



The unique design benefits of the M145 series of valve products, with the three-piece replaceable polymer liner, offer reliability and long life in a wide variety of tough applications.

Designed and proven in some of the most difficult applications, the M145 offers superior shutoff, flow and reliability compared to other knife gate valves. Additionally, it performs very well in many services not normally considered to be typical knife gate applications.

Features

- Patented* design features a three-piece replaceable polymer liner.
- Superior shutoff; not to exceed 20 cc water per inch of diameter per minute at 40 psi, half of MSS.
- Available with ANSI Class V shutoff in select applications.
- Every valve is tested for shutoff in both directions.
- Can be installed without worry as to direction of flow.
- 100% full port opening reduces pressure drop allowing greater flow and minimizing wear.
- T-Lock insert is firmly retained by the body liner, helping ensure maximum performance.
- Liner provides all-around gate support and prevents lateral movement of the gate, giving you longer packing life and a more consistent valve seal.
- Positive seal packing chamber.
- MSS face-to-face.

Full Range of Operators and Accessories

- Handwheel (standard).
- Bevel gear (recommended sizes 12" and above).
- Lock-Pin for open, closed or both.
- Air/hydraulic/spring cylinders.
- Electric motor operators.
- Control accessories.
- Extension stems, floor stands, stem guides.



The M145 is Like No Other

As you can see, the M145 is not an ordinary knife gate valve. Offering you superior performance in flow, shutoff, flexibility both in design and installation, packing life, and overall maintenance, the M145 can be called a Universal Valve.

Technical Data

Size range: 2" to 24", 150 psi CWP at ambient temperature

Sizes above 24" designed to the application

Notes: Stated leak rates apply to standard polymer lined versions only.

*U.S. Patent Number 4,377,274



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L&M Valve M145 Replaceable Polymer Liner Knife Gate

2" to 60"

Three-Piece Field Replaceable Liner Assembly

The three-piece liner of the M145 Series acts as the valve seat, gate support and packing support, providing you with excellent performance. The close tolerance fit of the valve liner, along with the line pressure, is designed to deliver a tight shutoff. The liner also provides all-around gate support, preventing lateral movement of the gate, resulting in longer packing life and a consistent valve seal.

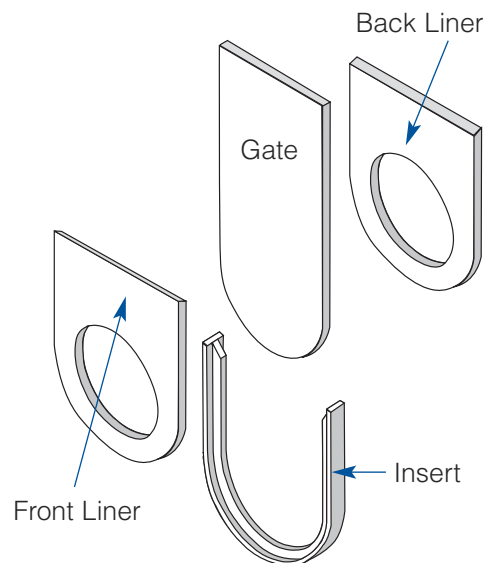
Each liner is precision cut, placed into the valve frame and bonded with a silicone compound to help ensure perfect alignment and a superior seal. They are also available in different materials to suit many applications.

UHMWPE - (180°F), Ultra-high-molecular-weight polyethylene (UHMWPE) has excellent chemical, abrasion and impact resistant properties with a good temperature range. It is widely used in the pulp and paper, textile, packaging and mining industries.

Polypropylene - (225°F), A thermoplastic polymer with good impact and fatigue properties. It is resistant to acids, alkalis and solvents.

PTFE (Teflon®) - (350°F), A polytetrafluoroethylene plastic with superior chemical resistant properties at elevated temperatures. It has excellent anti-stick properties, however, it has a relatively poor resistance to wear and is not recommended for abrasive applications.

Other custom liners are available for special and unique applications. Contact your sales representative for additional information.



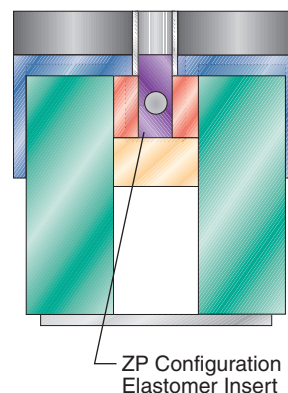
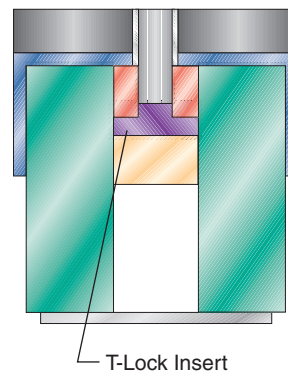
Available M145 Insert Styles

The M145 was designed for the demanding requirements found in many industrial applications. The standard M145 features a T-Lock Insert that retains the seat section of the liner to the outer sides. This helps ensure maximum liner and seat performance in heavy solids.

