

X-ray inspection system Dymond Bulk

For the reliable inspection of bulk materials



! Benefits

- Maximum detection sensitivity for product and machine safety
- Intuitive operation
- Worldwide service, including remote support
- High-performance interfaces for straightforward integration into networks



Dymond Bulk guarantees precise X-ray inspection of bulk materials in the food industry. Foreign bodies such as stones or metal are consistently detected and removed from the material flow to protect both products and machines.

Dymond Bulk eliminates foreign bodies from the production process at an early stage

- ! **Outstanding detection performance** for raw materials such as vegetables, nuts, dried fruits or cereals: an optional multi-segment separator with four segments also guarantees the **targeted and cost-effective elimination** of foreign bodies from the product stream.
- ! **Remote support** is available from our worldwide service team via an integrated Ethernet interface.
- ! **A range of interfaces** including SPC@Enterprise, OPC-UA, Modbus, USB and Ethernet ensure flexible integration into networks.
- ! Simple and intuitive: the **powerful software** behind the user interface ensures greater operational reliability.

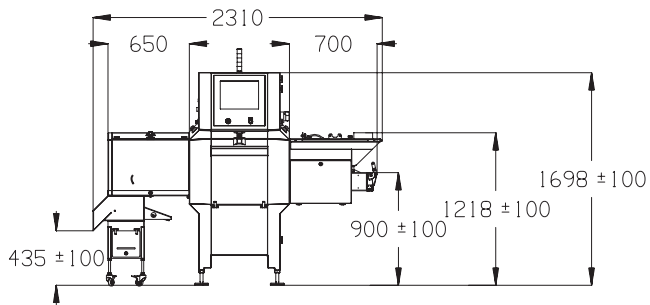
All foreign bodies removed from raw materials

For all goods introduced into the production process straight from the field, Dymond Bulk efficiently detects and eliminates all kinds of foreign bodies, including metal, plastic, stone, clumps of dirt and glass.

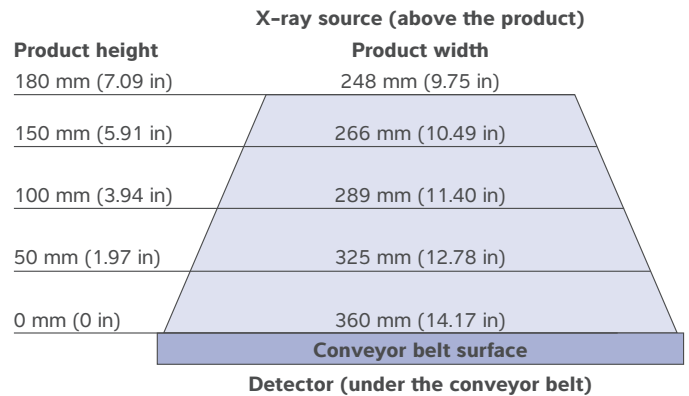
Early X-ray inspection at the start of the production line ensures machines are always protected and is also an important element of quality assurance. Foreign bodies can be immediately detected and traced. Moreover, from an economic perspective, it makes sense to remove contaminants before further processing of raw materials such as nuts, fruits, seeds or coffee.

Select the right X-ray inspection system Dymond Bulk 80 or 120 for your needs:

