



## Wafer Unidirectional Knife Gate Valve

ISO9001 & CE Accredited



### 1. Description

The NP model knife gate is a unidirectional wafer valve used on industrial pipeline for on-off operation. The unique valve structure eliminates potential clogging shutoff when the valve is dealing with flow with particles. Beveled knife gate design also generates great shear stress for easy flow penetration.

### 2. Technical Data

**Size:** DN 50 to DN 600 (larger diameters on request)

**Working pressure:**

DN 50 to DN250	10 Bar	NPS 2-10	150 psi
DN 300 to DN450	7 Bar	NPS 12-18	90 psi
DN 500 to DN600	4 Bar	NPS 20-24	60 psi
DN 700 to DN1200	2 Bar	NPS 28-52	30 psi

**Standard flange connection:**

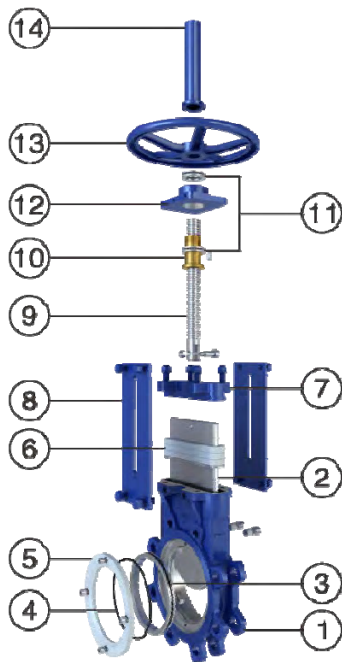
EN1092	GB/T 9113
ASME B16.5	AS 2129/4087
JIS B2220	Others on request

**Application:**

Pulp and Paper/ Mining /Waste Water Treatment/ Food and Beverage/Chemical Plants/ Power Plants/ Steel Industry/Etc.



### 3. Design Features



#### STANDARD PART LIST

Parts	WCB	CF8	CF8M
1. Body	WCB	CF8	CF8M
2. Gate	304	304	316
3. Seat	Metal/Metal or EPDM		
4. O-ring	NBR		
5. Seat Retainer	WCB	CF8	CF8M
6. Packing	PTFE		
7. Gland Follower	WCB	CF8	CF8M
8. Yoke	Q235	304	304
9. Stem	2Cr13	2Cr13	2Cr13
10. Stem Nut	Brass	Brass	Brass
11. Thrust Bearing	65Mn	65Mn	65Mn
12. Bearing Housing	WCB	WCB	WCB
13. Hand wheel	GGG30 (Epoxy Coated)		
14. Stem Protector	304	304	304
15. Fasteners	A2-70	A2-70	A4-70

**Note:** Hand wheel nut is available for valve without stem protector. Non-stainless parts are epoxy coated.

#### BODY:

- Cast-in guide claws at the port bottom for gate fixture, instead of a groove, eliminates potential valve shutoff clogging while providing tighter seal.
- Integral body design ensures easy assembly and 0 shell leakage.
- Full port design minimizes pressure drop and maximize flow capacity.
- PTFE resilient point against gate eliminate metal-metal contact between gate and body.

#### GATE:

- Beveled knife edge provides strong cutting stress and tight sealing.
- Gate thickness can be increased to meet higher pressure.
- Gate surface is well polished at both side for tight seal and less jamming.
- Gate is hard chrome coated for metal sealing valve.

#### SEAT:

- Side-entry seat is replaceable, reducing the cost of maintenance.
- Preloaded seat is adjustable to meet different sealing class and compensate sea wear.
- L-shape seat retainer locks seat into valve body and covers seat side to prevent direct flow flushing.

#### Other:

- Stem cover is available to ensure long service life for stem.
- Two thrust bearings minimizes torque for operation.
- Grease nipple is available to ease bearing lubrication.





### 4. Actuator Options

**Manual**

---

- Hand wheel (rising stem)
- Bevel Gear
- Chain wheel
- Lever

**Automatic**

---

- Electric
- Pneumatic (single & double-acting)
- Hydraulic

**\*Note: for other options, please contact us for availability.**

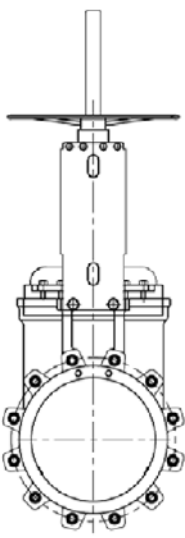
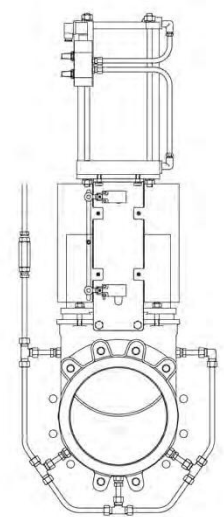
**Accessories**

