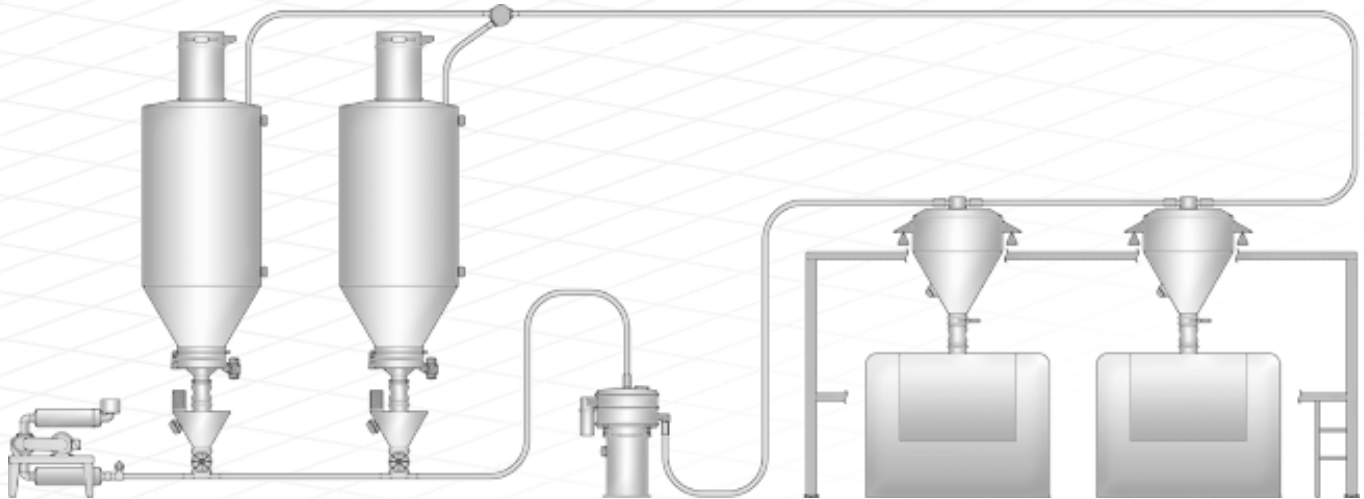




**Solids Processing Equipment Co., Inc.**

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**Dry Bulk Material Handling Equipment - Dry Bulk Flour Conveyor Systems - Dry Bulk Sugar Conveyors - Equipment Installers**



## **BULK FLOUR UNLOAD AND STORAGE**

A standard Flour System might consist of (1-2) 1,625 cu. ft. usable capacity storage silo(s) capable of holding up to 65,000 lbs. of flour based on a 40 lbs. per cu. ft. bulk density. The flour will be unloaded using a self-unloading flour transport truck which is connected to the silo fill line via a flexible hose. The silo is complete with a pulse-jet dust collector, high and low level indicator and bin discharger. The blower will provide air for the convey system. A rotary valve will feed the flour at a controlled rate to an inline sifter. The inline sifter will feed the sifted flour into the convey line.

## **SILO RECLAIM AND SCALE SYSTEM**

Will consist of a positive displacement blower designed to convey sifted flour at a rate of 150-250 lbs. per minute from the flour silo to a 600 lb. capacity flour scale. The scale is complete with (3) load cells, vibrator, discharge butterfly valve and a hopper fill valve. When the scale has reached its target weight, the hopper fill valve will divert all flour remaining in the convey line back to the originating silo(s).

## **ELECTRICAL CONTROLS**

The operations of the system will be managed by an integrated control system. The control system features a programmable logic controller (PLC). The input and output modules are mounted in a free-standing NEMA 12-rated enclosure along with motor controls, wiring termination, status lights, and emergency shut-off controls. A program runs on the PLC to sequence the flow of material from the storage silo(s) to the scale(s) and to handle any exceptions that may happen in the normal conveying process.

For a single scale system, a second NEMA 4 panel which is located at the scaling station. Mounted in this panel is the electrical componentry needed to collect a weight signal from the load cell and provide an operator with meaningful information about the weighing and conveying process. The operator's primary interface with the system is provided by a terminal. The terminal uses graphics and simple animation capabilities to provide the user with information on the status of the material handling system,

recipes and formulas, inventory management, and batch production. Additional emergency controls and system status indicators are also installed on the front of the panel. The scale panel is connected to the main control panel through the proven Remote I/O communications network. If an additional scale is part of the configuration, a third NEMA 4 panel provides emergency control and status lights without the terminal, supporting the need for basic scale and system controls at the second scaling location. All panels provided are UL-approved and tested by control engineers for conformance to system performance requirements. The panels arrive on-site ready to be installed with detailed instructions on how external electrical circuits are to be terminated.

Along with the electrical systems described above, a complete set of drawings is supplied that describe the power, control, and physical characteristics of the main control and scale panels. In addition, a written sequence of operations document that is useful for training employees on the operation of the system.

**SPEC** has provided and installed complete turnkey flour and sugar systems incorporating components from companies like Mac Equipment, Reimelt Corporation, Smoot, Schenck AccuRate, (NBE) National Bulk Equipment, Carman Industries, K-Tron, Great Western, Bray, and Shick Tube-Veyor. *Please call us for your pneumatic conveying application.*

Sales and Installation

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