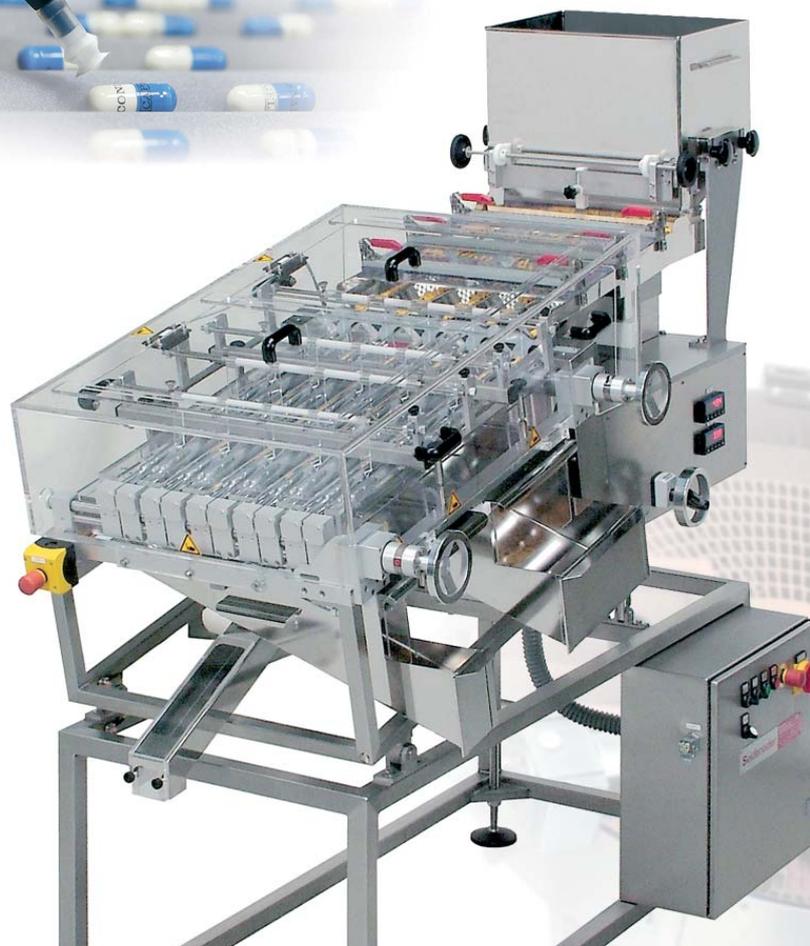


Seidenader Inspection and Sorting Machines for Tablets and Capsules

The family of Seidenader inspection and sorting machines is a system designed to increase packing line efficiency and to ensure consistent product quality.

The main advantages are:

- Accessibility for service and cleaning
- "Plug in" guide parts and change parts wherever possible
- Toothed belt drives are used which do not transfer grease or oil particles
- Documentation and test protocols according to FDA recommendations
- Ergonomic seating position and operating panels
- Numerous possibilities for line integration
- FDA acceptable materials

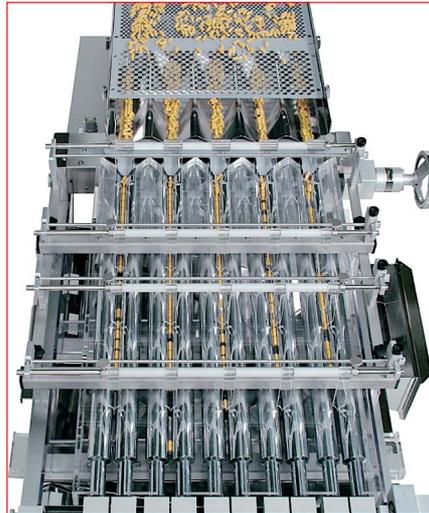


Automatic sorting of plain and coated tablets, soft gelatine capsules and hard candy

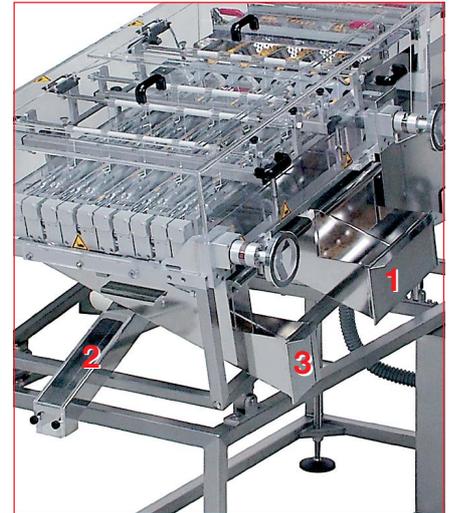
Plain and coated tablets are sorted fully automatically for thickness on sorting machines type **Seidenader DS**. Product fragments can optionally be separated.

