

## KEYSTONE KNIFE GATE VALVES

FIGURE 952

Lugged style, uni-directional knife gate valves



### FEATURES

- Compact design.
- Self-aligning gland box.
- 316 S/S valve body construction for superior corrosion resistance.
- One piece integral cast body, chest and lugs.
- Integral cast in gate wedges minimize flow obstructions.
- High quality gate finish for optimum sealing.
- High flow rates with low pressure drops.
- Integral RTFE gate scraper.
- Gate guides to support gate.
- A range of seat options available.
- Complies with MSS SP-81 face-to-face dimensions.
- All valves are pressure tested to MSS SP-81.
- Maintenance friendly.

### GENERAL APPLICATIONS

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

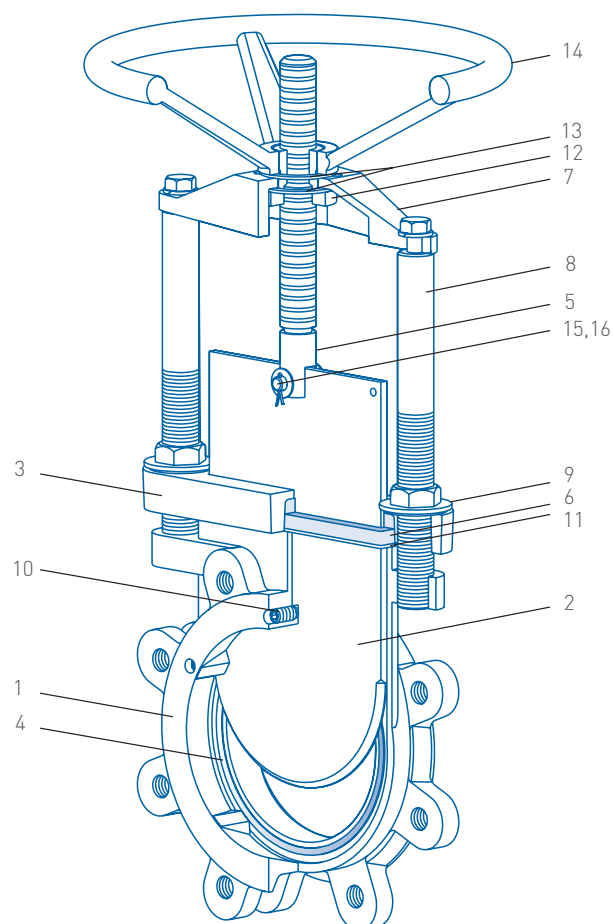
- Pulp and paper
- Mining
- Effluent handling plants
- Chemical plants
- Food and beverage
- Fly ash handling plants
- Bulk conveying
- Corrosive environments

### TECHNICAL DATA

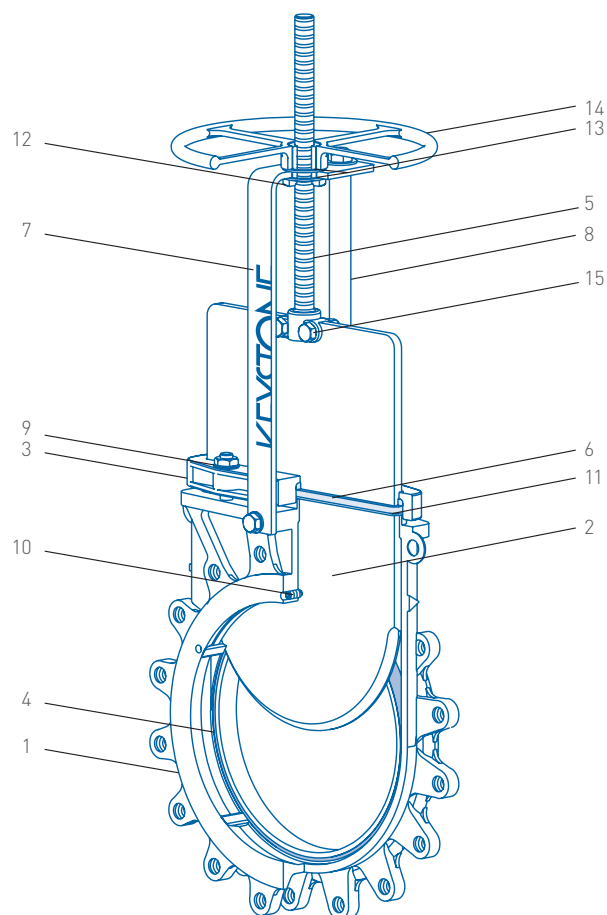
Size range:	DN 50 - 600 (NPS 2 - 24)
Temperature rating:	150°C (300°F) RTFE seated 150°C (300°F) FKM seated 230°C (445°F) 316 S/S seated
Pressure rating:	1000 kPa/10 bar (150 psi) at cold working pressure (non-shock)

