IFE
Material Handling

THE IFE PRODUCT WORLD

CONTENT

We are the sole global provider of tailor-made, complete systems in vibro conveyor, screening and magnetic separation technology.

VIBRO CONVEYOR TECHNOLOGY

IN THE RIGHT PLACE AT THE RIGHT TIME

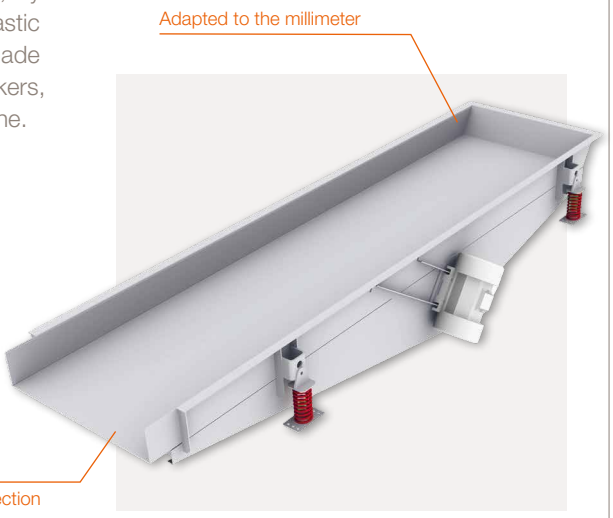
Vibratory feeders have laid the foundation for the excellent reputation that our company has enjoyed for many decades. Our first vibratory feeders with magnetic vibrators from the TS series are synonymous with absolute reliability, durability and freedom from maintenance. The result: Maximum system stability and cost-effectiveness.

Vibrating Feeder with Unbalanced Drive

For transporting bulk material

Vibrating feeders are designed as a welded construction, driven by two IFE unbalanced motors or, in the heavy-duty version, by IFE unbalanced exciters. Installation optionally by means of elastic support or suspension elements. The power connection is made via an IFE motor starter. In combination with large material bunkers, they can also be used for dosing at the start of a production line.

Nominal lengths	up to 10000 mm
Nominal widths	up to 4000 mm
Control of feed rate	by IFE control unit including frequency converter

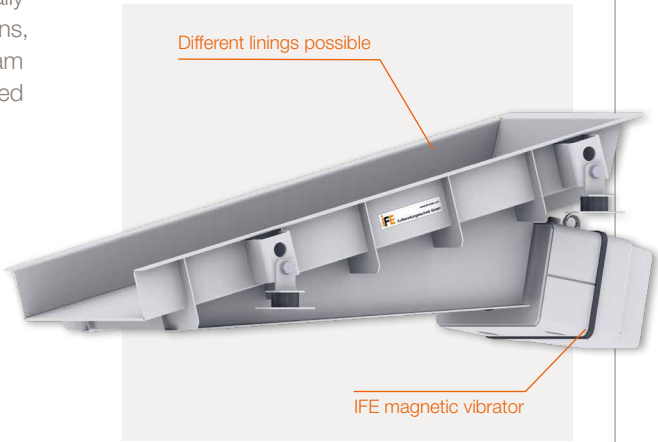


Vibrating Feeder with Electromagnetic Drive

Simple dosing of bulk material

IFE vibrating feeders with electromagnetic drive are used for bin extraction and for conveying of bulk material. Especially favorable for dosing, applications include feeding of weigh bins, or weigh feeders, or steady and smooth feeding for downstream equipment. The vibrating feeders are manufactured in a welded design, driven by an IFE electromagnetic drive.

Nominal lengths	up to 4000 mm
Nominal widths	up to 2000 mm
Control of feed rate	steplessly possible with IFE thyristor control or control unit

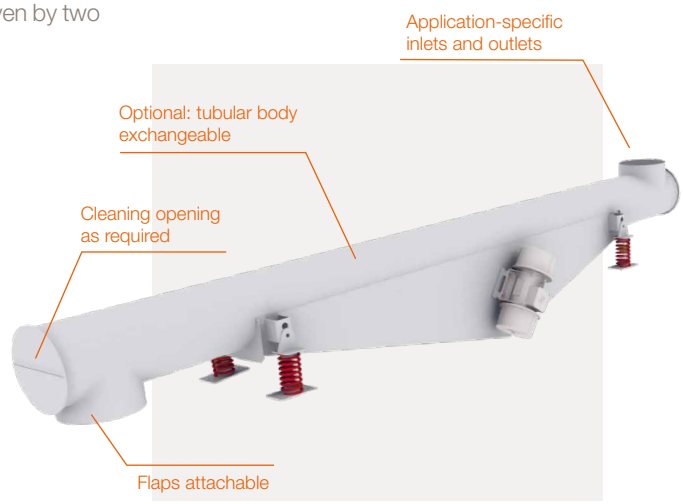


Vibrating Tubular Feeder with Unbalanced Drive

For dust-tight transportation of bulk material

IFE vibrating tubular feeders are particularly advantageous for transporting materials that tend to generate dust. The vibro conveyor pipes are designed as a welded or bolted construction and are driven by two IFE unbalanced motors.

Nominal lengths	up to 10000 mm
Nominal diameter	up to 475 mm
Unlimited conveying distances	feeders can be stringed together
Tube material	according to client's specification
Control of feed rate	by IFE control unit including frequency converter

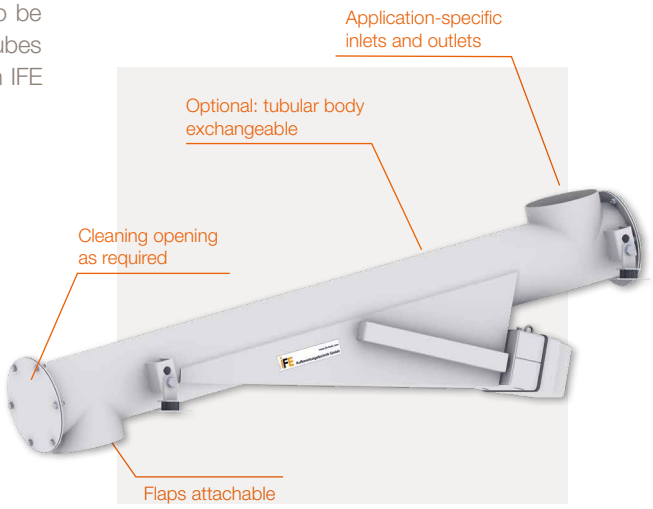


Vibrating Tubular Feeder with Electromagnetic Drive

For dust-proof dosing of bulk materials

IFE vibrating tubular feeders with electromagnetic drive are suitable for discharging materials from bins and for conveying bulk materials. The completely enclosed design of the vibro conveyor tubes is ideal for bulk materials that tend to generate dust or which need to be protected from external contamination. The vibro conveyor tubes are designed as a welded or bolted construction, driven by an IFE magnetic vibrator.

Nominal lengths	up to 3800 mm
Nominal diameter	up to 475 mm
Unlimited conveying distances	feeders can be stringed together
Tube material	according to client's specification
Control of feed rate	steplessly possible with IFE thyristor control or control unit
Closed tube profile	with inlet and outlet connections



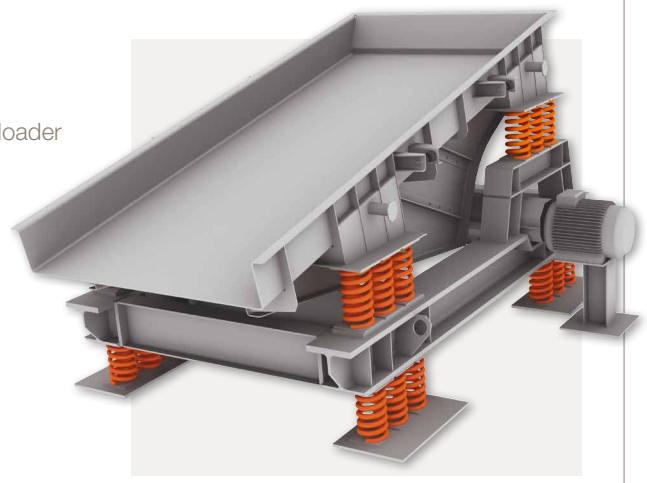
Heavy-duty Vibrating Feeder

The ideal solution for high feed rates

Heavy-duty feeders with unbalanced exciter are the ideal solution for:

- very high feed rates of bulk materials
- rough operating conditions
- large machine dimensions
- maximum availability under challenging conditions

Typical examples are:
Discharge from mountain silos, crusher feeding, operation in terminals, spreading feeders before large screens, ship unloader

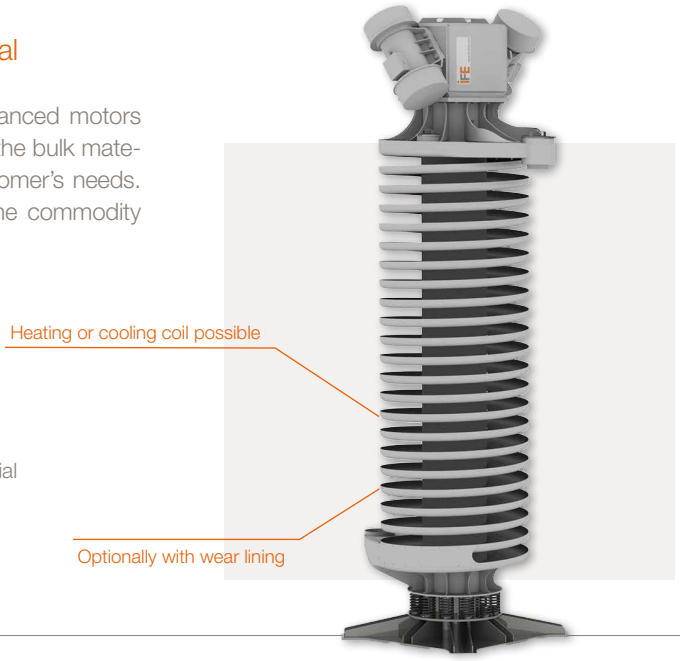


Nominal lengths	up to 10000 mm
Nominal widths	up to 4000 mm
Feed rate	up to 5000 t/h
Vibrating weight	up to 35 t
Unbalanced Exciter	available in 8 sizes
Range of working moment per exciter	720 to 25175 cmkg

Spiral Elevator

For the vertical transport of fine bulk material

The spiral conveying trough is driven by IFE unbalanced motors arranged oppositely causing a vertical conveying of the bulk material. Inlet and outlet are designed according to customer's needs. IFE spiral elevators are used in foundries and in the commodity industries.



