



## KNIFE GATE VALVES





**VAHN-TECH International Inc.**, headquartered in Toronto, Canada is a unique company within the Flow Control Industry.

- ✳ 'vt' brand = high quality certified products (API, NSF, CSA, WRAS etc.)
- ✳ Valves, Actuators and Accessories – all 'vt' branded
- ✳ Width and Depth of Product Offerings
- ✳ Flexibility to customize products to customer needs
- ✳ Specialized user-friendly products including large sizes
- ✳ Quick Response
- ✳ Reduced Delivery times
- ✳ Efficient after sales service
- ✳ Competitive Pricing

**VAHN-TECH International Inc.** is a customer focused organization based on “Value-Add” and “Quality Service” principles. Achieving long term partnership with our customers and being their supplier of choice is our prime mission.

We develop, manufacture and market VAHN-TECH (vt) branded Valves, Actuators, Automatic Control Valves and Accessories for variety of Industrial Applications. Our product range includes:



We can supply all types of valves with following materials of construction like:

Ductile Iron, Cast Iron, Carbon Steel, Stainless Steel – SS304, SS304L, SS316, SS316L, Duplex Stainless Steel, Super Duplex, Alloy, Monel and Inconel with variety of seating and stem configurations.



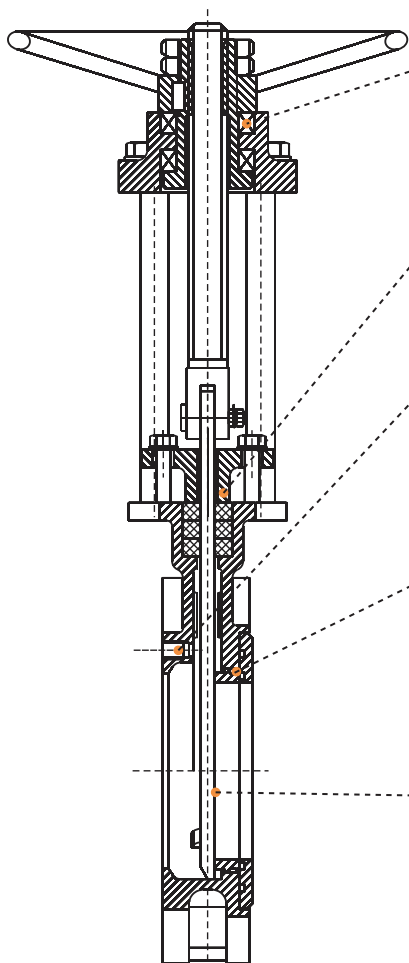
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## DC Series - Wafer/Lug Type

Vahn-Tech DC Series knife gate valves are linear shut off valves that are light weight with compact construction. Valves are available as manual with handwheel, or can be automated with pneumatic cylinder or electric actuator for remote operation. The arc shape of the gate of our knife gate valve is designed to be particularly suitable for cutting off fluid containing fiber or suspended particles. The knife gate valves are ideal for many applications in the process industries of Pulp & Paper, Wastewater Treatment, Mining, Sugar Making and Chemical Processing.



### Double Stem Bearings

Vahn-Tech knife gate valves are equipped with two stem bearing at the top of the yoke for easy operation and for torque reduction.

### Internal Packing

Packing and packing gland are internally installed, ensuring a tight seal and preventing leakages.

### Travel Aligning Block

Travel aligning block is made of soft materials with stainless steel screw installed at the inlet of the body. It serves as a supportive force to regulate the flow of the accumulated medium between the gate and body cavity. Ensuring an excellent tightness and preventing clogging risk when closing.

### Replaceable Seats

Seats in the Vahn-Tech knife gate valves are backed with an o-ring to give the seat a self-compensating wear function. This results in excellent seat tightness and prolonged life cycle. When seats do wear and need replacement, maintenance to change the seats is easy and fast. Available seat materials are metal, EPDM and PTFE seated. For other inquiries regarding seat selection please contact us.

### Gate Design

Each gate is designed with standard precision ground and hard plated chrome which provides superior abrasion and corrosion resistance. The arc shape design of the bottom of the gate is exceptionally suitable to provide strong cutting force for pulp media.

