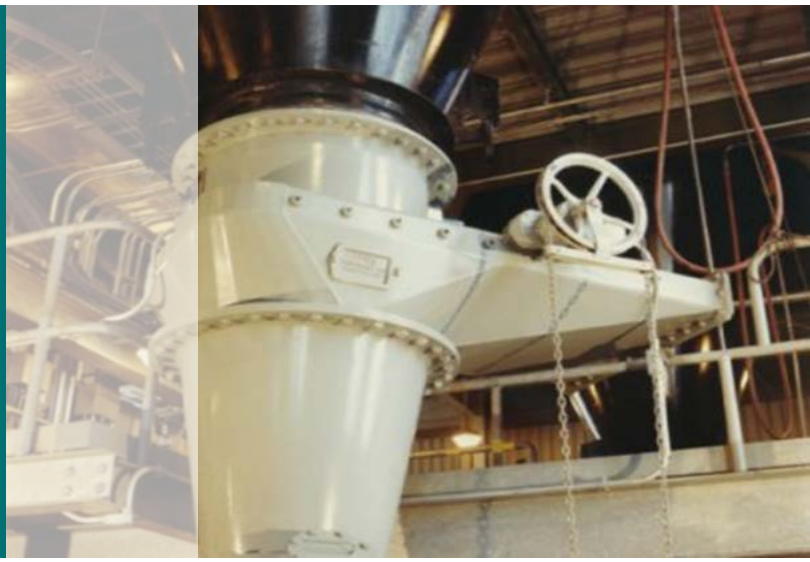
Stock® Bulk Material Valves

Self cleaning, dust tight, positive shut-off valves

- **Engineered to close through a standing column of material**
- **U shaped gate keeps rollers, rack and pinion completely out of the material stream**
- **Double rack and pinions assure gate closure without cocking or binding**
- **Positice material shutoff**
- **Bulit to last**



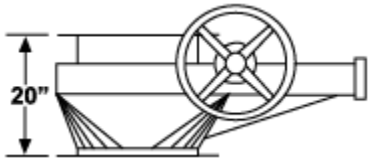
Stock® Bulk Material Valves (BMV) control material flow from bins, hoppers, chutes, silos, and long downspouts. The self-cleaning rack and pinion design makes this valve extremely suitable for bulk material applications where positive shut-off is required through a standing column of material. The pinions 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, thus eliminating the possibility of gate binding.

Stock® BMV's are built to endure material handling applications that involve harsh environments, wide temperature ranges, pressure differentials, and unusual flow characteristics. All Stock® Bulk Material Valves are dust-tight. The overlap closure of the gate and self-cleaning racks makes these valves well suited for handling fine and dusty materials. The Stock® design allows for routine maintenance and inspection and permits the removal of the gate assembly while the valve remains in place. The gate operating shaft is located above the gate rack, keeping bearings, rollers and the pinion shaft out of the active material stream.

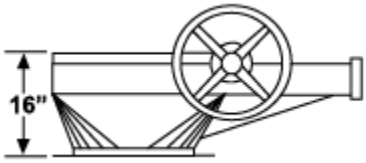
Stock® BMV's have a wide range of applications. For bunker/silo applications, a number of valve sizes with round or rectangular inlets are available. For feeder inlet shut-off, the same basic design is applied to the robust construction necessary to meet NFPA explosion requirements.

Stock® Bulk Material Valve Designs

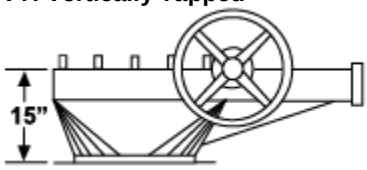
VB: Vertically Bolted



VS: Vertically Studded



VT: Vertically Tapped



Also available in designs suitable for inclined installations. Offset between the inlet and outlet reduces flow restrictions. Brake assembly included.

Stock® Bulk Material Valve Features

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.

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.

Stock® Bulk Material 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.

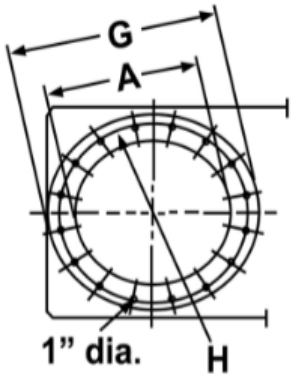
Materials of Construction
A wide range of construction materials are available: mild steel, Cor-Ten® steel, 304 and 316 stainless steels. Other materials are available upon request, including various body liner materials. Upgrades are available for elevated temperatures.