# KEYSTONE KNIFE GATE VALVES

FIGURE 952



**Note:** DN 50 - 200 (NPS 2 - 8) valve illustrated.



**Note:** DN 250 - 600 (NPS 10 - 24) valve illustrated.

## PARTS LIST

No.	Description	Material
1	Body	316 S/S
2	Gate#	316 S/S, SAF 2205 or SAF2507
3	Gland box	304 S/S
4	Seat	RTFE, Metal or FKM
5	Spindle	304 S/S
6	Gland packing	K-LON•
7	Bridge (DN 50 - 200 / NPS 2 - 8)	304 S/S
	Upstand (DN 250 - 600 / NPS 10 - 24)	Painted mild steel
8	Pillar	304 S/S or 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) or S.G Iron (rising)
15	Clevis pin	304 S/S
16	Split pin	304 S/S
17	All fasteners	304 S/S

## OPTIONS

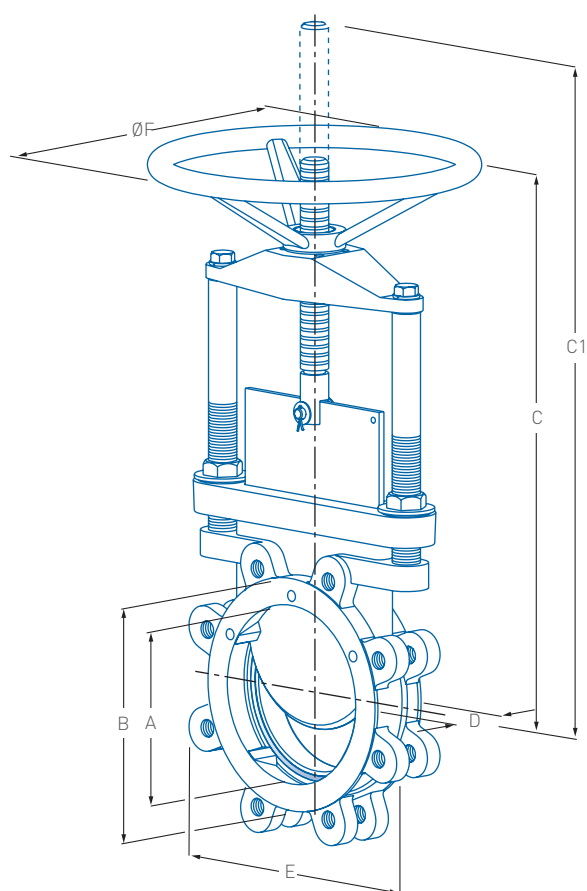
- F738 Pneumatic actuators
- Electric actuators
- Bevel gear operators
- Chainwheels
- F459 Quick acting lever (DN 50 - 200 / NPS 2 - 8)
- F791 Solenoid valves
- Limit switches
- F793 Positioners
- F493 Pneumatic failsafe
- Deflection cones
  - Chrome iron
  - Polyurethane (DN 50 - 300 / NPS 2 - 12)
- Safety guards and shrouds

