

VtekTM

Controls

SERIES VKG

Knife Gate Valve



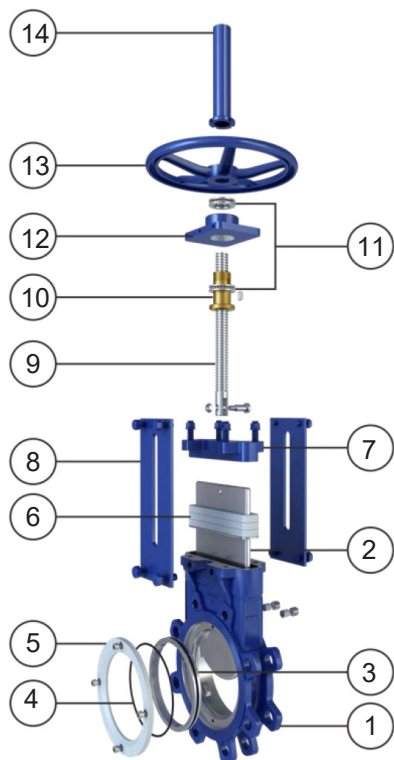
Design Specifications

- **Full Port Sizes :** 2" – 24"
- **Body Materials:** CF8 / CF8M / WCB
- **Seats:** Soft & Metal Seated
- Rising & Non-Rising Stem Designs.
- Square port knife gate avail: 6" to 18" DN150-DN400
- ANSI 150
- Flush Ports Available
- Uni-Directional
- Standard & Integral Bonnets
- Paper & Industrial Applications

Standards

- **Compliance Standard:** Face to Face. ASME B16.5 Design
- **Quality Assurance:** ISO 9001, 5209
- **Class Shut Off:** Class VI Soft Seat (EPDM), Class IV - Metal Seat / PTFE

Features:



No	Part Name	Material		
		WCB	CF8	CF8M
1	Body	WCB	CF8	CF8M
2	Gate	304	304	316
3	Seat	Metal/Metal (STL) or EPDM		
4	O-Ring	NBR		
5	Seat Retainer	WCB	CF8	CF8<
6	Packing	PTFE		
7	Gland	WCB	CF8	CF8M
8	Yoke	CS	304	304
9	Stem	SS420		
10	Stem Nut	Brass		
11	Thrust Bearing	AISI 1065		
12	Bearing Housing	WCB		
13	Handwheel	GGG30 (Epoxy Coated)		
14	Stem Protector	304		
15	Fasteners	A2-70		

Note: Handwheel 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. The guide claws also push gate to seat for tight seal in closed position
- Integral body design ensures easy assembly and zero shell leakage
- Full port design minimizes pressure drop and maximize flow capacity
- PTFE resilient points 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 sides 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
- 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 life for stem
- Two thrust bearings minimizes torque for operation
- Grease nipple is available to ease bearing lubrication



Options:

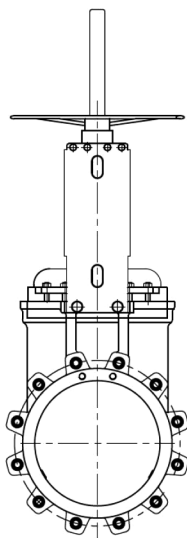
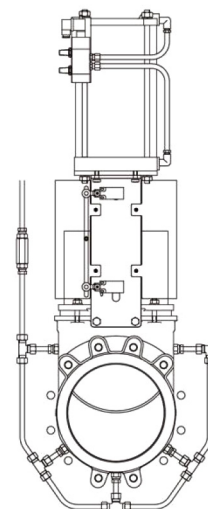
ACTUATOR OPTIONS

Manual	Automatic
Handwheel (rising & non-rising stem)	Electric
Bevel Gear	Pneumatic (single & double-acting)
Chainwheel	Hydraulic
Lever	
*Note: for other options, please contact us for availability	

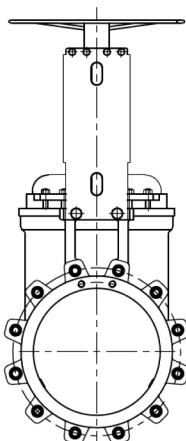
Accessories	
Actuator Manual Override	Locking Device
Stem Extensions Positioners	Solenoid Valves
Proximity Switches	Limit Switches
	ISO Mount

