

Sack discharge station for emptying bagged product with special operator protection

Suitable for use
in zone OEB 3

Protection for
operator and product

Ergonomic handling
of bags

Closed system

Preventing
contamination

Preferred applications

In the chemical and pharmaceutical industries, it is often necessary to discharge raw ingredients that are harmful to health directly from bags into the closed production system. In this situation, protection for the operator is the priority.

Influenced by a growing awareness of health risks in the population, regulations for the manual handling of bulk materials are generally being tightened up. Increasingly, products are being classified as harmful to health that were previously considered not to be harmful. Furthermore, however, it is also

necessary to protect sensitive raw materials from adverse environmental effects. This includes hygroscopic substances, for example, or substances that react with oxygen or atmospheric humidity.

The manual bag discharge station can be used anywhere where the raw materials to be handled have "a pharmacological effect at low dose" or a "moderately toxic effect" (definition from DGUV* 213-083).

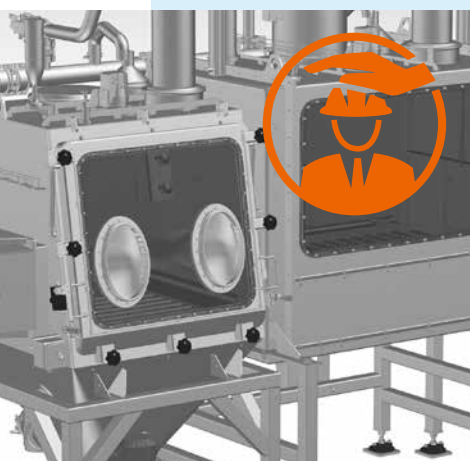
*German Social Accident Insurance

The document specifies an OE band of $10 \mu\text{g}/\text{m}^3$ to $100 \mu\text{g}/\text{m}^3$. The hazard classification for these products is G 3a.

Key advantages

- Ergonomic discharge of substances harmful to health into closed systems
- Compliance with specified maximum allowable concentrations
- Suitable for use in zones with requirements for OEB 3
- Protection for operating personnel and product

THE INNOVATION



Operating principle

The operator places the closed bags on a roller train outside the lock chamber and opens the slide gate valve on the inlet using a two-hand safety control unit. Using a foot pedal, the operator can then set the roller train in motion and bring the bags into the lock chamber, then close the slide gate valve again using the two-hand safety control unit.

The lock chamber and the glovebox are then flooded with nitrogen until the set threshold (in particular oxygen content or

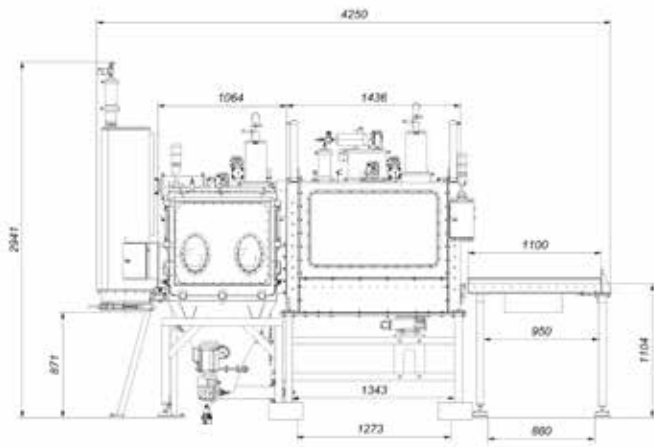
residual humidity) is reached.

To empty the bags, the operator reaches into the glovebox using the integrated gloves and opens the slide gate valve to the lock using the two-hand safety control unit mounted there. Here again, the operator can use a foot pedal to bring a bag into the glovebox, then close the slide gate valve again using the two-hand safety control unit. The operator opens the bag using the integrated blade, and empties it into the subsequent closed system.

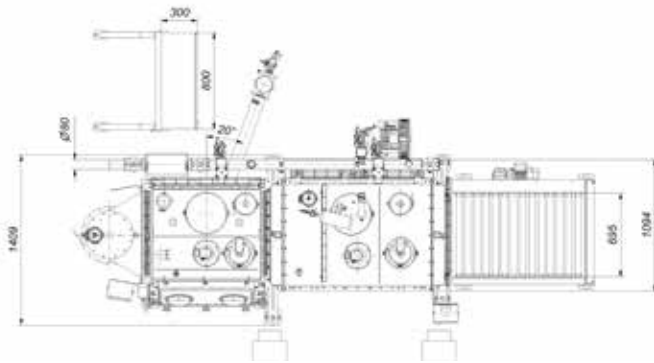
The empty bags are disposed of through an opening into the empty bag compactor, where they are compressed in a film bag. A special containment solution makes it possible to replace the film bag without contaminating the environment.

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Technical data



Dimensions of the overall system in [mm]	L=4250 x W=1410 x H=2940
Suitable packaging Max. dimensions in [mm]	L=500 x W=300 x H=100
Performance data:	50 bags per hour (with two operators)
Containment zone that can be achieved:	OEB 3 (10 µg/m³ - 100 µg/m³)
Noise level:	75 [db(A)]
Dewpoint of the cabins:	up to max. -40°C
Nitrogen consumption: with a dewpoint of -35°C: with a dewpoint of -40°C:	0.4 Nm³/h 3.6 Nm³/h
Weight:	approx. 1750 kg



Glovebox with two-hand safety control unit and integrated blade for opening the bags



The large window in the front and integrated interior lighting make it easy to see into the working space



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The design is subject to change due to our continuous improvement program.