

Case Study No 1

PNEUMATIC DENSE PHASE CONVEYING SYSTEM FOR A LIMESTONE PLANT

Description	Conveying system over a horizontal distance of 160 metres, 30 metres vertical lift with 6 conveying bends.
Client	Limestone processing plant.
Gericke Technology	Continuous pneumatic dense phase PTA system with twin pressure vessel (transmitter) arrangement, each one holding 650 litres with fully automatic sequencing controls.
Application	Conveying of powdered limestone from the production site to a remote silo over a total distance of 190 metres.
Material conveyed	Powdered limestone. (Bulk density 0.63kg/litre).
Particle size, physical properties	3 to 4 micron. Abrasive.
Product source	Internal bulk storage silo.
Product destination	Via external silo to railway tankers.
Conveying rate	20 tones per hour.
System requirements	Dust free transfer of product with minimum wear. Totally reliable operation throughout. Continuous conveying operation inside and outside the building, under variable temperature conditions.



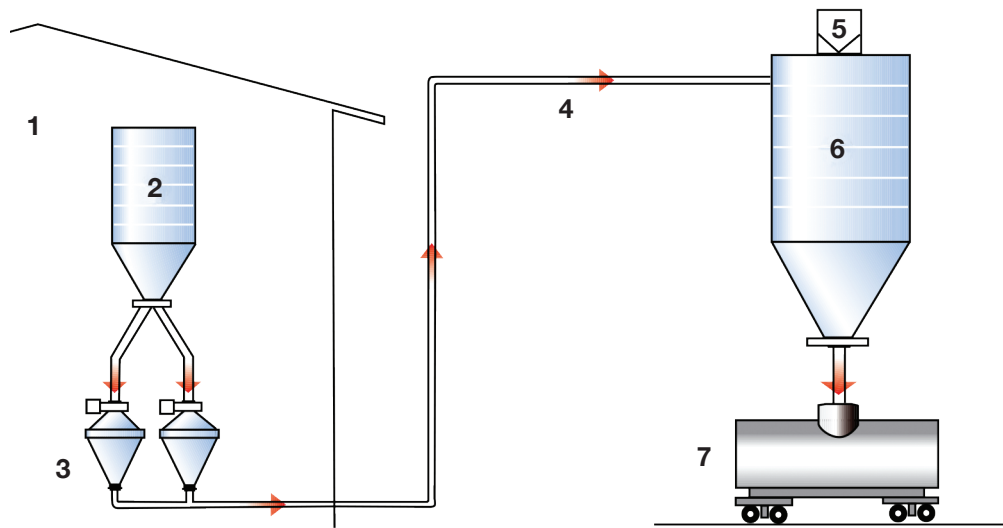
This highly effective Gericke system has a throughput of 20 tph. The high pipeline loading makes conveying with the minimum amount of air and a small filter possible. The low conveying speed also ensures that wear is kept to an absolute minimum, and therefore special pipe bends are not required. The optimized plant layout ensures the effective and reliable transfer of product even under greatly varying temperature conditions.

The system's requirements were to convey very fine and abrasive limestone powder from a silo inside the production building, over a railway line and into the second silo at the railway loading point. The previously installed pneumatic lean phase conveying system was no longer able to meet these stringent requirements.

The Gericke dense phase PTA conveying system provided the perfect solution. Incorporating twin-transmitter vessels it met all the client's production requirements by considerably raising the output whilst at the same time reducing abrasion and wear, and also minimising the amount of air required.



- Gericke provide a complete turnkey service for system implementation, including all controls, installation and commissioning.
- Gericke technical staff are available to help you resolve your bulk solids handling requirements and can arrange full scale pilot system trials.



Legend

- 1 Production building
- 2 Intermediate storage
- 3 Gericke twin-transmitter vessels

- 4 Gericke pneumatic densephase PTA conveyor, 190 m overall length
- 5 Filter
- 6 Railway tanker loading silo
- 7 Railway tanker