



# *ECOPHASE PNEUMATIC CONVEYING*



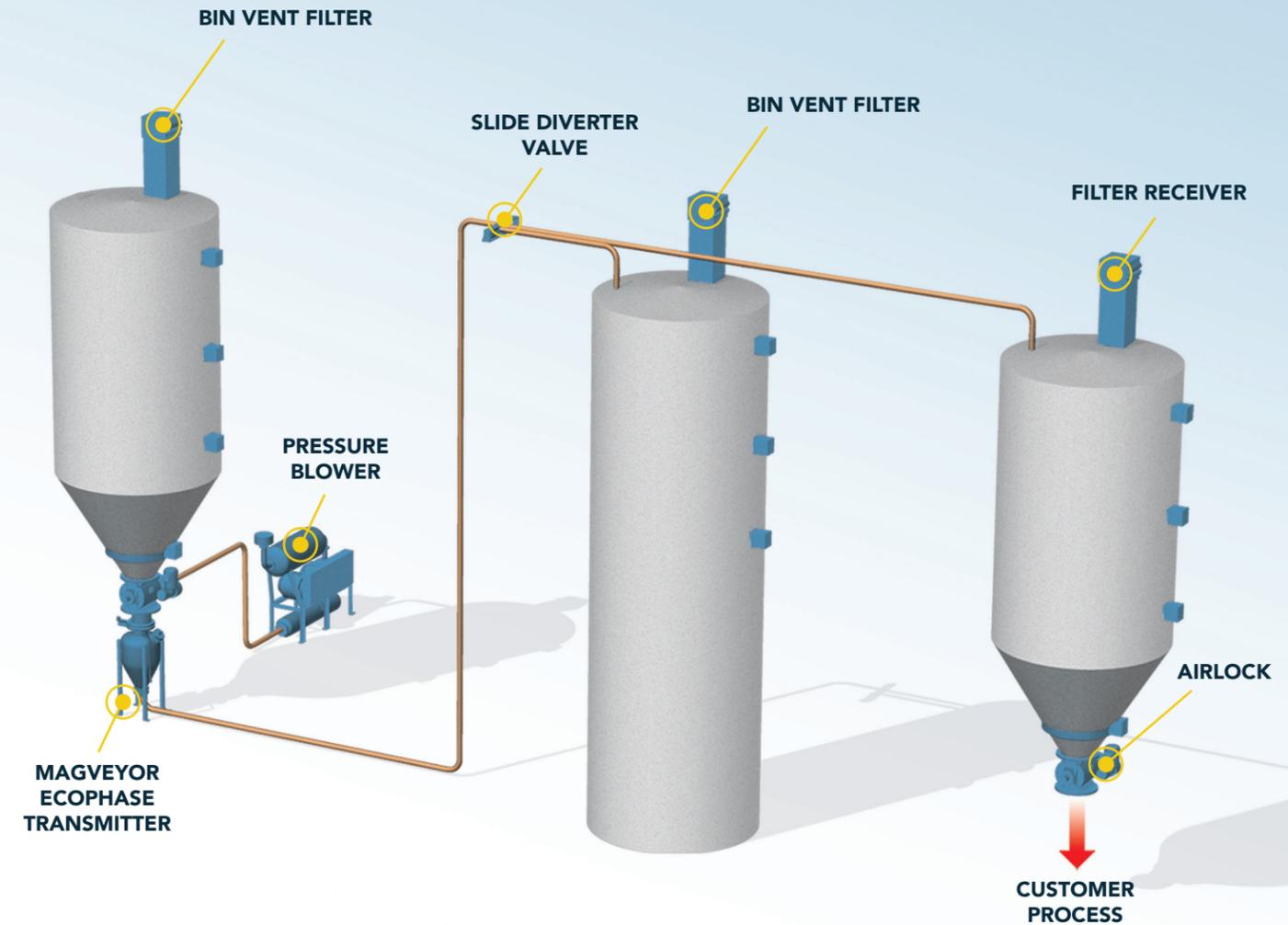
**MAGVEYOR** PNEUMATIC CONVEYING SYSTEM

**Ecophase Systems**

- Reduced energy consumption
- Maximizes the best attributes of dilute and dense phase conveying
- Constant delivery of material

