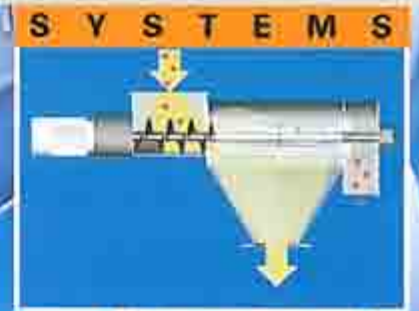


# AZO screening systems preserve the quality of bulk solids and liquids

Top-notch production requires high-quality raw materials without impurities. For 50 years, AZO's screeners have prevented foreign material in bulk solids and liquids from entering the production process. These remarkable screeners safely check the individual ingredients before, during and after processing and, furthermore, ensure adherence to the HACCP specifications.

AZO invented the cyclone method and has the experience to supply screeners to suit every application.

**3500**



# The ideal solution to every challenge



## Crucially important to product quality in the food, pharmaceutical, chemical and plastic industries

AZO screening systems safeguard the final product quality wherever bulk powders or liquids are involved. They prevent foreign material and contamination before, during and after the production process. As an important element in AZO conveying systems, screening systems contribute considerably to quality assurance.



Checking feed with cyclone-screeners

# Application examples: Checking – separation – preparation

## Safety screening

Screening machines carefully ensure that no foreign bodies, raw material impurities, or packaging remnants remain in the product. AZO cyclone screening technology adds safety to your production process.

## Deagglomerating

AZO cyclone screeners deagglomerate lumps in all types of products that may be of hygroscopic nature, the result of prolonged storage, or by mixing and drying.

The machines safeguard the quality of the end product while preventing losses and costly "downtime".



Example: Safety screening

## Reclaim

AZO screeners remove agglomerates that occur in epoxy-resin coating plants and thus recover epoxy-resin powder. Both fine and coarse components arising in other production processes can be recovered and reintroduced as well, such as those found during compaction in the pharmaceutical industry or when dusting confectionery.

## Fractionating

AZO cyclone screeners separate powdered bulk material cleanly into varying particle sizes.



Deagglomerating

## Separation

Hard agglomerates can form during production, e.g. in milk powder drying. AZO's screeners reliably sort them out.

## Loosening

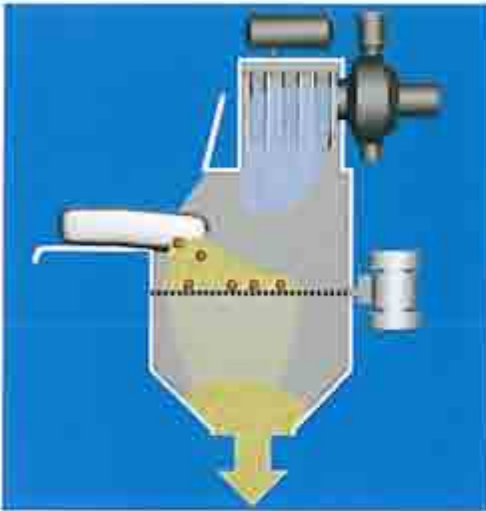
The food industry frequently uses screeners to pre-condition and aerate raw materials. For example, a screener installed directly in front of a dough-kneader loosens the flour and aerates it, thus significantly increasing the flour yield.



Reclaim of epoxy resin

# Before, during and after processing

## Pre-screening technology for protection



Pre-screens remove impurities before the ingredients enter the process.



## In-line screens used in pneumatic conveying



The TW screener prevents impurities from entering bulk storage systems during transfer between the pneumatic truck and the storage silo.



## Cyclone screeners



The cyclone screener can be installed anywhere in the production process. The closed system design prevents impurities from entering. Any extraneous material is removed automatically.



# Pre-screening: Important checks prior to feeding into the production process

## Pre-screening as the primary protection of both product and plant

Before the individual components are fed into your process, all impurities must be removed, particularly packaging remnants and foreign materials.

Safety screens in dumping hoppers, Big Bag or container feeding stations hold back coarse impurities.

The screens can be checked and cleaned easily through an inspection hatch.

Pre-screens in the dumping hopper hold back impurities, lumps and foreign object.



