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# Young Industries Anti-Gravity Powder Recirculating Blender

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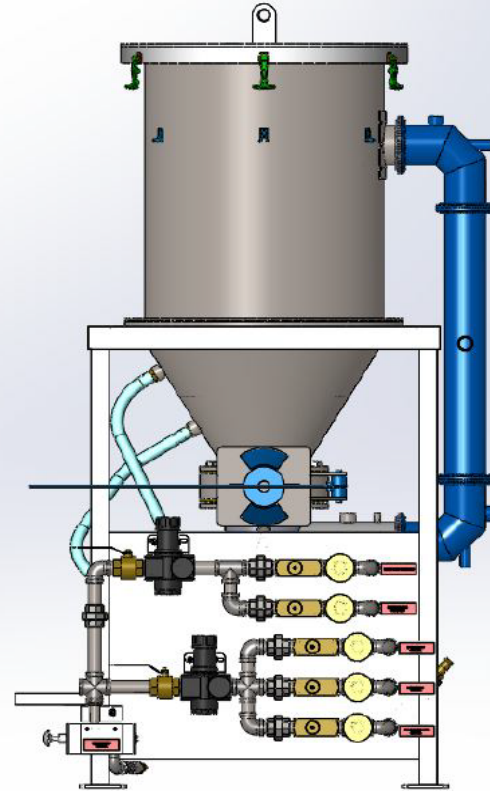
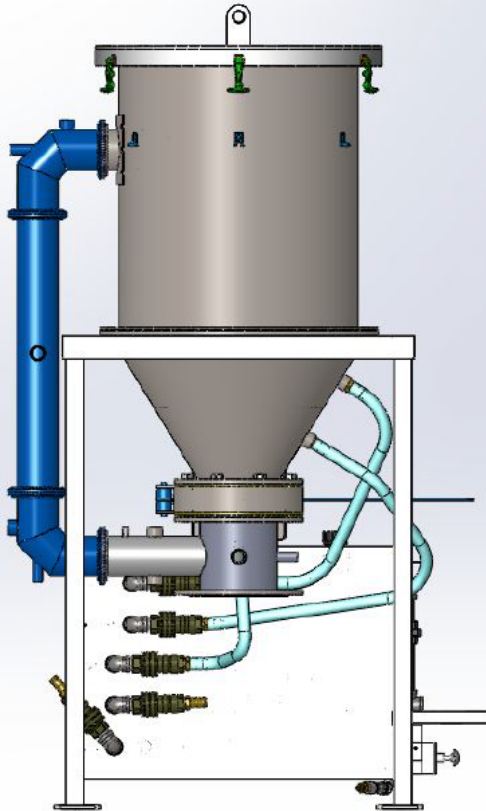
- The Anti-Gravity Powder Recirculating Blender is being developed to mix various powders or various lots of the same powder within holding hoppers, day bins, and surge bins.
- The recirculating blender can be retrofitted to existing hoppers.
- Transflow Fluidizing and Stinger technology are critical components of the blender.
- A typical unit would utilize a new or existing hopper, a Transflow fluidizing cone, an Anti-Gravity discharge/recirculation spool, a Butterfly or Knife Gate valve, and special 3” recirculation Stinger components.
- The blender operates on compressed air, 30 PSIG supply pressure. Compressed air consumption: 1-2 SCFM per foot of 3” Recirculation Stinger, 1-2 SCFM per square foot of Transflow cone surface.



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- Under normal operating conditions, the hopper would be charged with one of the powders. The recirculation/bending system would then be turned on. The next powder would then be added to the hopper. Mixed product would then be discharged from the hopper.
- A test stand was developed and testing of various powders has occurred. Re-use and Artic Mist has been demonstrated, and blended samples have been submitted.

# Anti-Gravity Test Stand



The Anti-Gravity Blender concept combines old Gravity Blender technology used for homogeneous blending of pellets and new fluidizing and aerating technology used to promote flow with hard to handle powders.

## A TOTALLY NEW MULTI-PORT® GRAVITY BLENDER

The new Multi-Port® Gravity Blender provides superior blending of dry bulk materials, blending different weights, densities, and shapes of product. Young Industries' patented gravity flow principle results in low cost operation, high performance, and virtually no maintenance costs.

The Multi-Port Gravity Blender consists of a main blending vessel with a conical bottom. Blending tubes of various numbers, depending upon the material to be blended, extend from selected levels around the circumference of the unit to a blending chamber located below.

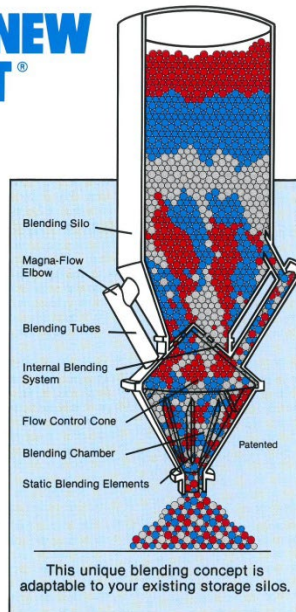
The shape of the blending tubes introduces aeration of the product. Aeration prevents compression of the product at bends and elbows, resulting in a better blended product.