## NOTES

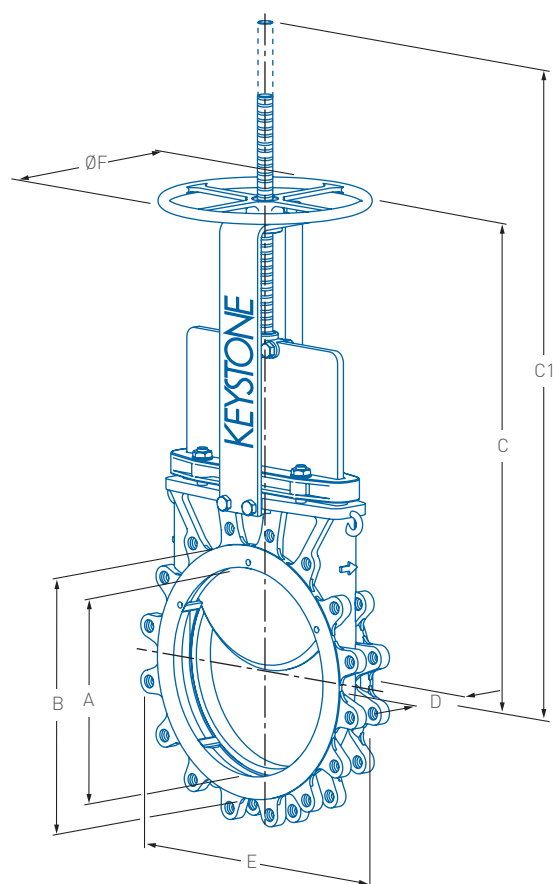
- # Gate is PTFE coated when used with FKM seat.
- Other packing materials available on request.

# KEYSTONE KNIFE GATE VALVES

FIGURE 952



**Notes:** DN 50 - 200 (NPS 2 - 8) valve illustrated.  
Number of lugs is dependent upon flange drilling.



**Notes:** DN 250 - 600 (NPS 10 - 24) valve illustrated.  
Number of lugs is dependent upon flange drilling.

## DIMENSIONS mm (inches)

DIMENSIONS mm (inches)										
Valve size DN (NPS)	Bore (downstream)		Rising spindle		Non-rising				Nom. mass manual kg (lbs)	K <sub>v</sub> * [C <sub>v</sub> ✧] at full open
	A	B	(closed)	(open)		D	E	ØF		
			C	C1						
50 [2]	50 [1.97]	92 [3.62]	264 [10.39]	295 [11.60]	-	49 [1.90]	159 [6.30]	200 [8]	7 [15]	223 [258]
65 [2½]	65 [2.60]	108 [4.25]	284 [11.18]	316 [12.45]	-	49 [1.90]	177 [6.80]	200 [8]	8 [18]	368 [425]
80 [3]	80 [3.15]	127 [5.00]	324 [12.76]	391 [15.40]	-	52 [2.00]	192 [7.50]	200 [8]	10 [22]	557 [643]
100 [4]	100 [3.94]	157 [6.20]	358 [14.10]	425 [16.75]	-	52 [2.00]	222 [8.75]	200 [8]	12 [26]	909 [1050]
125 [5]	125 [4.92]	186 [7.32]	450 [17.72]	519 [20.43]	-	58 [2.25]	256 [10.00]	300 [12]	18 [40]	1416 [1635]
150 [6]	150 [5.91]	212 [8.35]	487 [19.17]	579 [22.80]	-	58 [2.25]	285 [11.10]	300 [12]	22 [48]	2112 [2439]
200 [8]	200 [7.87]	270 [10.63]	602 [23.70]	746 [29.37]	-	71 [2.75]	325 [13.40]	300 [12]	34 [75]	4065 [4695]
250 [10]	250 [9.84]	326 [12.83]	726 [28.60]	908 [35.75]	693 [27.30]	71 [2.80]	406 [16.00]	400 [14]	47 [103]	6850 [7912]
300 [12]	300 [11.81]	380 [15.00]	825 [32.50]	1057 [41.60]	793 [31.22]	76 [3.00]	474 [11.65]	400 [14]	74 [163]	9863 [11392]
350 [14]	330 [13.00]	452 [17.80]	881 [34.70]	1144 [45.04]	848 [33.40]	76 [3.00]	520 [20.47]	400 [14]	93 [205]	11858 [13696]
400 [16]	378 [14.88]	480 [18.90]	968 [38.10]	1281 [50.43]	935 [36.81]	89 [3.50]	584 [23.00]	400 [14]	121 [266]	15590 [18006]
450 [18]	425 [16.73]	540 [21.25]	1095 [43.10]	1450 [57.10]	1084 [42.68]	89 [3.50]	628 [24.72]	600 [24]	170 [374]	20165 [23291]
500 [20]	475 [18.70]	585 [23.03]	1192 [46.93]	1598 [62.91]	1181 [46.50]	114 [4.50]	696 [27.40]	600 [24]	212 [466]	25117 [29010]
600 [24]	571 [22.48]	692 [27.25]	1400 [55.12]	1881 [74.06]	1369 [53.90]	114 [4.50]	822 [32.36]	600 [24]	312 [686]	36896 [42615]