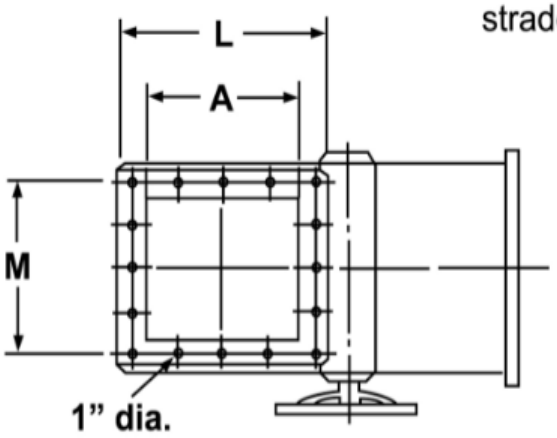
Water Collecting Capability
When closed, valves with the water collecting capability can channel free water to a drain. This is particularly useful for applications that experience water accumulations in the silo, hopper or bunker. Valves with the water-collection feature have a stainless-steel-lined 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.

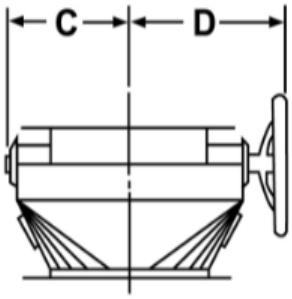
Single Gate Dimensions

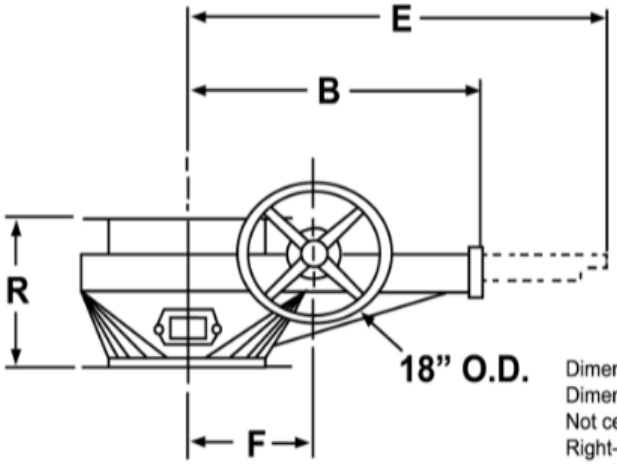
Round Flange
H – Bolt circle diameter
J – Number of bolt holes
K – Bolt holes on or straddle centerline

Square Flange
N – Number of bolt holes
P – Bolt hole spacing
Q – Bolt holes on or straddle centerline