An interior cone, designed to act as a flow control valve and as a shut-off valve, can be vibrated to handle those materials that do not flow readily.

Within the blending chamber, static blending elements further increase the efficiency of the blend on a single pass through the unit. Homogeneity is provided from the very start of the run.

The time of operation is reduced through elimination of the "start-up heel." Innovations within the blending chamber make this possible.

This new blender design will process materials as diverse as chips, cubes, flakes, granules, pellets, and powders...in short, dry bulk materials.



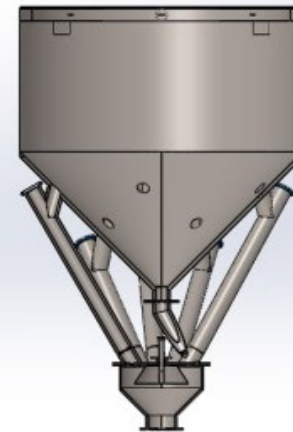
This unique blending concept is adaptable to your existing storage silos.

Young Industries' new Multi-Port Gravity Blenders meet the critical requirements of today's process industry: homogeneity of product, high flow rate, single-pass blend processing, low capital investment, and virtually no maintenance costs.

**THE**  
**Young**®  
INDUSTRIES, INC.

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Anti-Gravity Pick up chamber installed under a Transflow Hopper allows for continuous recirculation of newly added powders to the top of the hopper.

Continuous or batch blending can be performed.



## Recirculating Reuse and Artic Mist

Early testing indicated positive vertical flow.

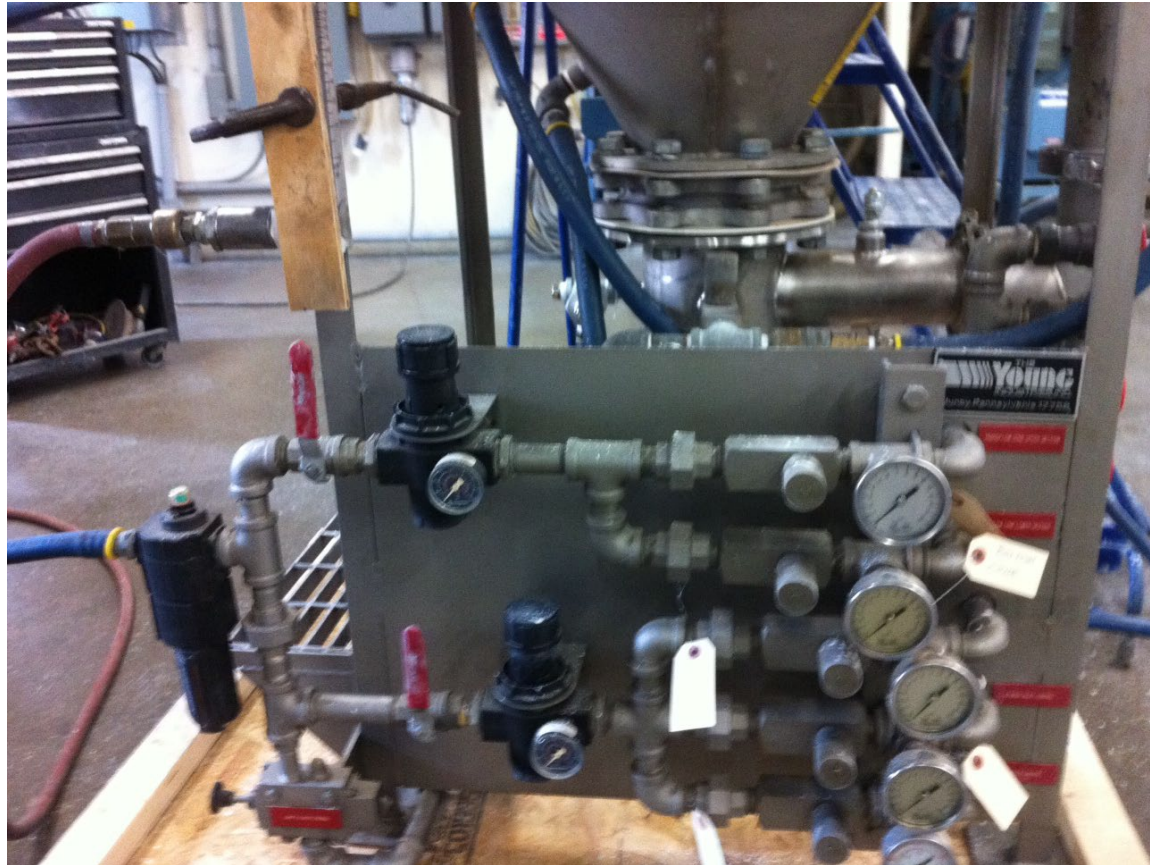
With proper hopper conditioning, mass flow is achieved to promote maximum powder blending.





Test stand used to determine compressed air volume and pressure required to insure complete hopper turn-over to match production timing.





The main compressed air supply header pressure for “Artic Mist” was set at 7 PSIG with compressed air consumption less than 10 SCFM.