## Technical Specification

Specifications		
Size Range	2" - 48" / DN50 - DN1200	
Flange Connection	ANSI Class 150	
Connection Type	Wafer / Lug Type	
Temperature Range	Metal Seat	-20°C to 100°C (-4°F to 212°F)
	PTFE Seat	-20°C to 120°C (-4°F to 248°F)
	EPDM Seat	-20°C to 100°C (-4°F to 212°F)
Applicable Medium	Pulp, Sewage, Coal Slurry, Syrup, Slag	
Nominal Pressure	10.3 bar (150 psi) for sizes up to 24" / 6.9 var (100 psi) for sizes 28" and above	
Hydraulic Test	100% testing according to MSS SP-81 (respectively AWWA C520)	
	Shell	1.5*PN
	Packing	1.1*PN
	Seat	2.8Bar and maximum allowable differential pressure

Valves are available in both Uni-Directional or Bi-Directional Design. Uni-Directional soft seated knife gate valves are bi-directional with zero leakage to 10bar / 150psi in the preferred direction and limited tightness in the non-preferred direction at low pressure.

## Torque

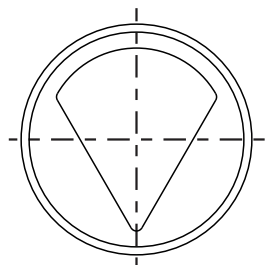
Size		Torque Value* (N.m)
NPS	DN	
2"	50	58
2 1/2"	65	65
3"	80	78
4"	100	91
5"	125	110
6"	150	143
8"	200	175
10"	250	208
12"	300	312
14"	350	390
16"	400	585
18"	450	754
20"	500	832
24"	600	936
28"	700	1105
32"	800	1365
36"	900	1625

\* Including 30% safety factor.

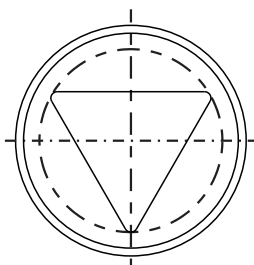
## DC Series - Wafer/Lug Type

### Diversified Flow Port Option

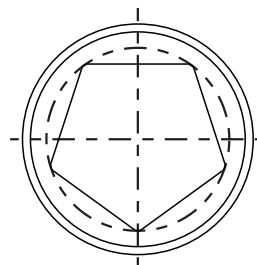
Available in custom port shapes including:



**V-Port**

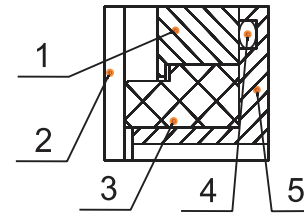
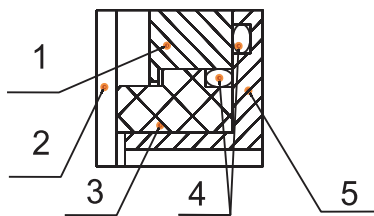
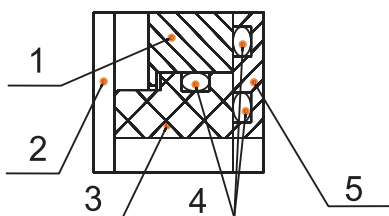


**Triangle Port**



**Hexagon Port**

### Seat Construction



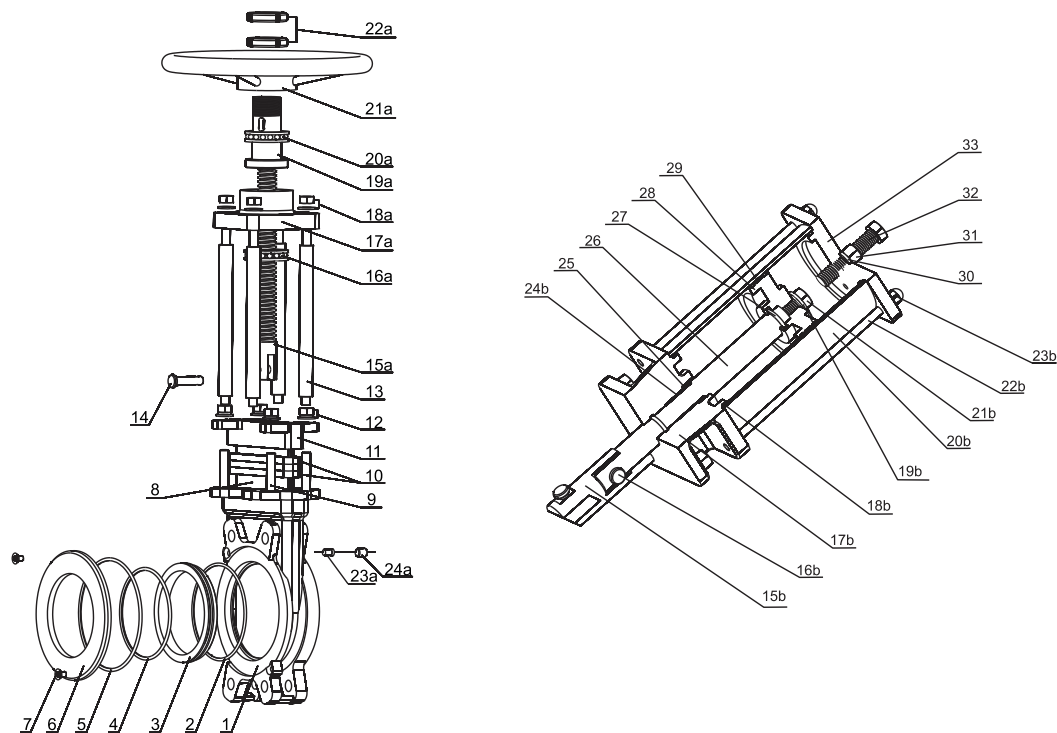
Metal Seat		
No.	Name	Temperature
1	Body	-20°C to 100°C -4°F to 212°F Options: -20°C to 230°C -4°F to 212°F
2	Gate	
3	Seat	
4	O-Ring	
5	Retainer	

