

Stock Valves

Rugged, Dependable, Built to Last



Powering Industry Forward



we make processes work

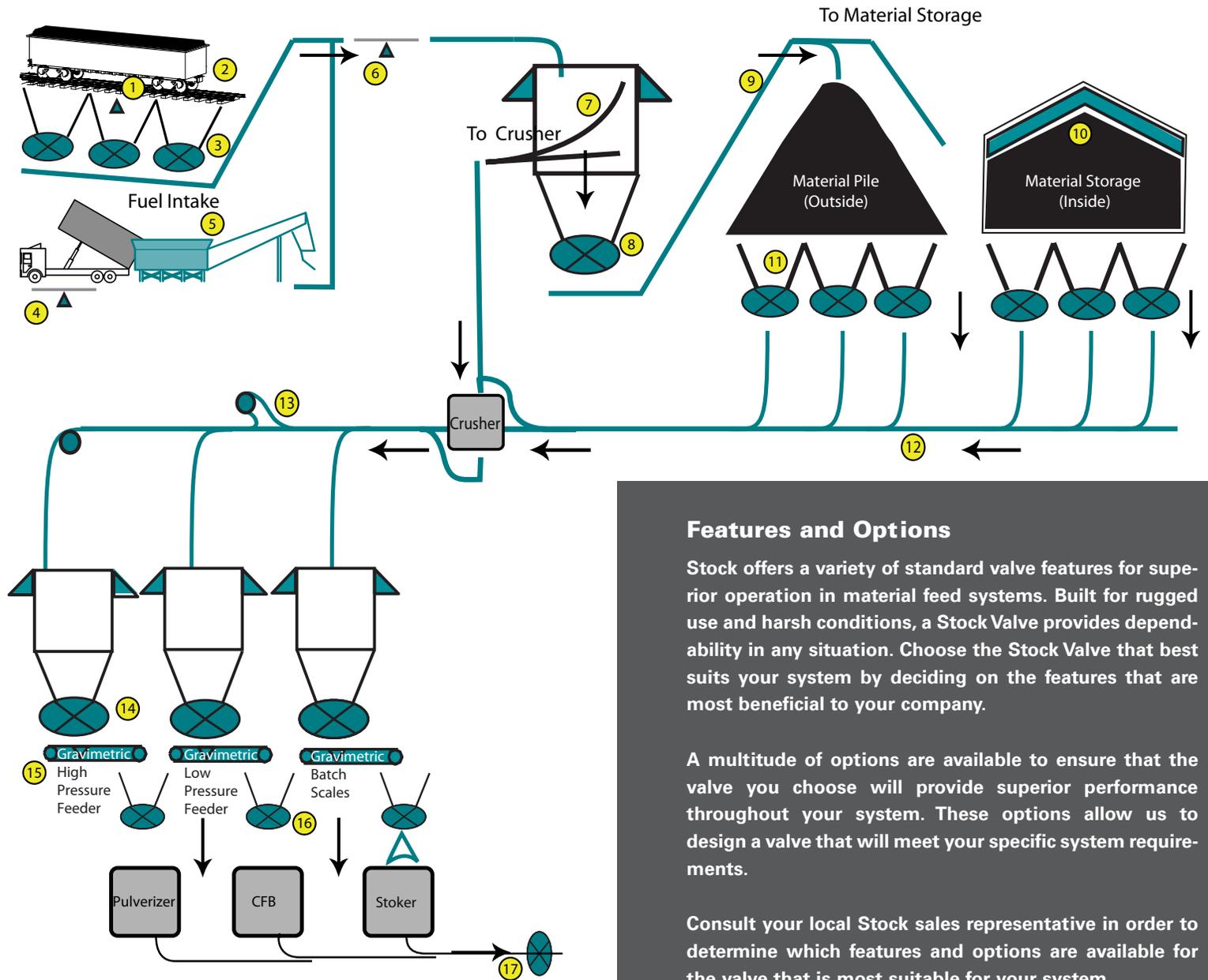
Valve Utilization

Stock valves are built to exact sizing requirements to correspond with your existing equipment.



Stock valves provide reliable service in even the most demanding material feed systems. Different types of valves are available for a variety of systems and locations. They provide the proper form of closure necessary to suit the system. Different options and features allow Stock valves to function under diverse conditions. Valves are sized to meet the requirements of the system.

The process diagram to the right demonstrates the wide range of capabilities Stock valves can provide throughout any type of material handling system.



