

## KEYSTONE KNIFE GATE VALVE

FIGURE 951

Wafer style, uni-directional knife gate valves



### FEATURES

- Compact design.
- Self-aligning gland box.
- One piece integral cast body and chest.
- Integral cast in gate wedges minimize flow obstructions.
- High quality gate finish for optimum sealing.
- Gate guides to support gate.
- Integral RTFE gate scraper.
- Complies with MSS SP-81 face-to-face dimensions.
- High flow rates with low pressure drops.
- All valves are pressure tested to MSS SP-81
- Maintenance friendly.

### GENERAL APPLICATION

The Keystone K-Nife is designed for a wide range of applications such as:

- Pulp & paper
- Mining
- Effluent handling plants
- Chemical plants
- Food and beverage
- Fly ash handling plants
- Bulk conveying
- Corrosive environments

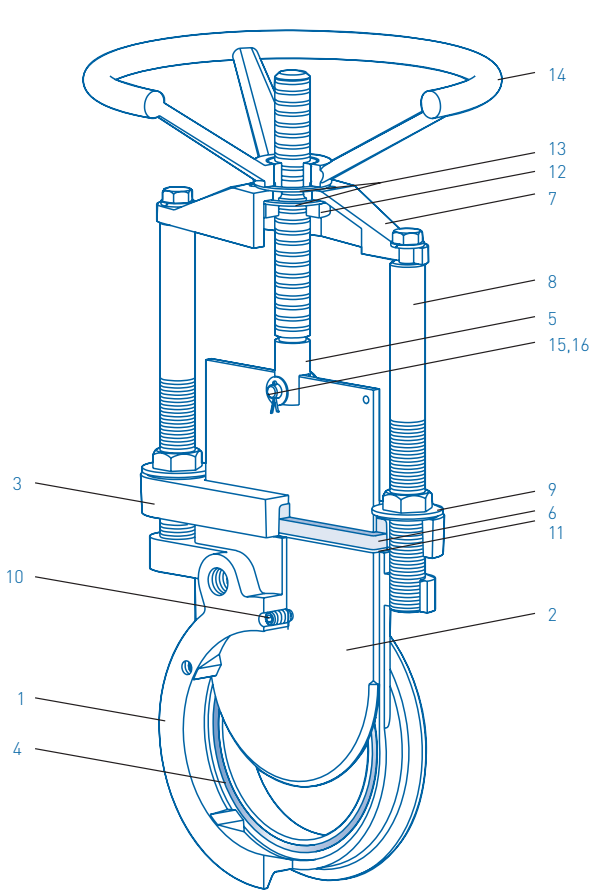
### TECHNICAL DATA

Size range:	DN 50-300
Temperature rating:	150°C RTFE seated
Pressure rating:	1000 kPa (10 bar) at cold working pressure (non-shock)

