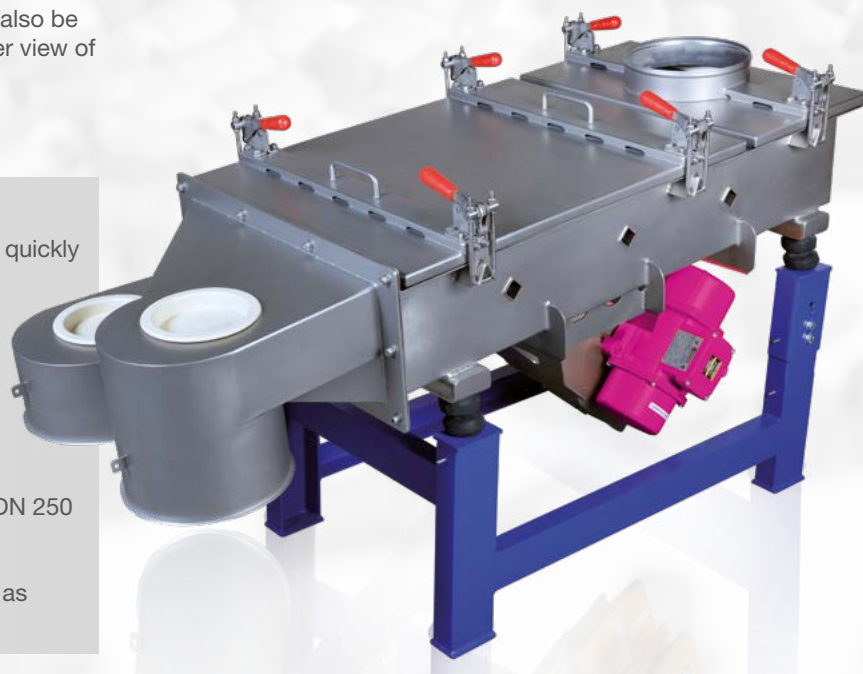
- Low purchasing prices and short delivery times
- Cost-effective replacement parts that are delivered quickly
- Reduced need for maintenance due to a lower number of welded parts
- Modular building blocks principle for quick cleaning and simple operation
- Can be adjusted to suit different products both quickly and with flexibility
- Adapter system for separate outlets of DN 150 – DN 250
- Available in ATEX design upon request
- Special guide plate for screening granules comes as an accessory

### Spartan, but practically designed

The standard design comes with a two-part cover that seals the machine and makes it dust-proof using a quick-release. The cover release is easy to open and makes it easy to replace the existing stainless steel wire mesh quickly.

The adjustable vibration motors at angles of 35° to 65° allow the feed speed and trajectory of the screening product to be set as flexibly as the angle of the screen deck (2° to 5°). The outlet zone can be set to several different sizes by using an adapter system.

The running screening process can be viewed through a viewing opening that can be visually monitored. If required, the machine can be fixed to the floor using a suitable support construction.

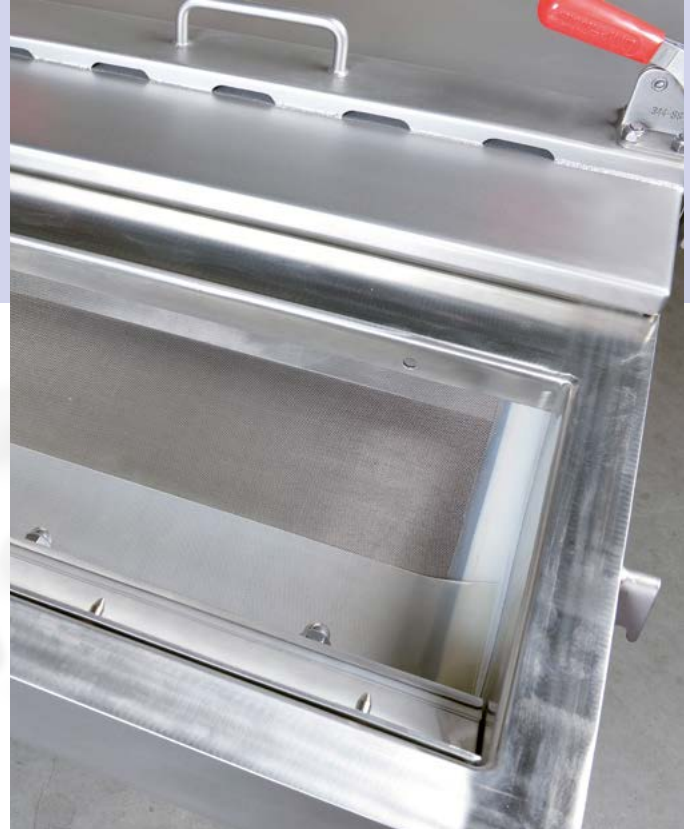




## Application Examples

The JEL EasyVib is specially designed for less complex screening processes such as protective screening and for removing over-sized particles from dry and fluid bulk solids in production processes in the chemical, plastics and other

related industries. Thanks to its modular design the machine is easy to operate and quick to clean, thus reducing downtime and guaranteeing that the machine is ready to be operated.



