

STOCK TRACK HOPPER AND RECLAIM VALVES

Part of the Stock Product Line



Stock Track Hopper and Reclaim Valves (TH) are primarily used for hopper shut-off in coal yards below a track hopper or reclaim hopper. These self-cleaning, double rack and pinion style valves receive material from railroad cars or material reclaimed from outdoor storage piles by bulldozers. Their purpose is to shut off the material flow from the hoppers to material handling conveyors below.

Heavy duty construction allows Stock TH Valves to handle larger size materials and extreme environmental conditions associated with the coal yard. Because of the exposed location of the hoppers, Stock TH Valves with the water collecting option have an inclined gate and water collection trough with a connection for a drain line. This allows water from the hoppers to drain-off when the valve is closed, promoting cleanliness of the equipment below the valve and reducing maintenance.

The Stock TH Valve features a basic valve design

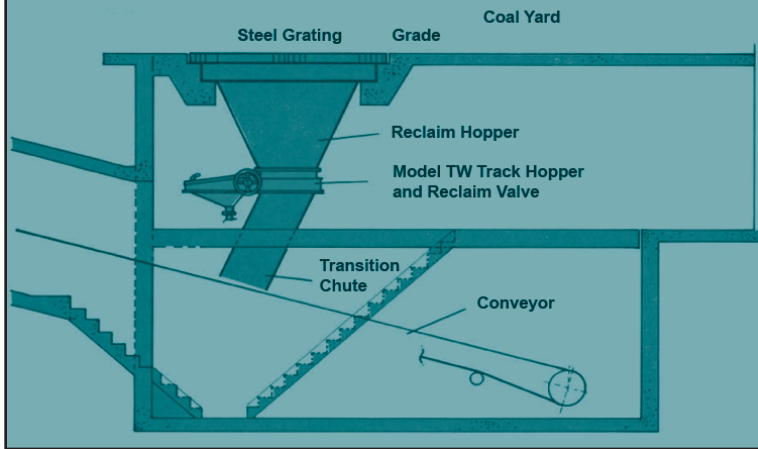
with a winged U-shaped gate. The double rack and pinion design enables positive shut-off through a standing column of material. Generally, the valve is in an open position and only closed for routine maintenance of downstream equipment or in emergency situations. The rack and pinion design is very suitable for this type of application because it will not bind when left idle for long periods of time. The pinions drive through the gate ladder rack, crushing any material accumulation on the top of the rack so that it may fall through. This self-cleaning operation eliminates the possibility of gate binding.

Choosing the appropriate Track Hopper and Reclaim Valve for superior system performance will depend upon the specific use of the valve and corresponding equipment. Valves are designed to meet exact sizing requirements. Where tight clearances are a factor, the Stock TH Valve allows accessibility and ease of maintenance. These valves can handle a variety of bulk materials including coal, grain, limestone, taconite and wood chips.

Track Hopper and Reclaim Valve Designs

- **Model TH:** Open Bottom, single gate design provides superior performance in an environment where dust is not a major factor.
- **Model TT:** Twin valve, double gate design reduces the force needed to open and close the gate. Loads conveyor from the center outward, rather than from one side to the other. Appropriate for use with large amounts of material and where space restrictions exist.
- **Model TD:** Full dust cover, single gate design provides superior performance in environments where dust-tight bin feeding is required.
- **Model TW:** Full dust cover with water-collecting capability. Single or double gate, dust-tight construction prevents material accumulation. Water-collecting feature allows for drain-off when the valve is closed.

Typical Application



Features of the

Stock Track Hopper and Reclaim Valve

• Access Openings

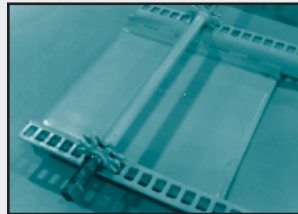
Dust-tight covers, fastened with wing nuts for easy removal, allow for routine maintenance and inspection of the inside of the valve without complete valve removal.

• Deep "U" Shaped Gate

The gate is fabricated in the shape of a winged "U," which keeps the supporting rollers, racks, and pinions completely out of the material stream and minimizes potential corrosion from moisture in the material.

• Double Rack and Pinions

To assure closure of the gate without binding or cocking, two pinions on the operating shaft engage ladder racks which run down each side of the gate. The pinions are located above the racks providing positive tooth engagement.



• Dust-Tight Construction

All joints are welded and ground smooth to eliminate any ledges on which material could accumulate. The end cover, provided for gate removal and interior access, is equipped with a rubber gasket, assuring dust-tight integrity of the valve.

• Gate Support Rollers

Support for the gate is provided with externally greasable rollers. The rollers contain sealed, anti-friction bearings to ensure long life and ease of gate operation.

• Gear Reducer

A gear reducer for ease of operation is supplied on manually operated valves 30" and larger, and in applications with special chain pull requirements.

• Manual Operation

Valves are equipped with either a hand-wheel or pocket sheave in order for the valve to be controlled manually by the operator. A hand-wheel is provided when the valve is within reach of the operator. A pocket sheave is supplied when the valve is not readily accessible to the operator.

• Positive Shut-Off of Material Flow

Gates are designed with four-sided overlap closure which provides positive shutoff of material flow every time.

• Self Cleaning Design

The ladder racks consist of a series of rectangular, tapered holes that prevent material accumulation, resulting in virtually jam-proof operation.



Track Hopper and Reclaim Valve Design Options

• Operator Location

Right- or left-hand operator mounting is available to suit the requirements of the installation.

• Operation Type

- Electric Operation
- Hydraulic or Pneumatic
- Manual Operation
 - › Pocket Sheave
 - › Hand-wheel



• End-of-Travel Indicator

Where local gate position indication is required, a highly visible pointer with legend plate is attached to the housing on the dead-end of the valve pinion shaft.

If remote indication is required, cam-operated limit switches are provided in an external housing. These limit switches are double-pole, double-throw, NEMA 12 rated. Housings are available for NEMA 4, 7, and 9 areas.

• Custom Sizing

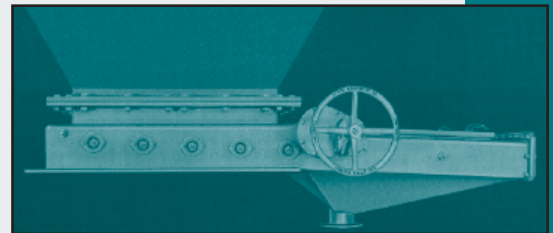
Valves can be made in virtually any size to suit your application needs. They are sized to exact interface dimensions. Square, round, or rectangular inlets and outlets are available.

• Materials of Construction

A wide range of construction materials are available: mild steel, Cor-Ten® steel, 304 and 316 stainless steels. Other materials are available upon request, including various body liner materials. Upgrades are available for elevated temperatures.

• Water Collecting Capability

When closed, valves with the water collecting capability can channel free water to a drain. This is particularly useful for applications that experience water accumulations in the silo, hopper or bunker. Valves



with the water-collection feature have a stainless-steel-lined sloping gate. A brake is supplied to prevent gate slippage, and a top access door is provided for gate inspection and removal. These dust-tight valves have a six-inch diameter bottom outlet for connection to a drain pipe.

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