PTFE Seat		
No.	Name	Temperature
1	Body	-20°C to 120°C -4°F to 248°F
2	Gate	
3	Seat	
4	O-Ring	
5	Retainer	

EPDM Seat		
No.	Name	Temperature
1	Body	-20°C to 100°C -4°F to 212°F
2	Gate	
3	Seat	
4	O-Ring	
5	Retainer	

♦ For service temperature above the indicated range, please contact us.

## DC Series - Wafer Type

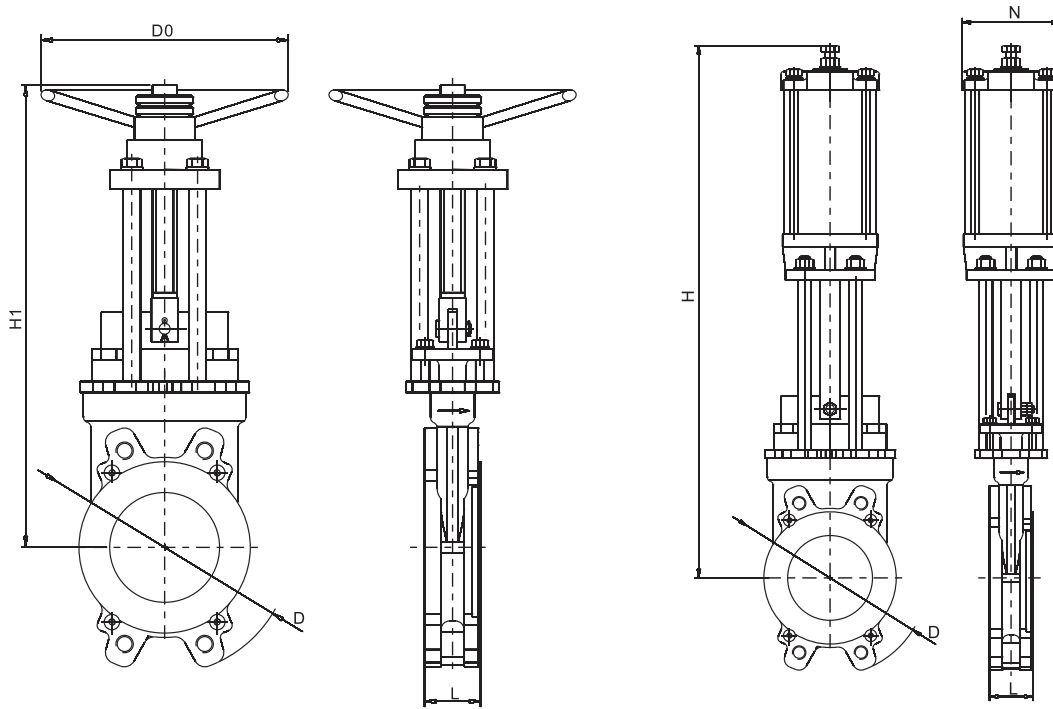


### Parts List

No.	Parts Name	Materials	Qty.
1	Body	WCB / CF8 / CF8M	1
2	O-Ring	NBR / Viton	1
3	Seat	SS304, SS316 Hard Chrome Plating / PTFE / EPDM	1
4	O-Ring	NBR / Viton	1
5	O-Ring	NBR / Viton	1
6	Retainer	WCB / SS304 / SS306	1
7	Socket Head Screw	SS304	1
8	Gate	SS410 / SS304 / SS316 Hard Chrome Plating	1
9	Stud	SS304	4
10	Packing	PTFE / Graphite	1 Set
11	Gland	WCB / CF8 / CF8M	1
12	Hexagon Nut	SS304	4
13	Pillar	45# + Hard Chrome Plating / SS304	4
14	Connection Pin	SS304	1
15a	Stem	SS304	1
16a	Plane Bearing	GCr6	1
17a	Square Plate	Alumunum Alloy	1
18a	Hexagon Nut	SS304	4
19a	Driving Nut	Brass	1
20a	Plane Bearing	GCr6	1
21a	Handwheel	WCB	1
22a	Nut	45# Nickel Plating	1

No.	Parts Name	Materials	Qty.
23a	Travel Aligning Block	SS304 + Nylon / PTFE / PPL	2
24a	Screw	SS304	2
15b	Connection Stem	SS304	1
16b	Connection Pin	SS304	1
17b	Lower Cylinder Cover	WCB	1
18b	O-Ring	NBR	1
19b	Gasket	SS304	1
20b	Cylinder	Aluminum Alloy + Spray Coating Teflon / Steel + Cr	1
21b	Hexagon Bolt	WCB	1
22b	Screw	45# + Galvanized	4
23b	Nut	WCB	4
24b	Bearing	Composite Material	1
25	O-Ring	Polyurethane (TPU)	1
26	Piston Rob	45# + Hard Chrome Plating	1
27	O-Ring	NBR	1
28	Piston	SS304 / WCB	1
29	Guiding Belt	RPTFE	1
30	Gasket	Teflon	1
31	Nut	WCB	1
32	Bolt	WCB	1
33	Upper Cylinder Cover	WCB	1