Step-by-Step System Description

- | | | |
|-------------------------------------|--|--------------------------------|
| 1. Train Scale | 11. UnderBunker Yard Valves | 21. Dry Ash Chain Conveyor |
| 2. Train Unloading Station | 12. Reclaim Conveyor | 22. Transformer Rectifier Sets |
| 3. Track Hopper Valves | 13. Tripper Conveyor | 23. Automatic Voltage Controls |
| 4. Truck Scale | 14. Bunker Outlet Valve, Feeder Inlet Valves | 24. Euro Rapper Controls |
| 5. Bulk Reception Unit | 15. Gravimetric Feeders | 25. ESP Software Suite |
| 6. MultiBelt | 16. Downspouts, Feeder Outlet Valves | 26. Conical Distributor |
| 7. Vibrating (Banana) Screen | 17. Knife Gate Burner Line Valve | |
| 8. Bulk Material Valve (Dewatering) | 18. Wet Ash Valve | |
| 9. Stacker Conveyor | 19. Submerged Ash Chain Conveyor | |
| 10. Bridge Chain Conveyor | 20. Dry Ash Valve | |

Valve Designs

Stock manufactures a variety of valves to meet specific installation requirements.

Double Rack and Pinion Style Valves:



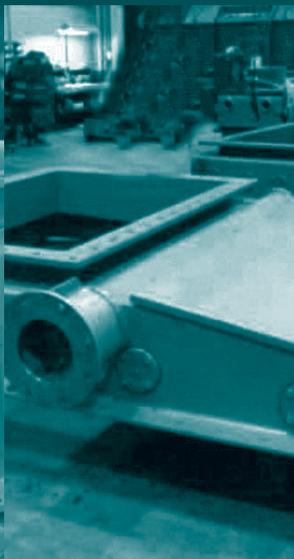
Bulk Material Valve

Stock Bulk Material Valves are primarily used for positive shut-off at the outlet of a bin, silo, or bunker. The self-cleaning rack and pinion design makes this valve extremely suitable for most bulk material applications where positive shut-off is required through a standing column of material. The gate operating shaft is located above the gate rack, keeping bearings, rollers, and the pinion shaft out of active material stream. Two ¼ inch deep root pinions are welded on each side of the pinion shaft. These pinions drive through the gate ladder rack, providing self-cleaning operation. Any material accumulating on top of the gate rack will be crushed and passed through the rack, eliminating the possibility of gate binding due to material accumulation on the gate rack.



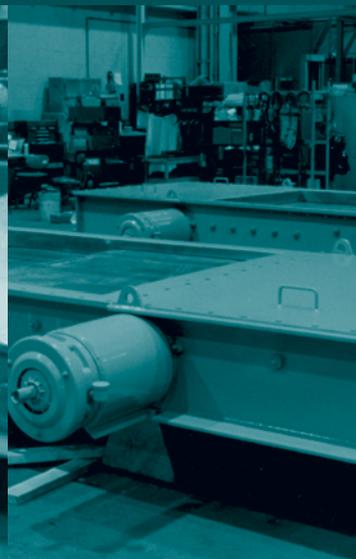
Air Coal Valve

The Stock Air Coal Valve, has a rack and pinion design. It is very similar to the bulk material valve, but there are a few subtle differences. The valve is constructed to meet National Fire Protection Agency (NFPA) Code and will withstand a 50 psi explosion. This is a requirement associated with the valve's application. The valve is used as a means of isolation below a feeder. It provides positive shut-off to minimize hot gas and dust entry up into the feeder during maintenance. This is accomplished by means of a precision machined gate and inlet surface. The gate is supported by adjustable slide bars which allow a tight clearance between the gate and inlet collar.



Track Hopper and Reclaim Valve

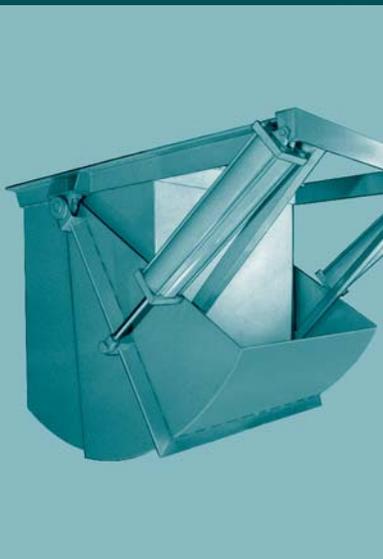
Stock Track Hopper and Reclaim Valves are self-cleaning rack and pinion valves primarily used for hopper shut-off in coal yards below a track hopper or reclaim hopper. These valves shut off the coal flow from the hoppers to coal handling conveyors below. They have all the desirable features of bulk material valves, but are of a lower profile design. Heavy duty construction allows this valve to handle larger size materials and the harsh environment associated with the coal yard.



