Dustcatcher Dome Valve®

Dustcatcher Discharge Control

One of the most critical and demanding applications for any bulk materials shut-off valves is within the main dust collection process line of a blast furnace.

The continuous nature of the blast furnace ironmaking process results in a constant supply of iron oxide dust particles being delivered to the dust collection Dustcatcher silo. Subsequent regular transfer of the dust from the silo for recycling is critical and is controlled by a pair of dustcatcher discharge valves at the silo outlet.

Here, the valves ability to cope with this notoriously abrasive material, often at temperatures of up to 220°C, is paramount to the continuous efficiency of the iron-making process.

Despite the importance of this crucial valve, there are few suitable options on the market. Many steel producers simply opt for a standard slide or pinch valve and accept the penalty of very short service life and the need for frequent replacement.

Specialist Control Valve

The Dustcatcher Dome Valve® has a long life expectancy, exceptionally high resistance to abrasion. The original Dome Valve® was developed by Clyde Materials Handling® in 1974 for use with pneumatic conveying systems and as a stand alone product which incorporates a unique and highly reliable inflatable sealing arrangement. When open the valve provides an unobstructed full bore material flow. Designs are available for pressures of up to 30 bar. Dustcatcher valve sizes range from 200 to 500mm bore.

Schenck Process Dustcatcher Dome Valves® have been installed in many steel plants for over 20 years and have provided excellent performance. In many cases the valves are installed in pairs mounted on the outlet of the blast furnace Dustcatcher silos and discharge to a tanker loading point.

Purpose Designed

The Schenck Process Dustcatcher Dome Valve® design overcomes the issue of internal wear when in contact with extremely abrasive furnace dust by the use of an internal coating and ceramic tiling. These features combined with an inflatable seal arrangement which minimises wear, ensures maximum operating efficiency and prolongs service life.

*Clyde Materials Handling Ltd was purchased by Schenck Process in 2011 and the original Dome Valve® is part of Schenck Process technologies