## DC Series - Wafer Type



### Dimensions

unit: inch

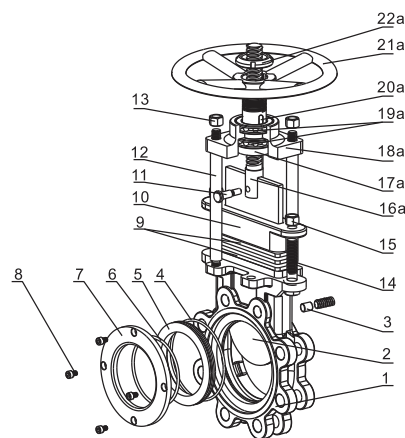
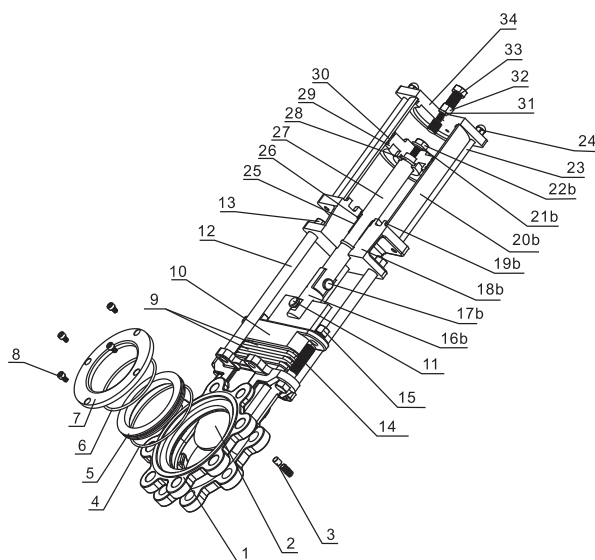
NPS	L	D	H1 (Open)	H1 (Close)	D0	H	N
2"	1 <sup>8</sup> / <sub>9</sub>	6 <sup>1</sup> / <sub>2</sub>	13	15 <sup>2</sup> / <sub>5</sub>	8	19 <sup>1</sup> / <sub>3</sub>	4 <sup>2</sup> / <sub>7</sub>
2 <sup>1</sup> / <sub>2</sub> "	1 <sup>8</sup> / <sub>9</sub>	7 <sup>2</sup> / <sub>7</sub>	14 <sup>1</sup> / <sub>5</sub>	17 <sup>1</sup> / <sub>6</sub>	8	20 <sup>1</sup> / <sub>2</sub>	4 <sup>2</sup> / <sub>7</sub>
3"	2	8	15 <sup>2</sup> / <sub>5</sub>	19 <sup>1</sup> / <sub>6</sub>	8 <sup>2</sup> / <sub>5</sub>	23 <sup>1</sup> / <sub>5</sub>	4 <sup>2</sup> / <sub>7</sub>
4"	2	9 <sup>1</sup> / <sub>3</sub>	16 <sup>2</sup> / <sub>5</sub>	21 <sup>1</sup> / <sub>2</sub>	8 <sup>2</sup> / <sub>5</sub>	25 <sup>2</sup> / <sub>5</sub>	4 <sup>2</sup> / <sub>7</sub>
5"	2 <sup>1</sup> / <sub>5</sub>	10	18 <sup>2</sup> / <sub>5</sub>	24 <sup>1</sup> / <sub>5</sub>	9 <sup>1</sup> / <sub>5</sub>	28 <sup>1</sup> / <sub>5</sub>	5 <sup>2</sup> / <sub>7</sub>
6"	2 <sup>1</sup> / <sub>5</sub>	11 <sup>1</sup> / <sub>5</sub>	20 <sup>1</sup> / <sub>9</sub>	26 <sup>2</sup> / <sub>5</sub>	11	31 <sup>1</sup> / <sub>9</sub>	5 <sup>2</sup> / <sub>7</sub>
8"	2 <sup>4</sup> / <sub>5</sub>	25 <sup>2</sup> / <sub>5</sub>	24 <sup>2</sup> / <sub>5</sub>	32 <sup>2</sup> / <sub>9</sub>	12 <sup>2</sup> / <sub>5</sub>	40 <sup>8</sup> / <sub>9</sub>	7
10"	2 <sup>4</sup> / <sub>5</sub>	16	29 <sup>1</sup> / <sub>9</sub>	39 <sup>1</sup> / <sub>5</sub>	14	48 <sup>1</sup> / <sub>5</sub>	9 <sup>2</sup> / <sub>5</sub>