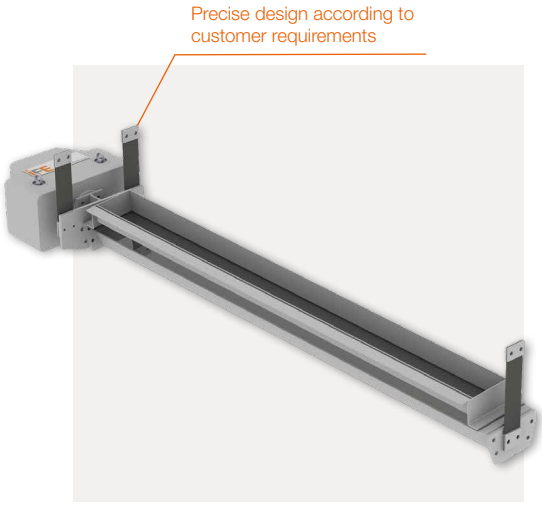
Transport heights	up to 8000 mm
Driven by	unbalanced motors
Base frame	made of mild steel or special material

Scattering Plate

For uniform distribution of free-flowing material

The inclined plate is arranged underneath a bin and is agitated to vibrate in longitudinal direction. This causes the material to flow. It is conveyed via a polished plate to the edge, where the material falls in a curtain-like fashion. An even distribution is obtained by minimizing the falling height between scattering plate and downstream surface.

Standard designs	up to 3000 mm
Driven by	means of a front-mounted electromagnetic drive

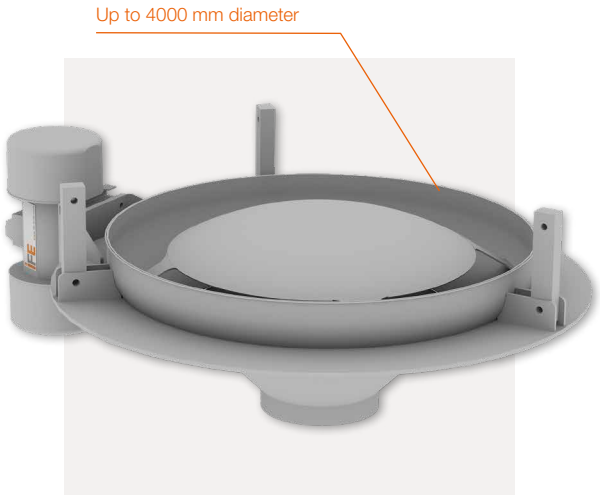


Vibrating Cone

For even bunker and silo emptying

The horizontal vibration of IFE vibrating cones generates shear forces, which allows the continuous flow of bulk material. Vibrating Cones are equipped with a conical load relief and are connected to the bin with elastic links. The vibration is generated by an IFE unbalanced motor. Standard applications are the discharge of bins to feed conveying systems and the feed of vibratory feeders.

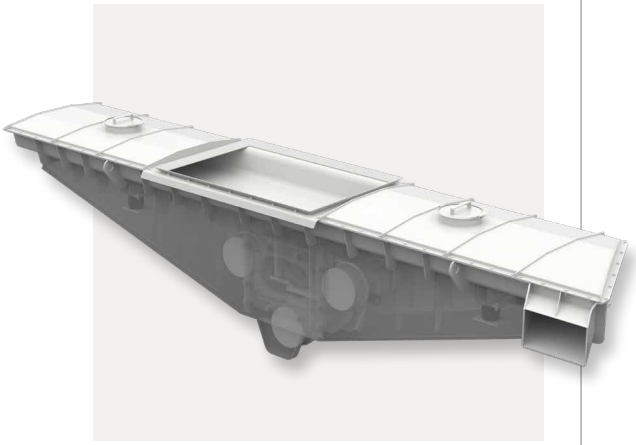
Standard designs	from 400 up to 4000 mm
Load relief	conical
Driven by	an unbalanced motor
Outlet	according to client's specification
Design	also available in special stainless materials



Reversing Feeder

Efficient conveyor systems for flexible material flows - compact, space-saving and safe

Reversing feeders make it possible to convey a wide variety of bulk materials in opposite directions. The proven vibro conveyor technology operates without mechanical redirection or deflection components such as diverter chutes. As a result, the design of reversing troughs and pipes is very compact and space-saving. Reversing conveyors can be designed in an ATEX version.

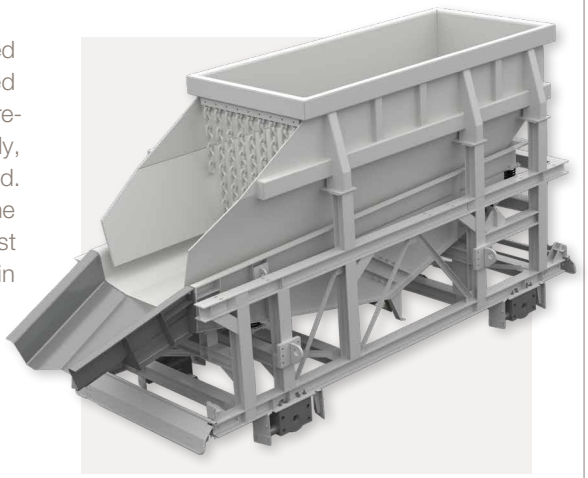


Nominal lengths	up to 6500 mm
Nominal widths	up to 1250 mm

Furnace Charging Feeder / Charging Feeder

Flexible and robust charging solutions for the efficient charging of melting furnaces

Mobile charging machines consist of a chassis, hopper, unbalanced vibrating feeder and electrical controls. These machines are used to charge furnaces of various sizes. Depending on the requirements, these rail-mounted machines can be moved longitudinally, transversely, or in a combination of both, and can also be lifted. Several melting furnaces can optionally be charged with one charging machine. The charging feeders are designed as robust welded/bolted constructions that are resistant to vibration in accordance with the melting/furnace industry.



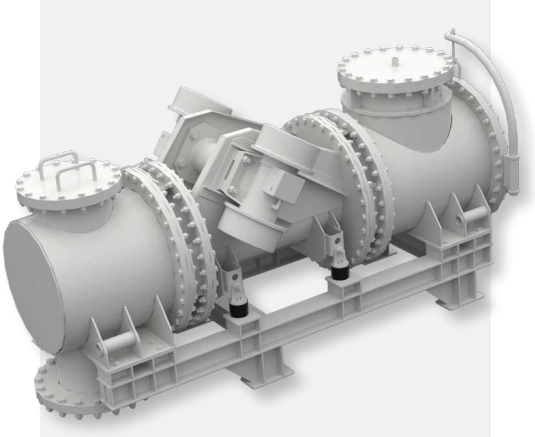
Nominal lengths	up to 7000 mm
Nominal widths	up to 1600 mm

Thanks to decades of experience and extensive expertise in application and process technology, IFE is able to respond to the specific requirements of furnace manufacturers. The result is tailor-made solutions that fit seamlessly into the melting operation and reliably perform their task in the harsh working environment.

Vacuum Feeder

Reliable vibro conveyor technology under vacuum - robust, safe and precise sealing

Vacuum vibrating feeders and vacuum vibrating tubular feeders are placed under vacuum during the conveying process or operate under a protective gas atmosphere. Wall thicknesses of 10 mm ensure safe and durable operation even under harsh conditions in steelworks. Rubber sleeves with fabric inserts also ensure a reliable seal between the vibrating machine and the stationary components.



Nominal lengths up to 4000 mm

When designing vacuum feeders, it is necessary to take into account not only intensive industrial operation, but also a typical steelworks environment. Aggressive, dusty environments, high/low temperatures, radiation, vibrations and CO-polluted areas may be prevalent.

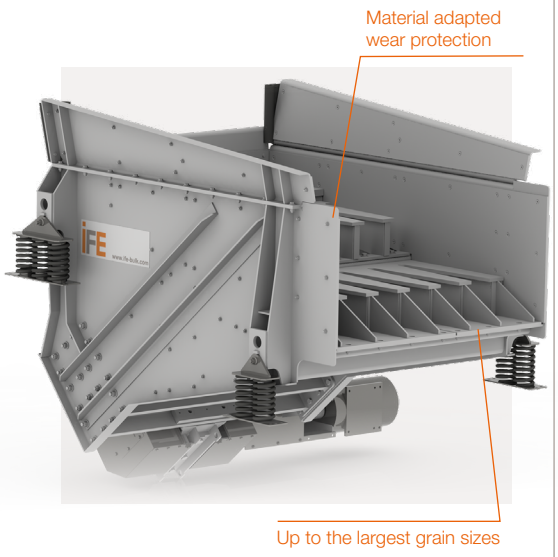
SCREENING TECHNOLOGY

WE SEPARATE LARGE AND SMALL, LIGHT AND HEAVY, ...

The separation, screening and classification of materials and mixtures is often the basic requirement for industrial production. The resulting requirements are of the most varied nature and require special machine types that enable a high degree of automation.

IFE Material Handling has decades of experience in all these areas and is an innovative partner for special problem solutions.

