



Available in 300, 600, 900 psi or higher CWP design, the unique M345 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 M345 offers superior shutoff, flow and reliability when compared to other knife gate valves. Additionally, it performs very successfully in many other service applications.

#### Features

- 300, 600, 900 psi or higher CWP design, knife gate.
- 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 helps prevent lateral movement of the gate, giving you longer packing life and a more consistent valve seal.
- Positive seal packing chamber.

#### Full Range of Operators and Accessories:

- Handwheel (standard).
- Bevel gear (recommended 10" and above).
- Lock-Pin for open, closed or both.
- Air/hydraulic/spring cylinders.
- Electric motor operators.
- Control accessories.
- Extension stems, floor stands, stem guides.



- Not all accessories or options are available in all sizes and pressure ratings.

#### The M345 is Like No Other

As you can see, the M345 is not an ordinary knife gate valve. Offering you 300 psi or higher design, superior performance in flow, shutoff, flexibility both in design and installation, packing life, and overall maintenance, the M345 can be called a Universal Valve.

#### Technical Data

Size range: 2" to 60"

M345 (300): 300 psi CWP  
at ambient temperature

M345 (600): 600 psi CWP  
at ambient temperature

M345 (900): 900 psi CWP  
at ambient temperature

Flanges drilled and tapped to ASME B16.5/300 or as required

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 M345 Replaceable Polymer Liner Knife Gate

3" to 60"

## Three-Piece Field Replaceable Liner Assembly

The three-piece liner of the M345 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.

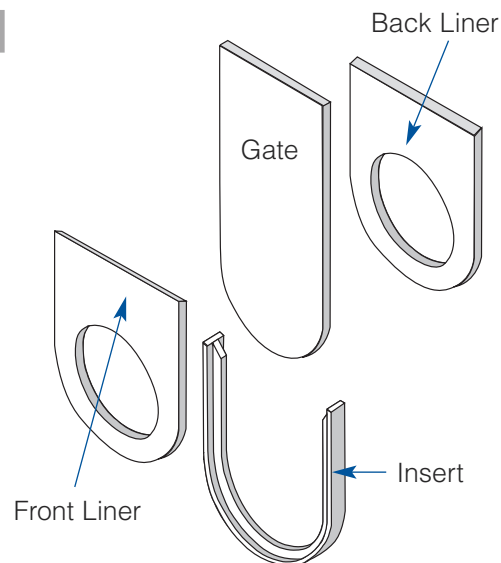
Each liner is precision cut, placed into the valve frame and bonded with a silicone compound to help ensure perfect alignment and a superior seal. They are also available in different materials to suit many applications.

**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 M345 Insert Styles

The M345 was designed for the demanding requirements found in many industrial applications. The standard M345 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.

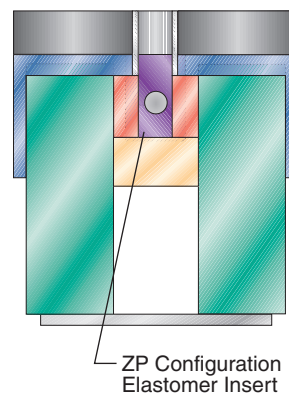
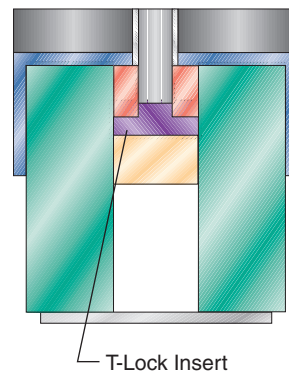
To enhance performance, the M345 can be provided with special fixed or replaceable retaining rings that help deliver long life in abrasive applications:

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

## Special Alloys and Configurations

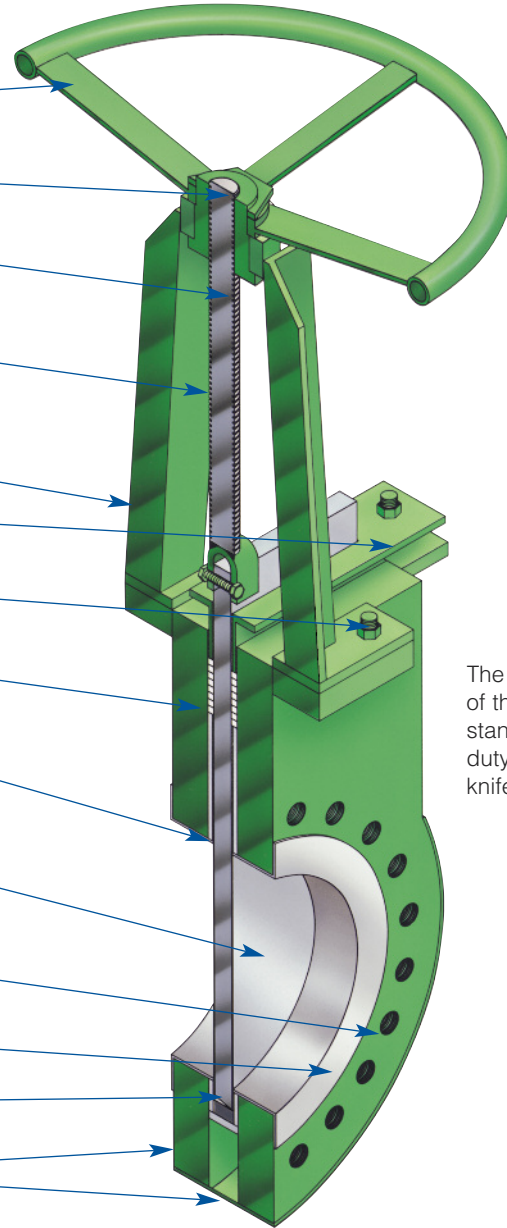
The L&M M345 can also be provided with high grade alloy gates and rings such as titanium, Hastelloy®, Alloy 20, etc. for aggressive applications. Combine this with a Teflon® liner, and you have a very effective high performance knife gate valve.