12"	3	19 <sup>1</sup> / <sub>9</sub>	33 <sup>1</sup> / <sub>2</sub>	46 <sup>1</sup> / <sub>9</sub>	15 <sup>2</sup> / <sub>5</sub>	54 <sup>5</sup> / <sub>7</sub>	15 <sup>2</sup> / <sub>5</sub>
14"	3	21 <sup>1</sup> / <sub>9</sub>	37	51 <sup>1</sup> / <sub>5</sub>	17 <sup>2</sup> / <sub>5</sub>	65	13 <sup>4</sup> / <sub>5</sub>
16"	3 <sup>1</sup> / <sub>2</sub>	23 <sup>2</sup> / <sub>5</sub>	41 <sup>5</sup> / <sub>7</sub>	57 <sup>1</sup> / <sub>2</sub>	19 <sup>2</sup> / <sub>5</sub>	71 <sup>5</sup> / <sub>7</sub>	13 <sup>4</sup> / <sub>5</sub>
18"	3 <sup>1</sup> / <sub>2</sub>	25 <sup>1</sup> / <sub>5</sub>	46 <sup>2</sup> / <sub>9</sub>	64 <sup>2</sup> / <sub>5</sub>	21 <sup>2</sup> / <sub>5</sub>	79 <sup>2</sup> / <sub>7</sub>	15 <sup>2</sup> / <sub>5</sub>
20"	4 <sup>1</sup> / <sub>2</sub>	28 <sup>1</sup> / <sub>9</sub>	50 <sup>1</sup> / <sub>5</sub>	70 <sup>1</sup> / <sub>2</sub>	23 <sup>2</sup> / <sub>5</sub>	86	15 <sup>2</sup> / <sub>5</sub>

♦ End connection dimension as per EN1092-2 PN10, PN16 or ASME B16.5 Class 150

unit: mm

DN	L	D	H1 (Open)	H1 (Close)	D0	H	N
50	48	165	330	390	200	490	120
65	48	185	360	435	200	520	120
80	51	200	390	485	220	590	120
100	51	235	430	545	220	650	120
125	57	255	475	615	250	715	145
150	57	285	540	675	280	790	145
200	70	345	620	835	315	1040	180
250	70	405	740	1010	355	1225	240
300	76	485	850	1170	400	1390	290
350	76	535	940	1300	450	1650	350
400	89	600	1060	1460	500	1820	350
450	89	640	1190	1640	550	2015	400
500	114	715	1290	1790	600	2185	400

