Working Principle – The pneumatic conveyor principle is based on the fact that bulk goods can be moved to utilize air through pipelines. The flowing conveying air in the pneumatic system application transmits a propulsion force on the bulk material which conveys it through the conveying line. The **pneumatic conveyor system** is built on a pressure difference between the beginning and end of the pipeline. The conveying blowers or compressors are used for overcoming pressure differences.

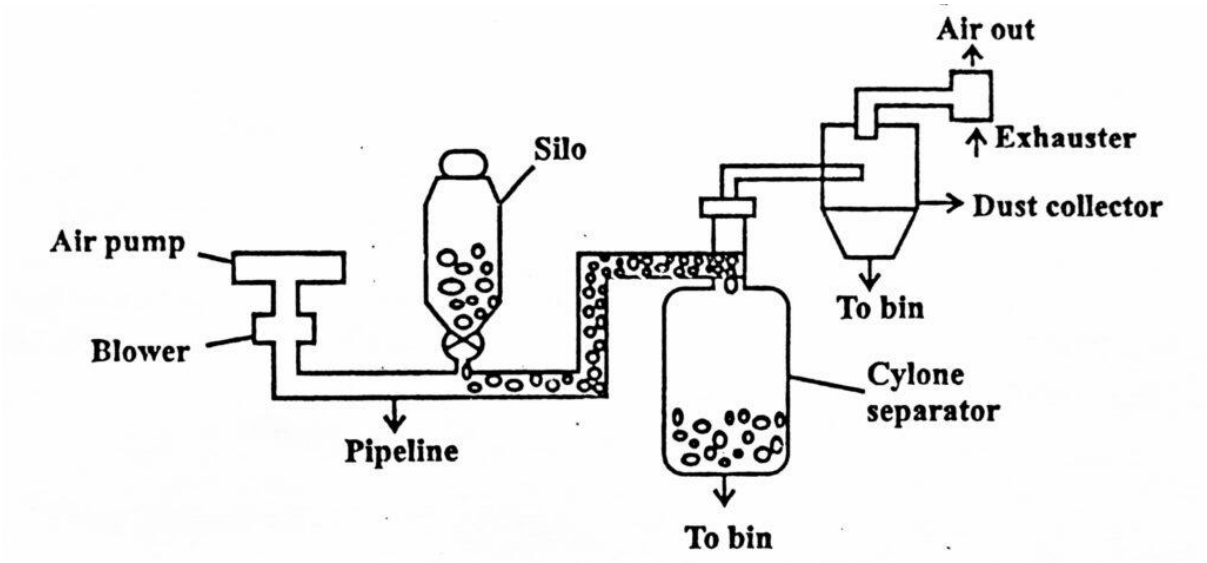
Types of Pneumatic Conveyor Systems– The Pneumatic Conveying System come in two types, the vacuum conveying and the pressure conveying types. Vacuum conveyors are smaller and cause fewer temperature problems whereas the pressure conveyors are suitable for long-distance as well as multiple distances conveying.

Benefits of Pneumatic Conveying System–

- Less Maintenance required – The Pneumatic Conveyors have fewer moving parts and require very little maintenance compared to the mechanical conveying system. Since they have fewer moving parts, these pneumatic vacuum conveying systems also present less danger to operators.
- Less Spillage and dust leakage- These conveyors are enclosed and can easily be moved to fit around existing equipment. Since they are enclosed, these pneumatic air conveyor systems emit less dust and there are minimal problems of spillage.
- Energy Efficiency- The pneumatic conveying systems can use bulk raw materials which help in procurement of lowered material costs and thus an increased plant efficiency.
- Better Sanitation- Since the pneumatic conveyors have an enclosed pipeline, there is a very less risk of product contamination and the plant remains clear and clean. The piping of pneumatic conveyor systems can also be CIP cleaned and dried.
- Easy to Install- They are easy to install and there is an easy interface available with other process machines.

Specifications and selection criteria– While choosing a pneumatic conveyor, it is necessary to access the distance the material has to traverse. The other variables to be considered are the pipe size, line length, product density, and airflow rate.

The filter, fan, and vents also play a crucial role if the product is dusty or toxic. One more feature that should be considered is adequate instrumentation that can help in troubleshooting in case of any error.



The basic elements of the pneumatic conveyor are:

1. Air supply (or vacuum) system
2. Air slide and pipeline
3. Feed arrangement
4. Discharge arrangement (air and feed separation)