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### Protective screening for carbonates

#### Detailed requirements

- Under-sized particles are removed
- Cost-effective solution required
- Simple operation and quick to change the screen

#### Machine design

- Single decker with a sealed cover
- Guide plate in the inlet area to 'move' the rounded oblong granules
- Vibration motors can be adjusted

#### Convincing facts

- Protects the end product from contaminants
- Simple to connect and disconnect the outlet piping
- Requires little maintenance due to a lower number of welded parts

### Control screening powdered products

#### Detailed requirements

- Prevents unwanted solids from entering the following stages in the production process
- Can be used in areas where explosive substances are used
- FDA compliant seals

#### Machine design

- Single decker with a sealed cover
- ATEX zone 22 on the inside
- Adjustable screen angle

#### Convincing facts

- Protects the production plant
- Reduces downtime needed for cleaning and maintenance
- Improved product quality

## JEL VibSpeed – The Sieve that's Going for Pole Position

Whether the JEL VibSpeed is used to separate large and small products or to classify powder or granular bulk solids, it excels thanks to a wide range of options for adjusting and cleaning. It is the ideal solution for use in sectors where different products

are processed or where cleaning regulations are strict. The machine is designed to keep downtime as short as possible when changing batches or when cleaning is necessary.



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### A cover that does it all

The JEL VibSpeed is equipped with a hinged cover which makes it unnecessary to spend significant amounts of time dismantling or cleaning the machine. Screen inserts and replacement parts can be changed quickly and easily without having to use any additional tools, making it easier to access the inside of the machine. It is not necessary to operate the machine using a removable cover or a cover in parts. This is a particular advantage when space is limited.

### Greater output with a clean screen

JEL VibSpeed can be equipped with different cleaning systems in order to prevent the screen mesh from becoming saturated with the product. Depending on the consistency of the bulk solid to be processed, there is the option of choosing a ball, triangle or ultrasound cleaning system.



**Product videos and further information are available online.**

### Screen change is quicker than a pit stop

When products need to be changed frequently and short cleaning intervals are required, the screen insert not only has to be easy to access but also quick and easy to change. By disconnecting the clamping device on the front end, the screen insert can be removed and a new one inserted in just a couple of steps.

### Squeaky clean

The JEL VibSpeed is designed to be cleaned simply and quickly. The screening machine does not have to be removed from its position when carrying out CiP cleaning. The machine is equipped with cleaning nozzles in the cover and in the outlets so that it can be cleaned. If required, retractable nozzles that are only positioned in the area where the product is placed can be used when the machine is cleaned. Thanks to smoother, highly accessible surfaces on the inside of the machine, the JEL VibSpeed is cleaned in just a short amount of time so reducing downtime and increasing machine operation.







### If you have a VibSpeed, you have the choice

You can configure the JEL VibSpeed to suit your specific screening processes. A range of various design options and additional components are available for you to do this.

Depending on what you require, JEL VibSpeed is available as a single or double decker. This means that the machine is in no way limited to the design you select. Changing double deckers into single deckers is done by converting the middle frame into a screen insert in just a few steps. When retrofitting the double decker version, you simply have to assemble the appropriate conversion kit. Screen outlets can also be changed easily.

The JEL VibSpeed screening machine series can be used for screening processes with granules that are between 25  $\mu\text{m}$  and 20 mm. The machine is available with different screen surface areas. The single decker's range spans from 0.25 m<sup>2</sup> to 3.75 m<sup>2</sup>, and the double decker design spans from 0.5 m<sup>2</sup> to 7.5 m<sup>2</sup>. The JEL VibSpeed version can be equipped with either a stationary or mobile base frame upon request.

### Convincing facts

- Quick and simple change of the screen without having to use a tool and in a limited amount of space
- Screen insert with various different cleaning systems can be added later
- Excellent seal on fine mesh diameters
- Can always be modified into a single or double decker design at a later date
- Direct access to the machine by using the hinged cover
- Available in GMP and/or ATEX design