---

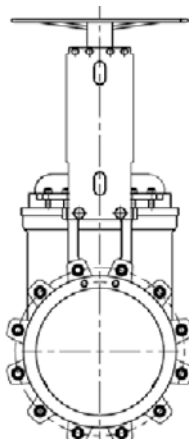
- |                          |                 |
|--------------------------|-----------------|
| Actuator manual override | Locking device  |
| Stem Extensions          | Solenoid valves |
| Positioners              | Limit Switches  |
| Proximity Switches       | ISO Mount       |

### 5. Other Options

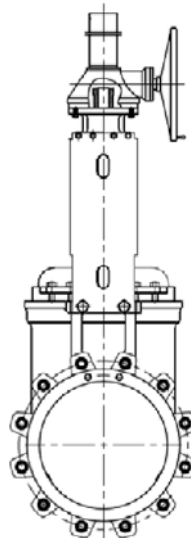
- |                 |                           |
|-----------------|---------------------------|
| V-PORT          | Fabricated Valve          |
| Deflection Cone | Full lug design           |
| Flushing Port   | Other materials for valve |



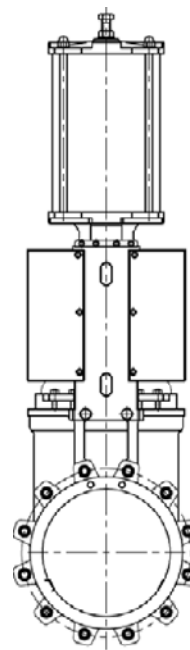
Rising Stem Valve



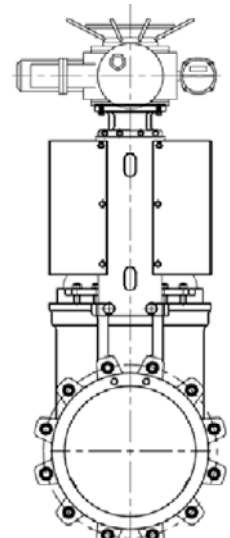
Non-rising Stem Valve



Bevel Gear Valve



Pneumatic Valve

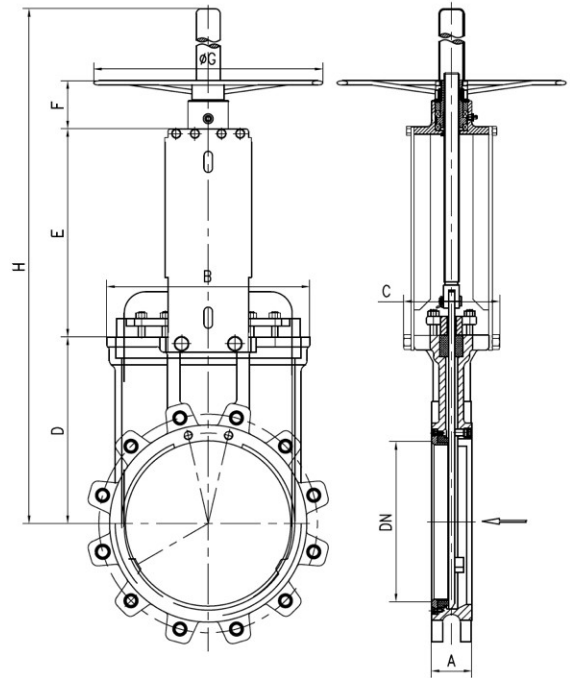


Electric Valve



## Dimension I – Hand Wheel Operated Valve (Rising Stem)

- Standard Manual Actuator
- Including:
  - ⊕ Hand Wheel
  - ⊕ Stem
  - ⊕ Stem Nut
- Size Range:
  - ⊕ DN50-DN400
  - ⊕ Bevel Gear is suggested for size  $\geq$  DN 450
- Options:
  - ⊕ Stem Cover
  - ⊕ Side Cover for gate safety
  - ⊕ Plate-type Yoke
  - ⊕ Locking Device
  - ⊕ Extensions