The M345 can be built in square or rectangular designs specific to your dimensions and applications.



**Features**

- Cast ductile iron handwheel (bevel gear recommended for sizes 10" 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 from channel or T-Bar
- 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 B16.5/300
- Stainless steel retaining rings/raised face
- Full port flow area to 24"
- Fabricated steel body provides superior strength



The rugged construction of the M345 helps set the standard for a true, heavy duty, high performance knife gate valve.

**Bonneted Body Style**

The M345 is available in a bonneted configuration for critical applications; specify the M341.

**Specification**

Bonnetless, Universal Knife Gate Valve, (300) (600) (900) psi design for (300) (600) (900) psi CWP, wafer type with BI-DIRECTIONAL shutoff up to the full rated pressure of (300) (600) (900) 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 fabricated carbon steel or 316 SS depending on application needs, drilled and tapped to ASME B16.5/300 or as required. 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 M345 from your sales representative.

# L&M Valve M345 Replaceable Polymer Liner Knife Gate

3" 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 Liquor
- Black Liquor
- Lime
- Scrubber
- Mud Stock (1%-10%)
- White Water
- 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

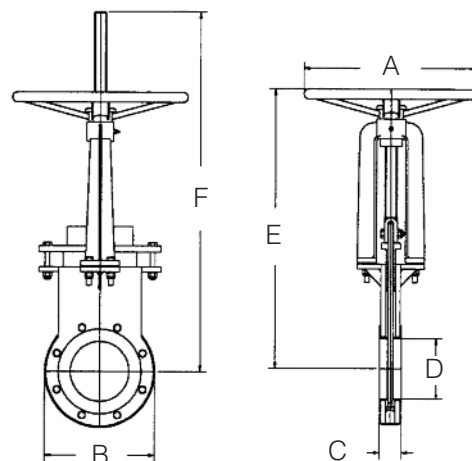
The above information represents previously successful installations for the L&M M345; however, your application may be different. Please contact your sales representative for application recommendations.

## Dimensions (inches) and Weight (lbs.)

Valve Size	A	B	C	D	E	F	Weight
2	12	6¾	2¼	2	18⅞	20¾	60
3	12	8½	2¼	3	21	24	70
4	12	10¼	2¼	4	23½	27¼	75
5	18	11¼	2¼	5	26⅞	31¾	100
6	18	12¾	2½	6	29⅞	41⅞	120
8	18	15¼	3	8	33¾	48⅞	185
10	24	17¾	3	10	38¾	45¼	250
12	24	20¾	3¼	12	49⅞	54	425
14	24	23¼	3½	14	54½	60⅞	535
16	24	25¾	3¾	16	59	67½	710
18	24	28¼	4	18	65¼	76	870
20	24	30¾	5¼	20	69¼	82	1250
24	24	36¼	5½	24	78⅞	95¼	1660

## Metric Dimensions (mm) and Weight (kgs.)

Valve Size	A	B	C	D	E	F	Weight
2	305	171.5	57.2	50.8	479.4	527.1	27.2
3	305	215.9	57.2	76.2	533.4	609.6	31.8
4	305	260.4	57.2	101.6	587.4	692.2	34
5	457	285.8	57.2	127.0	682.6	806.5	45.4
6	457	323.9	63.5	152.4	752.5	1063.6	54.4
8	457	387.4	76.2	203.2	857.3	1228.7	83.9
10	610	450.9	76.2	254.0	984.3	1149.4	113.4
12	610	527.1	82.6	304.8	1260.5	1371.6	192.8
14	610	590.6	88.9	355.6	1374.8	1546.2	242.7
16	610	654.1	95.3	406.4	1498.6	1714.5	322.1
18	610	717.6	101.6	457.2	1657.4	1930.4	394.6
20	610	781.1	133.4	508	1759	2082.8	567
24	610	920.8	139.7	609.6	1984.4	2419.4	753



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

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