

# DENSE PHASE PRESSURE VESSEL

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Customised Powder Handling Solutions

## Description

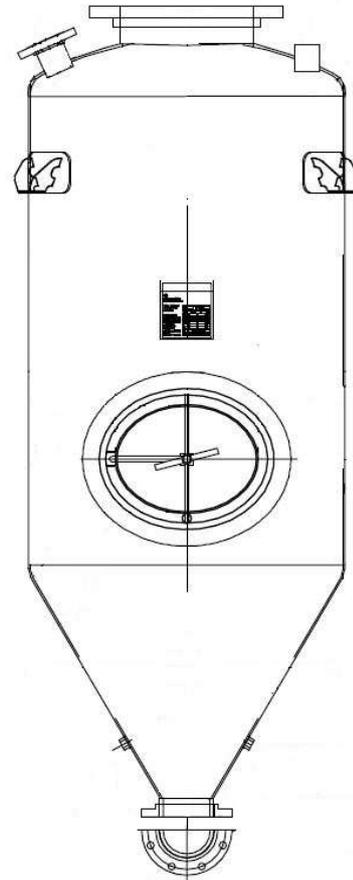
Dense phase pressure conveying is a means of transferring product using compressed air as a propellant.

The key to a dense phase pressure system is the pressure vessel. Product is loaded into the dense phase vessel from the top until a predetermined level is reached, at which time all valves are closed. Compressed air is then introduced into the vessel until pre-set pressure is reached, at which time the discharge valve opens to begin the transfer of product. Depending on the nature of the product and the distance to be conveyed, a number of other valves may be opened to enhance the performance of the system. The product is transported as a batch, however by operating two dense phase vessels alternately on the same convey route it is possible to achieve almost continuous conveying if required. Once a vessel has emptied, the pressurising air supply is shut off and the product discharge valve is closed. Any excess pressure remaining in the vessel is safely vented and the vessel is ready for a fresh charge of product.

**Techno Links** has extensive experience in the design of Dense Phase Pressure Conveying systems. Using a selection of standard components, each system is purpose designed and built to suit the required transport route.

**Techno Links** can design systems to meet all applications:

- High capacity conveying
- Long distance conveying
- Gentle conveying of friable materials



Dense Phase Pressure Vessel



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## Features

- ◆ Full certification as a Pressure Vessel.
- ◆ The pneumatic control cabinet provides conveying parameter feedback, allowing complete control of transfer pressures and convey rate.
- ◆ Gentle conveying, using low conveying velocities to reduce abrasion and segregation.
- ◆ Large capacity, enabling product to be conveyed over long distances at high throughput.
- ◆ Customised design vessels are available in Standard, Food, NZ Dairy and USDA grades.
- ◆ Flexibility, with a wide range of options to suit product and plant requirements and convey routes.
- ◆ Product can be transferred from a single vessel to multiple destinations.
- ◆ If required, the vessel can be mounted on load cells to allow weight to be monitored as a measure of the system throughput.

