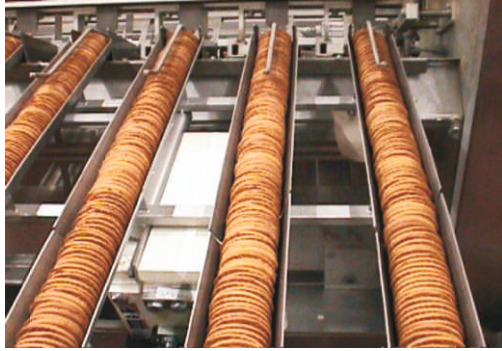


TARNOS

Vibrating Material Handling Equipment



Food Processing, Chemical Products and Packing Industry



TARNOS has standard and specific solutions for every process related with material Handling; controlled and precise dosing, transport, screening, sieving, elevation, product cooling in confined spaces, compaction, dusting, horizontal and vertical packaging, etc.

Due to the safety requirements in these industries, the equipment is designed with IP ratings and finishes that meet the strict requirements contained in its regulations.



Processes

- Uniform product feed and output (Freezing tunnels, ovens, seasoning...)
- Separation of products by size.
- Washing and draining of products.
- Controlled instant dosing to weighers and selectors.
- Product elevating and cooling.
- Sprinkling powder.
- Dosing in additive lines.
- Fines and dust removal.
- Convey of product between different processes.
- Compaction of product by vibration.
- Product Alignment /Product Dispersion.

Products

- | | |
|--------------------------|----------------------|
| Appetizers and Snacks. | Pyrite and minerals. |
| Pasta and Rice. | Pellets. |
| Candy and Sweets. | Soap. |
| Coffee, sugar and salts. | Detergents. |
| Legumes and Cereals. | Fertilizers. |
| Fruits and Vegetables. | Glass Fiber. |
| Olives and Pickles. | Carbon Fiber. |
| French fries and nuts. | Pigments. |
| Cornflakes. | Granulated resin. |
| Preserved Food. | Adhesives. |
| Cookies and Biscuits. | Plastic pieces. |
| Frozen food. | Tablets and pills. |
| Pet food. | Urea. |

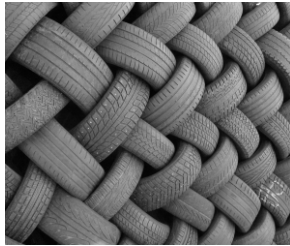


Glass, Quarries, Steel, Aggregates, Mining and Wood



For those industries where the job required in each of the processes is harder and performed in the worst conditions, **TARNOS** offers a range of products and solutions capable of great functioning and long life with minimal maintenance.

TARNOS Screens, Feeders and Conveyors are reference products in the Material Handling field with many different products: aggregates, steel, recycling, quarries or mining industries, among others; and intervene in different processes in which they can also perform several functions simultaneously.

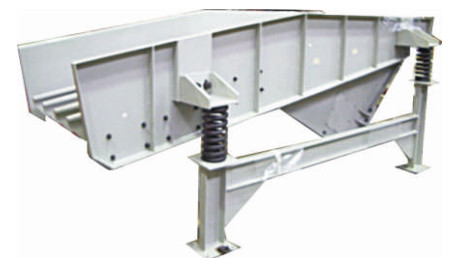


Processes

- Extraction of product from silos and hoppers.
- Feeding to melting furnaces.
- Feeding to mills and crushers.
- Dosing to Belts.
- Pre-screening of ore and heavy products.
- Separation of products by size.
- Washing and draining of products.
- Convey of product between processes.
- Foundry shakers.
- Glass granulating.
- Pottery processing.
- Fines Removal.

Products

- Minerals and rocks
- Cement, Pottery.
- Aggregates, sands, stone, plaster, limel...
- Asphalt and gravel.
- Iron and foundry.
- Glass, plastics and pellets.
- Chemical products.
- Fertilizers, mineral salts and phosphates.
- Seeds and grains.
- Wooden logs.
- Rubber, batteries, scrap...
- Food industry products in general.



Vibrating Feeders

The applications are multiple and varied. From the extraction of product from silos and hoppers to dosing of solids on conveyor belts, weighing machines or any other type; also simple convey, elevation or sieving.

TARNOS feeders are designed for the harshest working conditions and for the handling of products with all the precision that may require. The use of vibrating Electromagnetic or Electromechanical technology allows selecting the most suitable feeder for each application, and capacities from a few kilos to large tonnages.



Electromagnetic Vibrating Feeders.

They are the most efficient, economical and low maintenance system for the controlled dosing of materials because of its operating principle; two masses joined with an elastic component and excited in alternate current that generates a linear movement in the tray that is repeated 3.000 times per minute at 50 hertz, with an amplitude vibration instantly controlled by potentiometer.

Electromagnetic feeders for small flow rates, up to 20 t / h, are mostly compact units and are mounted on the floor or its support structures.

