



Bin Activator SiloTray



General Information

The [SiloTray](#) is a metering device for high feed rates (up to 100.000 dm³/h) (3531 cuft/h) and is capable of reliably discharging difficult bulk materials from bins and silos either continuously or in batches.

The SiloTray is attached to the discharge of a silo/bin and is comprised of: An [outlet cone](#) with a mounting flange ring and integrated linear baffles. Two force adjustable [electromechanical vibrators](#) are mounted on the cone exterior. The cone assembly is isolated and suspended from a bin mating flange by flexible hanger rods and connected with a dust tight [flexible sleeve](#). The bin mating [flange](#) is supplied loose and field welded to the customer bin or silo by others. This assembly forms a robust structure ensuring uniform distribution of the dynamic vibration forces.



The SiloTray operation allows non-compacting "[first in - first out](#)" discharge of ingredients. This provides consistent filling of downstream feeders or processes. When the vibrator is started, the outlet cone and baffle linearly oscillate promoting ingredient flow. The flow rate can be adjusted by varying the vibration frequency and force.

In addition, the vibration deaerates floodable ingredients helping to prevent uncontrolled flow providing a uniform bulk density. The SiloTray is ideal for bulk materials such as granules, powders, flakes, fibers and chips. It should not be used for hygroscopic, sticky or highly flushing ingredients. The SiloTray does not use internal rotating devices which allows for gentle discharge of ingredients.

The SiloTray product line features a wide range of models from 600 to 1500mm (23.6 to 59.1 in) diameter suitable for most mild steel, stainless steel, aluminum or plastics bins and silos. The Brabender SiloTray is available in mild steel or stainless steel construction.

The SiloTray is often integrated with downstream conveying and feeding equipment including our volumetric, gravimetric or weigh belt feeders.

The unit conforms to CE directives.

Model Specification

| | |
|--------|-------------------|
| STxx04 | SiloTray |
| STxx04 | Diameter (mm)/100 |
| STxx04 | Series 04 |



Control Modules

The vibrator motor can be controlled by a motor starter or by using a variable frequency drive (VFD) from 20-60 Hz. In addition, the vibrator force can be adjusted mechanically from 0-100% and an external start/stop signal can be provided by others.



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Technical Drawings and Dimensions

| | |
|----------------|---|
| SiloTray Ø600 | ST604 |
| SiloTray Ø900 | ST904 |
| SiloTray Ø1200 | ST1204 |
| SiloTray Ø1500 | ST1504 (with optional shut-off valve) |

| Outlet options | | |
|----------------------------------|---|--|
| Pipe | Emergency shut-off valve | Double-pipe |
| Pipe with flange | Flange with flexible sleeve | Flexible outlet sleeve |

Technical Specification

| | | | | |
|------------------------------------|--|-----------|-----------|-----------|
| Ambient temperature: | 0°C to +45°C (32°F to 113°F) | | | |
| Humidity: | up to 85% without condensation | | | |
| | ST604 | ST904 | ST1204 | ST1504 |
| max. vacuum [mbar, inches Hg]: | 190 (2.75) | 165 (2.4) | 185 (2.7) | 125 (1.8) |
| max. pressure [mbar, psi]: | 500 (14.7) | 330 (9.7) | 250 (7.4) | 200 (5.9) |
| product temperature: | 0°C to +60°C (32°F to 140°F)* | | | |
| max. bulk density: | 1.5 kg/dm ³ (93 lbs/cuft)* | | | |
| Steel ingredient contact surfaces: | 1.4571 (316), 1.4301 (304) or R-St27-2 (mild steel) (primed) | | | |
| Sleeve and outlet: | polyurethane * | | | |
| Non-contact components: | steel or stainless steel, galvanised or painted | | | |
| Unbalanced motor: | 3000 min ⁻¹ (50 Hz); IP66; ISO-class F; (60Hz, Class II, Division 2, Group F&G) | | | |
| Power supply: | AC 230/400 V (110VAC/460VAC) – 50 or 60Hz** | | | |
| Noise level: | <70 dB in accordance with DIN 45635 | | | |
| * other options upon request | ** 3 phase motors are designed for a power supply of: 230/400 V, 50 (60) Hz, and for the operation in TT networks, TN networks or networks with earthed neutral conductor. For different networks changes are necessary. | | | |

Options and Accessories

- High and low temperature versions
- Explosion-proof per 2014/34/EU (ATEX) or NFPA
- [shut-off valve](#)
- Special sleeves made of silicone or neoprene
- Special motors for higher voltages and frequencies
- Surfaces: steel primed, stainless steel glass bead blasted, outer surfaces optionally painted according to RAL color chart
- [small-size bin](#)
- Outlet options: pipe, double-pipe, pipe with flange, flexible outlet sleeve, [flange with outlet sleeve](#), [pipe with plug-in plate](#)