**Magveyor**

- Unique Magnum Systems technology
- Patented
- Continuous feed
- No ASME code vessel required
- High solids loadings
- Lower velocities
- Minimal material degradation



**THE NEW WAY OF THINKING**

Since 1960, Magnum Systems has consistently brought innovation to the pneumatic conveying industry. Most recently, Magnum Systems invested in a Research and Development program to develop and patent a process that takes the positive aspects from dilute phase, dense phase, and semi-dense phase systems while at the same time eliminating their inherent inefficiencies. The result was the ECOPHASE pneumatic conveying system. This system uses a small low pressure (<14.7 PSIG) vessel, a continuous feeding mechanism, air supplied by a PD blower, and an air flow management system, that when combined, reduces the amount of horsepower required by up to 30%. An ECOPHASE system was installed to retrofit an existing 800 ft. limestone dilute phase transfer system that was struggling to make rate.

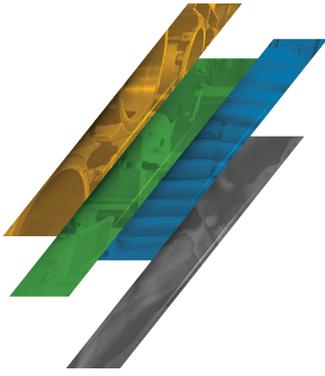
While using the existing 4 inch convey line and blower package, it was able to double the transfer rate of the system with the only change in the existing hardware being a slowing down of the blower package. The ECOPHASE system itself is centered on Magnum Systems's Magveyor, which is part of a patented process that uses a continuous feeding device to feed material into a small vessel. This vessel is equipped with the necessary level controls to ensure the material is at a desired level in the vessel. The material level in the vessel is kept to a constant level to insure that air, from the air management system, and the material are adequately mixed insuring optimum fluidization of the product. This is what allows the ECOPHASE pneumatic

conveying system to perform as well as it does. The ECOPHASE system has proven itself successful on products like Bentonite clay, Portland cement, Limestone, Bauxite clay, Gypsum and Fly Ash. This system will often replace either a dilute or dense phase system with little or no modifications needed.

**WHAT DOES THE FUTURE HOLD?**

In these times of increasing concern over power consumption and the greater concern over the bottom line, producers need to increase production while keeping capital cost down. While most producers look at cutting personnel, services, and raw ingredient cost to increase profits, looking at lowering costs such as energy usage can provide a more economical

alternative. In most cases the ECOPHASE system has an ROI of less than 5 years on the energy savings alone. This significantly impacts the bottom line of all products. Dilute and dense phase systems have their place in our industry and always will. There are materials too abrasive or too friable for rotary feeders that must be moved in a dense phase system. Furthermore, there are dilute phase systems that are too small to justify the added benefit or cost of the ECOPHASE system. However, with increasing energy cost, Magnum Systems (Division of Magnum Systems, Inc.) now makes it possible for your operation to stay competitive by significantly decreasing your energy usage.



## **ENGINEERING, DESIGN AND MANUFACTURING TO KEEP THE LINE MOVING.**

At Magnum Systems, we take a total system approach, which allows us to look at your complete process and develop the most efficient engineered solution for your production line. Depending your material type, application environment, business objectives and financial goals, Magnum Systems designs a material handling solution that best fits your needs.



©2017 Magnum Systems, Inc. All rights reserved. Catalog number MS.1051.0917



2205 Jothi Avenue, Parsons, KS 67357  
Toll Free 888.882.9567 Fax 620.421.5531  
Email [info@magnumsystems.com](mailto:info@magnumsystems.com)

1250 Seminary Street, Kansas City, KS 66103  
Toll Free 800.748.7000 Fax 913.362.7863  
Website [www.magnumsystems.com](http://www.magnumsystems.com)