Scalper Screen



Robust design for efficient scalping

IFE scalping screens are made in rigid design and are driven by IFE unbalanced motors or IFE exciter drives. They are suitable for scalping materials before crushers, mills or other comminution machines. IFE scalping screens are also available in heavy duty design for coarse and heavy material or as finger screens for sticky material.

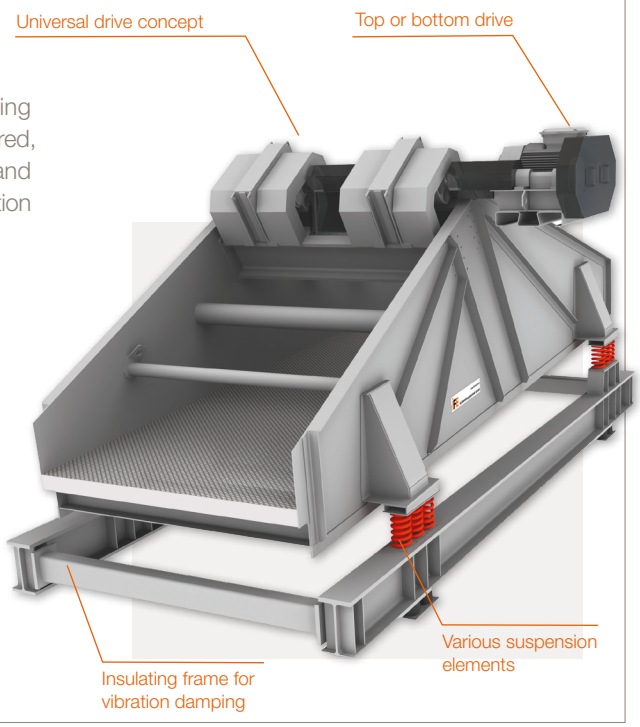
Nominal lengths	up to 10000 mm
Nominal widths	up to 4000 mm
Cutpoints	10 - 600 mm
Driven by	IFE exciter drives or unbalanced motors

Linear Motion Vibrating Screen

Tailor-made for all applications

IFE linear motion vibrating screens are used for screening granular bulk materials. The robust screen frame is manufactured, depending on the application, either in welded or in bolted and glued design. Special configurations enable customized installation even in limited space conditions.

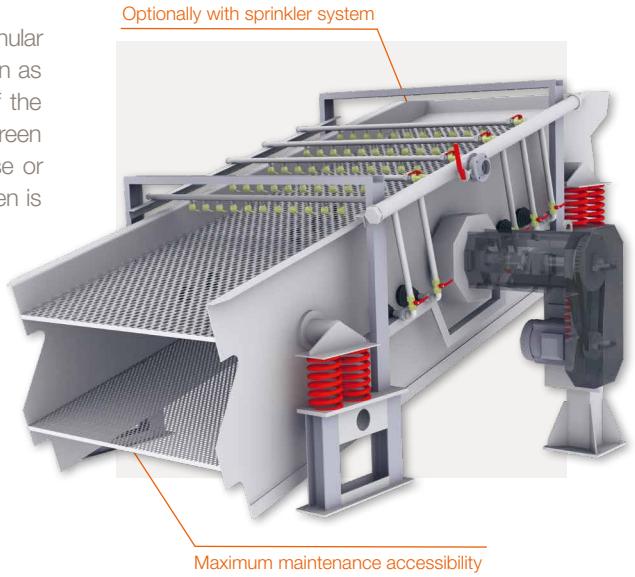
Nominal lengths	up to 11000 mm
Nominal widths	up to 5000 mm
Design	Single or multi-deck screen, other special designs available
Deck inclination	0 - 15° declining
Acceleration of machine	up to 6 g
Driven by	IFE exciter drives or unbalanced motors



Circular Motion Vibrating Screen

Universal screen for bulk material

IFE circular motion vibrating screens are used for screening granular bulk materials and are built in a robust, vibration-resistant design as single and multi-deck machines. The screen frame consists of the two side panels with bolted and glued cross beams and screen decks. It is driven by unbalanced shafts manufactured in-house or by an unbalanced motor. The IFE circular motion vibrating screen is perfectly suited for long-term and economical operation.

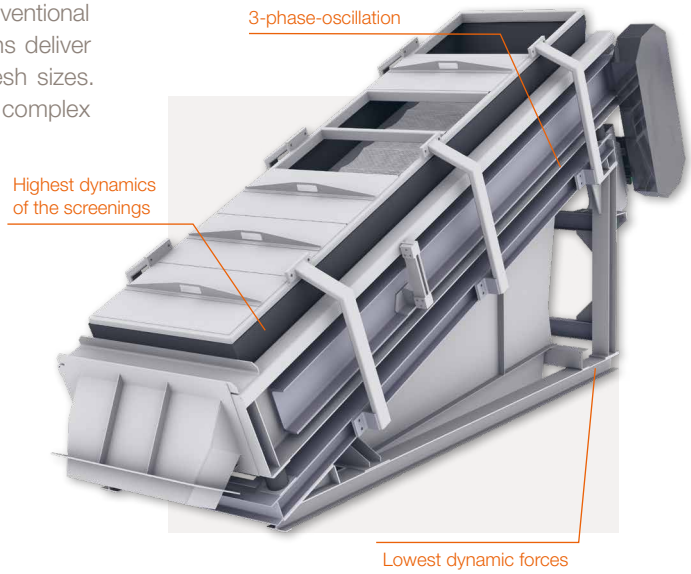


Nominal lengths	up to 8000 mm
Nominal widths	up to 3000 mm
Design	single or multi deck screen
Deck inclination	15° declining
Screen frame	torsion-free
Substructure	adapted to screen decks in use
Driven by	IFE unbalanced shaft or unbalanced motor

Flip-flop Screen TRISOMAT

For difficult to handle material

Screens from this series are an optimal solution for moist and difficult-to-screen materials. Wherever the surfaces of conventional screening machines clog or stick together, these screens deliver excellent results at high feed rates, even with small mesh sizes. They are therefore often a suitable alternative to the more complex wet screening process.

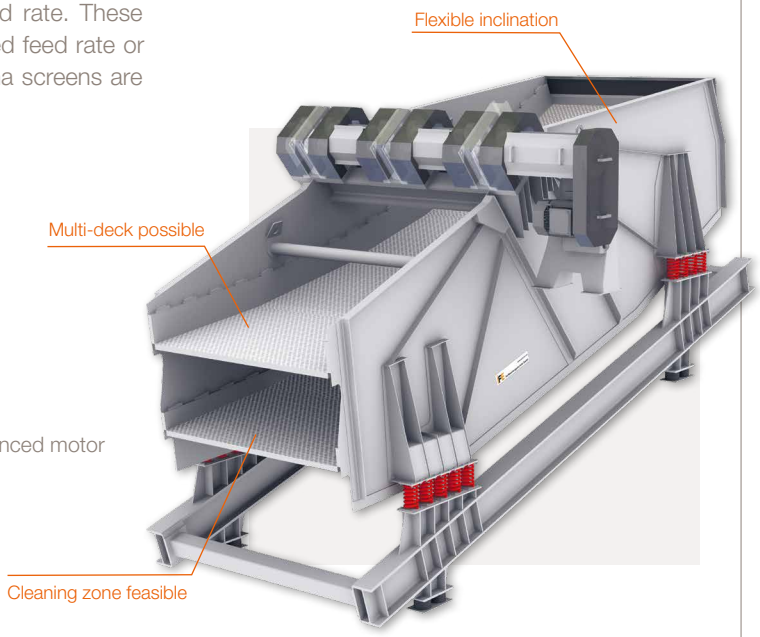


Nominal lengths	up to 9600 mm
Nominal widths	up to 3000 mm
Design	single or double deck screen
Driven by	IFE unbalanced shaft
Side sealing	for fine input material
Screen deck fastening	optionally keyed or screwed
PU decks	available resistant to microbes, with various cutpoints and hole shapes

Banana Screen

High-speed screen

Compared to conventional screens, the IFE banana screen can handle a two to three times higher specific feed rate. These screens are best used when there is an increased feed rate or when the capacity must be very high. IFE banana screens are used for material with a high content of fines.



Nominal lengths	up to 11000 mm
Nominal widths	up to 5000 mm
Design	single or multi-deck screen, other special designs available
Screen deck	multiple inclinations possible
Driven by	IFE unbalanced exciter or unbalanced motor

Sizer

Multideck screen in compact design

The sizer is an economical solution with a compact design. Separation is achieved by repeated fractionation on up to 6 longitudinally tensioned, stacked screen decks, the inclination of which increases towards the bottom. The screen frame is driven by unbalanced motors or unbalanced exciters.

Nominal widths	up to 3000 mm
Design	three to six decks, open or closed
Driven by	IFE unbalanced exciters or unbalanced motors

Dewatering Screen

For dewatering and removal of mud and sludge

Screens of this series dewater materials in turbid form and achieve a bulk material that can be transported by conventional means. IFE dewatering screens are also used to recover solids from liquids. Other areas of application include cleaning materials by desludging and recovering cloudy liquids by clarification. The screen frame is extremely robust and, depending on the application, is designed as a bonded and bolted or welded construction. A low residual moisture content of the feed material is achieved thanks to the special inclination of the impact angle and an installation inclination of 3° increasing.