## DC Series - Lug Type



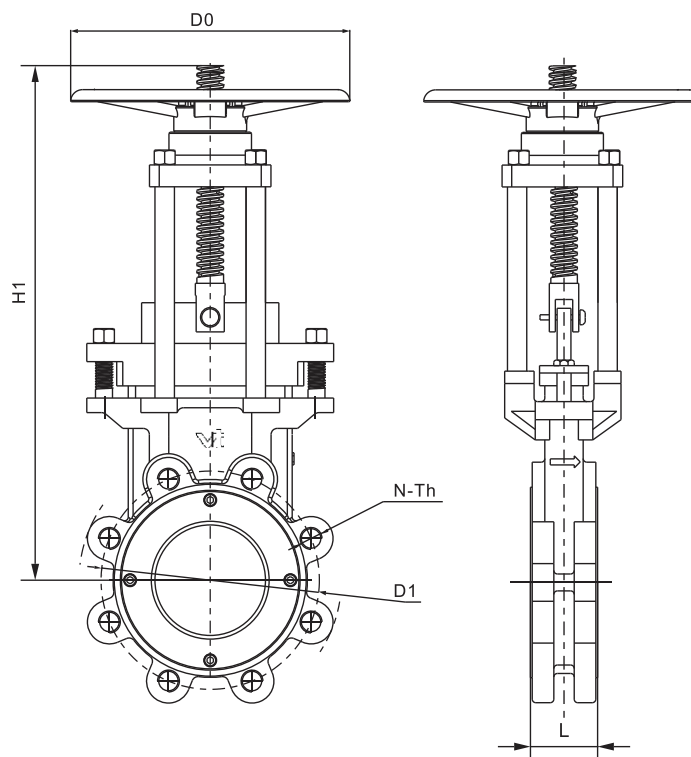
### Parts List

No.	Parts Name	Materials	Qty.
1	Body	WCB / CF8 / CF8M	1
2	Gate	SS410 / SS304 / SS316 Hard Chrome Plating	1
3	Travel Aligning Block	SS304 + Nylon / PTFE / PPL	2
4	O-Ring	NBR / Viton	1
5	Seat	SS304 / SS316 Hard Chrome Plating / PTFE / EPDM	1
6	O-Ring	NBR / Viton	1
7	Retainer	Carbon Steel / SS304 / SS316	1
8	Socket Head Screw	SS304 / SS316	-
9	Packing	PTFE / Graphite	1 Set
10	Gland	WCB / CF8	1
11	Connection Pin	SS304	1
12	Pillar	45# + Hard Chrome Plating / SS304	4
13	Hexagon Nut	Carbon Steel / SS304	4
14	Hexagon Bolt	Carbon Steel / SS304	2
15	Hexagon Nut	Carbon Steel / SS304	2
16a	Stem	SS410	1
17a	Nut	H59	1
18a	Square Plate	WCB	1
19a	Plane Bearing	GCr6	2
20a	Flat Key	45#	1
21a	Handwheel	WCB	1
22a	Nut	45# Nickel Plating	1

No.	Parts Name	Materials	Qty.
22a	Nut	45# Nickel Plating	1
16b	Connection Rod	45# Nickel Plating	1
17b	Connection Pin	SS304	1
18b	Lower Cylinder Cover	WCB	1
19b	O-Ring	NBR	1
20b	Cylinder	Aluminum Alloy with inner face PTFE coated / Carbon Steel Hard Chrome Plating	1
21b	Washer	SS304	1
22b	Hexagon Bolt	Carbon Steel	1
23	Connection Rod	45# Zinc Plating	4
24	Nut	45# Nickel Plating	4
25	Bushing	Composite Material	1
26	O-Ring	TPU (Polyurethane)	1
27	Piston Rod	45# + Hard Chrome Plating	1
28	O-Ring	NBR	1
29	Piston	SS304 / Carbon Steel	1
30	Guiding Ring	Re-inforced PTFE	1
31	Gasket	PTFE	1
32	Hexagon Nut	Carbon Steel	1
33	Adjusting Bolt	Carbon Steel	1
34	Upper Cylinder Cover	WCB	1



