

Application

This Sanitary Bag Dump Station with Glovebox is designed to allow bags or small sacks to be opened and dumped into a process in a closed environment. The Bag Dump Station protects the operator from contact with potentially hazardous bulk materials while also protecting the bulk material from contamination or interaction with the outside environment.

Once inside the hopper, the bulk material is introduced into the process below via a choice of discharge tools – vacuum conveying, screw feeder or discharge valve – depending on the requirements of the bulk material and application.

Function and Operation

The central exhaust ventilation is always on during use to ensure that dust does not exit the unit during loading and/or discharging. The fan is started automatically when the sliding hatch is opened and generates a slight vacuum. Once the hatch is closed the breaker (vent) valve in the exhaust line is activated, blowing a stream of air over the front window to ensure dust does not settle on the window.

The primary filter is only cleaned when the hatch is closed and the exhaust fan is on. A protective panel prevents dust from being blown at the front window. The empty bag can be disposed of through a flange at the side of the unit.

If no further bags are emptied within a programmable timeframe, the exhaust fan and internal light are automatically shut off. A protective filter between the glovebox and fan prevents dust from exiting the unit in case of damage to the primary filter. A bleeding valve is mounted in the exhaust line for fine adjustment of the vacuum.

Design

The entire unit is designed with no pockets - only open profiles are used. The components are connected by band clamps. The safety grill inside the hopper is removable when the window is open. The window can be removed without tools.

Holding Capacity

- Approx. 150 dm³ [5.3 ft³]

Maximum Bag Dimensions

- 400 x 500 x 150 mm [16 x 20 x 6 in] (width x height x depth);
- Access hatch opening : 470 x 180 mm [18.5 x 7.1 in] (width x height)

Controls

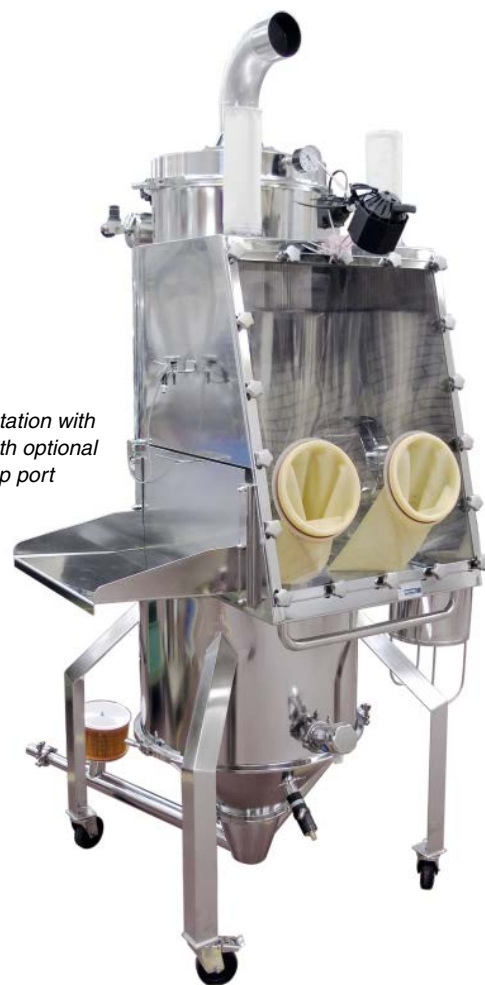
- Separate PLC control mounted in a control panel for wall mount or functional description for integration in a separate PLC.

Hazardous Location Options:

- ATEX 3D/2D (outside/inside)

Note: The receiver is designed for handling bulk materials with a Minimum Ignition Energy (MIE) above 10 mJ.

*Bag Dump Station with
Glovebox, with optional
bottom pickup port*



*Bag Dump Station with
Glovebox, with optional
screw feeder*



Technical Data

Standard Mechanical Specifications

- Mounting flange, incl. clamp and seal (to fit Coperion K-Tron modular feeder, bottom pickup port or DN 150 discharge valve).
- Material of construction stainless steel 1.4404 (AISI 316L)
- Internal welds polished flush to a Ra 0.8
- External welds continuous, untreated
- Surface finish electropolished, internal and external
- Stainless steel band clamps
- Seal materials FDA approved
- Clamp seals clear silicone
- Front window: polycarbonate
- Gloves: latex (alternatives listed under options)
- Fastening ring for gloves: PE white
- Air supply filter: PET textile
- Sliding hatch: PTFE
- Primary filter: 6 polyester filter cartridges; filter area 3 m² [32.3 ft²]; filter class F9, incl. automatic reverse jet filter and air reservoir
- Secondary filter: freestanding, stainless steel, HEPA class 12, cleaning not included
- Fan: volume approx. 200 m³/hr [7063 ft³/hr]
- Exhaust piping: DN 150 with Morris type clamps
- Automatic breaker (vent) valve: Butterfly valve DN 150 incl. filter
- Bleeding valve: T-joint with manually adjustable valve, covered by filter
- Ducting included to place the secondary filter and fan within a radius of 8 m (26 ft) of the Bag Dump Station

