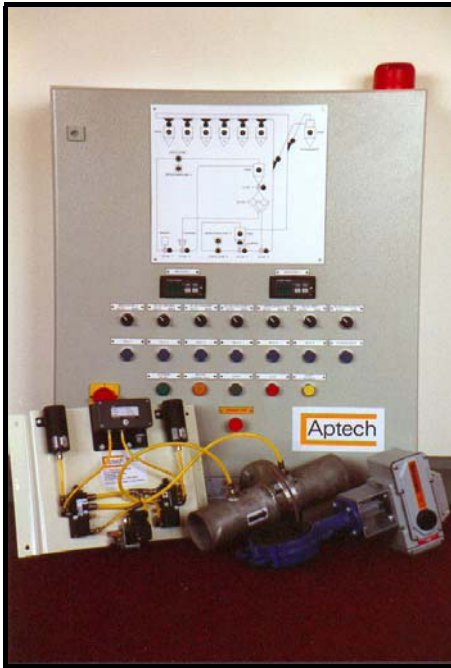


PNEUMATIC CONVEYING OF FRAGILE PRODUCTS

Aptech's 'Air Speed Control' System is an Economical and Effective Way to Prevent Excess Damage to Fragile and Friable Products.



When choosing a transport system for bulk solids one is faced with a wide choice of different types of conveying systems, each have their own advantages and dis-advantages. Pneumatic conveying is a popular choice for many industries because it is reliable, easy to maintain, versatile and economical. Many advancements have been made over the last 10 years and products previously thought unsuitable for pneumatic conveying can now be transported reliably and efficiently.

Pneumatic conveying can take on many different forms but principally comes under two headings: Dilute (or Lean) phase (greater ratio of air to product in the conveying line) and Dense phase (greater ration of product to air in the conveying line). Either a negative pressure (vacuum) or positive pressure (blowing) system can be used. Dense phase normally requires higher pressures typically 1 to 6 bar and as a result the initial equipment capital costs are expensive. Lean phase uses lower pressures typically less than 1 bar pressure and equipment capital costs are lower. As a result the majority of pneumatic conveying systems installed today are lean phase.

Most lean phase systems use high conveying air velocities and for fragile products this leads to excessive damage and has forced people to choose dense phase which can operate at lower velocities by operating at high pressures.

When products are conveyed using lean phase at lower velocities they reach a point where they start to drop out of the air stream (the minimum air velocity or saltation point), if they do not pick up or move the system will eventually block. Most lean phase systems are crudely designed and to avoid getting any where close to the minimum velocity designers put large safety factors in their calculations and convey at unnecessarily high velocities. Conveying at just above the saltation point can be vulnerable as a small change in feed rate or changes in the system can tip the balance and lead to a drop in velocity and instant blockage.

The Aptech Air Speed Control system overcomes this by continuously monitoring the conveying air speeds and carefully making slight but necessary changes should the velocity rise above or fall below a pre set parameter. This ensures that for what ever condition the conveying velocity always stays the same. This enables us to convey at very low velocities almost near the point of saltation but avoid the pitfall of blockage caused by changing conditions. The Aptech Air Speed Control system is a very reliable, economical and effective system of controlling the air velocities and conveying fragile and friable products with significant reduced damage. For further information please contact Aptech at the address below.

