REMAK

# Series "SLE" Knife Gate Valve

**FEATURES**

- **Bi-directional sealing at full differential pressures**
- **Encapsulated body seals protected from the media**
- **Flush out corners**
- **Fully guided blade to ensure parallel opening and closing**
- **Profiled and ground blade**
- **Face to face dimensions in accordance with TAPPI**
- **Body material – Ductile Iron and Stainless Steel**
- **Top works interchangeable between manual and cylinder operations**

**The REMAK SLE Knife Gate Valve has been developed to meet the severe services requirements of slurry and solid handling applications**

**With 18 years experience offering solutions for various types of aggressive media, REMAK has developed the SLE to offer a variety of options in one complete product philosophy.**

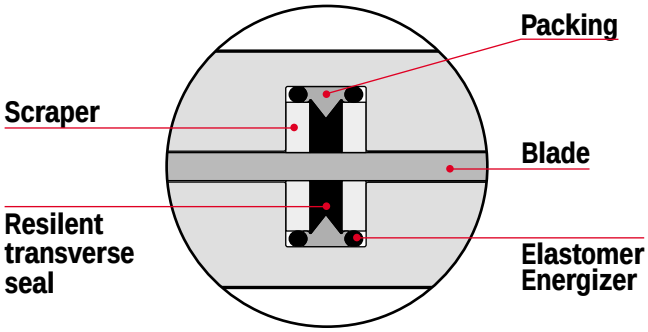
# THE REMAK "SLE" ADVANTAGE

### The REMAK "SLE" Sealing System

Traditional knife gates utilize a face seal that is exposed to the flow stream when the valve is open. In slurry and powder service, solids in the flow stream can damage the seal, resulting in a loss of shutoff integrity. The SLE seal is totally encapsulated between the body halves and protected from direct exposure to the velocity of the flowing media. This REMAK SLE seal design eliminates the seal wear problem of traditional designs and provides long term, reliable shut off. The "encapsulated seal" makes the REMAK SLE the ideal solution for slurry and solids flow applications. The traditional knife gate is designed to use the line pressure to push the blade into the downstream seal forming a uni-directional seal. The SLE provides continuous contact between the machined blade edge and the resilient sealing material to form a bi-directional seal. The SLE provides bubble tight shut off in both flow directions, independent of line pressure or vacuum.

### The Transverse Seal

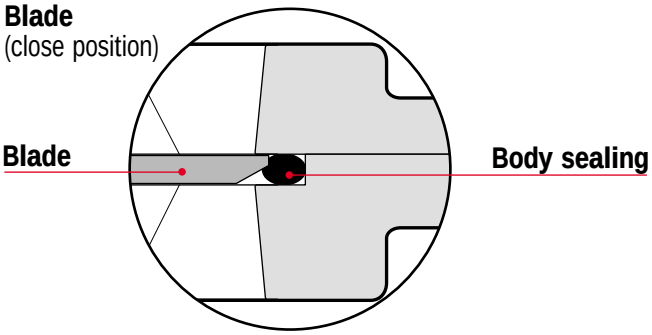
The REMAK SLE design utilizes a versatile transverse seal to provide complete isolation between the process media and the atmosphere. Unlike a traditional packing arrangement, the transverse seal can be repacked in-line under pressure, thereby ensuring minimum downtime. Designed specifically for solids and slurry flow applications, the SLE incorporates, as a standard feature, dual scraper bars to prevent damage to the transverse seal. The scrapers bars, inserted above and below of the transverse seal, prevent any solids which may stick to the blade from being pulled into the transverse seal area during the opening or closing operation. This can be especially critical for valves that are in the open or closed position for an extended period of time. The transverse seal and scraper bars can be supplied in a variety of materials and configurations to match the specific application.




*Side view*

### The "SLE" Body Design

With traditional knife gate designs, the blade can become misaligned and stick during operation or fail to seat properly. In the REMAK SLE design, the blade is guided between the body halves during the entire travel, ensuring smooth and reliable operation. The fully guided blade prevents any "flutter" or warping of the blade due to changing process conditions. The SLE body is cast with an internal profile to provide self-flushing corners to ensure solids do not build up in the seating areas. There are no cavities or dams in the bottom of the valve body. The SLE is provided, as standard, in a Ductile Iron or 316 SS body with various mating flange configurations, or optionally, in an end-of-line service configuration.