Advantages:

- High throughput at high precision, thickness sorting accuracy steplessly adjustable up to $\pm 1/20$ mm
- Adjustment of the sorting channels manually or automatically by stepper motors
- Clear digital display of sorting ranges
- Simple changeover within 2–3 minutes
- Message display for all important production data
- Printer port for batch reports
- Easy to clean – simple maintenance – no hidden corners
- Open design to avoid cross contamination
- Removable discharge channels for good tablets and rejects protected with safety interlocks
- Silent operation with smooth starting device
- Experience of over 600 units successfully installed
- Documentation according to FDA recommendations



Precise guidings and adjustable flap rows feed the tablets fast and troublefree through the sorting channels in single file.



Removable discharge channels for (1) too thin, (2) good and (3) too thick tablets on Seidenader sorting machine. Open design, easy to clean.

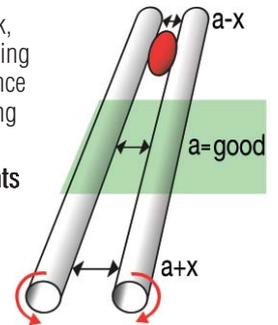
For **thickness sorting** the tablets are fed into the sorting channels by a stepless adjustable vibratory feeder. Upward rotation of the rollers keeps the tablets moving in single file in an upright position through the sorting channels.

Movable and adjustable flap rows avoid overflow and keep the tablets oriented in the channels. The distance between the rollers is narrow in the upstream section and wider in the downstream section. Depending on thickness the tablets are automatically separated into 3 discharge channels: "too thin",

"good", "too thick, twins etc." by falling through the distance between the sorting rollers.

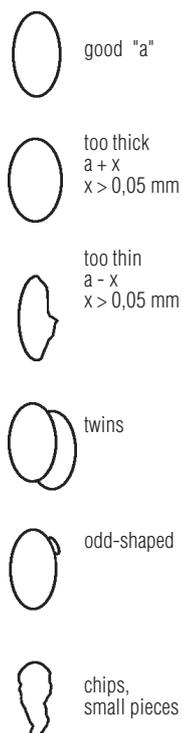
Product fragments

can optionally be separated by integrating a perforated plate in front of the sorting channels.



Sorting criteria for tablets

Thickness sorting:



Product fragments:



Seidenader DS 5 for Thickness sorting



Technical data Seidenader DS 5

Capacity: depending on product, up to 120 kg/h tablets up to 450 kg/h hard candy and chiclets

Electrical connection: 230 V, Ph+N+PE, ca. 1,5 kW, 50 Hz, any other voltages optional

Dimensions: length ca. 1900 mm
width ca. 900 mm
height ca. 1900 mm

Weight: ca. 250 kg net

Technical data Seidenader DS 12

Capacity: depending on product, up to 290 kg/h tablets up to 1080 kg/h hard candy and chiclets

Electrical connection: 230 V, Ph+N+PE, ca. 1,5 kW, 50 Hz, any other voltages optional

Dimensions: length ca. 1900 mm
width ca. 1500 mm
height ca. 1900 mm

Weight: ca. 400 kg net

The tablet sorter Seidenader L 650 has been specifically designed to sort oblong tablets by length.

Oversized tablets, "twins" and broken or "halved" tablets are eliminated automatically.

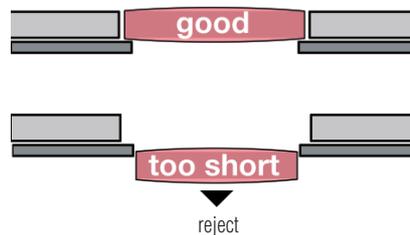
Advantages:

- Sorting is more exact than with vibration systems.
- Change-over time: 10 minutes. Change-over requires only a sorting plate and a rotating disk.
- The L 650 can be used as a stand-alone unit or in-line with a Seidenader DS thickness sorting machine. This allows sorting both by length and thickness in one in-line system.
- The L 650 can be easily disassembled for cleaning.
- It is made completely of stainless steel and corrosion-resistant materials.

