Plastics Processing

ZG Tanker Loading Bellows

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Description

ZG Loading Bellows are used for efficient, dust-controlled loading of dry, dusty bulk solids into tankers. The spouts are provided with inner tapered cones to contain the flow of material and an outer double bellow to provide for dust removal. At the lower end of the Loading Bellow, a polymer-coated SINT® cone with special sealing properties is provided for connection to the tanker.

Function

First the Loading Bellow is lowered from the stand-by position towards the inlet spout of the tanker. As soon as the bellow outlet cone has settled on the inlet spout of the tanker, the slack cable switch mounted outside the transmission box stops lowering of the bellows. The limit switch inside the transmission box stops both full extension and contraction of the bellows. Material loading is started by opening the silo outlet valve.
During the filling of the tanker, the polymer SINT® coating of the outlet cone acts as a perfect dust seal. At the same time the filter fan continuously sucks dust through the external bellows into the integrated filter cartridges in the upper section of the unit and exhausts excess air. A slack cable switch activates further extension of the bellows as the tanker lowers under the increasing material weight. A level monitoring device installed in the centre of the outlet cone signals maximum material level in the tanker compartment and orders immediate closing of the silo outlet valve. Contraction of the bellows back to stand-by position starts after a delay of approximately 10 seconds in order to allow the filter to evacuate the remaining dust. Once the bellow is fully contracted, the cable limit switch inside the transmission box stops operation. The preset after shut-down cleaning cycle now provides for additional pulse jet cleaning of the filter cartridges for another 10 minutes.

Applications

ZG Telescopic Loading Bellows are suitable for continuous loading with a maximum flow rate of 250m³/h (147 cfm) of bulk material.
The outlet can be equipped with an anti-spillage device which acts as a dustproof stopper as the Loading Bellow is being raised. The equipment features a manual or an electric winch.
A spigot on the header can be connected on site to an external de-dusting filter.

Benefits

- ✓ **No product contamination thanks to:**
  - *Double bellows which keep the falling material separate from the dust*
  - *304/316 stainless steel contact parts*
  - *White colour food-grade polyester internal/external chutes*
- ✓ **ATEX zone 22 certification;**
- ✓ **Flexible chute in Neoprene covered by Hypalon® makes bellows weather-proof, highly abrasion and temperature-resistant and durable;**
- ✓ **Reverse cone with inside level indicator indicates when tanker is full, raises loading bellows gradually, thus improving material distribution inside the tanker;**
- ✓ **Outlet can be equipped with an anti-spillage device which acts as a dustproof stopper as the Loading Bellow is being raised and prevents that insects or birds enter inside the outlet;**
- ✓ **2 lifting cables outside the material flow raise and lower the loading bellows without any cable wear due to material friction and obstruction to material flow.**

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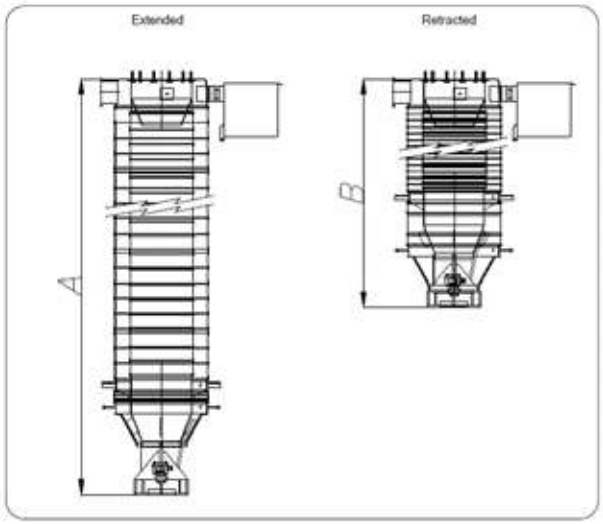
Technical Features / Performance

- Inlet diameter: 300mm (12 in)
- Maximum flow rate: 250 m^3/h (147 cfm)
- Working Temperature: - 20 °C up to 120 °C (- 4° F to 248° F)
- Hoisting system equipped with an 0.55 kW electric motor and gear reducer with belt transmission
- Upper/lower limit switch
- Slack cable limit switch
- Fabricated parts in carbon steel or 304/316 stainless steel
- Bellows manufactured from Neoprene/Hypalon® or white colour food-grade polyester
- Double bellows with optional internal steel cones for granules
- Rubber bottom outlet cone to ensure a perfect sealing of the tanker hatch
- Control panel with remote control for fully automatic operation
- Available with rotary level indicator or vibrating level indicator
- Anti-spillage device on outlet
- 2 external hoisting cables

Overall Dimensions



* = Order Form
S = Weight with single bellows
D = Weight with double bellows

*	A_{max} [mm]	B_{min} [mm]	S [kg]	D [kg]
05	1610	1100	183	205
07	1890	1140	184	207
10	2190	1170	185	210
12	2370	1200	186	211
15	2670	1230	188	213
17	2950	1270	189	215
20	3150	1290	190	217
22	3430	1330	191	219
25	3730	1370	192	221
27	4010	1400	193	224
30	4290	1440	195	226
32	4590	1470	196	228
35	4870	1510	197	230
37	5170	1540	198	223
40	5710	1740	205	231
42	5990	1770	206	233
45	6290	1800	207	235
47	6590	1840	208	237
50	6870	1880	209	239
52	7150	1910	210	241
55	7340	1940	211	243
57	7710	1980	212	245
60	8010	2020	213	247

This datasheet might not show the complete range but only the models most suitable for the application.