*Side view*

### The "SLE" Blade Design

The SLE blade is precision ground and finished to ensure it is uniformally flat and parallel. The blade edge is profiled with a radius proven to cut through the most aggressive or viscous media, ensuring many years of smooth operation. The standard blade is machined from 316 SS. As an option, in extremely erosive or high cycle applications, the blade can be hardened through a chroming or electro-nickel plating processes.

### Increased Clearance

The body chest area is machined with increased clearance to allow particles to free-flow back into the line. This prevents packing of material between the blade and the body that could inhibit blade movement.

### Ni-Hard, PGR or SS Inserts

For very high velocity slurry and conveying applications of abrasive materials like fly ash, cement, or metals, the inlet valve port can be fitted with a replaceable Ni-Hard PGR or SS insert as an option. This different materials made inserts protects the valve body from erosion, there by providing extended valve life in these severe applications.

### Actuation Design

The four-pillar construction ensures the shaft is perfectly aligned and stable to eliminate any side loads even under high vibration conditions. The top mounting plate can be easily modified to adapt a wide variety of actuation from hand wheels to electric and pneumatic actuators.

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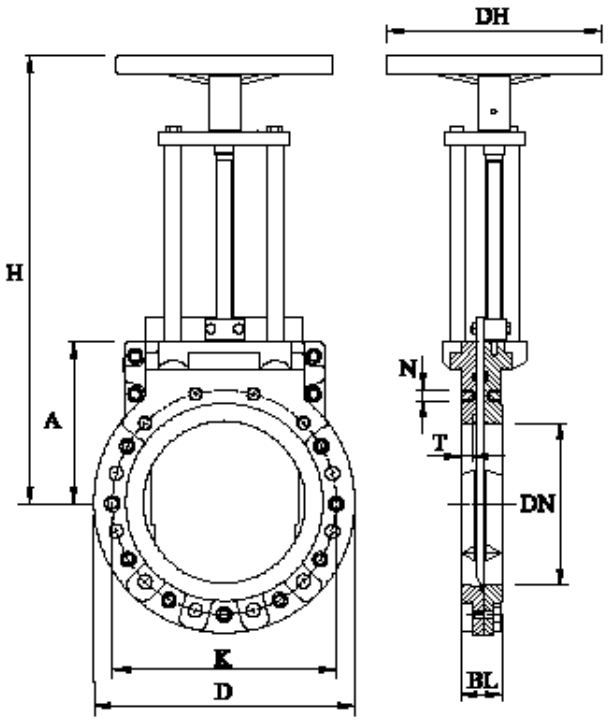
## ANSI 150, manual operation