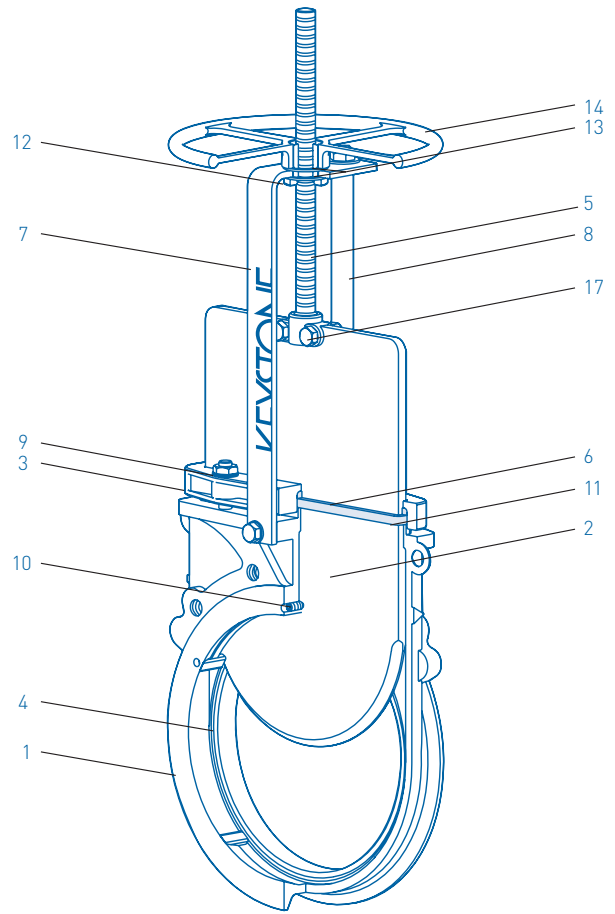


# KEYSTONE KNIFE GATE VALVE

FIGURE 951



**Note:** 50 - 200 mm valve illustrated



**Note:** 250 - 300 mm valve illustrated

## PARTS LIST

No.	Description	Material
1	Body	S.G. Iron
2	Gate#	316 S/S*, SAF 2205
3	Gland Box	S.G. Iron
4	Seat	RTFE or Metal
5	Spindle	303 S/S
6	Gland packing	K-LON•
7	Bridge (50 - 200 mm) Upstand (250 - 300 mm)	304 S/S Painted mild steel
8	Pillar	Painted mild steel
9	Glandbox washer	Nylon
10	Gate guide	S/S RTFE tipped
11	Gate scraper	RTFE
12	Handwheel nut	Leaded gunmetal
13	Thrust washer	Nylon
14	Handwheel	S/S (non-rising 250 - 300 mm) or S.G Iron (rising 50 - 300 mm)
15	Clevis pin (50 - 200 mm)	304 S/S
16	Split pin (50 - 200 mm)	304 S/S
17	Clevis (250 - 300 mm)	304 S/S
18	All fasteners	304 S/S

## OPTIONS

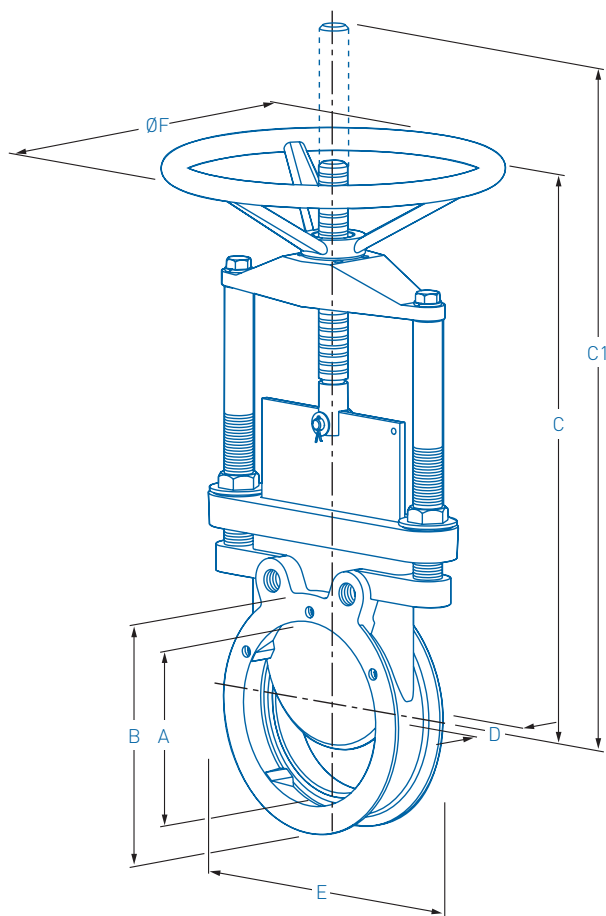
- F738 Pneumatic actuators
- Electric actuators
- Bevel gear operators
- Chainwheels
- F459 Quick acting levers (50 - 200mm)
- F791 Solenoid valves
- Limit switches
- F793 Positioners
- F493 Pneumatic failsafe
- Deflection cones
  - Chrome Iron
  - Polyurethane in sizes 50 - 300mm.
- Safety guards and shrouds