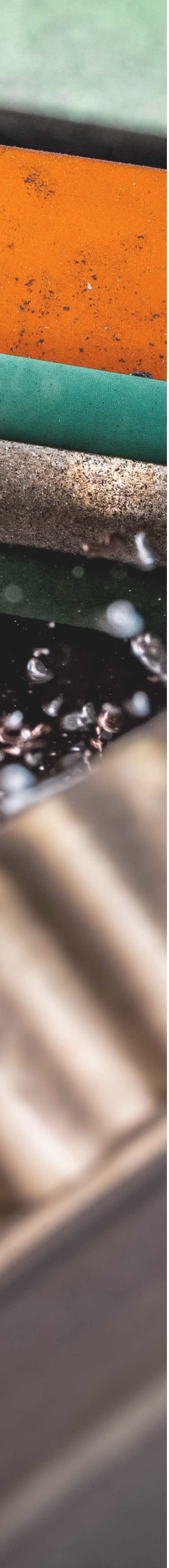
Nominal lengths	up to 10000 mm
Nominal widths	up to 3000 mm
Design	linear motion single deck screen
Screen linings	from polyurethane or edge-wire systems
Driven by	IFE exciter drives or unbalanced motors

Underwater Screen

Special screen for wet screening

IFE underwater screens with exciter drive work in a tank. The screen deck is partially submerged. Excellent screening performance is achieved thorugh the flow behavior of water, particularly when fine cutpoints are needed. This screening technology exploits the fact that sticky materials lose their adhesive properties in water, enabling screening with fine separation points.

Nominal lengths	up to 6000 mm
Nominal widths	up to 2500 mm
Design	single deck screen
Cutpoints	of 0.4 - 2 mm
Feed of material	dry, humid or wet
Driven by	IFE exciter drives or unbalanced motors



MAGNETIC TECHNOLOGY

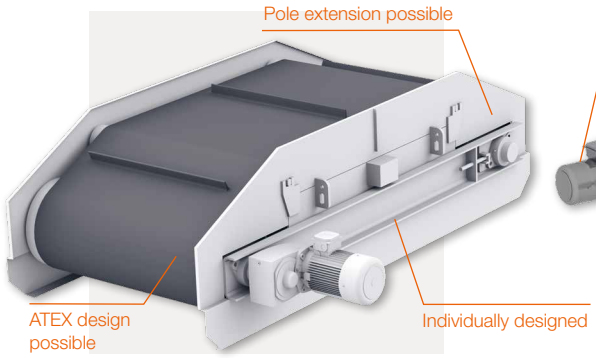
SEPARATION BY PROPERTIES

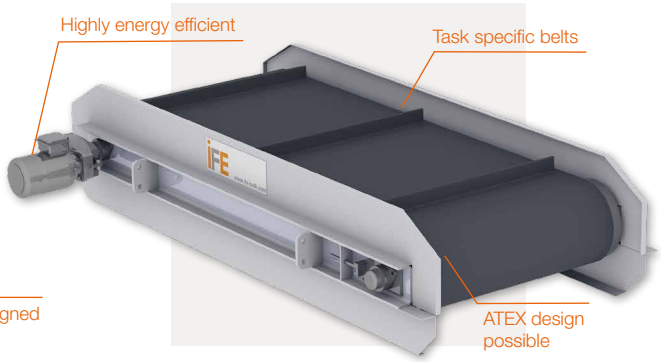
The strength of IFE Material Handling lies in its many years of experience in this field and its highly qualified employees. A wide range of technically outstanding solutions enables the specific sorting of a wide variety of materials.

Magnetic Overband Separator

For efficient tramp iron separation

Electromagnetic and permanent magnetic overband separators from IFE are used to separate tramp iron particles from bulk materials of all kinds. They are available either with a discharge belt or as a lifting magnet.

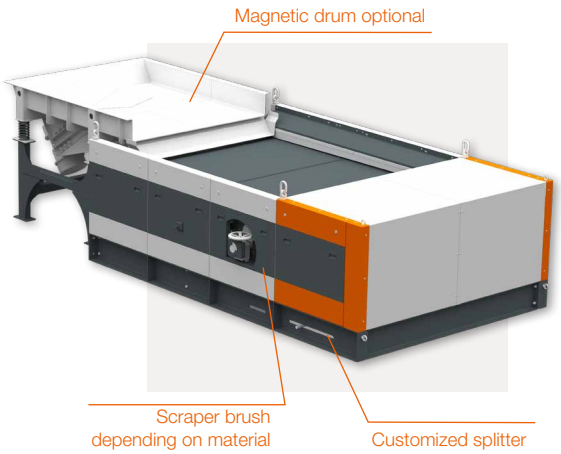




Electromagnetic	
Installation	longitudinal or transverse to the conveyor flow - Inline / Crossbelt
Protection class	magnet body IP65, belt drive motor IP55
Including rectifying unit	in IP66
ATEX zones	zone 20, 21 and 22 incl. TÜV-certificate
Belt widths	from 650 to 2500 mm

Permanent magnetic	
Installation	longitudinal or transverse to the conveyor flow - Inline / Crossbelt
Protection class	belt drive motor IP55
Magnetic material	high quality, barium-ferrite or neodymium-iron-boron
ATEX zones	zone 20, 21 and 22 incl. TÜV-certificate
Belt widths	from 500 to 2500 mm

Eddy Current Separator



Efficient non-ferrous metals separation

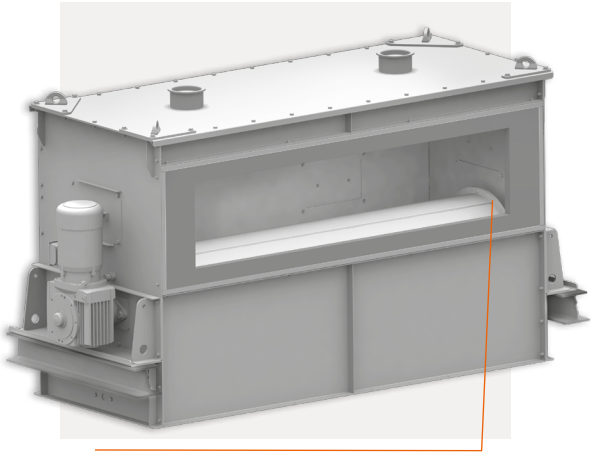
IFE eddy current separators are used to separate non-ferrous metals (aluminum, copper, brass, etc.) from bulk material of all kinds. Various special designs ensure optimum results, efficient and low-maintenance operation.

INP	the different numbers of poles and the long dwell time of the material in the magnetic field result in a high specific throughput for materials larger than 15 mm
INPx STRATOS	ideal for the finest non-ferrous metals (up to 15 mm), individually adjustable discharge point
INPx VIOS	can separate different non-ferrous metals from each other or PCBs from non-ferrous metals
INPx NANOS	excellent separation results in the fine range with a compact and efficient design
INP ENOS	the spotty acting force reduces particle scattering, high throughput capacity

Magnetic Drum Separator

A flexible solution

IFE magnetic drum separators are used to separate tramp iron from bulk material of all kinds and for cleaning purposes. Bulk material is fed via a chute or vibrating feeder to the separator and is conveyed by the rotation of the drum casing. Magnetic particles are attracted by the internal permanent magnet, whereas non-magnetic particles follow their flight path determined by inertia and gravity. The attracted material is conveyed by the drum shell to the end of the magnetic field and dropped to the other side of an adjustable splitter.

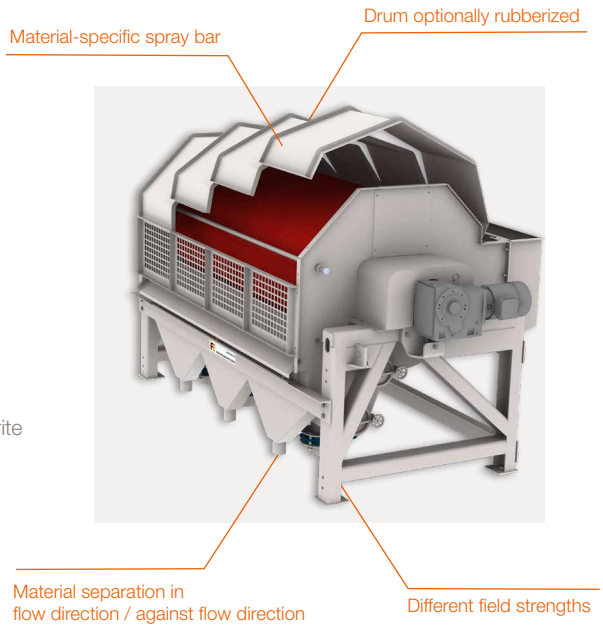


Nominal diameter	300 up to 1600 mm
Nominal widths	up to 3000 mm
Fixed permanent magnet	designed as a barium-ferrite permanent magnet, neodymium-iron-boron permanent magnet (axial or radial arrangement) or as an electromagnet adapted to the application
Position of magnet	adjustable

Wet Drum Separator

For reclaiming magnetic particles

IFE wet drum separators are used to regenerate magnetizable media, to extract particles out of suspensions and to concentrate iron ore. The drum separator maximizes the gain on magnetic media or highest separation of magnetizable particles as a concentrate respectively.



Drum diameter	750 mm / 900 mm / 1050 mm / 1250 mm
Nominal widths	up to 3600 mm
Drum	with stainless steel coat or rubber coating
Design	of the magnetic system optionally with barium-ferrite or neodymium-iron-boron
Additional features	sprinkler and scrubber systems available
Models	for doubled feed rates available

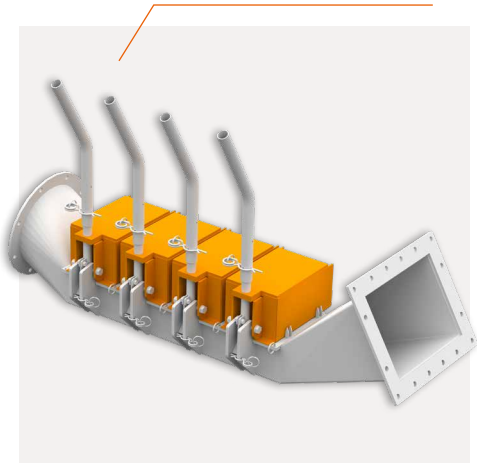
Magnetic Plate and Grid / Tubular Magnetic Chute

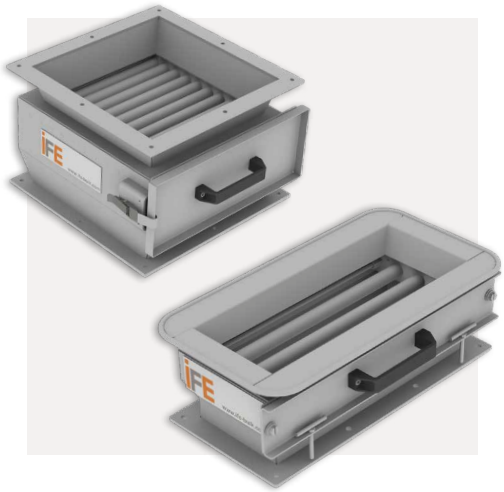
To protect downstream equipment

IFE permanent magnetic plates are used to separate ferrous tramp-material from bulk. They are most suitable if the content of such tramp material is low. The product range starts with individual plates up to separation systems in dustproof housing.