Also available is the ZP configuration, with a reinforced elastomer insert that acts as the seat section which is built to match the valve port ID, providing an uninterrupted, straight through flow that reduces turbulence. This helps deliver maximum liner and seat performance in heavy solids.

To enhance performance, the M145 can be provided with special fixed or replaceable retaining rings that help deliver long life in abrasive applications:

- Tungsten Carbide Coated.
- Hard surface overlay.
- UHMWPE and others.



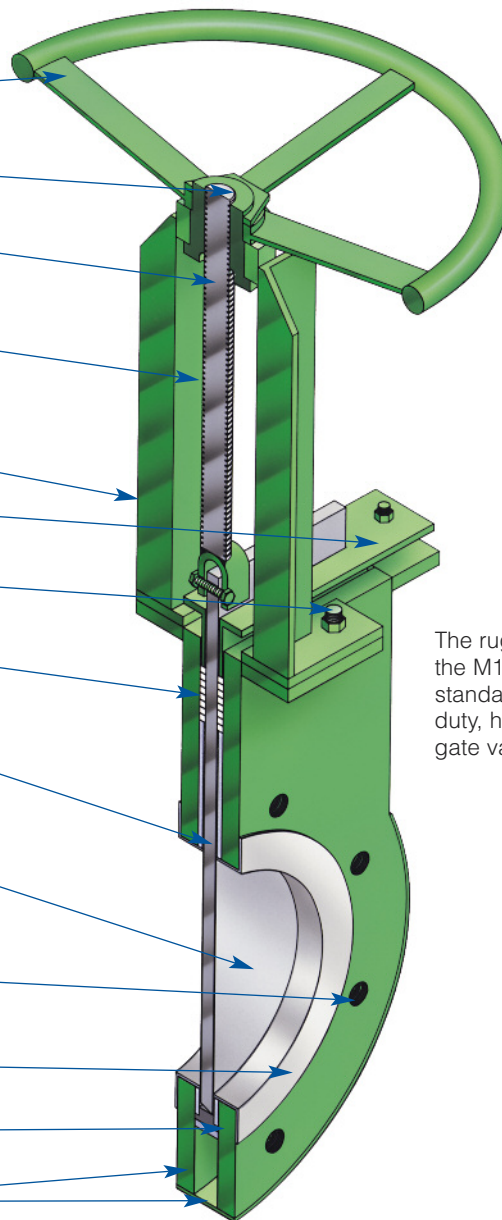
Special Alloys and Configurations

The L&M M145 can also be provided with high grade alloy gates and rings such as titanium, Hastelloy®, Alloy 20, etc. for aggressive applications. Combine this with a Teflon® liner, and you have a very effective high performance knife gate valve.

The M145 can be built in square or rectangular designs specific to your dimensions and applications.

Features

- Cast ductile iron handwheel (bevel gear recommended for sizes 12" and larger)
- Self-locking handwheel retaining nut
- Acid-resistant bronze stem nut smooth operation
- Heavy cross-section 304 stainless steel stem, single-lead Acme threads for ease of operation
- Heavy fabricated yoke
- Heavy reinforced packing gland
- Locknuts used on all bolting
- Multiple rows of packing
- Three-piece field replaceable polymer liner, available in UHMWPE, Teflon® and Polypropylene, supports gate on all sides
- Gate finished ground on both sides for superior bi-directional shutoff and minimum rim-pull
- Flanges drilled and tapped to ASME B16.5/150
- Stainless steel retaining rings/raised face
- Full port flow area through 24"
- Fabricated steel body provides superior strength



The rugged construction of the M145 helps set the standard for a true, heavy duty, high performance knife gate valve.

Bonneted Body Style

The M145 is available in a bonneted configuration for critical applications; specify the M141.

Specification

Bonnetless, Universal Knife Gate Valve, 150 psi design for 150 psi CWP, wafer type with face-to-face dimension per MSS SP-81 with BI-DIRECTIONAL shut-off up to the full rate pressure of 150 psi CWP. Valve shall have a maximum leakage rate of no more than 20 CC per inch of diameter per minute at 40 psi in both directions without the use of O-rings, guides or wedges obstructing the port. The liner shall be made from a resilient material suitable for the application and field replaceable. Made from three separate pieces; the front, back and T-Lock insert, the liner shall line the interior of the valve body, supporting the gate. The liner insert is to be "T" shaped to accommodate the front and back liner pieces, helping prevent insert pullout in severe applications. To deter atmospheric leakage, the valve features an adjustable packing assembly consisting of multiple layers of braided packing around gate, evenly compressed by a one-piece packing gland. The valve is to have 100% FULL PORT FLOW AREA with no guides or wedges obstructing the port. The gate shall be finished ground on both sides made from stainless steel (or as required for application). The body material shall be cast ductile iron, fabricated carbon steel or 316 SS depending on application needs, drilled and tapped to ASME B16.5/150. Valve is equipped with a manual handwheel operator assembly featuring a cast ductile iron handwheel, a heavy duty foot mounted yoke with an acid resistant bronze stem nut, including a 304 stainless steel rising stem. Specify the L&M Valve Model M145 from your sales representative.