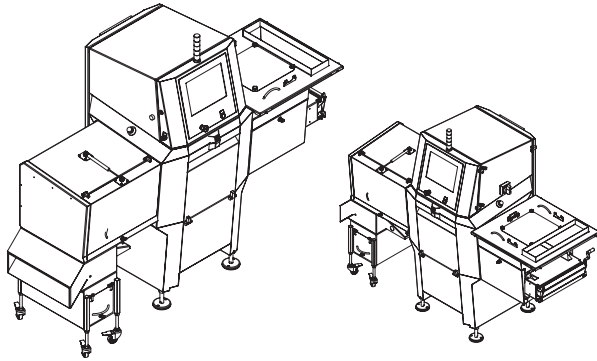
Front view



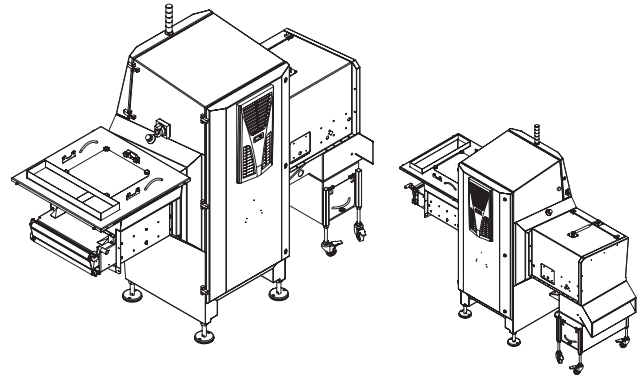
X-ray beam geometry



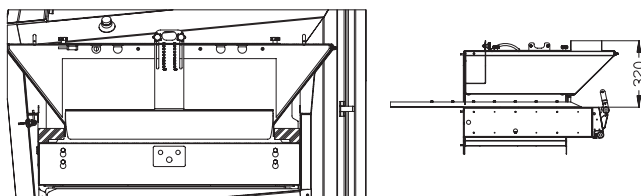
Side view



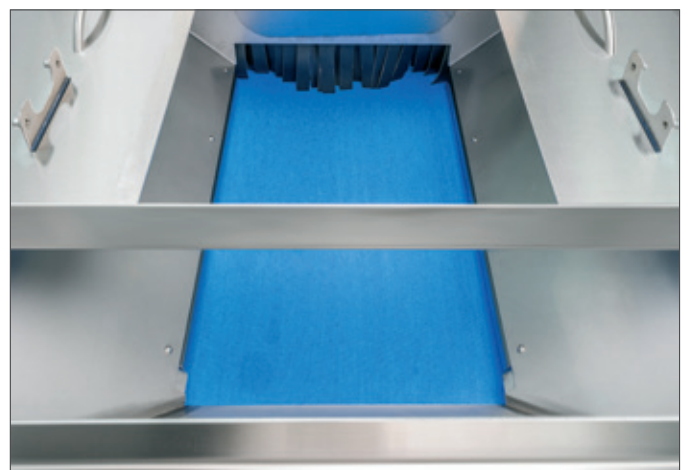
Rear view



Product inlet



A uniform product height is essential for a reliable inspection process. A fixed-position scraper therefore serves as an effective dosing device.



Dymond Bulk with type 2 conveyor belt

Technical specifications

Optional with OPC-UA and connection to SPC@Enterprise

Technical data – Dymond Bulk		
	Dymond Bulk 80	Dymond Bulk 120
X-ray power	70 kV-1.2 mA 80 kV-2 mA	80 kV, 2 mA
Detector resolution	0.8 or 0.4 mm	0.8 mm (standard)
Belt speed range	10 to 49 m/min (with standard drum motor) / up to 73 m/min	10 to 49 m/min (with standard drum motor) / up to 79 m/min
Approvals	CE, UL/CSA	CE, UL/CSA
Safety locks	SIL 3. Category IV PL E, magnetic	SIL 3. Category IV PL E, magnetic
User interface	15-inch touchscreen	15-inch touchscreen
Operating temperature	+5°C to +40°C	+5°C to +40°C
Machine cooling	500 W cabinet air conditioner (or Nema4X for IP65)	500 W cabinet air conditioner (or Nema4X for IP65)
Relative air humidity	20% to 90%, no condensation	20% to 90%, no condensation
Digital outputs	4 available	4 available
Digital inputs	7 available	7 available
USB port	Yes	Yes
Network connection	Ethernet	Ethernet
Compressed air	5.5 to 6.9 bar	5.5 to 6.9 bar
Radiation protection	FDA CFR 21 Part 1020.40 (additional regional certifications available from the manufacturing plant)	FDA CFR 21 Part 1020.40 (additional regional certifications available from the manufacturing plant)
International protection class	IP34 (standard) / IP65 with Nema4X air conditioner / IP69K on request	IP34 (standard) / IP65 with Nema4X air conditioner / IP69K on request
Electrical supply	230 V AC ± 10% (standard)	230 V AC ± 10% (standard) / 190 to 240 V AC 50/60 Hz
Max. throughput	Output dependent on the belt speed and type of conveyor belt used	Output dependent on the belt speed and type of conveyor belt used
Max. power consumption	16 A	16 A
Weight (standard configuration)	~ 500 kg	~ 600 kg
High conveyor belt	800–999 mm	800–999 mm