## DC Series - Lug Type



DC Series with Handwheel

### Dimensions

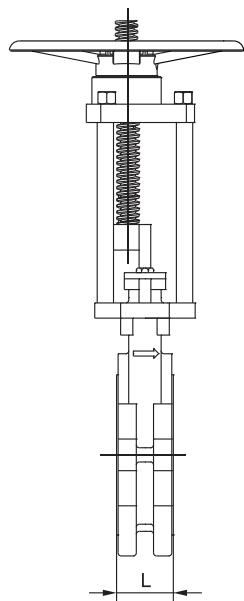
unit: inch

NPS	L	D0	H1		D1	N-Th
			(Open)	(Closed)		
2"	1 7/8	8	11 2/5	13 3/8	4 7/8	4 x 7/8 - 11 NC
2 1/2"	1 7/8	8	12 1/8	14 3/8	5 1/2	4 x 7/8 - 11 NC
3"	2	8 7/8	13 3/8	16 3/8	6	4 x 7/8 - 11 NC
4"	2	8 7/8	17 1/8	21 1/8	7 1/2	8 x 3/4 - 11 NC
5"	2 1/8	8 7/8	18 1/8	23	8 1/2	8 x 3/4 - 11 NC
6"	2 1/8	11	20 1/8	26	9 1/2	8 x 3/4 - 11 NC
8"	2 3/8	11	24	31 3/8	11 3/8	8 x 3/4 - 11 NC
10"	2 3/8	11	30 1/8	40	14 1/8	12 x 7/8 - 9 NC
12"	3	15	32 3/8	44 3/8	17	12 x 7/8 - 9 NC
14"	3	17 3/8	38 3/8	52	18 3/8	12 x 1 - 8 NC
16"	3 1/2	19 3/8	40 3/8	56 3/8	21 1/8	16 x 1 - 8 NC
18"	3 1/2	23 3/8	48 3/8	66 3/8	22 3/8	16 x 1 1/8 - 7 NC
20"	4 1/2	23 3/8	50 3/8	70 3/8	25	20 x 1 1/8 - 7 NC

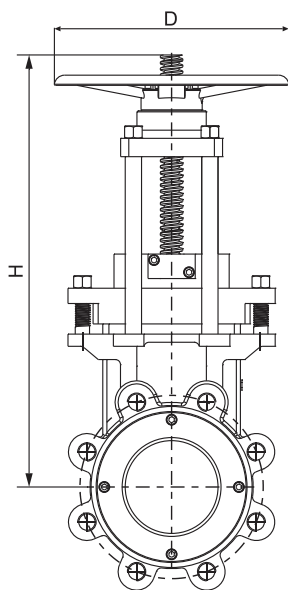
unit: mm

DN	L	D0	H1		D1	N-Th
			(Open)	(Closed)		
50	48	200	290	350	120.5	4 x 3/8 - 11 NC
65	48	200	310	375	139.7	4 x 3/8 - 11 NC
80	51	220	350	430	152.5	4 x 3/8 - 11 NC
100	51	220	436	535	190.5	8 x 3/8 - 11 NC
125	57	220	460	585	216	8 x 3/8 - 11 NC
150	57	280	510	660	21	8 x 3/4 - 11 NC
200	70	280	610	810	298.5	8 x 3/8 - 11 NC
250	70	280	765	1015	362	12 x 7/8 - 9 NC
300	76	380	820	1120	432	12 x 7/8 - 9 NC
350	76	450	970	1320	476	12 x 1 - 8 NC
400	89	500	1024	1424	540	16 x 1 - 8 NC
450	89	600	1235	1685	578	16 x 1 1/8 - 7 NC
500	114	600	1286	1786	635	20 x 1 1/8 - 7 NC

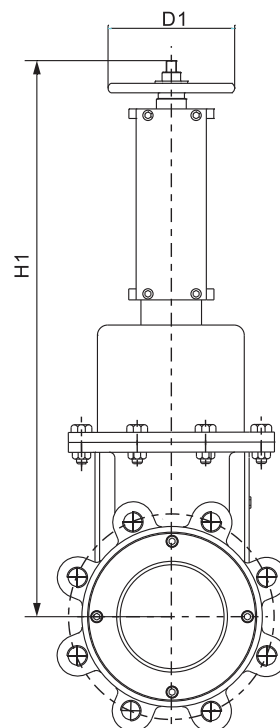
## DC Series - Lug Type



DCN - Non-Rising Stem



DCN - Non-Rising Stem



DCB - Bonneted

### Dimensions

NPS	L
2"	1 <sup>8</sup> / <sub>9</sub>
2 1/2"	1 <sup>8</sup> / <sub>9</sub>
3"	2
4"	2
5"	2 1/5
6"	2 2/5
8"	2 4/5
10"	2 4/5
12"	3
14"	3
16"	3 1/2
18"	3 1/2
20"	4 1/2

