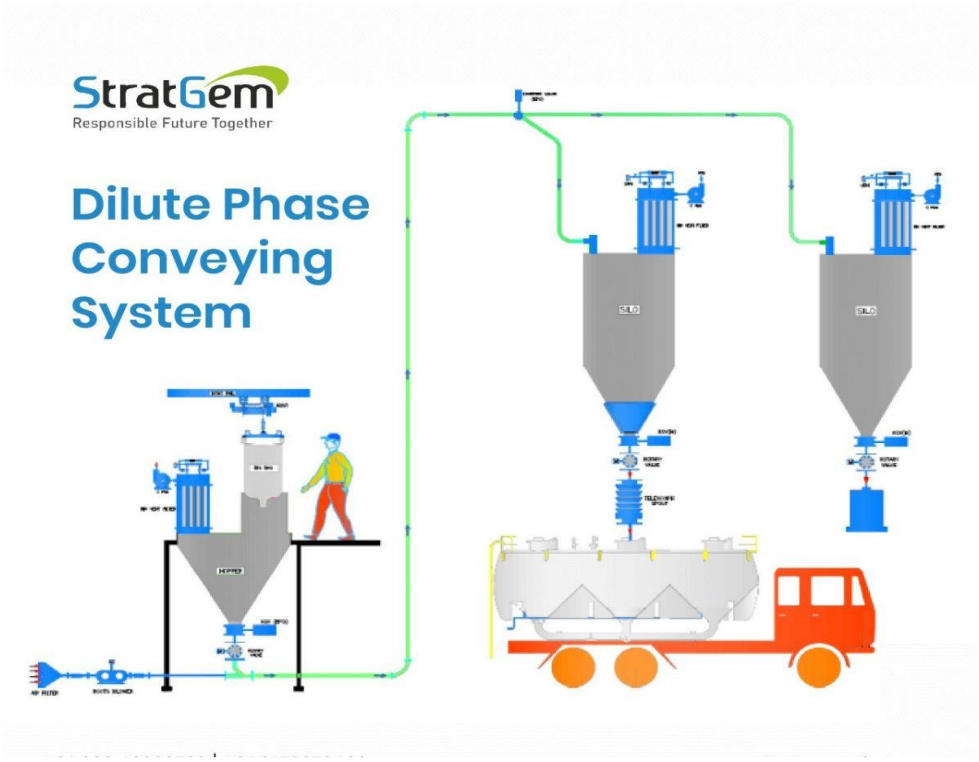
Dilute Phase Conveying System

Dilute Phase Conveying System or Lean Phase Conveying System in Pune, India: Stratgem

Dilute phase conveying system or Lean phase conveying system is described as the process of (pressure) pushing or (vacuum) pulling particles suspended in air from one location to another. At low pressure and high velocity, the air-suspended particles are transferred continuously.

Basically Dilute Phase conveying systems are a mode of transporting powders generally through a positive displacement blower, side channel blowers or vacuum pumps. It is a simple system used for various powders that doesn't have any specific quality requirements for degradation or loss of material properties.



sales@stratgemprojects.com +91 9175673483 www.stratgemprojects.com

There are two main types of Lean phase or dilute phase conveying systems

1. Dilute phase pressure conveying system
2. Dilute phase vacuum conveying system

1. Lean Phase / Dilute phase conveying system (pressure)

One type of lean phase conveying system is a pressure type lean phase conveying system. Positive pressure is used to transport material in pressure type dilute phase conveying systems. Lean phase conveying systems have low pressure and high velocity. The material is in a suspended flow, with a large amount of air in comparison to the material. Conveying velocities range from 15 to 30 m/s. The velocities are determined by the properties of the material to be transported.