High capacity electromagnetic feeders, up to 1,600 t / n, with exceptional load stability, are supported or suspended.

The design and materials of the trays respond to the particular needs of each application.



Electromechanical Vibrating Feeders.

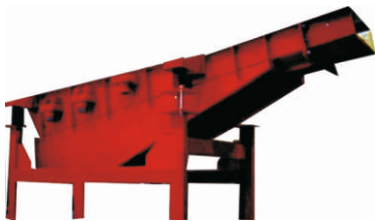
Designed and built for a wide variety of materials, with fixed or adjustable flow rates. Available with two types of drive: Two-stage sub-resonant with amplitude and frequency regulation capability; and single mass type with eccentric shafts or counterweights, with variation of vibration amplitude. Its unique drive offers a large amplitude of vibration, allowing the use of products somewhat humid and adherent. The RF and MF models are from medium tonnage to extra heavy, up to 6,000 T / h.

Wide variety in tray sizes and layouts.



Electromechanical Feeders Granulators - Drainers

Based on the design of Electromechanical Vibrating Feeders, MF models have special applications such as Glass Granulators. The robust construction of its tray and the use of special materials, allow the work with products at high temperatures and abrasives (such as molten glass), and also oxidizing cooling systems such as water, which requires the use of large trays of stainless steel.



SG electromechanical Vibrating Feeders and Pre-screeners Grizzly.

Specially designed for feeding products in very harsh working conditions in industries such as mining, steel, quarries, construction and recycling of materials. These equipment are also used to receive materials at high temperature or in installations where they have to withstand heavy impacts or suffer the wear of heavy and abrasive products; for example in the execution of feed in trolleys for foundry furnaces. Its drive composed of two eccentric shafts provides linear vibration, which delivers a uniform and effective feeding.



Vibrating Screens

TARNOS screens allow the sorting of product by sizes in a great variety of materials under the most adverse conditions. The machines can be adjusted to obtain the desired vibration amplitude in all models.

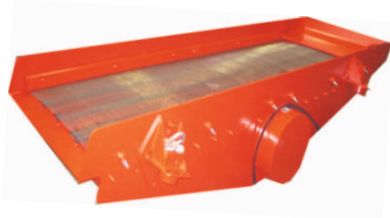
When materials contain liquids, acids or are corrosive, stainless steel can be used in parts exposed to the product. Enclosures are available for powdery applications, and so bouncing balls pannels for the declogging of the clothes. The screens are constructed with one, two or three screening trays.



Model NRM Horizontal Screen.

They are suitable for draining applications in canning, packaging of meat, food processing and waste liquids, paper pulp, recycling and processing of juices and oils, among many others.

They allow the use of very fine light meshes. Depending on the needs, they are usually built in stainless steel with one, two or three trays. They can be provided with tank for liquids and with irrigation systems.



Model CS Inclined Screen.

They are very versatile because of the possibilities of size and robustness. They ensure fast and accurate sorting by size, pre-screening, draining and washing of materials such as stone, coal, asphalt or chemicals.

Up to 27 models with one, two and three trays are available. With possibility of static enclosure and panels of rebound balls, as well as hoppers for feeding, discharge and collection of fines. Their arrangement is usually inclined or supported on a support structure.



Model UP Inclined Screen.

They are the most suitable means for the uniform separation, classification or distribution of light or fine material in the foundry, mining, quarry, fertilizers, food compound or additives industry.

They can be built in various materials, and thanks to the possibility of static enclosure, they are especially effective in the handling of very powdery, corrosive or toxic products.

The maintenance jobs are minimal and simple to carry out. Possibility of up to three screening trays.



Model SS-SG Horizontal Screens.

Designed to carry out hard jobs of separation, washing and draining of materials such as coal, minerals, gravel and stone among others.

The SS model is driven by two synchronous and independent eccentric shafts, each driven by an electric motor.

The SG model is equipped with a single vibrator formed by two eccentric shafts coupled by heavy-duty gears, and a single electric motor. Possibility of one, two or three screening trays and various types of screening media such as meshes, polyurethane panels, perforated sheets or grids of calibrated profiles.



Models CH and BA Inclined Screens.

The CH screen efficiently classifies and pre-screens medium / large size materials. Their extra strong construction and high capacity have achieved wide acceptance in the aggregate, coal and mining industries. There are 53 models of CH screens, with or without enclosure, with up to three trays and various means of screening.

The BA model is also referred as "Scalpers", and its purpose is to pre-screen and separate large tonnage solids. In this case the trays are formed by transverse and longitudinal beams forming channels and arranged in such a way that they provide a great resistance to the impact of the heavier bowls.

