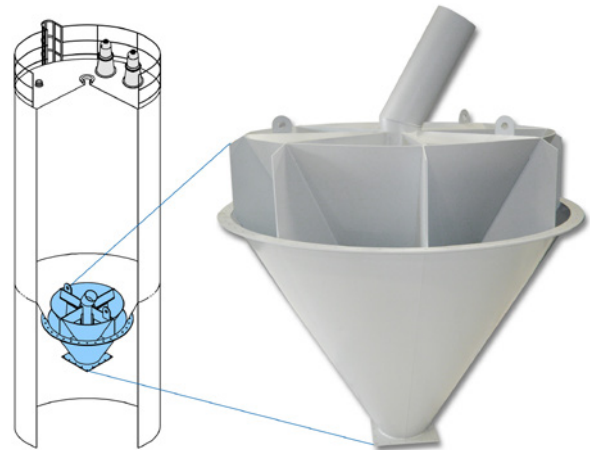


Application

The ProBlend™ Zone Blender provides efficient blending of free flowing materials in a silo or hopper by allowing different zones of material to discharge at different rates. The material is thus blended as it leaves the vessel.

Design

With its special geometry in the silo hopper, the Zone Blender provides multiple flow zones in which the material passes through the silo at different velocities and residence times. As a result, the discharged material contains a blend of material from throughout the silo or hopper. The Zone Blender uses a combination of mass flow (first in – first out) with funnel flow (last in – first out) to help homogenize the blend and reduce the effects of segregation, even with dissimilar materials. The Zone Blender creates differential material flow patterns. Eccentric loading forces should be accommodated in the design of the storage vessel.



Technical Data

Standard Mechanical Specifications

- Available in carbon steel or stainless steel
- Interior is primed / Exterior is painted with enamel
- Welded design
- 60° cone with upper mounting flange
- Standard bottom discharge is 305 mm [12 in] dia. tank flange

Features

- Can be retrofitted to convert existing silos into blend silos
- Robust design with no moving parts to break or maintain
- No dead zones or points for material to hang up
- Adaptation to particular material requirements is achieved through modification of the blender geometry
- Suitable for 1.2 m [4 ft] to 3.6 m [12 ft] dia. silo or hopper
- Cost effective

Performance

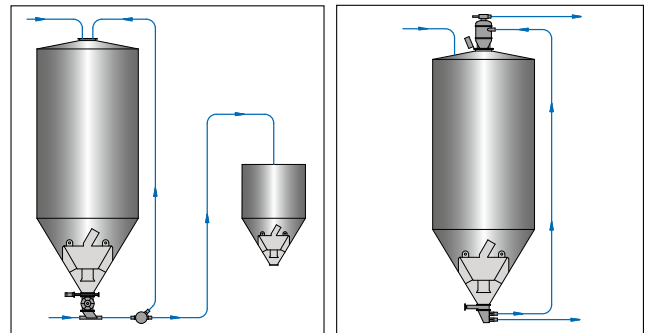
The Zone Blender is intended for any free-flowing material. It will easily handle any material that flows out of a 60° hopper. The internal baffles of the Zone Blender tend to reduce consolidation pressure and thus reduce the likelihood of bridging or rat-holing with many materials.

Even dissimilar materials will blend well. This includes materials with different flow properties, such as mixing flake with pellets, or fines with coarse material. If one material flows easily, while another material's shape or particle friction makes it flow poorly, then blending takes a little longer. The material may need to be recirculated, or turned-over, 1.5 to 2.5 times. If the Zone Blender is used to blend materials with similar flow properties, then the blending performance is even better. Turning the material over 1 to 1.5 times is common.

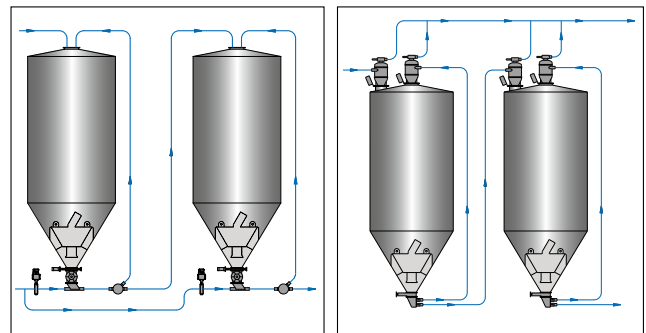
- Blend the material as the vessel is being filled, by recirculating material from bottom back to the top.
- Blend the material as the vessel is being emptied, by recirculating material from bottom back to the top.
- If the blended material is transferred to another hopper at the use point, the segregation could occur in the second hopper. Depending on the material characteristics, its tendency to segregate, and the degree of blending required, another Zone Blender may be desired at the destination hopper.