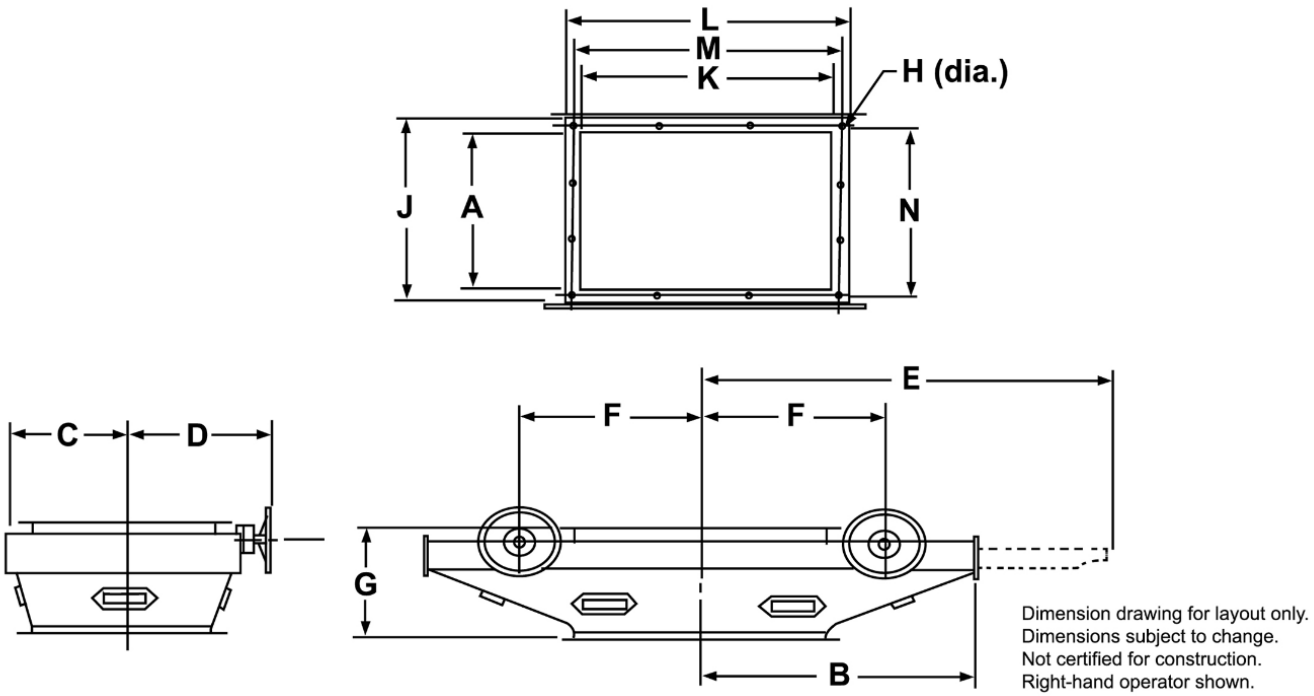




Dimension drawing for layout only.
Dimensions subject to change.
Not certified for construction.
Right-hand operator shown.

Valve Size	Dimensions – inches															
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R
14	14	29	12-5/8	16-3/4	49	13	21	18-3/4	12	STRADDLE	20-3/4	18	12	6	STRADDLE	20
16	16	32	13-5/8	17-3/4	54	14	23-1/2	21-1/4	16	STRADDLE	22-3/4	20	16	5	ON	20
18	18	35	14-5/8	18-3/4	59	15	25	22-3/4	16	STRADDLE	24-3/4	22	16	5-1/2	ON	20
20	20	38	15-5/8	19-3/4	64	16	27	24-3/4	16	STRADDLE	26-3/4	24	15	6	ON	20
24	24	44	17-5/8	21-3/4	74	18	32	29-1/2	20	STRADDLE	31-3/4	28-3/4	20	5-3/4	STRADDLE	20
30	30	54-5/8	21-1/8	29-3/8	93	25	38 3/4	36	28	STRADDLE	38	35	24	VARIES	ON	25
36	36	63-5/8	24-1/8	32-3/8	108	28	46	42-3/4	32	STRADDLE	44	41	28	VARIES	ON	25
42	42	74-1/8	28	36	127	34-1/4	53	49-1/2	36	STRADDLE	51	47-1/2	32	VARIES	STRADDLE	30
48	48	83-1/8	31	39	142	37-1/4	59-1/2	56	44	STRADDLE	57	53-1/2	36	VARIES	STRADDLE	30
54	54	93-1/8	37-1/4	57-1/2	159	41-11/16	66-1/4	62-3/4	44	STRADDLE	63	60	40	VARIES	ON	40
60	60	102-1/8	40-1/4	60-1/2	174	44-11/16	73	69-1/4	52	STRADDLE	69	66	44	VARIES	ON	40

Twin Gate Dimensions



Dimension drawing for layout only.
Dimensions subject to change.
Not certified for construction.
Right-hand operator shown.

Valve Size	Dimensions – inches												
	A	B	C	D	E	F	G	H	J	K	L	M	N
20	20	51	15-5/8	19-3/4	79	29	20	1	26-3/4	46	52-3/4	49-3/4	23-3/4
24	24	59	17-5/8	21-3/4	91	33	20	1	31-3/4	54	61-3/4	58-3/4	28-3/4
30	30	73-1/8	21-1/8	29-3/8	113	43-1/2	25	1-1/8	38	67	75	72	35-3/4
36	36	85-1/8	24-1/8	32-3/8	131	49-1/2	25	1-1/8	44	79	87	84	41
42	42	99-1/8	28	36	152	59-1/4	30	1-1/8	51	92	101	97	47
48	48	111-1/8	31	39	170	65-1/4	30	1-1/8	57	104	113	109	53

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