



Pneumatic Conveying



ThermaValve-HT

High Temperature Isolation
Valve for Extreme Process
Conditions

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The ThermaValve-HT is a high-temperature isolation valve, based on the renowned Clyde Dome Valve, designed for tough industrial conditions. Ideal for hot bulk solids, high pressures and harsh processes, it offers reliable isolation where standard valves fail. Commonly used in metallurgical, gasification and high-temperature industries, it enables safe introduction of solids into pressurised reactors or gasifiers. As green steel and hydrogen-based processes grow, the ThermaValve-HT provides robust, gas-tight isolation in extreme heat. Its water-cooled ball valve and inflatable seal deliver reliable, gas-tight isolation with minimal maintenance.

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ISO9001 | ISO14001



British Engineering

Key Features

- High temperature capability up to 750°C
- Pressure rating up to 10 bar
- Water-cooled ball and dome design
- Gas-tight isolation using inflatable seal technology
- Suitable for large particles and briquetted materials
- Pneumatic or hydraulic actuation options
- Fail-safe pressure-tight sealing
- Designed for high reliability and long service life

The valve incorporates water-cooled internal components including the top plate, shaft and ball, ensuring reliable operation even in high-temperature reactor systems.

Typical Applications and Materials Handled

The ThermaValve-HT is primarily utilised in systems where hot bulk solids must be safely isolated before they enter pressurised reactors or high-temperature process equipment. Typical scenarios include gasifier feed systems, reactor vessel inlet isolation, lock hopper charging systems, metallurgical furnace feed systems, and high-temperature solids handling operations. This ensures that materials are reliably controlled and contained prior to entering critical process stages.

The valve is designed to handle a range of materials commonly used in industrial processes, all of which are processed at very high temperatures and pressures. These include pig iron pellets for ironmaking, coal briquettes for gasifier charging, Direct Reduced Iron (DRI) for steelmaking, Hot Compacted Iron (HCI) for reactor charging, limestone for flux addition, and dolomite as metallurgical additives. The need for dependable isolation is crucial to maintain safety and operational efficiency in these demanding environments.



Technical Capabilities

Parameter	Typical Capability
Operating Temperature	450°C – 750°C
Pressure Rating	Up to 10 barg
Valve Sizes	150 mm – 650 mm
Actuation	Pneumatic or Hydraulic
Cooling System	Water-cooled ball and top plate
Seal System	Pressure-assisted inflatable seal