

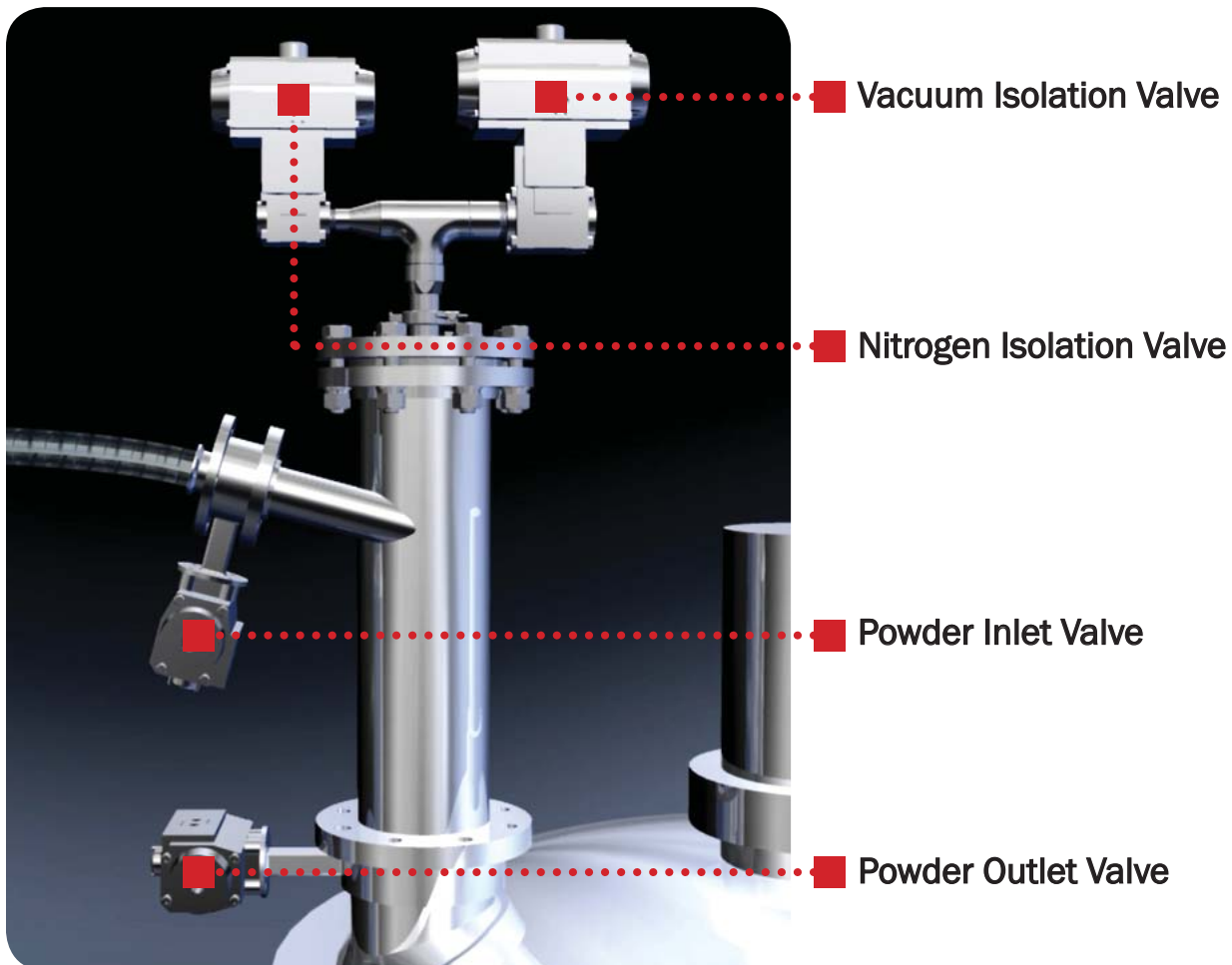


POWDER HANDLING TECHNOLOGY AND EQUIPMENT OVERVIEW

At the heart of De Dietrich Process Systems' expertise in powder handling technology is the Powder Pump, a robust apparatus designed to transfer a wide range of solids from one location to another in a **safe, contained** and **efficient manner**. Simple in design, construction, and operation, the Powder Pump does the job without exposing operating personnel to the product and eliminating the need to open the manway of the target reactor or tank. The ability to charge into a vessel under pressure or vacuum helps provide a **dust-free working environment**. The Powder Pump design is ideal for batch or metered charging, larger quantities and multi-purpose applications.



Powder Pump Connection Requirements





HOW POWDER PUMP WORKS OPERATING SEQUENCE

The Powder Pump operates via a series of pressure and vacuum valves that turn on and off in an automated sequence to manage the transfer and flow of powder from the source equipment to the receiving vessel. The five steps below illustrate the process in detail.



1 With the vacuum source in operation, the vacuum isolation valve opens to remove oxygenated or solvent laden air from the Powder Pump body.



2 After a pre-set time, the powder inlet valve opens and solids are drawn into the body. Entrained gas is evacuated through the internal dust filter, and the solids are retained inside the body.



3 When the pre-determined transfer time has elapsed, the powder inlet valve closes. A brief delay allows residual air to be evacuated; then the vacuum isolation valve closes.



4 Next, the nitrogen isolation valve opens, creating a back-pulse of nitrogen to clean the dust filter, as well as relieve the vacuum and inert the Powder Pump body.



5 The powder outlet valve opens and pressurized nitrogen helps discharge the solids into the receiving vessel. The nitrogen valve remains open, preventing oxygenated/solvent laden air from entering the Powder Pump body.

De Dietrich Process Systems, Inc.

244 Sheffield Street
Mountainside, NJ 07092

P 908.317.2585
F 908.889.4960

www.ddpsinc.com
sales@ddpsinc.com