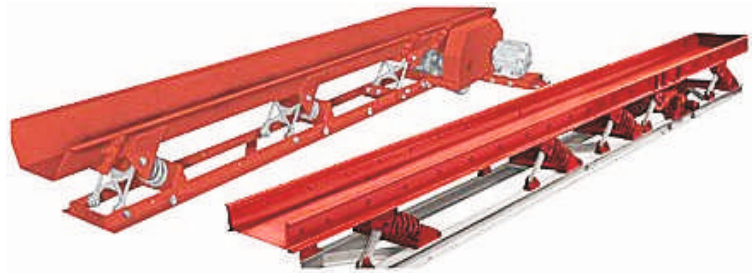
Vibrating Conveyors

This application is designed to transport the material along great distances, with a continuous and uniform travel. During the transport of the product they can carry out operations as sifting, draining, orienting, cooling or heating the product.

The design of the trays allows easy cleaning and accessibility. The conveyors can be enclosed with a lid, or open, and in their path they can be provided of chocks or gates that let the product pass to other processes.

There is a wide range of models from light duty conveyors supported on rigid structure to heavy duty suspended models.

There are up to 7 different models of vibrating conveyors



Vibrating Sieves

TARNOS Vibrating Sieves are feeders provided with a mesh or perforated plate panel to sort product by size, separate, dedust, or clean materials.

As it happens with the Feeders, it is possible to make the trays with different designs.

The applications of the smaller sieves are geared towards efficient sieving of fine materials. The higher models are used for separation, dedusting, waste disposal and draining of large flows of materials. For these cases, Electromagnetic or Electromechanical Sieves can be used.



Vibrating Spiral Elevators

Helicoidal Elevators are the most efficient, compact and convenient means of raising or lowering bulk materials such as metals, pellets, plastics, glass, chips or ceramic parts.

They are supplied with two types of drives: Electromagnetic or Electromechanical.

Due to the high frequency of vibration, the friction and abrasion between the particles and the surface of the tray are minimal. This allows to elevate or transport delicate materials.

This solution allows a controlled transport of product to different heights with a great saving of room.

For example, with hardly a base of 1 m² we can make descend or ascend the material up to several meters of height.

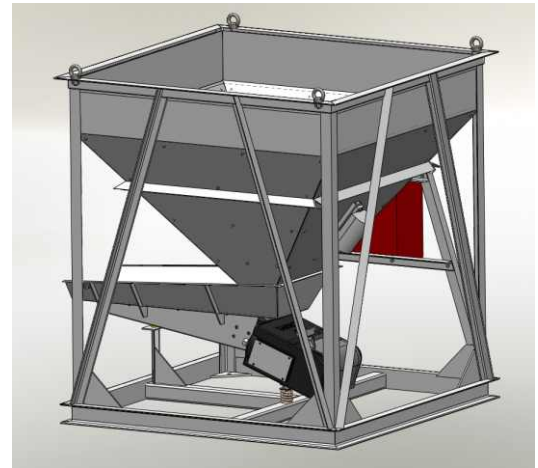


Vibrating Dosing Groups

They are complete units composed by 5 components: Hopper, vibrator, electromagnetic feeder, structure, support and control panel.

The Hopper can be made out of the material according to needs. The electromagnetic vibrator avoids the creation of vaults and jams in the hopper. The vibrating feeder under the hopper extracts the product and feeds it through its tray that can be flat, half-reed, tubular, carbon steel or stainless.

They are ideal equipment for industries with feeding processes, packaging, weighing and mixing of raw materials. There are several standard Dosing Group models from 0.6 to 28 T / h depending on the size of the hopper and the type of drive.



Drives and vibrators

TARNOS vibrators and electromagnetic actuators with instantaneous vibration regulation via potentiometer, are the most effective vibration system for controlled and accurate dosing of solids.

The wide range of eccentric rotating mass vibrators together with the electromagnetic, allows practically all of the most complex problems on Material Handling to be solved by vibration.

Standard equipment in stock. Special terminations on request with executions according to particular specifications.



Vibrating Tables

For the compaction of products contained in containers of various types.

The electromagnetic models have capacities from 10 to 1,000 kgs.

Electromechanical models have capacities from 120 to 1,800 kgs.



Live Bottom Bin Activator

Tamos Live Bottoms are constructed based on a torisferic bottom that is suspended from the opening of the silo by means of elastic suspensions driven by one or several rotating vibrators according to particular specifications.



TARNOS



TARNOS is dedicated to the design and manufacture of Vibrating Equipment for Solids Material Handling since 1955.

At present TARNOS counts on a wide and experienced team in the different areas of the company, and manufactures its machines in the 4,500 m² of its own facilities, in addition to the collaboration with several specialized auxiliary workshops.

TARNOS is further reinforced by the technical support of the American pioneer SYNTRON Material Handling, being its Manufacturing License. Also TARNOS counts on PPM Technologies support for certain applications and industries.

More than 60 years of experience endorse TARNOS as an international vibration reference for Solids Material Handling

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