## NOTE

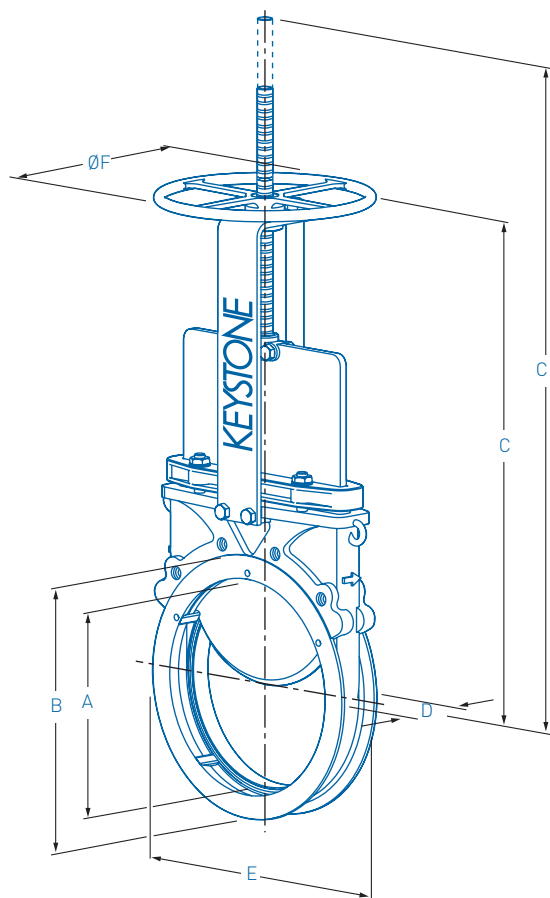
- \* 304 S/S gate is standard with S.G. Iron bodied valves.
- Other packing materials available on request.

# KEYSTONE KNIFE GATE VALVE

FIGURE 951



Note: 50 - 200 mm valve illustrated



Note: 250 - 300 mm valve illustrated

## DIMENSIONS (mm)

Valve size	Bore (downstream)		Rising spindle		Non-rising	D	E	ØF	Nom. mass manual (kg)	K <sub>v</sub> at full open*
	A	B	C (closed)	C1 (open)						
50	50	92	284	295	N/A	49	159	200	7	223
65	65	108	284	316	N/A	49	172	200	8	368
80	80	127	324	391	N/A	52	190	200	10	557
100	100	157	358	425	N/A	52	210	200	11	909
125	125	186	450	579	N/A	58	254	300	16	1416
150	150	212	487	580	N/A	58	285	300	20	2112
200	200	270	602	746	N/A	71	338	300	32	4065
250	248	326	651	908	693	71	326	400	46	6850
300	298	380	750	1057	792	76	418	400	71	9863

## NOTES

N/A = Not Available

Dimension D = the face to face dimension

Dimension E = the maximum valve or upstand clearance dimension for installation.

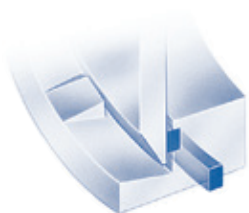
\* K<sub>v</sub> = the flow rate of water in m<sup>3</sup>/hr that will pass through a valve with a differential pressure of 1 bar (100 kPa) at 20°C

C<sub>v</sub> = 1.155 K<sub>v</sub>

Dimensions are nominal.

Larger sizes are available upon request.