Industrial Benefits

- May be used in a **once-through** or **recirculating** system design, to blend material from throughout the silo.



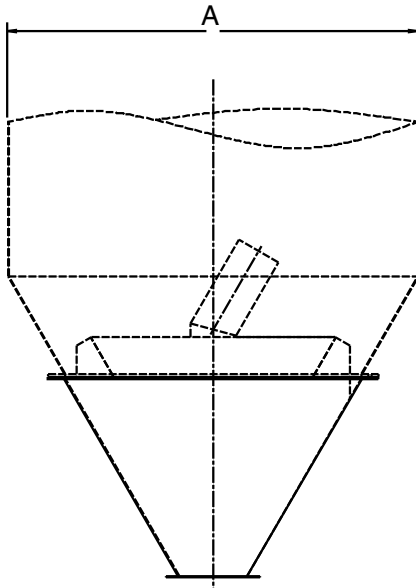
- Appropriate for **batch** or **continuous** systems.
- Allows re-use of off-spec or recycled material by blending it into the major component.
- Suitable for mixtures of many ingredients.



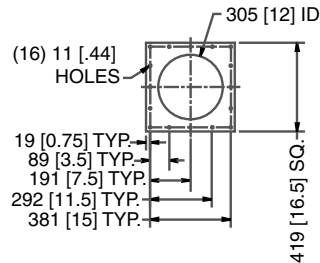
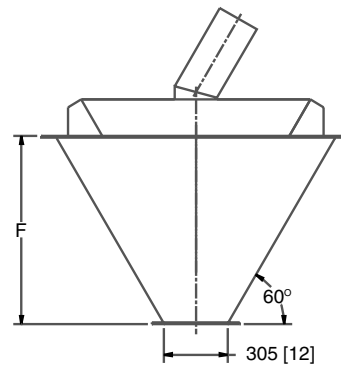
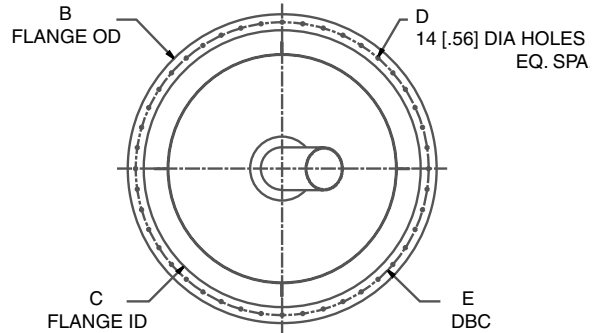
- When installed above the process or packager, it reduces segregation at the use point to reduce any variability in the end product.
- Continuous concept with no time delay required between material feed and blending.
- For the compounder, the resulting homogeneity provides uniformity of color and uniformity of other desired material properties.
- In the plastics industry, suitable for compounders, recyclers, and anyone who blends materials.
- In the food and chemical industries, suitable for blending or preventing segregation of any free flowing materials. Examples include coffee, cereals, pet and animal food, spices, fertilizer, and detergent.

Dimensions mm [in]

Blender models are identified by feet size in column A.



ASSEMBLY TO SILO/HOPPER



DISCHARGE FLANGE

Material of Construction		A Silo/Hopper Diameter m [ft]	B	C	D Number of Holes	E	F	Weight kg [lb]
Carbon Steel	Stainless Steel							
5195-1	5195-11	1.2 [4]	1067 [42]	914 [36]	32	990 [39]	551 [21.69]	115 [254]
5195-2	5195-12	1.5 [5]	1168 [46]	1016 [40]	36	1092 [43]	635 [25]	151 [332]
5195-3	5195-13	1.8 [6]	1372 [54]	1219 [48]	40	1295 [51]	811 [31.94]	197 [435]
5195-4	5195-14	2.1 [7]	1575 [62]	1422 [56]	48	1499 [59]	983 [38.69]	279 [615]
5195-5	5195-15	2.4 [8]	1778 [70]	1626 [64]	52	1702 [67]	1162 [45.75]	432 [952]
5195-6	5195-16	3 [10]	2184 [86]	2032 [80]	64	2108 [83]	1513 [59.56]	800 [1764]
5195-7	5195-17	3.6 [12]	2591 [102]	2438 [96]	76	2515 [99]	1868 [73.55]	978 [2157]

Other sizes upon request.

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