Pole design	two- or three-pole, depending on the required magnetic force
Cleaning	removing the magnet unit optionally with quick-release lever, operating lever or swivel device with toothed rack
Magnetic material	high quality, barium-ferrite or neodymium-iron-boron
For material temperatures	up to 150 °C
Ready-made modules	can be integrated into the conveyor line

100 % flexible and customized



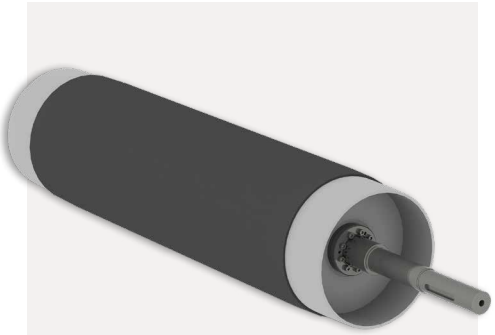


Magnetic Pulley

Tramp iron separation through magnetic head pulley

IFE magnetic pulleys comprise of a shaft with the magnetic system built on it. Both ends of the shaft are adapted according to client needs. These pulleys are usually installed in belt conveyors. The magnetic system induces a strong magnetic field functioning all over the perimeter. All magnetizable material is attracted from the magnetic field by the lower run of the belt.

Nominal diameter	up to 1250 mm
Nominal widths	up to 1800 mm
Magnets	high quality, barium-ferrite or neodymium-iron-boron
Pole design	radial
Design	available with rubber coating
Ends of shaft	made according to client's needs

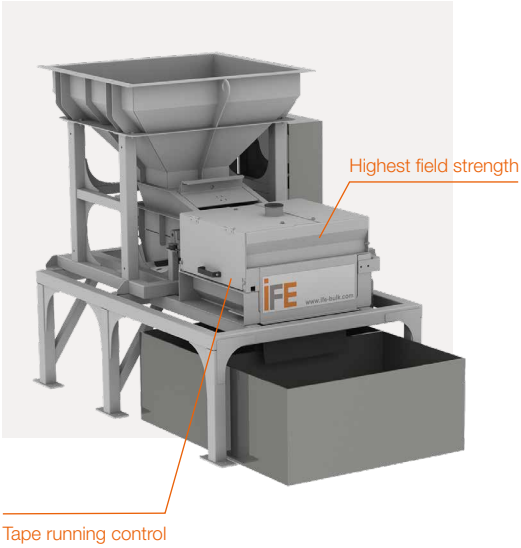


High Intensity Magnetic Separator

Strong field magnetic separation

IFE high intensity magnetic separators are used for cleaning, concentrating, and enriching minerals. They are particularly suitable for separating particles with weak magnetic properties and in the fine range. The standard permanent magnet design guarantees the best separation results thanks to the use of extremely strong permanent magnetic materials. For special applications where maximum magnetic forces are required, high-intensity electromagnetic separators are also available.

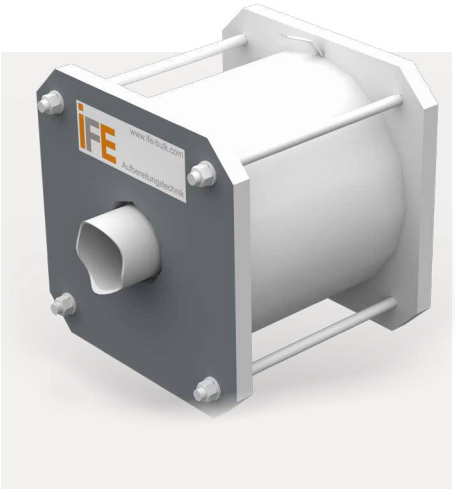
Roll diameter	80 and 100 mm
Nominal widths	from 250 to 1500 mm
Magnetic roller	with radially oriented magnetic field
Neodymium-iron-boron alloy	with the highest available energy density
Design	open or dustproof
Multi-stage construction	with 1 to 4 magnetic rollers
Standard	> 1T on belt surface



Demagnetizing Coil

For demagnetizing fine-grained particles

If ferromagnetic materials such as FeSI or magnetite are exposed to a magnetic field, a small amount of residual magnetism remains, which leads to flake formation in fine to very fine-grained particles. IFE demagnetization coils are used to eliminate the magnetic flaking. They are used, for example, in sink-float systems before the regenerated heavy material is fed back into the cycle.



ENVIRON-MENTAL TECHNOLOGY

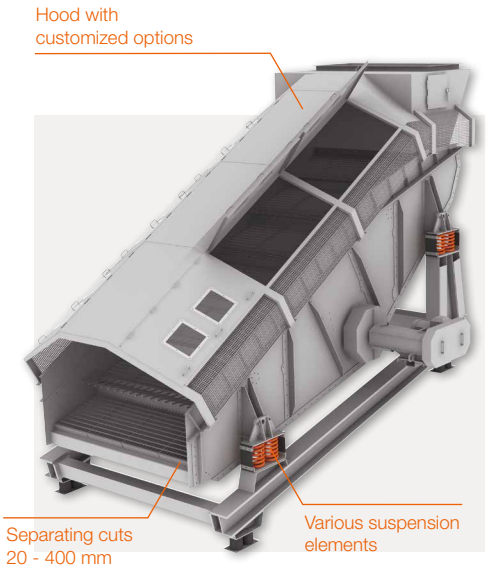
RECYCLING FOR ALL AREAS

For more than 70 years, the protection of our environment has been an important issue at IFE Material Handling. We focus on practical, efficient solutions in almost all areas. Secondary raw materials of the highest quality and purity are the result. In this way, we make a sustainable contribution to the preservation and protection of our environment.

Waste Screen and VARIOMAT

For waste treatment and recycling

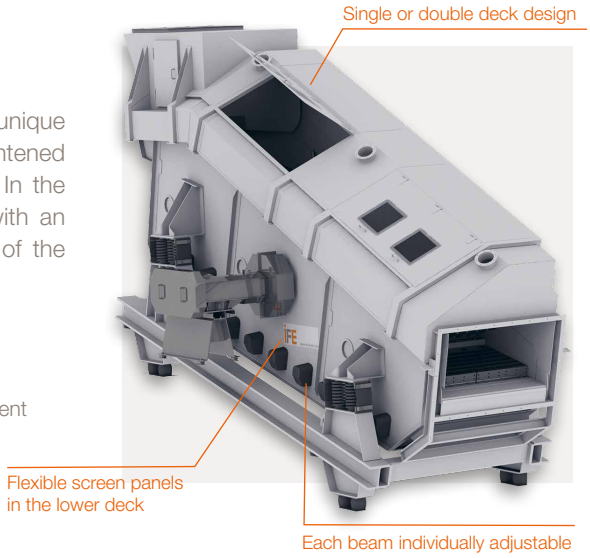
IFE **waste screens** are flat screen designs with an unbalanced shaft. The screen panels are arranged in cascades and their louver-like design allows for maximum screen openings, guaranteeing a nearly non-clogging operation. Diverging bars loosen the material and prevent the screen decks from becoming covered.



WASTE SCREEN

Nominal lengths	up to 8000 mm
Nominal widths	up to 3000 mm
Design	single deck screen
Special screen decks	in standardized sizes
Cutpoints	20 - 400 mm
Isolation frame	to minimize dynamic loads
Screen covers	stationery

The special screen **VARIOMAT** is characterized by its unique resonance system. Flexible screen panels are alternately tightened and loosened, resulting in virtually blockage-free screening. In the double-deck design, this resonance system is combined with an upper deck of proven design. The result is a combination of the absolute top class.



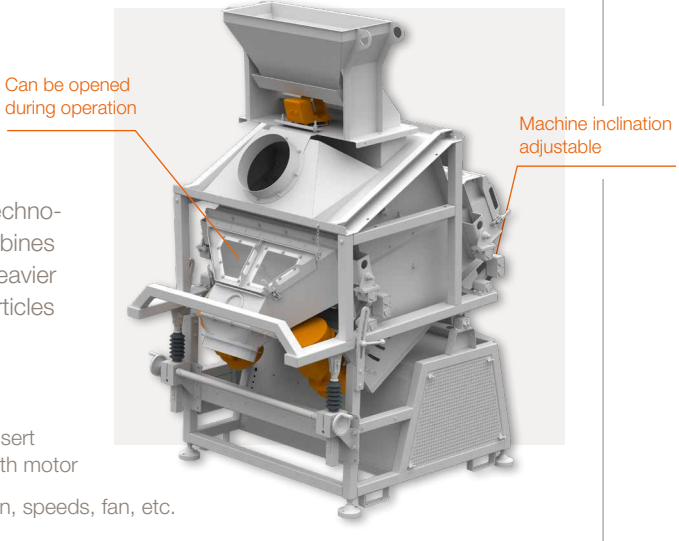
VARIOMAT

Design	single or double deck screen
Upper deck	with louver-like panels in cascade arrangement
Lower deck	with resonance system VARIOMAT
Driven by	IFE unbalanced shaft
Isolation frame	to minimize dynamic loads

Fine Sorting System IFE SORT

Separation of fine bulk material

The IFE SORT is a density separator based on fluidized bed technology, designed for fine, dry materials. The air sorting table combines vibration and air flow to enable efficient material separation. Heavier particles are conveyed upward against gravity, while lighter particles float on the fluidized bed and slide downward.