## STANDARD SEAT DETAILS



RTFE SEAT

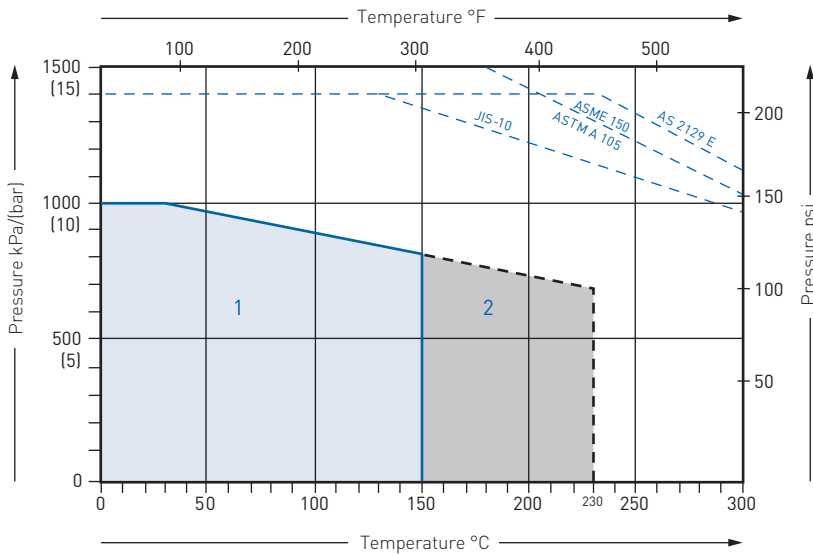


METAL SEAT

# KEYSTONE KNIFE GATE VALVE

FIGURE 951

PRESSURE/TEMPERATURE GRAPH



## PRESSURE/TEMPERATURE RATINGS

### RTFE seated

1000 kPa/(10 bar) at 20°C  
770 kPa/(7.7 bar) at 150°C

### Metal seated

1000 kPa/(10 bar) at 20°C  
700 kPa/(7 bar) at 230°C

### FKM seated

1000 kPa/(10 bar) at 20°C  
770 kPa/(7 bar) at 150°C

- RTFE seated valve trim code numbers is 182.  
FKM seated valve trim code number is 179
- S.G. Iron seated valve trim code number is 172.

## SELECTION GUIDE

<b>Example:</b>	<b>150</b>	<b>F951</b>	<b>172</b>	<b>AS 2129 E</b>
<b>Valve size</b>	DN 50-300			
<b>Figure number</b>				
<b>F951</b>	Wafer style rising spindle uni-directional valve			
<b>Trim</b>	See table			
<b>End connections (to suit)</b>				
<b>AS 2129</b>	Table C, D, E metric threads			
<b>JIS B2210</b>	Table 5, 10			
<b>ASME B16.5</b>	Class 125 and 150 UNC threads			
<b>DIN 2501</b>	Table 10, 16			
<b>BS 4504</b>	PN 10 and 16			
<b>ASME B16.5</b>	Class 125 and 150 metric threads (for N.Z.)			

**Note:** To minimize risk to personnel, Pentair recommend the use of purpose built guards and shrouds. Refer to the Pentair data sheet or consult factory for details.

Trim No.	Body	Gate	Seat	Gland box	Bridge	Spindle	Packing
172*	S.G. Iron	316 S/S	S.G. Iron	S.G. Iron	Mild steel	304 S/S	K-LON
182*	S.G. Iron	316 S/S	RTFE	S.G. Iron	Mild steel	304 S/S	K-LON

## NOTE

# Gates are 316 S/S, coated with PTFE.

Subject to material availability and delivery obligations, Pentair reserves the right to supply higher grade materials for any component, eg. 316 S/S in lieu of 304 S/S.

Non-rising spindle design is available upon request.

\* 50 - 200mm bridge 304 S/S.



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ООО "ЭВИ Инжиниринг"  
02093, г. Киев, ул. Бориспольская, 26з, оф. 111  
тел. (044) 36-18-450  
e-mail: info@ewi-engineering.com.ua  
Website: ewi-engineering.com.ua

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