OTHER OPTIONS

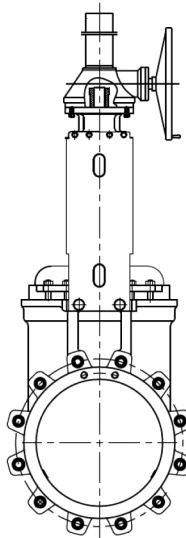
V-Port Deflection	Fabricated Valve Wafer
Cone Flushing	style design Other
Port	materials for valve



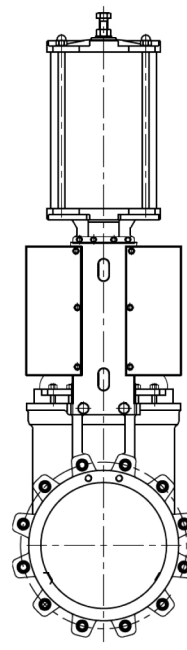
Rising Stem Valve



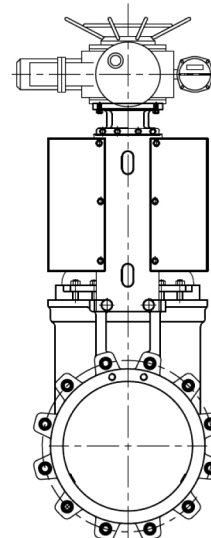
Non-rising Stem Valve



Bevel Gear Valve



Pneumatic Valve



Electric Valve

Rising Stem:

Dimensions - Handwheel Operated Valve (Rising Stem)

STANDARD MANUAL ACTUATOR INCLUDING:

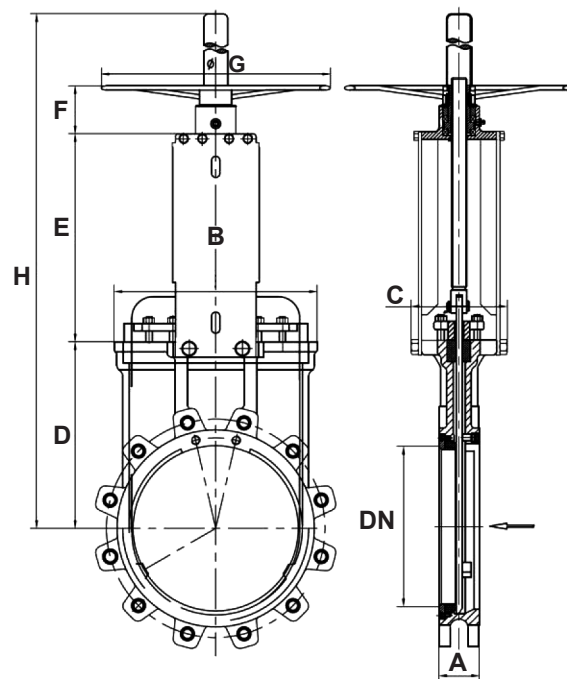
- Handwheel
- Stem
- Stem Nut

SIZE RANGE:

- 2" - 16"
- Gearbox is suggested for sizes over 18"

OPTIONS:

- Stem cover
- Side cover for gate safety
- Plate-type yoke
- Locking device
- Extension



Size	A	B	C	D	E	F	G	H	Weight
2"	1.89	5.31	4.17	3.94	5.08	3.35	7.09	15.55	20
2-1/2"	1.89	6.10	4.17	4.53	5.79	3.35	7.09	17.17	24
3"	2.01	6.89	4.17	4.76	6.61	3.35	7.87	18.82	26
4"	2.01	6.42	4.17	5.43	7.56	3.35	7.87	21.46	35
5"	2.24	7.56	4.72	6.30	8.46	3.43	9.84	24.80	44
6"	2.24	8.50	5.12	7.28	9.65	3.43	11.02	27.76	55
8"	2.76	10.67	5.12	9.25	11.89	4.13	11.81	35.04	95
10"	2.76	13.19	5.51	11.81	13.98	4.13	13.78	43.93	137
12"	2.99	15.00	6.30	13.78	15.79	4.13	15.75	47.24	172
14"	2.99	17.17	7.09	15.75	18.31	4.61	17.72	54.13	247
16"	3.50	19.88	7.09	17.91	20.12	4.61	17.72	60.04	340

Non-Rising Stem:

Dimensions - Handwheel Operated Valve (Non-Rising Stem)

APPLICATION:

- For the installation where space is limited

INCLUDING:

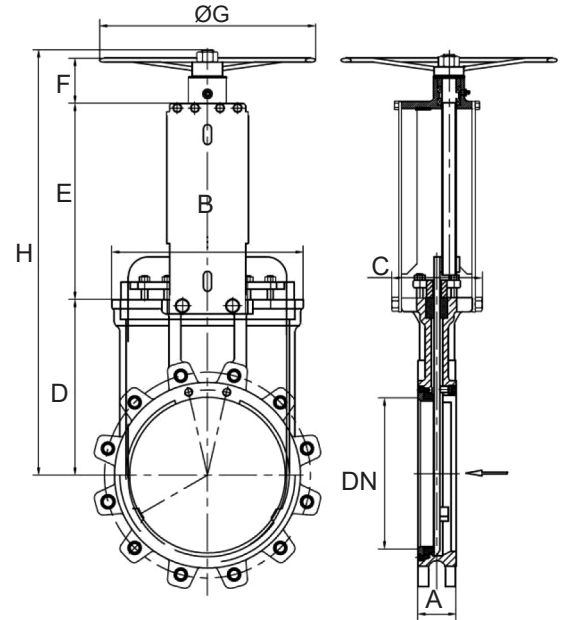
- Handwheel
- Stem
- Stem Nut (fixed to gate)

SIZE RANGE:

- 2" - 16"
- Gearbox is suggested for sizes over 18"

OPTIONS:

- Stem cover
- Locking device
- Extensions
- Bare shaft



Size	A	B	C	D	E	F	G	H	Weight
2"	1.89	5.31	4.17	3.94	5.08	3.35	7.09	12.40	20
2-1/2"	1.89	6.10	4.17	4.53	5.79	3.35	7.09	13.78	24
3"	2.01	6.89	4.17	4.76	6.61	3.35	7.87	14.76	26
4"	2.01	6.42	4.17	5.43	7.56	3.35	7.87	16.34	35
5"	2.24	7.56	4.72	6.30	8.46	3.43	9.84	18.31	44
6"	2.24	8.50	5.12	7.28	9.65	3.43	11.02	20.47	55
8"	2.76	10.67	5.12	9.25	11.89	4.13	11.81	25.39	95
10"	2.76	13.19	5.51	11.81	13.98	4.13	13.78	29.92	137
12"	2.99	15.00	6.30	13.78	15.79	4.13	15.75	33.86	172
14"	2.99	17.17	7.09	15.75	18.31	4.61	17.72	38.66	247
16"	3.50	19.88	7.09	17.91	20.12	4.61	17.72	42.64	340

Bevel Gear Operated:

Dimensions - Bevel Gear Operated Valve

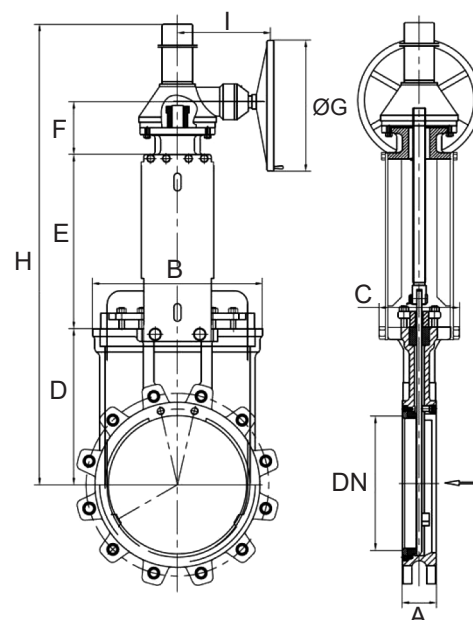
Mainly applied to valve size over 18"

INCLUDING:

- Gearbox (Standard Ratio: 4.5:1) with handwheel
- Stem
- Stem Protector

OPTIONS:

- Locking device
- Extension
- Chainwheel
- Raising/Non-rising stem type



Size	A	B	C	D	E	F	G	H	I	Weight
8"	2076	10.67	5.12	9.25	11.89	4.13	12.20	41.93	5.91	132
10"	2076	13.19	5.51	11.81	13.98	4.13	12.20	48.43	5.91	194
12"	2.99	15.00	6.30	13.78	15.79	4.13	12.20	55.71	6.69	227
14"	2.99	17.17	7.09	15.75	18.31	4.61	12.20	62.60	6.69	359
16"	3.50	19.88	7.09	17.91	20.12	4.61	12.20	68.50	6.69	450
18"	3.50	21.65	9.45	20.08	22.83	7.01	18.11	71.26	9.17	525
20"	4.49	23.62	10.63	22.05	25.20	7.01	18.11	76.77	9.17	584
24"	4.49	27.56	10.63	25.59	29.13	7.01	18.11	86.81	9.17	661