Nominal width	1000 mm
Standard design	consists of basic unit with perforated plate insert driven by two unbalanced motors and fan with motor
Easy adjustment	of angle and amplitude of vibration, inclination, speeds, fan, etc.
Design	dustproof
Control cabinet	in IP55 housing with frequency converter for motors and fan included as standard

Hard Particle Separator and Destoner

For hard material and impurity separation

The IFE hard particle separator and destoner are used to concentrate valuable substances as well as to separate tramp material. Solid, heavy figures fall down, whereas flat, light particles are transported upwards by vibratory forces.

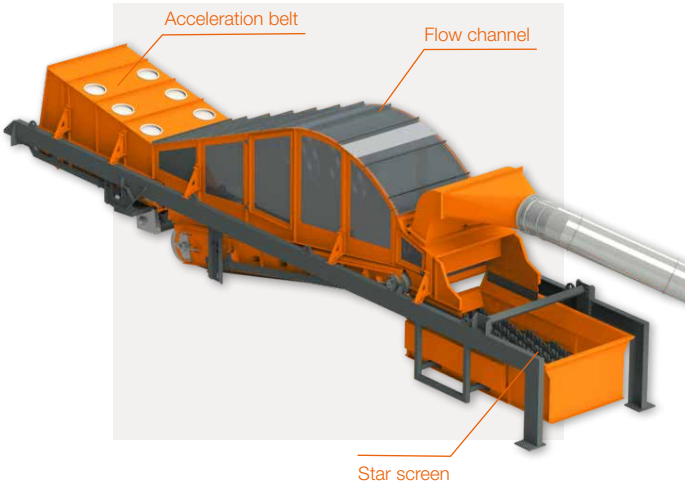
Nominal lengths	up to 3500 mm
Nominal widths	up to 3000 mm
Separation plates	cascade-shaped, adjustable in inclination
Amplitude of vibration	adjustable
Driven by	unbalanced motors or IFE exciter drive

AEROSELECTOR

Turns screen overflow into 4 usable fractions

The AEROSELECTOR combines wind sifting, ballistic separation and screening in one machine. Its throughput but especially its compact design and its efficiency are very convincing. In professional composting plants this machine has already proved itself successfully in separating foils, stones and structural material from the screen overflow. Moist and dry material mixtures containing differently sized fractions can also be effectively separated with this solution.

Outer dimensions	11500 x 2600 x 3000 mm (L x W x H)
Throughput	up to 100 m^3/h
Working width	1200 mm
Power input	45 kW
Weight	7500 kg
Air performance supply air	10500 m^3/h
Air performance exhaust air	21000 m^3/h



FOUNDRY TECHNOLOGY

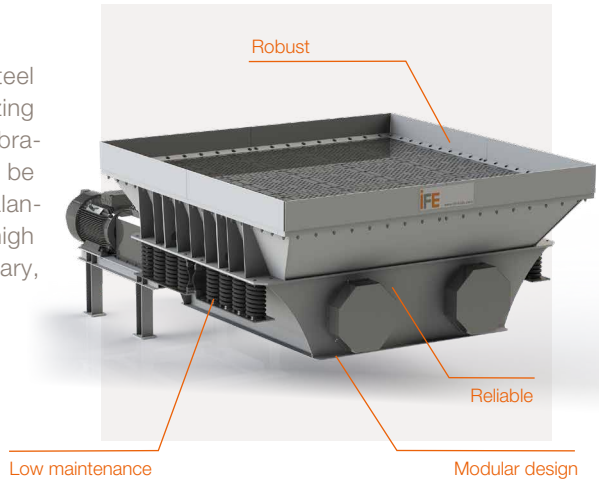
CUSTOMIZED SOLUTIONS

Thanks to decades of experience and extensive expertise in application and process technology, IFE can respond perfectly to the specific requirements of foundry technology. The result is tailor-made solutions that fit seamlessly into foundry operations and perform reliably in the harsh working environment.

Shake-out Grid

For unpacking foundry sand from mold boxes

IFE shake-out grids are welded, vibration-resistant steel constructions. They are driven by automatically synchronizing unbalanced shafts or unbalanced exciters. The linear vibration movement perpendicular to the vibrating surface can be adjusted to the casting program. The bearings of the unbalanced shafts are supplied with circulating oil lubrication at high ambient temperatures. Relubrication is no longer necessary, reducing maintenance effort and costs.

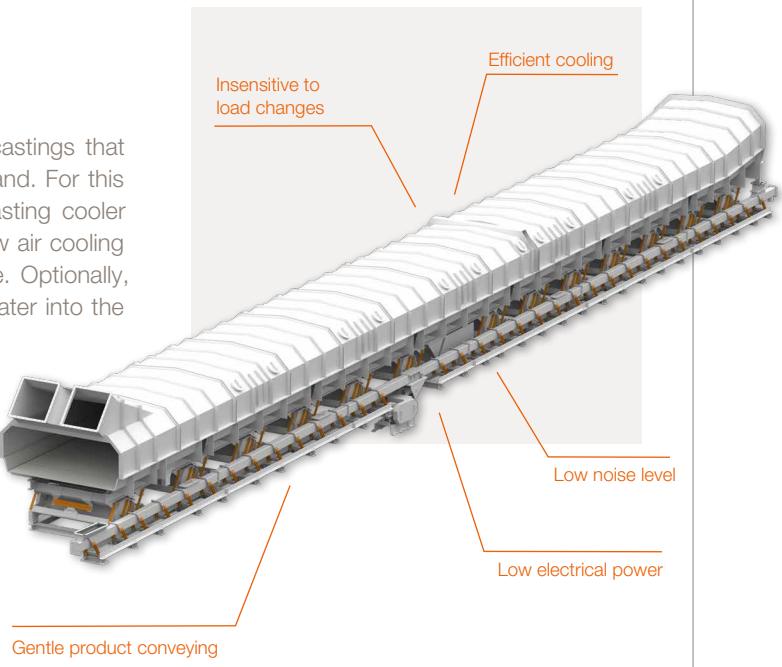


Surface area	any size by lining up several grids
Vibration amplitude	can be changed by adjusting the unbalanced weights
Load capacity	up to 40 tons per individual machine
Grate inserts	solid design, bolted or welded solutions are possible

Casting Cooler

For cooling cast parts

IFE casting coolers are used for forced cooling of castings that are produced on automatic molding lines in green sand. For this purpose, the castings are conveyed through the casting cooler after separation on the separating feeder. Counterflow air cooling cools the castings to the desired outlet temperature. Optionally, the cooling capacity can be increased by injecting water into the air flow.



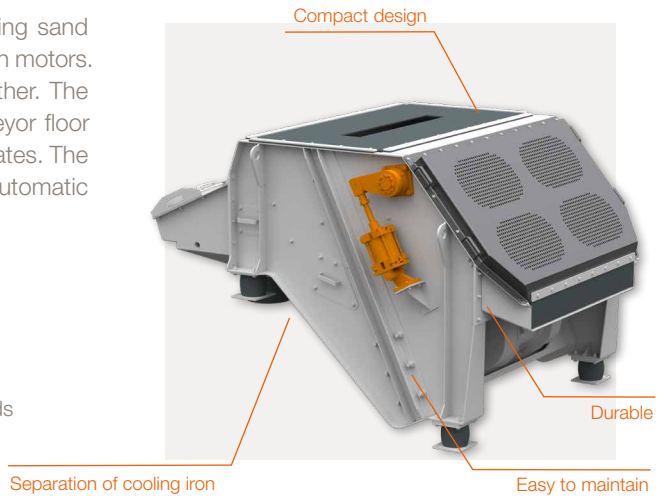
Nominal lengths	up to 30000 mm
Nominal widths	up to 2600 mm
Driven by	three-phase motor and absorber masses

Tuber Crusher

For crushing molding sand and core sand tubers

IFE tuber crushers are used to crush resin-bound molding sand tubers and core fragments. They are driven by two vibration motors. The sand lumps are crushed by rubbing against each other. The sand is discharged from the trough onto the sand conveyor floor below via easily replaceable perforated chilled cast iron plates. The pneumatically operated discharge flap is used for the automatic discharge of foreign matter.

Nominal widths	up to 2000 mm
Design	compact and robust
Special features	crushing, screening and transporting sands

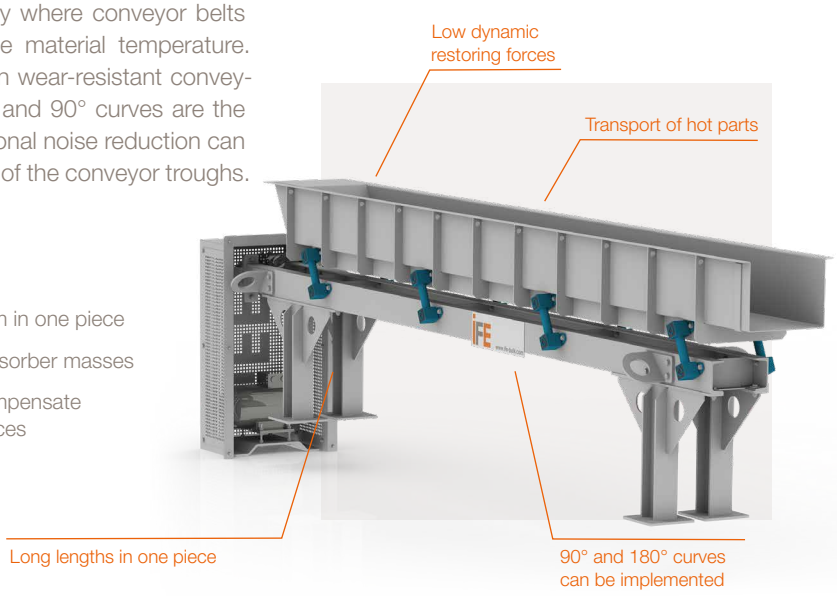


Guide Spring Conveyor

For transporting bulk goods over longer distances

The IFE guide spring conveyor is used for conveying solid bulk materials over longer distances, especially where conveyor belts cannot or must not be used due to the material temperature. Gentle and low-noise gliding conveying on wear-resistant convey-or troughs, ascending conveyor sections and 90° curves are the special features of these machines. Additional noise reduction can be achieved through the sandwich design of the conveyor troughs.