Standard Electrical Specifications

- Signal voltage 24 VDC.
- Fan motor 3 x 400 V, 50 Hz, output approx. 0.55 kW

Weight

- Feed Bin with Glovebox without piping and fan: approx. 130 kg [286 lb]

Operating Temperature

- -10 to 50°C (14 to 122°F)
for internal use only - not suitable for outdoor use

Options

Mechanical

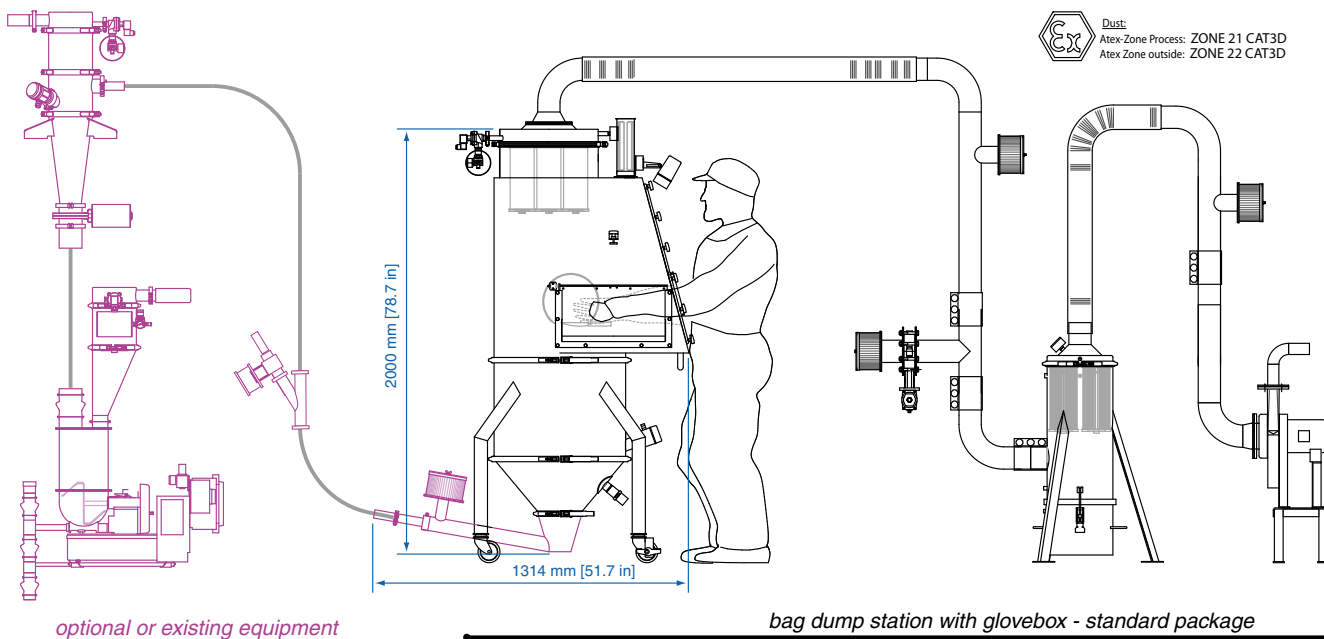
- PTFE coated filter
- Gloves in neoprene, hypalon or butyl rubber
- Flow aids:
 - Vibrator in cone as flow aid
 - Fluidizing cone (PORVAIR)
 - Aeration pads
- Discharge device: screw feeder, bottom pickup port, valve
- Material certificate EN10204-2.2 and EN 10204-3.1
- Surface finish internal Ra. 0.4, external Ra 0.8

Electrical

- Level sensor (capacitive or vibrating fork)
- PLC control cabinet for wall mounting
- Functional design spec for client's PLC programming

Application Example

Bag Dump Station with Glovebox shown with optional bottom pickup port and secondary filter, supplying bulk material to a vacuum sequencing receiver, which is in turn refilling a loss-in-weight screw feeder.



Caution: Measurements are for general reference only. Please consult dimensional drawing for exact measurements.