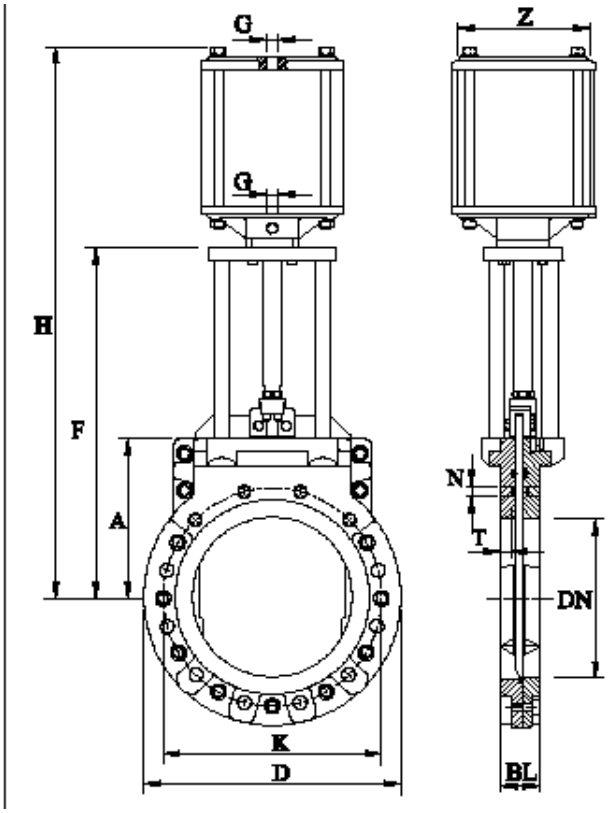



Hand operated type with non-rising spindle*

| Valve Size (in.) | A | BL | D | DH | H | K | Weight (approx.) lbs |
|---|---|---|---|---|---|---|---|
| 2” | 4.2 | 1.88 | 6.5 | 6.3 | 12.6 | 4.8 | 25 |
| 2 1/2” | 4.4 | 1.88 | 7.3 | 6.3 | 13.6 | 5.5 | 27 |
| 3” | 5.6 | 2.00 | 7.9 | 7.9 | 15.6 | 6.0 | 37 |
| 4” | 6.0 | 2.00 | 8.7 | 7.9 | 16.9 | 7.5 | 42 |
| 5” | 6.5 | 2.25 | 9.8 | 7.9 | 18.6 | 8.5 | 51 |
| 6” | 7.3 | 2.25 | 11.2 | 9.8 | 21.1 | 9.5 | 75 |
| 8” | 8.7 | 2.75 | 13.4 | 12.4 | 24.9 | 11.7 | 110 |
| 10” | 10.1 | 2.75 | 16.9 | 12.4 | 28.7 | 14.2 | 145 |
| 12” | 11.7 | 3.00 | 19.0 | 15.7 | 32.8 | 17.0 | 220 |
| 14” | 13.0 | 3.00 | 20.4 | 15.7 | 34.8 | 18.7 | 265 |
| 16” | 14.3 | 3.50 | 23.0 | 15.7 | 38.1 | 21.2 | 325 |
| 18” | 16.1 | 3.50 | 25.2 | 19.7 | 43.7 | 22.7 | 440 |
| 20” | 16.6 | 4.50 | 28.1 | 19.7 | 46.1 | 25.0 | 520 |
| 24” | 20.4 | 4.50 | 33.1 | 23.2 | 84.4 | 29.5 | 800 |

* Valves above 20” will be gearbox mounted and have rising spindle

## ANSI 150, pneumatic operation




Pneumatically operated type

| Valve Size (in.) | A | BL | D | F | H | K | Z | G | Weight (approx.) lbs. |
|---|---|---|---|---|---|---|---|---|---|
| 2” | 4.2 | 1.88 | 6.5 | 10.1 | 15.8 | 4.8 | 3.1 | R1/4) | 23 |
| 2 1/2” | 4.4 | 1.88 | 7.3 | 11.1 | 17.4 | 5.5 | 3.1 | R1/4) | 27 |
| 3” | 5.6 | 2.00 | 7.9 | 12.8 | 19.7 | 6.0 | 3.1 | R1/4) | 33 |
| 4” | 6.0 | 2.00 | 8.7 | 14.4 | 22.3 | 7.5 | 3.9 | R1/4) | 40 |
| 5” | 6.5 | 2.25 | 9.8 | 15.8 | 24.6 | 8.5 | 3.9 | R1/4) | 51 |
| 6” | 7.3 | 2.25 | 11.2 | 18.0 | 28.7 | 9.5 | 6.3 | R1/4) | 80 |
| 8” | 8.7 | 2.75 | 13.4 | 21.3 | 33.8 | 11.7 | 6.3 | R1/4) | 110 |
| 10” | 10.1 | 2.75 | 16.9 | 25.1 | 41.67 | 14.2 | 7.9 | R1/2) | 157 |
| 12” | 11.7 | 3.00 | 19.0 | 28.6 | 47.17 | 17.0 | 9.8 | R1/2) | 220 |
| 14” | 13.0 | 3.00 | 20.4 | 33.1 | 53.5 | 18.7 | 9.8 | R1/2) | 285 |
| 16” | 14.3 | 3.50 | 23.0 | 36.3 | 58.8 | 21.2 | 11.8 | R1/2) | 350 |
| 18” | 16.1 | 3.50 | 25.2 | 40.3 | 64.7 | 22.7 | 11.8 | R1/2) | 465 |
| 20” | 16.6 | 4.50 | 28.1 | 42.6 | 69.1 | 25.0 | 11.8 | R1/2) | 605 |
| 24” | 20.4 | 4.50 | 33.1 | 58.8 | 77.1 | 29.5 | 11.8 | R1/2) | 755 |

Note: Detailed dimensional information available on separate data sheets.

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