A Big Bag feeding station



Screens can be used prior to automatic bag filling stations



## Vibration screeners for non free-flowing bulk goods

Bulk goods with poor flowability require an active screening mechanism. AZO has developed the VB vibrating screener for just this purpose. Its drive unit makes the screen vibrate and thus enables products to be fed in as well. Impurities and foreign bodies are not allowed to pass through the screen.

Apart from functioning as a pre-screen, the vibration screener can, for example, also act as a protection screen when installed upstream of a cyclone screener. In this case, it ensures that no coarse impurities such as pieces of metal or larger objects enter the cyclone screener intake and destroy its fine screening mesh.

A container feeding station with a pre-screen



# In-line screening: Between the pneumatic trucks and the silo

## Pre-screens in closed conveying streams

The TW screener checks all flowable, powdered bulk goods in closed, pneumatic conveying streams.

As a pre-screen, the unit is used "in-line" during conveyance between the pneumatic truck and the storage silo. The screener effectively prevents impurities and lumps from being introduced into the silos. Pre-screening of delivered raw materials before storage improves safety and quality.

## The operational principle

Like the vibration screener, the TW screener also features a drive unit. This drive operation vibrates the screen and greatly increases product throughput. A permanent magnet prevents metal fragments from entering the subsequent process. A swing lid and quick-acting fasteners facilitate cleaning and inspection.



A vibratory drive system and quick couplings make the TW screener ideal for vacuum and pressure conveying systems where flexibility is important.

# In-line screens: Checks during the process

## Safety screening in closed conveying streams

Where safety screening within the production process is concerned – before or during processing or prior to packaging – the AZO cyclone screener is second to none.

Cyclone screeners remove contaminants automatically. The superior technology behind AZO's cyclone screener ensures outstanding service wherever it is used in the production process. Impurities are no match for the AZO cyclone screener.

Cyclone screeners "in-line" in pneumatic conveying streams



# Cyclone screening: Technology born from experience and innovation

## The cyclone screening technique – a milestone in screening technology

AZO created a new dimension of screening technology with its invention of the cyclone technique. After five decades of constant development enriched with new ideas, AZO cyclone technology is now established throughout the world. Thousands of users employ it to safeguard high standards of production quality.

## Cyclone screening technology is

- easy to clean
- highly efficient
- rugged construction
- reliable
- flexible
- user-friendly
- low-maintenance
- quiet operation
- compact design

Compact construction enables easy integration of cyclone screeners into your production process. Fixed installation is possible as the screener itself is vibration-free. Cyclone screeners operate dust-free in a sealed system. The flutter action of the screen media promotes self-clearing, thereby substantially reducing maintenance and costly down time. Even products with a high moisture or a high fat content can be screened successfully.



An AZO invention – 1949, the first cyclone screener



The latest screening technology after 50 years of continuous development and consistent refinement

## A variety of sizes, flexible application and high operational throughput

The variety of cyclone screener sizes make a wide range of applications possible as do the inserts which can be made of nylon or anti-static carbon screening fabric for fine meshing or a wire weave or chrome-nickel steel for coarse meshing. AZO cyclone screeners are available in

epoxy coated carbon steel or stainless steel construction. Optional weld treatments and surface finishes meet the requirements of the food, pharmaceutical, plastic, and chemical industries. Cyclone screeners attain a high level of operational throughput. Available in a wide range of sizes, the machines can meet practically all requirements.

## The operational principle

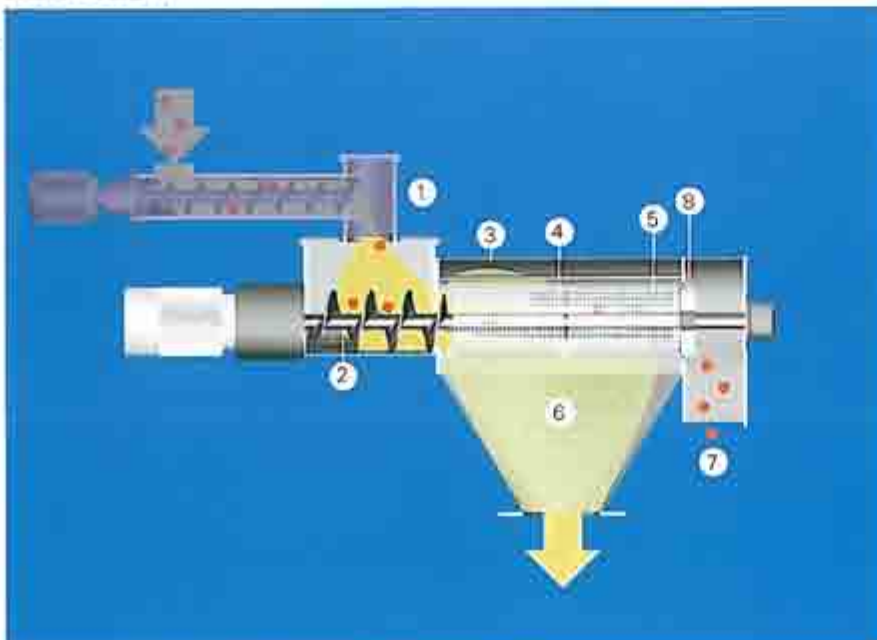
A separate metering device feeds bulk goods, raw materials, components etc. directly into the inlet (1).