Double Acting Pneumatic Valve:

Dimensions - Double Acting Pneumatic Valve

STANDARD DA PNEUMATIC ACTUATOR INCLUDING:

- < 8": Aluminum Cylinder
- > 10": WCB cylinder (epoxy coated)
- WCB caps (epoxy coated)
- #45 Steel + Cr Piston Rod

Size Range:

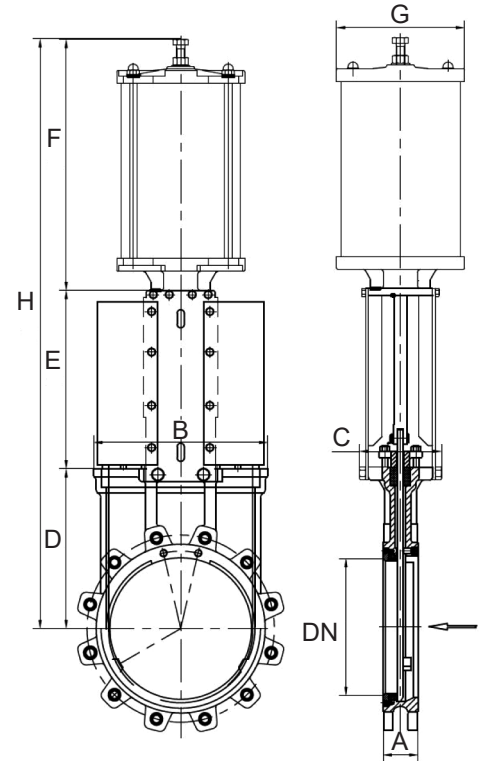
- 2" - 24"

AIR SUPPLY PRESSURE RANGE:

- 58 psi to 102 psi

OPTIONS:

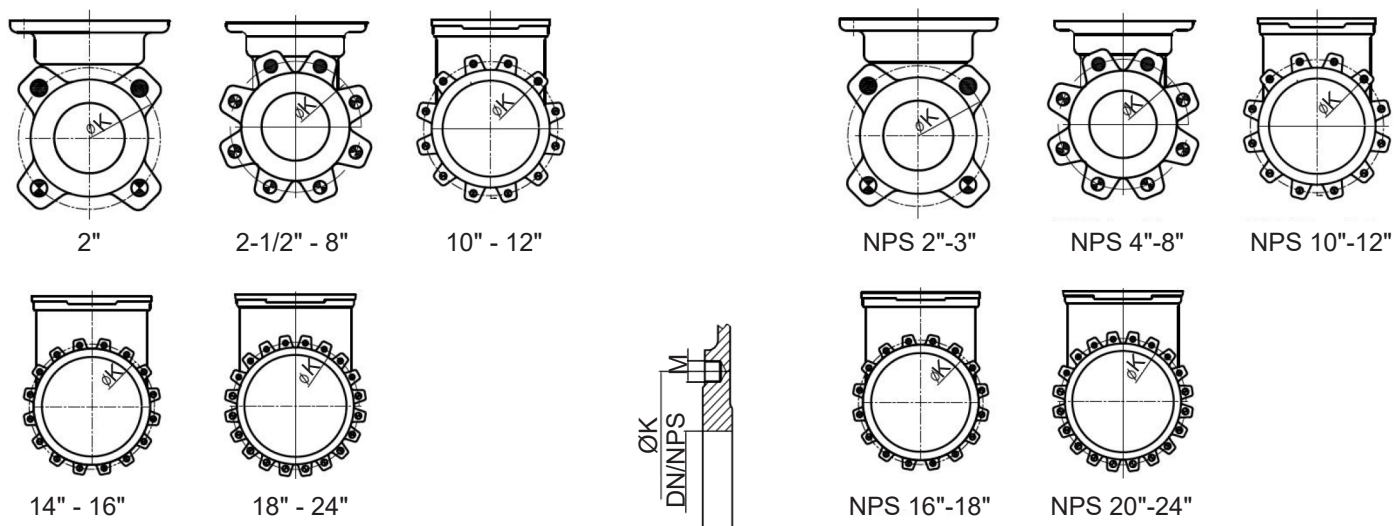
- Gate cover for safe operation
- Manual override
- Locking device
- Air tank for fail-safe operation
- Limit switch
- Positioner
- Solenoid valve
- Flow regulator