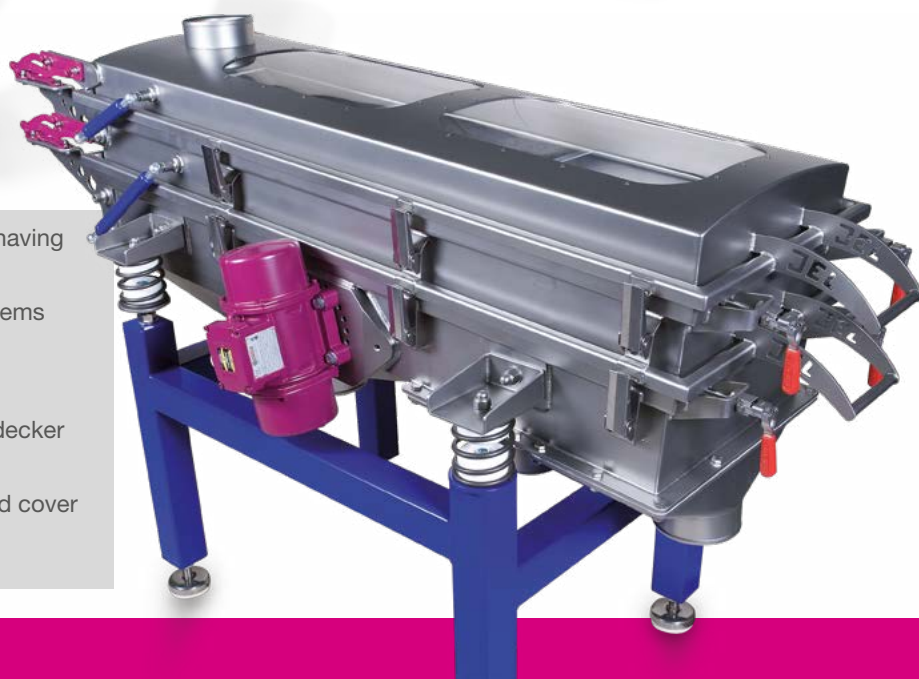


### As changeable as a chameleon

The JEL VibSpeed can be adjusted to suit the screening processes required and the product that requires screening. The rate at which the product is fed into the machine is altered by changing the angle of the screen and therefore also the delay time that the product spends on the screen mesh. The JEL VibSpeed is set at an angle of 5° when delivered. This angle can be altered by  $\pm 2^\circ$ .

The trajectory of the product being screened can be modified by changing the product's rate of exit onto the screen mesh. To do this, the direction of the vibration is altered by positioning the vibrators differently. The setting range for the vibrators is between 0° and 90° at intervals of 15°.

When screening slow-moving products, the JEL VibSpeed can be equipped with various different water circuit systems upon request. The nozzles located in the cover are able to spray the entire screen surface with water and can provide different volumes of water.



## Application Examples

The JEL VibSpeed vibration screening machine series has a wide range of applications and can be used for various different screening processes and products. The JEL VibSpeed's range of different design and cleaning options make it well

suited to meet the needs of the chemical, pharmaceutical or food stuffs industry.



### Protective screening for dairy powder

#### Detailed requirements

- Screens fatty products with a fat content of > 25 %
- Shortens downtime caused by cleaning
- Can be adjusted to suit different, product-specific screening requirements

#### Machine design

- Quick change seal (quick change; clip seal)
- Quick changeover using a pin-lock seal
- Single decker with a hinged cover
- Rotating wash nozzles for CiP cleaning on site
- Angle of the screen deck and vibrators can be altered
- A Base frame with wheels that can be adjusted in height
- A weir for distributing the product across the screen surface

#### Convincing facts

- Protects the end product from contaminants
- Simple to connect and disconnect the inlet and outlet piping
- Low design height since the outlets are out to the side



### Classification screening for suspensions

#### Detailed requirements

- Gas-proof classification screening
- Ensuring that the screen remains clear by jetting the suspension during the entire screening process
- Screen cleaning in gas exit zone by using ultrasound on the screen surface

#### Machine design

- Single decker with a hinged cover and integrated wash nozzles
- Changeable screen inserts with clamping device
- Water circuit system can be adjusted separately
- Wash nozzles for CiP cleaning on site
- Screen cleaning using ultrasound
- Angle of the screen deck and vibrators can be altered
- GMP design with smooth, e-polished surfaces and sealants that are FDA compliant

#### Convincing facts

- Protects the production plant
- Reduces downtime needed for cleaning and maintenance
- Improved product quality



## The Siblings of the Vibration Sieve Family at one Glance

Along with the vibration screening machines, the long-stroke and centrifugal sieve series complete the range of Engelsmann screening machines. The long-stroke series has been specially

designed to conserve products and provide precision screening processes. Centrifugal screening machines are an excellent choice for products that are difficult to screen.

### Long-stroke screening machines



**JEL Freischwinger**

Thanks to its precise processes and classification that protects the product, plus the high, specific throughput ratio, the JEL Freischwinger machine is used as a control or classification screening machine in production process for almost all kinds of bulk solids.



**JEL Palafix**

The JEL Palafix demonstrates its particular strengths as a protective or control screening machine which loosens, removes dust or strains powder and granulated bulk solids.



**JEL Freischwinger Granulat**

The granule screening machine from the Freischwinger series has been perfectly developed to separate over-sized particles from all current plastic particles in production processes.



**JEL VIRO**

The VIRO screening machine works particularly well as a control or protective screening machine for difficult bulk solids that are fluid and can be screened.



**JEL Regula Standard**

The Regula Standard is used to classify expandable polystyrene (EPS). Up to eight different fractions can be separated in just one screen process. With several screening decks positioned over one another, this is the multi-decker of the Engelsmann screening machine family.



**JEL PS**

Designed to be used for fluid bulk solids or for sieving out products that are free of over-sized particles, the PS screening machine can also be used as a straining screen for agglomerated products.

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