Nominal lengths	variable, up to 30000 mm in one piece
Driven by	unbalanced exciter or absorber masses
Special features	vibration absorber to compensate for dynamic restoring forces

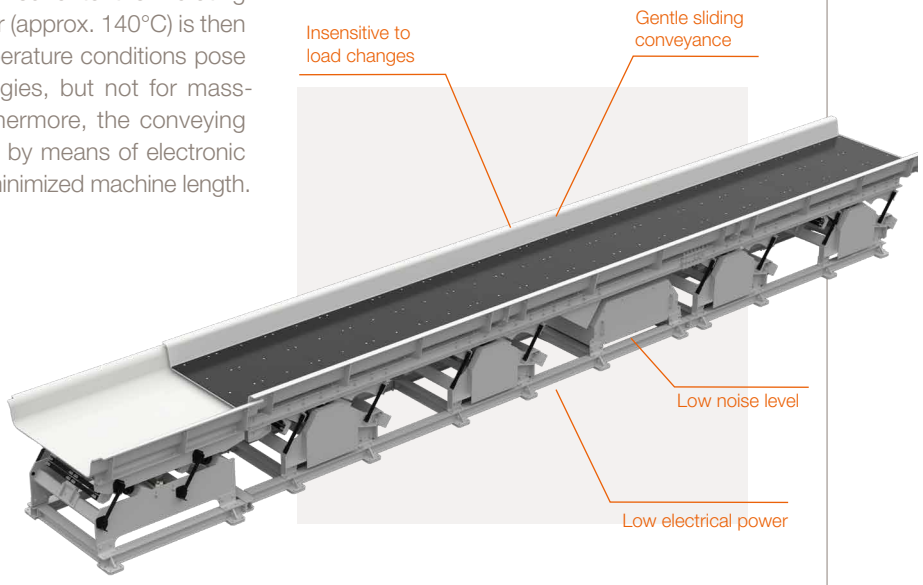


Transport Feeder (mass-compensated)

Cooling and bridging large distances

To bridge the usual distances of over 30 m in the foundry and simultaneously convey and cool components at several hundred degrees Celsius, spring guided vibratory machines are established in the foundry. They essentially consist of a cycle-controlled vibratory conveyor trough that is driven by a push crank.

Mass compensation protects the foundation. This type of conveyor is also used, for example, in a system for processing aluminum scrap. The moist material is fed onto the vibrating machine via conveyor belts. Preheated air (approx. 140°C) is then fed in via a stationary cover. These temperature conditions pose a problem for other conveyor technologies, but not for mass-compensated vibratory machines. Furthermore, the conveying and pause cycle can be fully automated by means of electronic control to achieve efficient drying over a minimized machine length.



Nominal lengths up to 30000 mm

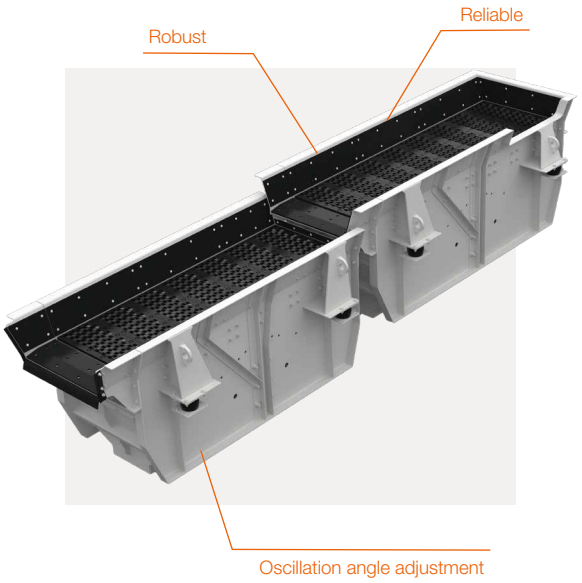
Special features:

- **Gentle and low-noise sliding conveying** on 10-15 mm thick wear-resistant conveyor troughs
- **Additional noise reduction** thanks to the sandwich design
- **Controlled removal of blasting media and trickling sand** via screening lines and transport via blind floors
- **Ergonomic working heights without platforms** thanks to the mass-compensated FSM design
- **Displacement of the conveyors:**
  - on vibration-isolated foundations
  - directly on foundry floors or steel construction platforms
- **Inclined conveyor sections up to 10°** with trough conveyors for the joint transport of castings and sand

Shake-out

Efficient separation and conveying – adaptable solutions for casting and sand processes

With shake-outs, the cast mold block is broken up on an integrated grate section by micro-throwing movements and the casting is separated from the sand. The sand lumps are effectively crushed and fall through the grate openings onto a lower sand conveyor section and are fed into the sand regeneration system as loose sand or crushed lumps. The casting is conveyed by the conveyor movement from the channel and transferred to the subsequent process steps “casting cooling and reading section.” The drive concept with an unbalanced cell and electronic control allows the oscillation angle of the machine to be varied. This allows the separation and conveying behavior to be adapted to different castings.



Special features:

- **Shake-outs** are equipped with separation grates made of wear-resistant steel up to 40 mm thick.
- **Optimized separation effect** thanks to different hole shapes for sand separation and tuber crushing
- **Gentle on castings** thanks to the smooth surface of the separation grates

i-STEP

SMART TOOLS FOR EFFICIENT PROCESSING

Sensors and smart analysis tools form the basis of our new product category i-STEP. They form the starting point for further digital services. This opens up new opportunities for our customers to optimize the operation of their material handling machines.

i-STEP Vibrosense

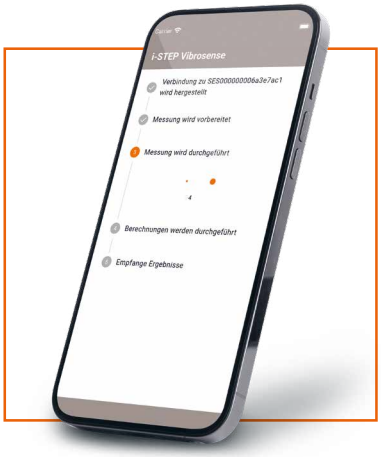
This compact plug-and-play package makes it quick and easy to carry out vibration analyses. The mobile, battery-operated sensor can be attached magnetically to any vibration machine in no time at all. Using the free app (which is available for the most common smartphones and tablets) and a Bluetooth connection, the analysis is complete and ready to share in just a few minutes.

VIBROSENSE SENSOR

- Connection via Wi-Fi and Bluetooth
- Screw mounting or magnet mounting
- Easily retrofittable for all machines
- Battery (rechargeable)

VIBROSENSE APP

- Complete vibration analysis of the machine in just a few seconds
- For all common platforms (Android™ and iOS®)
- Easy to use
- Share and export directly from the app
- Bluetooth connection to the sensor



i-STEP Operator

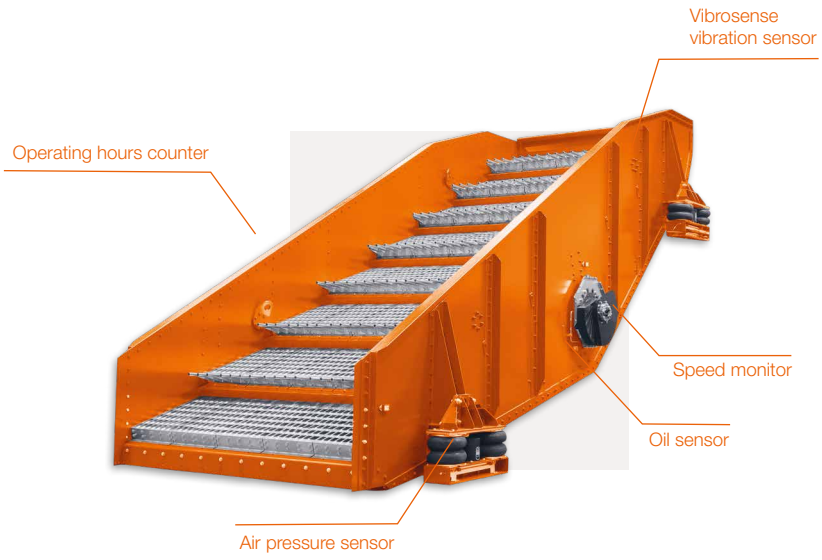
The digital solution fo the permanent monitoring of your material handling processes

The i-STEP Operator cleverly combines digital services with sensors and pours the data into a user-friendly portal. This simplifies work processes, minimizes downtimes and extends the service life of your machines.

- **Notifications**
  before incidents occur
- **Inspection**
  of your machines - quick and easy
- **Keep an overview**
  of your machinery
- **Retrofittable**
  for third-party providers and IFE machines
- **Third-party providers**
  sensors can be integrated

SENSORS

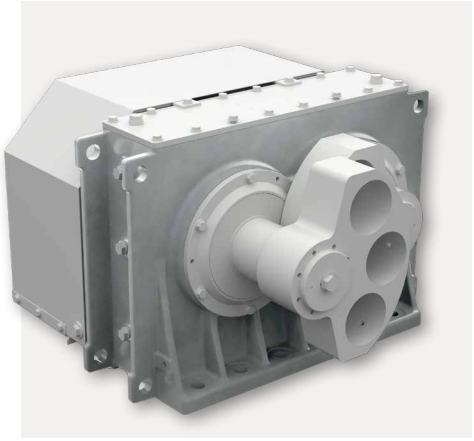
Thanks to various sensors, numerous factors can be monitored for reliable machine operation. Third-party sensors and machines can also be added to the Operator.