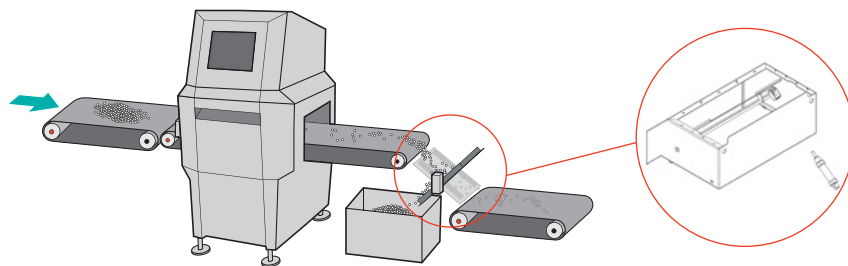
Options

Various additional options expand your possibilities

- Remote control
- Extended warranties
- Bar code readers
- Acoustic signal emitter
- Service contracts

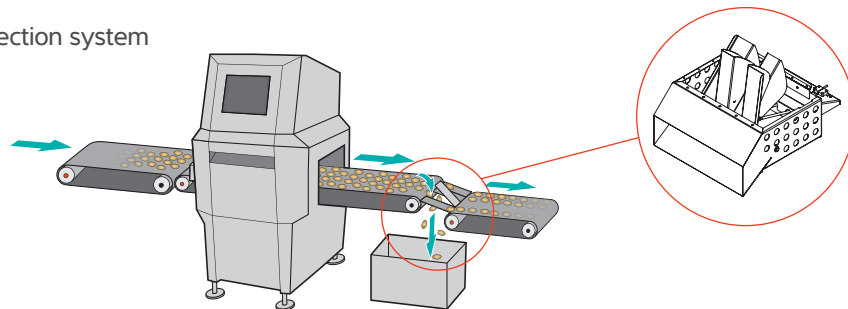
Separators

Standard separator



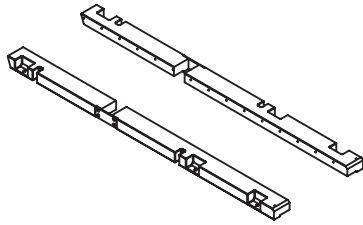
Multi-segment separator

The precise multi-segment ejection system ensures minimal material loss.



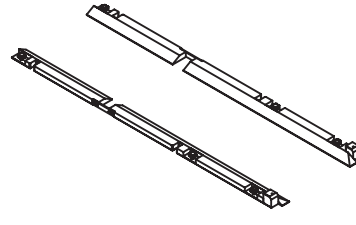
Conveyor belt – type 1/type 2

There are two different conveyor belts available for different types of bulk materials.
Depending on the size of the grains, a troughed belt or flat belt with side guide may be required.



Type 1

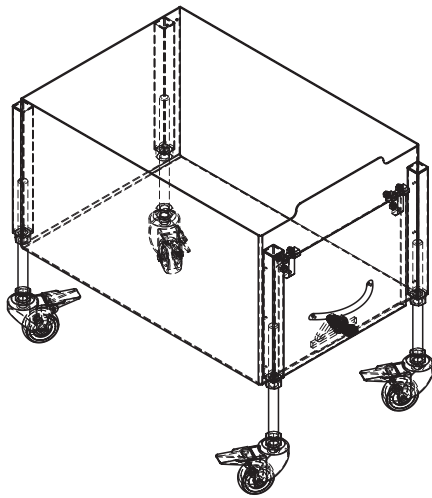
Type 1: Suitable for grain sizes > 4 mm.
Maximum product height is 50 mm.
Max. throughput, at a band speed of 1 m/s, is 25 m^3 .
The conveyor belt passes under the side guides in this case.



Type 2

Type 2: Suitable for grain sizes < 4 mm.
Smaller grain sizes are best conveyed using a troughed belt.
Maximum product height 25 mm.
Max. throughput, at a band speed of 1 m/s, is 35 m^3 .

Collection container



A movable collection container is included with the Dymond Bulk. Volume: 45 cm^3 . Max. load capacity: 25 kg.
Lockable (digital lock optional).

We offer customer-specific solutions for special requirements in terms of volume and load capacity.

Interfaces

There are various interfaces available for integration into different control systems:

- Standard: ethernet TCP/IP interface with integrated Modbus TCP protocol
- Optional: OPC-UA, SPC@Enterprise

The technical data given serves as a product description only and should not be understood as guaranteed properties in the legal sense.

Specifications subject to change without notice.

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