Yard Valve

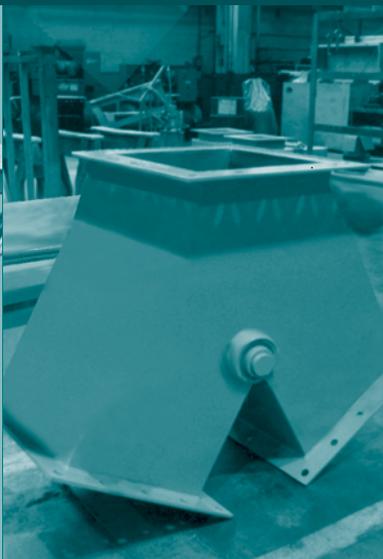
Stock Yard Valves are intended for use in the coal yard or in other areas where system isolation is necessary. The valve is of rugged design, manufactured with heavy-duty structural shapes. The Yard Valve is strictly for use where dust is not a factor due to the absence of dust covers and other accessories that would make it dust tight. The smaller size of this valve makes it ideal for empty system isolation situations where space restrictions are a factor.

Valve Designs for Other Applications:



Clam Shell Valve

Stock Clam Shell Valves are used for simple load out systems where a fast acting, open/close valve is required to handle aggregate, sand, cement, and/or grain. With the proper actuators, safety devices, and controls, this valve will provide an excellent truck loading device. Clam shell valves are available in two configurations. The simplex is a single-moving gate, and the duplex is a double-moving gate. They can be used for a variety of applications, from truck load out systems to merely cutting off material flow in a silo, bin, or bunker outlet.



Blade Diverter Valve

Stock Blade Diverter Valves are used to divert the flow of fast moving materials from one direction to another. A number of styles and configurations are available to suit the desired flow path. A design variation called the Swinging Hopper Diverter Valve can move a static column of material from one direction to another. This unique design will prevent an entire system from shut down due to one leg of the splitter being plugged.



Non-Jamming Gate Valve

Stock Non-Jamming Gate Valves can be used for batching operations, and where flow regulation is of primary concern. Depending on the style selected, these valves are ideal as diverter valves and are designed to operate in a partially opened position. They have a distinct advantage over the traditional diverter gate in that they are designed to operate through a column of material.

Knife Gate Style Valve:



Knife Gate Valve

Stock Knife Gate Valves are a utility-type gate that can be used for a number of applications. Because of their tight shut-off capabilities, they are virtually mandatory for isolation in the burner line between a pulverizer and burner. They are also suitable for feeder discharge isolation, shut-off at the outlet of a fly ash hopper, or for processes where high temperatures and/or high pressures up to 50 psi are experienced.

Stock® Valves

Choosing the appropriate valve for superior system performance.



Where sound engineering, rugged construction, and ease of maintenance are important, Stock Valves have become industry standards for bulk handling applications. Stock Valves are designed to meet the specific needs of your system. There are five important factors that must be considered when selecting the appropriate valve for your system: sizing, frequency of operation, internal pressure, valve actuation and type of bulk material.

Important considerations for choosing the appropriate valve:

◆ Sizing

In most cases, the size of the valve will be determined by the size of the equipment to which it will be connected. Stock will size your valve to match any silo, bunker, or bin opening. We build our valves so that they do not interfere with the desired capacity or throughput of that particular silo, bunker, or bin opening. Flow properties are more important than capacity when choosing the size of your valve. The larger the valve size, the better the flow properties. Flow properties, and characteristics of the material which the valve will handle are prime considerations when sizing your valve.

◆ Frequency of Operation

It is important to consider how often the valve will be used when selecting the appropriate design. Certain valves are designed for infrequent operation due to their type of application. If you require frequent operation of your valve, Stock will provide the necessary valve to achieve the type of operation that is essential for accurate system processes.

◆ Valve Actuation

A number of actuators are available with the Stock line of valves. Manual actuators are the most basic form of valve actuation, and are a standard feature on all of our valves. Manual actuation is suitable for valves which are readily accessible and require infrequent operation. In applications where electric actuation is required, a rotary electric actuator is used. The standard electric actuator is used to completely open or close the valve and has rotary switches to prevent device overloads. A pneumatic or hydraulic actuator is also available for many Stock valves.

◆ Internal Pressure

Stock offers valve designs suitable for pressure applications. Many of our valves are designed to be dust tight and will not leak to the atmosphere. In an application where pressure exists, Stock will supply the appropriate valve for the desired application.



◆ Type of Bulk Material

Stock valves are of rugged design and capable of handling a number of bulk materials. Material characteristics are a prime consideration when selecting the appropriate valve. Important material characteristics that will affect your valve choice include corrosion and abrasion characteristics, surface moisture, particle size, and bulk density.

• Corrosion and Abrasion Characteristics

All valves are available in carbon steel construction as a standard. Stainless steel construction is available for corrosive environments. If the material the valve will handle has an abrasive quality, abrasion resistant steels are available. Stainless steel construction offers superior performance due to its long life and superior flow characteristics.