The Vibrosense vibration sensor is also available in a wired version.

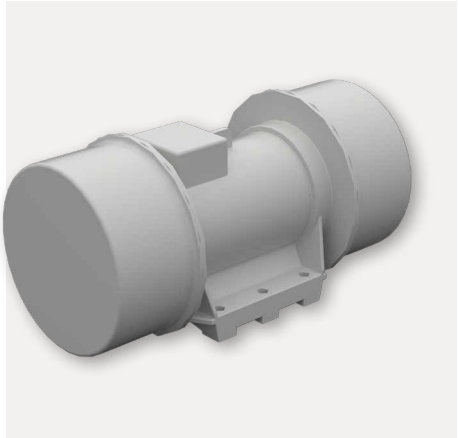
Unbalanced Exciter

Unbalanced exciters are ideal for large, heavy machines as they generate a linear vibrating motion. Their robust design ensures high availability even in very harsh environments. The cast metal housing accommodates synchronized shafts with eccentric weights that operate with low wear via oil bath lubrication. The working torque can be adjusted using additional weights. The drive is direct or via V-belts (a reduction gear), whereby no lateral forces are generated. Simple replacement offers additional flexibility.



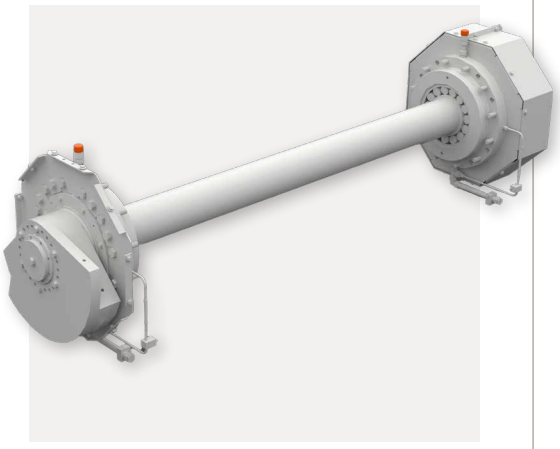
Unbalanced Motor

Unbalanced motors are three-phase asynchronous motors with centrifugal weights at the shaft ends. The unbalance can be modified at standstill, allowing the amplitude to be adjusted. The stable and rigid motor shaft and durable roller bearings enable reliable continuous operation, even under difficult conditions. Available with different numbers of poles, the optimum motor speed and therefore the vibration frequency can be ideally selected. Special versions are available for higher mains voltages, deviating frequencies, explosion-proof or UL/CSA-certified models.



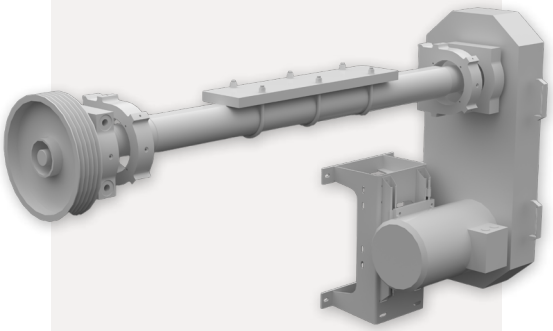
Unbalanced Shaft

Unbalanced shafts are proven drives for circular motion vibrating machines. Their robust design ensures a long service life and a low noise level. They consist of a sturdy shaft with roller bearings and centrifugal weights at both ends. Oil bath lubrication of the entire shaft ensures maximum bearing life. The working torque can be changed by adding unbalance weights (for type UW 16) or by turning the outer centrifugal weights (for UW 20-UW 36(V)). The compact design offers a cost-effective solution.



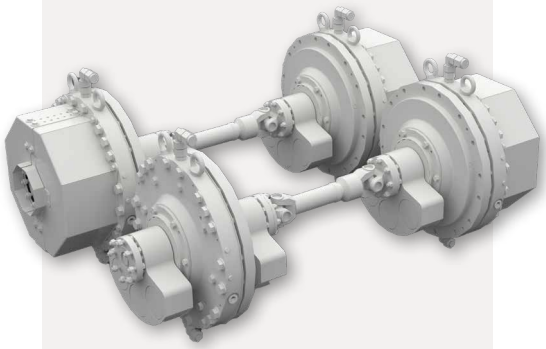
Eccentric Shaft

The drive with eccentric shaft is specially designed for TRISOMAT screening machines and is mounted directly on the screening machine. Driven by a V-belt drive, it ensures even and efficient power transmission. In addition, the integrated mass balancing ensures minimal dynamic restoring forces, which reduces the load on the machine and increases its service life.



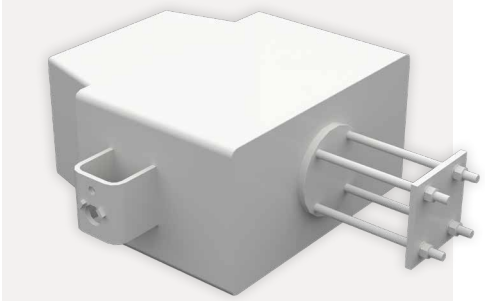
Unbalanced Cell

Unbalanced cells are compact, maintenance-friendly vibratory drives with low noise emission. They consist of high-performance spherical roller bearings, eccentric weights and a cardan shaft connection between two unbalanced cells. The oil bath lubrication ensures a long service life. The working torque can be adjusted using additional weights. Simple replacement of the individual unbalanced cells enables easy maintenance even in very harsh and dusty environments.



Magnetic Vibrator

IFE magnetic vibrators offer an economical solution with infinitely variable vibration amplitude. They are available in different sizes, ensuring that the optimum drive can be selected for every application. The magnetic vibrators have a robust design and are dust-tight and splash-proof thanks to their fully enclosed construction. They are energy-efficient, have short start-up and run-down times and enable a precise conveying capacity of 0 to 100 %. Maintenance-free and low-wear.

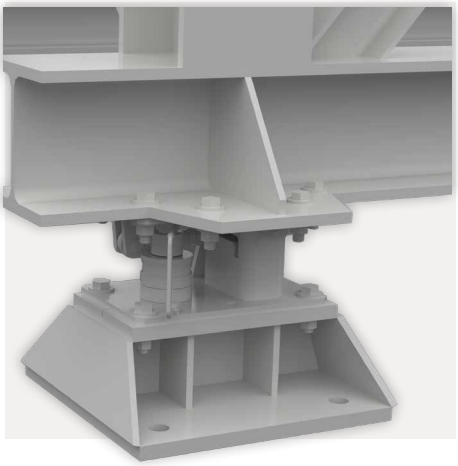


Air Suspension

In addition to other suspension elements such as helical compression springs and rubber buffers, IFE machines are also supplied with air suspension. The advantage of this is that it absorbs most dynamic machine loads and can also be retrofitted. These are rubber bellows that are filled with compressed air, like a vehicle tire. This enables them to absorb vibrations and shocks very well. Additional external expansion tanks reinforce the damping effect so that dynamic forces emanating from the screening machine are reduced to a maximum.

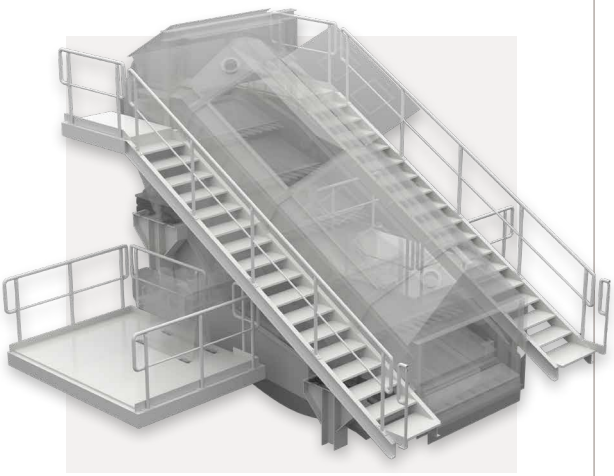
Weighing Cells

IFE weighing cells are used, for example, in the fully automatic weighing of a wide variety of bulk materials such as rock material, aggregates or scrap. Here, attention is paid not only to the reliable and precise dosing of materials, but also to the high robustness of the equipment used and an efficient control concept.



Steel Construction

IFE offers customized steel construction with load-bearing elements, maintenance platforms and much more, which are perfectly adapted to the conditions on site. Thanks to our many years of experience with simple and complex constructions, we guarantee maximum safety, durability and robustness - always ideally designed to meet the requirements. Our solutions ensure optimum accessibility for maintenance work and meet all static and dynamic requirements as well as relevant certifications.



Electrics

Units can optionally be equipped with an electrical control system. Rectifier devices connect electromagnets to the three-phase mains, while IFE motor starters with DC brakes or frequency converters control and monitor conveyor systems with unbalanced drives. IFE thyristor control units enable magnetic vibrators to be connected to the AC mains. Customized solutions are developed for the entire product portfolio, tailored to individual needs. This also allows comprehensive control to be planned jointly and implemented in combination with i-STEP in a manner compatible with Industry 4.0.

Material Test

Feasibility, throughput and investment security - at the IFE Test Center we show you the potential of your material handling process. Thanks to our broad expertise in process and application technology, the process is viewed and analyzed holistically. We use the information obtained to find the best solution for your material handling task and provide you with the results in a detailed report.

More than Standard

IFE offers customized designs that go beyond standard options. We work with you to develop the optimal solution for your specific requirements. Our experienced engineers implement your concept with precision. Contact us for customized solutions.

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