L&M Valve M145 Replaceable Polymer Liner Knife Gate

2" to 60"

Applications

Designed to provide superior performance in a wide variety of industries and applications:

Pulp and Paper

- Green Liquor
- Switching Valves
- Mud Slurry
- Water Isolation
- Weak Wash
- Brown Stock
- Machine Isolation
- Starch Isolation
- White Water
- White Liquor
- Black Liquor
- Mud Stock (1%-10%)
- Lime Mud
- Lime Mud
- Pump/Screen Isolation

Mining

- Cyclone System
- Ore Dredging
- Soda Ash
- Pump Isolation
- Hopper Loading
- Coarse Feed Stock
- Ball Mill Crusher
- Rock Slurry
- Tailing Lines
- Fine Feed
- Thickener

Power

- Limestone Slurry
- Coal Transfer
- Slurry Tank
- Settling Pond
- Fly Ash
- Ash Sluice
- Bottom Ash

Wastewater

- Grit Chamber
- Filter Press
- Pump Isolation
- Sludge Systems
- Tank Isolation

Chemical

- Chromic Flake
- Acidic Water
- Brine
- Chip Transfer
- Vacuum Reactors

Food and Beverage

- Grain Hand
- Cereal Process
- Potato Cooker
- Beer Vats
- Sugar Pan
- Brew Tank Isolation

Powder and Bulk

- Lime
- Sand/Gravel
- Zeolite
- Plastic Pellets

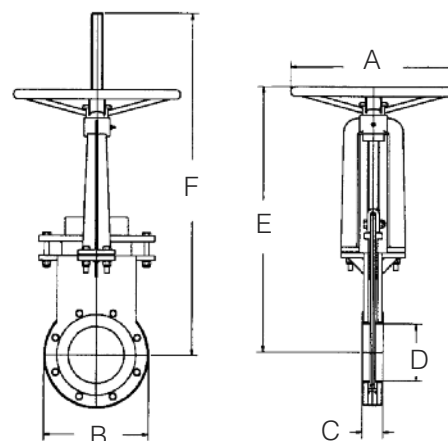
The above information represents previously successful installations for the L&M M145; however your application may be different. Please contact your sales representative for application recommendations.

Dimensions (inches) and Weight (lbs.)

Valve Size	A	B	C	D	E	F	Weight
2	12	7 ³ / ₄	2	2	20 ¹ / ₈	23	48
3	12	7 ¹ / ₂	2	3	20 ¹ / ₈	23	48
4	12	9	2	4	21 ⁷ / ₈	26	58
5	16	10 ¹ / ₄	2 ¹ / ₄	5	26 ⁵ / ₈	31 ³ / ₈	86
6	16	11	2 ¹ / ₄	6	28 ¹ / ₈	33 ⁷ / ₈	88
8	16	13 ¹ / ₂	2 ³ / ₄	8	32 ¹ / ₈	40	140
10	16	16	2 ³ / ₄	10	34 ¹ / ₂	45 ¹ / ₄	199
12	24	19 ¹ / ₄	3	12	41 ⁵ / ₈	53 ³ / ₈	317
14	24	21 ¹ / ₄	3	14	45 ¹ / ₂	59	420
16	24	23 ³ / ₄	3 ¹ / ₂	16	51	66 ⁷ / ₈	545
18	24	25 ¹ / ₄	3 ¹ / ₂	18	57 ¹ / ₄	74 ⁵ / ₈	670
20	24	27 ³ / ₄	4 ¹ / ₂	20	61	80 ¹ / ₄	930
24	24	32 ¹ / ₄	4 ¹ / ₂	24	69 ³ / ₄	93 ³ / ₈	1175

Metric Dimensions (mm) and Weight (kgs.)

Valve Size	A	B	C	D	E	F	Weight
2	305	196.9	50.8	50.8	511.2	584.2	21.8
3	305	215.9	50.8	76.2	511.2	584.2	21.8
4	305	228.6	50.8	101.6	555.6	660.4	26.3
5	406	260.4	57.2	127.0	676.3	796.9	39.0
6	406	279.4	57.2	152.4	714.4	860.4	39.9
8	406	342.9	69.9	203.2	816.0	1016.0	63.5
10	406	406.4	69.9	254.0	876.3	1149.4	90.3
12	610	489.0	76.2	304.8	1057.3	1355.7	143.8
14	610	539.8	76.2	355.6	1155.7	1498.6	190.5
16	610	603.3	88.9	406.4	1295.4	1698.6	247.2
18	610	641.4	88.9	457.2	1454.2	1895.5	303.9
20	610	704.9	114.3	508.0	1549.4	2038.4	421.8
24	610	819.2	114.3	609.6	1771.7	2371.7	533.0



Dimensions are not certified and weights are estimates. Contact your sales representative for complete details.

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