Size	A	B	C	D	E	F	G	H	Cylinder	Connect	Weight
2"	1.89	5.31	4.17	3.94	5.08	9.06	3.94	18.11	C80/60	F1/4	33
2-1/2"	1.89	6.10	4.17	4.53	5.79	9.65	3.94	20.08	C80/75	F1/4	38
3"	2.01	6.89	4.17	4.76	6.61	10.63	4.72	22.05	C100/85	F1/4	40
4"	2.01	6.42	4.17	5.43	7.56	11.81	4.72	24.80	C100/100	F1/4	49
5"	2.24	7.56	4.72	6.30	8.46	12.99	5.91	27.76	C125/135	F1/4	64
6"	2.24	8.50	5.12	7.28	9.65	13.78	5.91	30.71	C125/160	F1/4	75
8"	2.76	10.67	5.12	9.25	11.89	17.32	7.68	38.58	C160/210	F3/8	152
10"	2.76	13.19	5.51	11.81	13.98	19.88	9.45	45.67	C200/260	F3/8	223
12"	2.99	15.00	6.30	13.78	15.79	21.65	11.02	51.18	C250/310	F3/8	304
14"	2.99	17.17	7.09	15.75	18.31	24.41	14.96	58.46	C250/360	F3/8	463
16"	3.50	19.88	7.09	17.91	20.12	26.38	15.55	64.57	C300/410	F3/8	551
18"	3.50	21.65	9.45	20.08	22.83	27.95	15.55	70.87	C300/460	F3/8	683
20"	4.49	23.62	10.63	22.05	25.20	31.50	16.73	78.74	C320/510	F3/8	765
24"	4.49	27.56	10.63	25.59	29.13	35.83	16.73	90.55	C320/610	F3/8	864

Dimensions:

Dimensions - Flange & Bolting Details



EN 1092

DN	K	M	T
50	125	M-16	11
65	145	M-16	11
80	160	M-16	11
100	180	M-16	11
125	210	M-16	11
150	240	M-20	14
200	295	M-20	14
250	350	M-20	18
300	400	M-20	18
350	460	M-20	22
400	515	M-24	24
450	565	M-24	24
500	620	M-24	24
600	725	M-27	24

ANSI B16.5

Size	K	M	T
2"	4-3/4"	5/8" UNC	3/8"
2-1/2"	5-1/2"	5/8" UNC	3/8"
3"	6"	5/8" UNC	3/8"
4"	7-1/2"	5/8" UNC	3/8"
5"	8-1/2"	3/4" UNC	3/8"
6"	9-1/2"	3/4" UNC	1/2"
8"	11-1/2"	3/4" UNC	1/2"
10"	14-1/2"	7/8" UNC	3/4"
12"	17"	7/8" UNC	3/4"
14"	18-1/2"	1" UNC	7/8"
16"	21-1/2"	1" UNC	1"
18"	22-1/2"	1-1/8" UNC	1"
20"	25"	1-1/8" UNC	1"
24"	29-1/2"	1-1/4" UNC	1"

Actuator Selection:

Actuator Selection Data

DN	Thrust (N)	Torque (NM)	No. of Turns	Stem Size
2"	2000	24	15	Tr20*4 LH
2-1/2"	2300	32	18	Tr20*4 LH
3"	2800	35	23	Tr20*4 LH
4"	3900	42	28	Tr20*4 LH
5"	5600	59	28	Tr22*5 LH
6"	6750	78	33	Tr22*5 LH
8"	10000	108	37	Tr28*6 LH
10"	16000	180	45	Tr28*6 LH
12"	25000	219	52	Tr28*6 LH
14"	31800	272	60	Tr32*6 LH
16"	37500	345	69	Tr32*6 LH
18"	40000	488	66	Tr35*6 LH
20"	47000	578	73	Tr40*7 LH
24"	54000	735	88	Tr40*7 LH

Note: Thrust and Torque data are reference for normal application, for specific conditions, please contact Vtek Controls for further support.

Vtek Controls, LLC reserves the right to make revisions to it's product, specifications, literature, and related information without notice.
Please visit our Website for the latest information and updates.



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