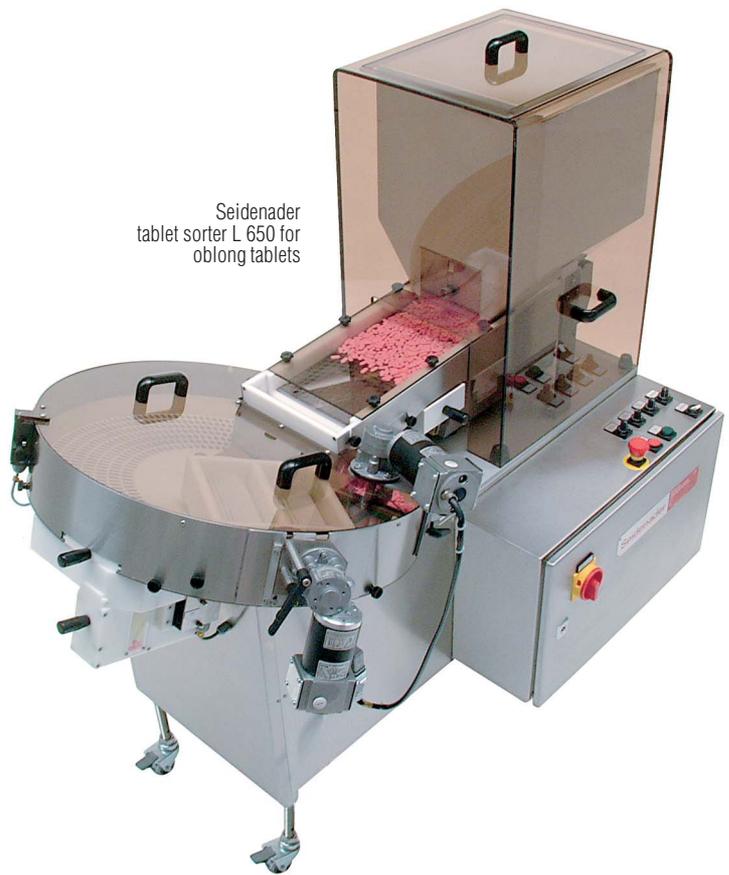
Mode of operation:

The tablets are loaded into the feed hopper which has an adjustable feed gate. The tablets are fed over a perforated plate by a vibratory feeder. The perforated plate has three sections.

In section 1, the holes of the plate are small enough to separate only dust and small fragments. In section 2, tablets of correct width drop through the holes onto the sorting mechanism for sorting the tablets by length. Oversized tablets in width and "twins" pass on to section 3, where they are collected in a special container. In the sorting mechanism, the tablets slide into the holes of the rotating disk and are transported over sorting slots. Tablets which are too short will drop through the sorting slots into a container for rejects. Tablets of the exact length cannot fall through the slots and are discharged through a chute as good product.



Seidenader tablet sorter L 650 for oblong tablets



L 650 in combination with a Seidenader DS thickness sorter: The products are sorted by thickness and length.

Technical data Seidenader L 650

- Application: Sorting of oblong tablets and candies by length, elimination of oversized, undersized, dust, broken tablets and twins
- Output: up to. 2500 pcs/min depending on product
- Mode of operation: fully automatic
- Electrical connection: 230 V, Ph+N+PE, 50 Hz Standard, ca. 0.4 kW
- Dimension: approx. 1260 x 655 x 990 mm
- Weight: 150 kg net



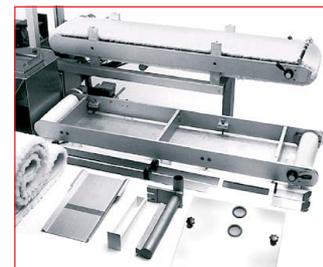
Capsule cleaning and polishing machine Seidenader PM 60 for dedusting, cleaning and high gloss polishing of hard gelatin capsules

The Seidenader PM 60 is a dedusting, cleaning and polishing machine. It continuously cleans the capsules while gently transporting them to the next process. Coarse dust is already removed on the vibratory conveyor chute at the infeed, before the capsules get between the polishing belts. By extremely gentle and dry cleaning and polishing, a high-gloss effect is achieved, even at the tips of the capsules.

The PM 60 can be integrated into complete lines between two production steps. We recommend to use the PM 60 in combination with a Seidenader inspection belt V50-2. The capsules are cleaned, polished and inspected in one process.