• Bulk Density

Bulk density, equipment sizing, and silo sizes are all of concern when choosing a valve. Stock valves are able to withstand static material loading imposed by a full silo or full downspout. For material that falls from a significant height during initial loading, Stock will provide the valve necessary to handle the situation.

• Surface moisture

Surface moisture has a lot to do with the ability of the material to flow. This may affect the size of the valve and the corresponding silo or bunker. High surface moisture could raise the question of flow ability. For material that is not dry and uniform in size, an increase in the size of the valve may be necessary. Polished stainless steel can be used to enhance material flow.

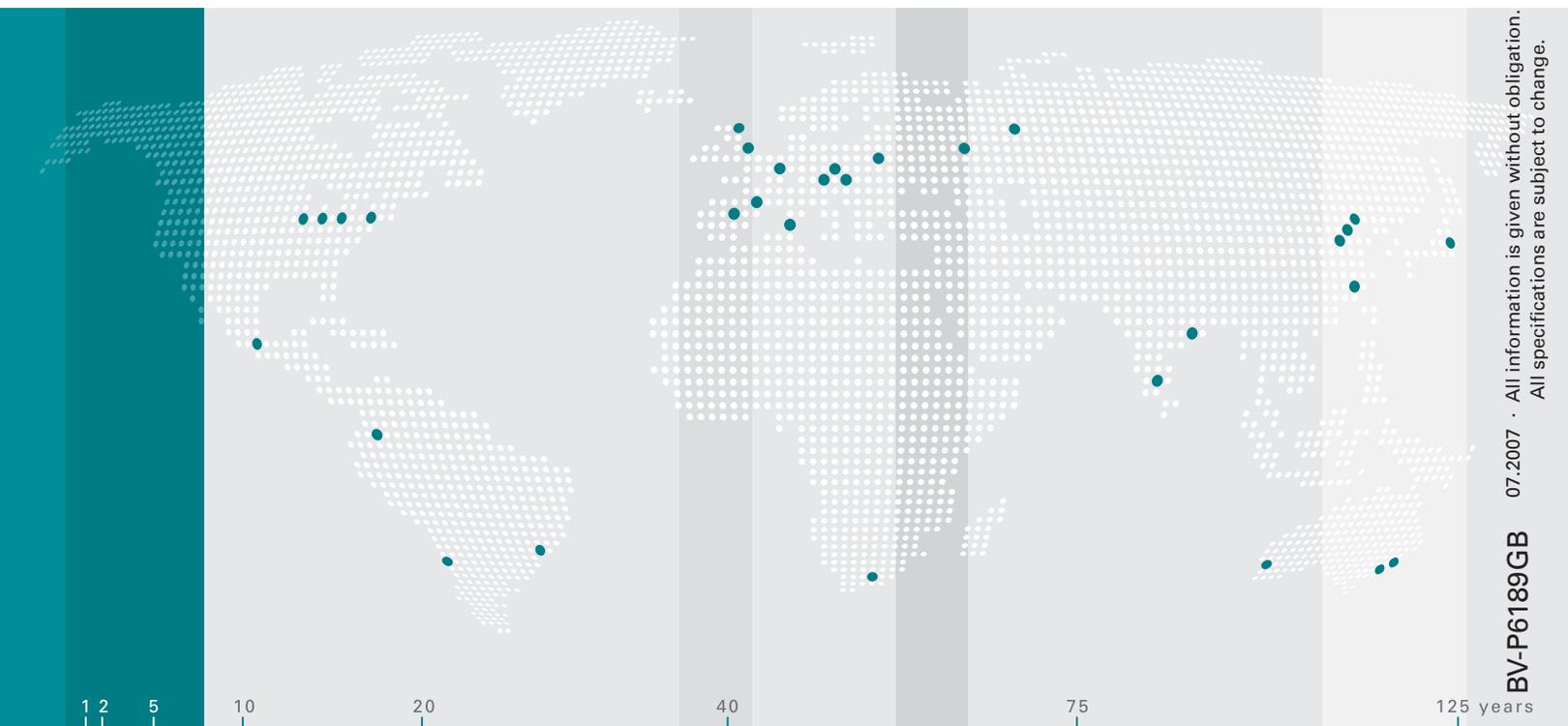
• Particle Size

Particle size is an important consideration when choosing the appropriate valve, especially when the material is extremely fine or large in size. For fine material, consideration must be given to the gap between the gate surface and the inlet skirt so that no material can escape. For large pieces of material, the valve inlet must be large enough to allow multiple pieces through while avoiding material bridging.

feeding

measuring

automation



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Stock Equipment Company is the global market leader of solutions for the power industry, supplying complete bulk material handling and environmental system solutions.

Stock Equipment Company develops, manufactures and markets a full range of solutions, products and systems on the basis of combining process engineering expertise, reliable components and field-proven technology.

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