Prime movers are located before the system's material inlet in a positive pressure or gravity based conveying system. After the powder is received in the Feed Hopper, it is fed into the pipeline via a moderate pressure Special Design Rotary Airlock Valve and transferred via a positive pressure Roots blower to its destination. The material-to-air ratio is typically less than 10, and capacity varies depending on input fed into the system and pressure availability. Long distances and a high rate of conveyance are challenges in this type of system.

Special Features of Lean Phase or Dilute Phase Conveying System (Pressure)

- Prime mover is located before the material inlet into the system.
- Prime movers used are roots blowers, centrifugal fans or ring channel blowers
- Material loading ratios are kept below 10.
- Special type of rotary airlock valves or material feeding devices are used.
- Minimum conveying velocities are maintained to keep the material in the suspended form.

Specification of Dilute Phase or Lean Phase Conveying System (Pressure)

- Conveying Distance – Up to 100 m
- Conveying velocities – ~ 15 m/s to 30 m/s
- Air pressure – Up to 10000 mm WC
- Material Loading Ratio – Up to 10
- Conveying Capacities – Up to 20 TPH
- Prime Mover – Roots Blower / Centrifugal Fans / Ring Channel Blowers

2. Lean Phase or Dilute phase vacuum conveying system

Lean phase conveying system or Dilute phase conveying system transport powders using positive displacement blowers, side channel blowers, and vacuum pumps. It is a simple system used for various powders that doesn't have any specific quality requirements for degradation or loss of material properties.

A Dilute phase vacuum conveying system is one of the types of Lean phase or Dilute phase conveying systems. Negative pressure is used to transport material in vacuum lean phase conveying systems. Normally, vacuum-type conveying systems are proposed where there are multiple feed points. Dilute phase or Lean Phase conveying systems are low-pressure, high-velocity systems. The material is in suspended motion, with the air quantity being high compared to the material. Conveying velocities are in the range of 15 to 30 m/s. The velocities are decided based on the properties of the material to be conveyed.

In vacuum based or pressure conveying systems, prime movers are located at the end of the system. After the Powder is received in the Feed Hopper, products are fed through a moderate pressure Special Design Rotary Airlock Valve into the pipeline and transferred through negative pressure Roots blower to its destination. The material-to-air ratio is normally below 10, and capacity varies based on input fed to the system and pressure availability. Long distances and a high rate of conveyance are challenges in this type of system.

Special Features of Lean Phase or Dilute phase vacuum conveying System.

- Prime mover is located at the end of the system.
- Prime movers used are roots blowers, centrifugal fans or ring channel blowers
- Material loading ratios are kept below 10.
- Special type of rotary airlock valves or material feeding devices are used.
- Minimum conveying velocities are maintained to keep the material in the suspended form.

Specifications of Dilute phase or Lean Phase Vacuum Conveying system

- Conveying Distance – Up to 100 m
- Conveying velocities – ~ 15 m/s to 30 m/s
- Air pressure – Up to (-) 5000 mm WC
- Material Loading Ratio – Up to 10
- Conveying Capacities – Up to 20 TPH
- Prime Mover – Roots Blower / Centrifugal Fans / Ring Channel Blowers

Stratgem Project designs and manufactures pneumatic conveying systems based on the needs and requirements of the customer. Food, chemicals, pharmaceuticals, plastics, polymers, and breweries are just a few of the industries we serve.

Stratgem Pune, India can help you with either a complete bulk material handling system or single component equipment. Furthermore, when it comes to Dilute phase / Lean phase pneumatic conveying systems or Dense phase conveying systems, we offer comprehensive services such as field service, start-up service, full-scale material testing, and spare parts. To know more about pneumatic conveying system please feel free to connect us!

StratGem
Responsible Future Together

StratGem

Responsible Future Together

Email :

sales@stratgemprojects.com

Landline :

+91 020 46028762

Phone :

+91 9175673483

Corporate Office :

Office No. 20, 4th Floor, B Wing, City Vista
Kolte Patil Downtown, Fountain Road,
Kharadi, Pune. MH, India 411014