Advantages:

- Adjustable to all capsule sizes, without any additional change parts.
- The polishing belts are continuously cleaned by a permanent vacuum system.
- Noiseless vacuum through venturi principle.
- In-line integration possible, due to adjustable drive and optional fill level inspection at the opening of the feed hopper.
- Disassembly of machine without tools within a few minutes.
- No hidden corners, the risk of cross contamination is minimized.
- No open drive components, shafts, belts or bearings.



Dismantled machine: For cleaning and maintenance purpose the machine can be disassembled without tools within a few minutes.

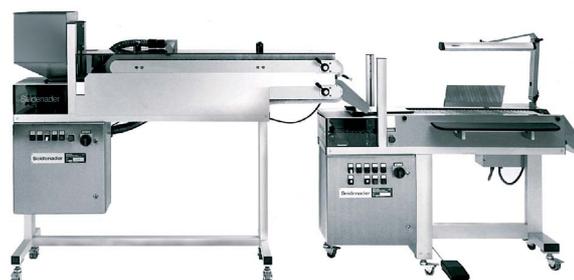
Mode of operation:

The capsules are loaded into the feed hopper. The capsule feed is regulated with a slide gate at the opening of the feed hopper and an adjustable vibratory conveyor. The capsules pass from the conveyor between two counter rotating polishing belts that clean and polish

the capsules. The lower belt is running faster than the upper belt in order to transport the products. Dust is continuously removed from the polishing fleece by two vacuum units.

Technical data Seidenader PM 60

Application:	Hard gelatin capsules
Construction:	Rigid frame structure of rectangular anodized aluminium profiles. All machine parts contacting the products are made of stainless steel W 1.4435 or natural fleece.
Length of polishing stage:	ca. 1,200 mm
Lower belt:	center to center distance ca. 1,300 mm, stepless adjustable drive
Upper belt:	center to center distance ca. 1,200 mm, constant speed
Throughput:	up to 300,000 capsules/h, depending on capsule size
Electrical connection:	230 V, Ph+N+PE, 0.4 kW, 50 Hz standard; all other voltages possible through transformer
Compressend air:	Pressure 6 bar, consumption ca. 10 Nm ³ /h, connection 1/8 "
Dimensions:	1,953 x 510 x 1,400 mm (LxWxH)
Weight:	ca. 180 kg net



Capsule cleaning and polishing machine PM 60 in combination with an inspection belt V 50-2: The capsules are cleaned, polished and inspected in one process.

Inspection belt Seidenader WB 20 for consistent inspection of plain or coated tablets

The Seidenader Inspection Belt WB 20 with tablet turn-over system enables your operators to inspect reliably up to 50 kg of tablets per hour from all sides. The base machine WB 20 can be provided with a range of accessories in order to meet your individual requirements, i.e. with calibrated work lights above the inspection zones, foot pedal switch for immediate transport stop at any time or adjustable mirrors. Defective tablets can be eliminated by the operators with a flexible hand-held vacuum nozzle.

Advantages:

- Reliable and smooth turn-over of the tablets
- Any possibility of contaminating the product with abrasion of belts or chains is eliminated.
- No greasing points or oiled chains
- Reduced fatigue of the operators through ergonomic design
- Integrated collection box for rejects within reach of the operators
- No external vacuum cleaner necessary through the use of compact venturi suction system
- Machine can be easily dismantled within a few minutes for cleaning purposes
- No hidden corners, easy access, the risk of cross contamination is minimized

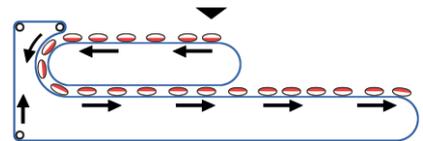
Technical data Seidenader WB 20

Application:	Inspection of plain or coated tablets by two or four operators
Design:	Rigid frame structure of rectangular aluminium profiles. All machine parts contacting the product are of stainless steel W 1.4435 (SS 316, special low carbon type) electropolished
Feed hopper:	content 30 l, with slide plate
Transport belts:	FDA acceptable polyurethane material
Inspection stages:	2 x 325 x 200 mm (length x width)
Inspection capacity:	up to 50 kg/h, depending on product and product size
Electrical connection:	230 V Ph + N + PE, 0.4 kW, 50 Hz standard; all other voltages possible through transformer
Compressed air:	Pressure 6 bar, consumption ca. 10 Nm ³ /h, connection 1/8", required for optional hand-held vacuum nozzle only
Dimensions:	ca. 1,850 x 850 x 1,315 mm (LxWxH)
Weight:	ca. 150 kg net