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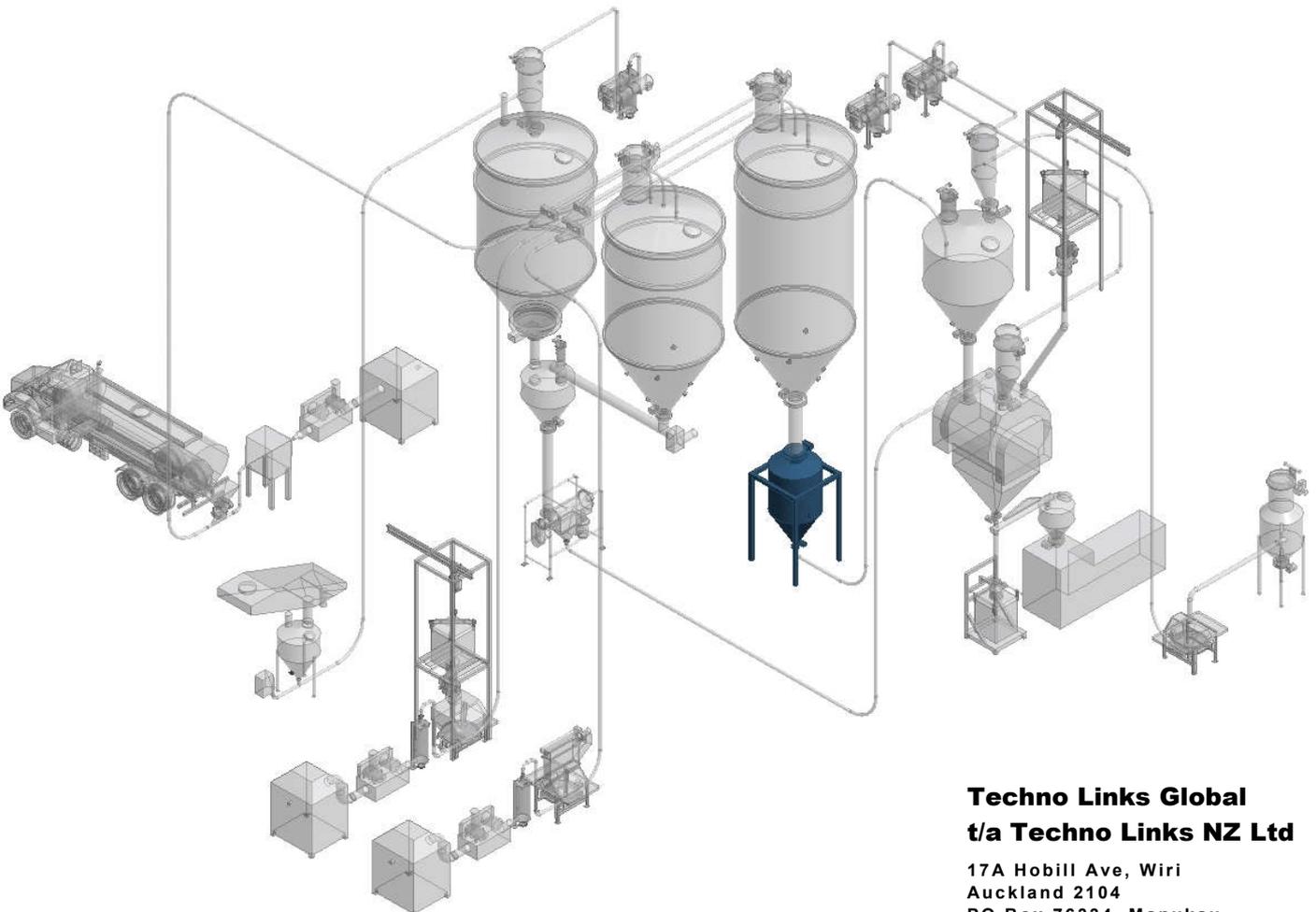
## Available Accessories

- ◆ Twin Pressure Vessel arrangement to allow for continuous conveying.
- ◆ Load Cells and Weigh Transmitter System.
- ◆ Receiving Storage Bins/Silos.
- ◆ Weigh Hoppers and Surge Hoppers.
- ◆ Metering Valves and Rotary Magnets.
- ◆ Inline Metal Detection and Reject System.
- ◆ Downstream Rotary or Vibrating Screen Sifters.
- ◆ Units can be customised to suit client specifications, including specialised construction materials and surface finishes.

## Application and Typical Technical Features

DP Vessel Capacity	Diameter (mm)	Height (mm)	Empty Weight (kg)	Air Consumption
1300L	975	2570	600	System dependent
600L	975	1635	335	System dependent

All technical details are subject to confirmation during detailed design and to suit application.



System schematic showing typical Dense Phase Pressure Vessel location

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