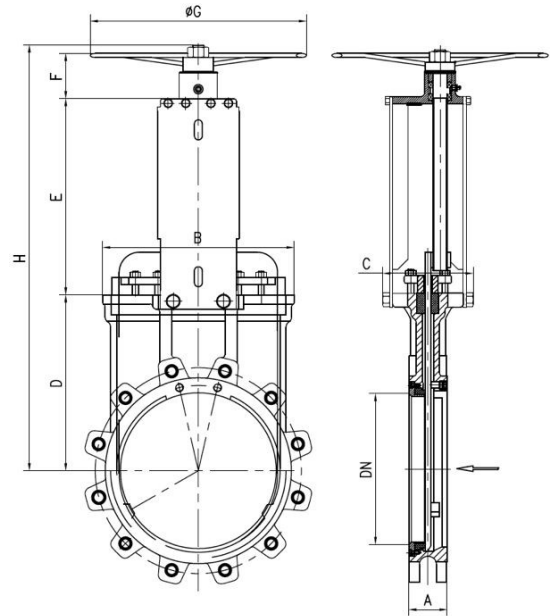


DN	A	B	C	D	E	F	G	H	Weight ( kg )
50	48	135	106	100	129	85	180	395	9
65	48	155	106	115	147	85	180	436	11
80	51	175	106	121	168	85	200	478	12
100	51	163	106	138	192	85	200	545	16
125	57	192	120	160	215	87	250	630	20
150	57	216	130	185	245	87	280	705	25
200	70	271	130	235	302	105	300	890	43
250	70	335	140	300	355	105	350	1065	62
300	76	381	160	350	401	105	400	1200	78
350	76	436	180	400	465	117	450	1375	112
400	89	505	180	455	511	117	450	1525	154



## Dimension II – Hand Wheel Operated Valve (Non-rising Stem)

- Application: For the installation where space is limited
- Including:
  - ⊕ Hand Wheel
  - ⊕ Stem
  - ⊕ Stem Nut (fixed to gate)
- Size Range:
  - ⊕ DN50-DN400
  - ⊕ Bevel Gear is suggested for size  $\geq$  DN 450
- Options:
  - ⊕ Stem Cover
  - ⊕ Locking Device
  - ⊕ Extensions
  - ⊕ Bare Shaft

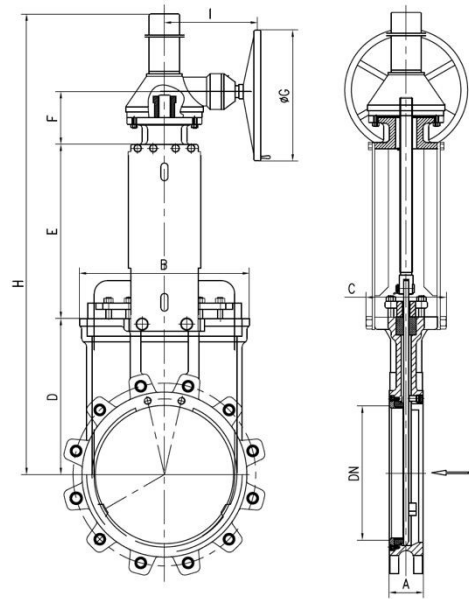


DN	A	B	C	D	E	F	G	H	Weight ( kg )
50	48	135	106	100	129	85	180	315	9
65	48	155	106	115	147	85	180	350	11
80	51	175	106	121	168	85	200	375	12
100	51	163	106	138	192	85	200	415	16
125	57	192	120	160	215	87	250	465	20
150	57	216	130	185	245	87	280	520	25
200	70	271	130	235	302	105	300	645	43
250	70	335	140	300	355	105	350	760	62
300	76	381	160	350	401	105	400	860	78
350	76	436	180	400	465	117	450	982	112
400	89	505	180	455	511	117	450	1083	154



## Dimension III – Bevel Gear Operated Valve

- Mainly applied to valve size  $\geq$ DN450
- Including:
  - ⊕ Gear box (Standard Ratio: 4.5:1) with hand wheel
  - ⊕ Stem
  - ⊕ Stem Protector
- Options:
  - ⊕ Locking Device
  - ⊕ Extensions
  - ⊕ Chain wheel
  - ⊕ Rising/Non-rising Stem type



DN	A	B	C	D	E	F	G	H	Weight (kg)
200	70	271	130	235	302	105	310	1065	60
250	70	335	140	300	355	105	310	1230	88
300	76	381	160	350	401	105	310	1415	103
350	76	436	180	400	465	117	310	1590	163
400	89	505	180	455	511	117	310	1740	204
450	89	550	240	510	580	100	460	1810	238
500	114	600	270	560	640	100	460	1950	265
600	114	700	270	650	740	100	460	2205	300