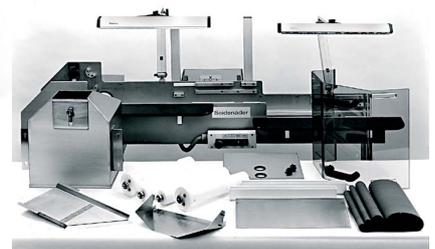


Mode of operation:

The product flows from the feed hopper into a vibratory chute where a perforated screen eliminates coarse, dust and chips which are then collected in a container. The product enters the inspection stage in a single layer. The tablets are placed on a transport belt made from a FDA approved material and are presented to a first operator for the inspection of the upper side of the products. A special turn-over system transports the products to the second operator to inspect the bottom side of the product. During both inspection stages the products lie flat on the belt and are in constant motion - no vibration!



Adjustable mirrors enable the operators to examine the far side of the product. This process allows a reliable inspection of the full circumference of all products.



Dismantled machine.
For cleaning and maintenance purpose
the machine can be disassembled without tools
within a few minutes.

Inspection belt Seidenader V50-2 for consistent inspection of capsules and plain or coated tablets

The Seidenader inspection belt V50-2 with rotating rollers enables the operator to inspect up to 100,000 capsules or 50 kg tablets per hour from all sides.

The base machine V50-2 can be provided with a range of standard accessories in order to meet your individual requirements. Empty capsules, halves and chips will be separated automatically with a vacuum unit installed on the inspection belt prior to the inspection stage. In addition, defective tablets and capsules can be eliminated by the operator with a flexible hand-held vacuum nozzle.



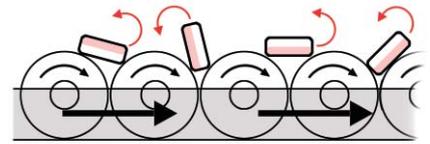
Advantages:

- Smooth transfer of the product onto the inspection rollers
- No contamination of product possible by friction belts or chains
- Disassembly and replacement of the inspection rollers without tools within a few minutes
- No noisy external vacuum cleaner necessary through the use of compact venturi suction system
- No greasing points or oiled chains as toothed belts are used for transport
- No friction through moving parts or belts in the product contact zones
- Reduced fatigue of the operator through ergonomic design
- No hidden corners, the risk of cross contamination is minimized
- Integrated collecting box for rejects within reach of the operator

Mode of operation:

The product flows from the feed hopper into a vibratory chute where a perforated screen eliminates coarse dust and chips which are then collected in a container. The product enters the inspection stage in a single layer. The capsules and tablets are placed on

rotating rollers and are continuously turned in front of the operator. This allows a reliable all-sided inspection. An adjustable mirror enables the operator to examine the far side of the product.



Optionally the rotation speed of the inspection rollers is adjustable with a separate drive unit, independent of the inspection speed.



Inspection Belt Seidenader V50-2

Technical data Seidenader V50-2

Application:	Inspection of capsules, plain or coated tablets and other round or cylindrical objects by one operator
Design:	Rigid frame structure of rectangular aluminium profiles. All machine parts contacting the product are of stainless steel W 1.4435 (SS 316, special low carbon type) electropolished
Inspection rollers:	Makrolon, qualified for pharmaceutical applications, sand blasted
Length of inspection stage:	370 mm
Filling height:	feed hopper 30 liters: 1,290 mm / feed hopper 50 liters: 1,490 mm
Working height:	900 mm
Discharge height:	685 mm
Inspection capacity:	up to 100,000 capsules/h or up to 50 kg tablets/h depending on product
Electrical connection:	230 V, Ph + N + PE, 0.6 kW, 50 Hz standard, all other voltages possible through transformer
Compressed air:	Pressure 6 bar, consumption ca. 10 Nm ³ /h, connection 1/8" required for optional hand-held vacuum nozzle or automatic empty capsule separation unit only
Dimensions:	ca. 1,400 x 625 x 1,290 mm (LxWxH)
Weight:	ca. 150 kg net

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Since we are constantly working on the improvement of our high-quality machines, the texts, illustrations and figures on these pages are exemplary and not binding.