The products enter the actual screening chamber (3) via the integrated feed screw (2).

In the screening chamber, special flow blades promote centrifugal movement of the material through the screen mesh (4) (5).

While the fine proportion of the material (6) remains in the production process, the coarse component is continually transported towards the "overs" outlet where it is removed (7).

The baffle plate (8) at the end of the screen prevents fine material from entering the "overs" outlet.



# Cyclone screeners for all applications

## The DA screener with auto-metering

A market innovation from AZO is the cyclone screener with auto-metering. This machine's ease of handling and low profile make it easily integrated into existing systems. Plus, it is ideal for installations where space is limited.

Another highlight is the system's ease of cleaning and maintenance. Both the feed screw and the entire screen insert can be extracted in no time at all without special tools. What this means to you:

- quick screen changes
- fast maintenance inspection
- easy product changes

## Easy to clean and dismantle without tools



## Low-maintenance and easy to clean

Screens can be exchanged easily and without tools on all models. The entire rotor can be removed with little effort. When the machine is not operating, the screen mesh can be exposed by opening a large inspection door and easily checked by rotating it.

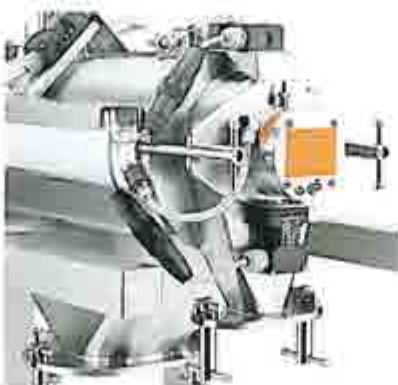


## The operational principle

In conventional screeners, a common motor drives the feed screw and the flow blades. The DA cyclone screener with auto-metering has two separate drive units. The motor that drives the cyclone blades runs at a constant speed. The metering screw has a variable speed drive.

The quantity of the feed product, and thus the operational throughput, can

be adjusted by altering the metering screw's speed. This allows you to make adjustments for the particular characteristics of the bulk material being screened. Therefore, the machine conveys each bulk material as required without an additional metering device being positioned in front of the screener intake. This simplifies the feeding process, saves space and reduces costs.



Quick-acting fasteners

**Left:**  
All AZO screeners are easy to dismantle and clean.  
**Right:**  
Meets the most demanding requirements: the pharmaceutical version of the cyclone screener in stainless steel.

## Applications in the pharmaceutical industry

AZO screeners meet even the most demanding requirements of the pharmaceutical industry. A variety of stainless steel versions and different surface finishes – including electro polished surfaces – ensure that all hygiene regulations are met.



# The FL liquid screener

## Separates solids from liquids

AZO liquid screeners prolong the life of downstream apparatus, e.g. filters, by five- to ten-fold.

The liquid screener continually removes the agglomerates that occur when powders are stirred into liquids. For example, it separates cheese dust from whey or residual fruit pulp from juices. It is also particularly effective in latex production and the primary treatment of waste water.

## Individual levels of fineness

The FL can achieve an operational throughput of up to 10,500 gallons per hour, depending on motor speed and mesh grade.

The fineness of the screening can be adapted to individual requirements. Screening inserts made of 10 $\mu$  mesh media can handle very fine solids. The screens are self-cleaning and can be changed without tools.



Particles are fed to the solids down spout via the "flow-blades" and removed.



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