## NOTES

D = The face to face 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>✧ = The volume of water in US gpm that will pass through a valve with a differential pressure of 1 psi at 60°F

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

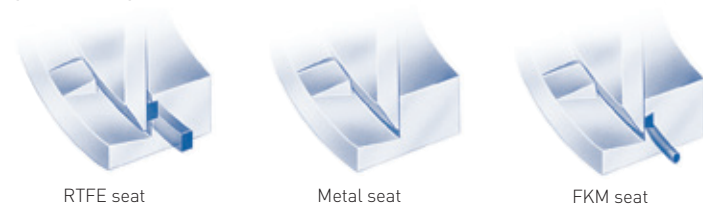
Dimensions are nominal.

Larger sizes are available upon request.

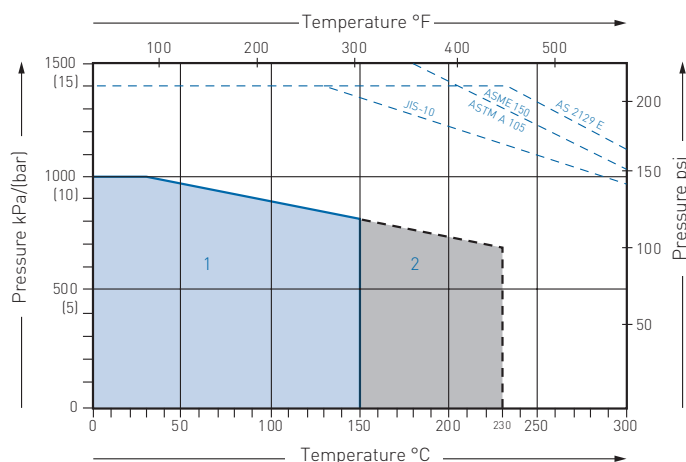
# KEYSTONE KNIFE GATE VALVES

FIGURE 952

## STANDARD SEAT DETAIL



## PRESSURE/TEMPERATURE GRAPH



## SELECTION GUIDE

Example:		250	F952	170	AS 2129 E
Valve size	DN 50 - 600 (NPS 2 - 24)				
Figure number					
F952	Lugged style rising spindle uni-directional valve				
Trim	See table				
End connections (to suit)					
AS 2129	Table C, D, E metric threads				
ASME B16.5	Class 125 and 150 UNC threads				
BS 4504	PN 10 and 16				
JIS B2210	Table 5, 10				
DIN 2501	Table 10, 16				
ASME B16.5	Class 125 and 150 metric threads (for N.Z.)				

## PRESSURE/TEMPERATURE RATINGS

### RTFE seated

1000 kPa/10 bar (150 psi) at 20°C (68°F)  
770 kPa/7.7 bar (110 psi) at 150°C (300°F)

### Metal seated

1000 kPa/10 bar (150 psi) at 20°C (68°F)  
700 kPa/7 bar (100 psi) at 230°C (445°F)

### FKM seated

1000 kPa/10 bar (150 psi) at 20°C (68°F)  
770 kPa/7.7 bar (110 psi) at 150°C (300°F)

## NOTES

1. RTFE seated valve trim code number is 176.  
FKM seated valve trim code number is 180.
2. Metal - 316 S/S seated valve trim code number is 170.  
Metal - 304 S/S seated valve trim code number is 185.

## NOTES

\* Gates are 316 S/S, coated with PTFE.  
Non-rising spindle design available upon request.

## 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 code	Body	Gate	Seat	Gland box	Bridge	Spindle	Packing
170	316 S/S	316 S/S	316 S/S	304 S/S	304 S/S	304 S/S	K-LON
176	316 S/S	316 S/S	RTFE	304 S/S	304 S/S	304 S/S	K-LON
180	316 S/S	316 S/S / PTFE*	FKM	304 S/S	304 S/S	304 S/S	K-LON



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