NPS	D	H
2"	7	11 4/5
2 1/2"	7	12 1/5
3"	8 2/5	14 1/5
4"	9 1/5	16 1/2
5"	10 1/5	18 1/5
6"	11	20 1/5
8"	11 4/5	24
10"	13 3/5	30 1/5
12"	15	32 2/7
14"	15 2/5	38 1/5
16"	17 2/5	40 2/7
18"	20 8/5	48 3/5
20"	23 3/5	50 1/5

unit: inch

NPS	D1	H1
2"	7	13
2 1/2"	7	14 1/5
3"	7	15 1/5
4"	8 2/5	17 1/5
5"	9 1/5	20 1/5
6"	10 1/5	23 1/5
8"	11	27 3/5
10"	11 4/5	33 1/5
12"	13 3/5	37 4/5
14"	15	43 2/7
16"	15 2/5	49 1/5
18"	17 2/5	54 2/7
20"	20 8/5	60 1/5

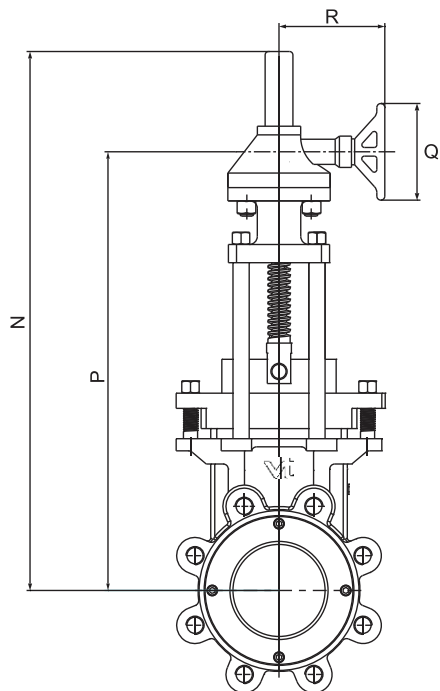
DN	L
50	48
65	51
80	51
100	57
125	57
150	70
200	70
250	76
300	76
350	89
400	89
450	114
500	4.5

DN	D	H
50	180	300
65	180	310
80	220	373
100	240	420
125	260	460
150	280	510
200	300	610
250	340	765
300	380	820
350	400	970
400	450	1024
450	530	1235
500	600	1286

unit: mm

DN	D1	H1
50	180	330
65	180	360
80	180	390
100	220	440
125	240	510
150	260	600
200	280	700
250	300	840
300	340	960
350	380	1100
400	400	1250
450	450	1380
500	530	1530

## DC Series - Lug Type



Bevel Gear

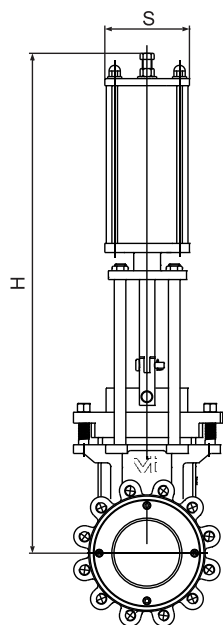
### Dimensions

unit: inch

NPS	N	R	Q	P
8"	38	8	12 1/5	25 3/5
10"	41 8/9	8	12 1/5	31 1/2
12"	47 3/5	10 1/5	12 1/5	33 3/5
14"	61 1/2	10 1/5	12 1/5	39 3/5
16"	65 2/5	10 1/5	18 1/9	45 2/7
18"	71 2/7	10 1/5	18 1/9	51 3/5
20"	74 4/5	13 2/5	18 1/9	55 8/5
24"	85 5/7	13 2/5	18 1/9	65 2/5
28"	104 2/7	18 8/9	18 1/9	76 4/5
32"	114 1/5	18 8/9	18 1/9	86 3/5
36"	126	18 8/9	18 1/9	94 1/2
40"	141 2/3	19 2/3	18 1/9	102 4/5

unit: mm

DN	N	R	Q	P
200	964	200	310	650
250	1064	200	310	800
300	1210	260	310	860
350	1563	260	310	1010
400	1660	260	460	1150
450	1810	260	460	1305
500	1900	340	460	1420
600	200	340	460	1660
700	2650	480	460	1950
800	2900	480	460	2200
900	3200	480	460	2400
1000	3600	500	460	2610



Pneumatic Cylinder

### Dimensions

unit: inch

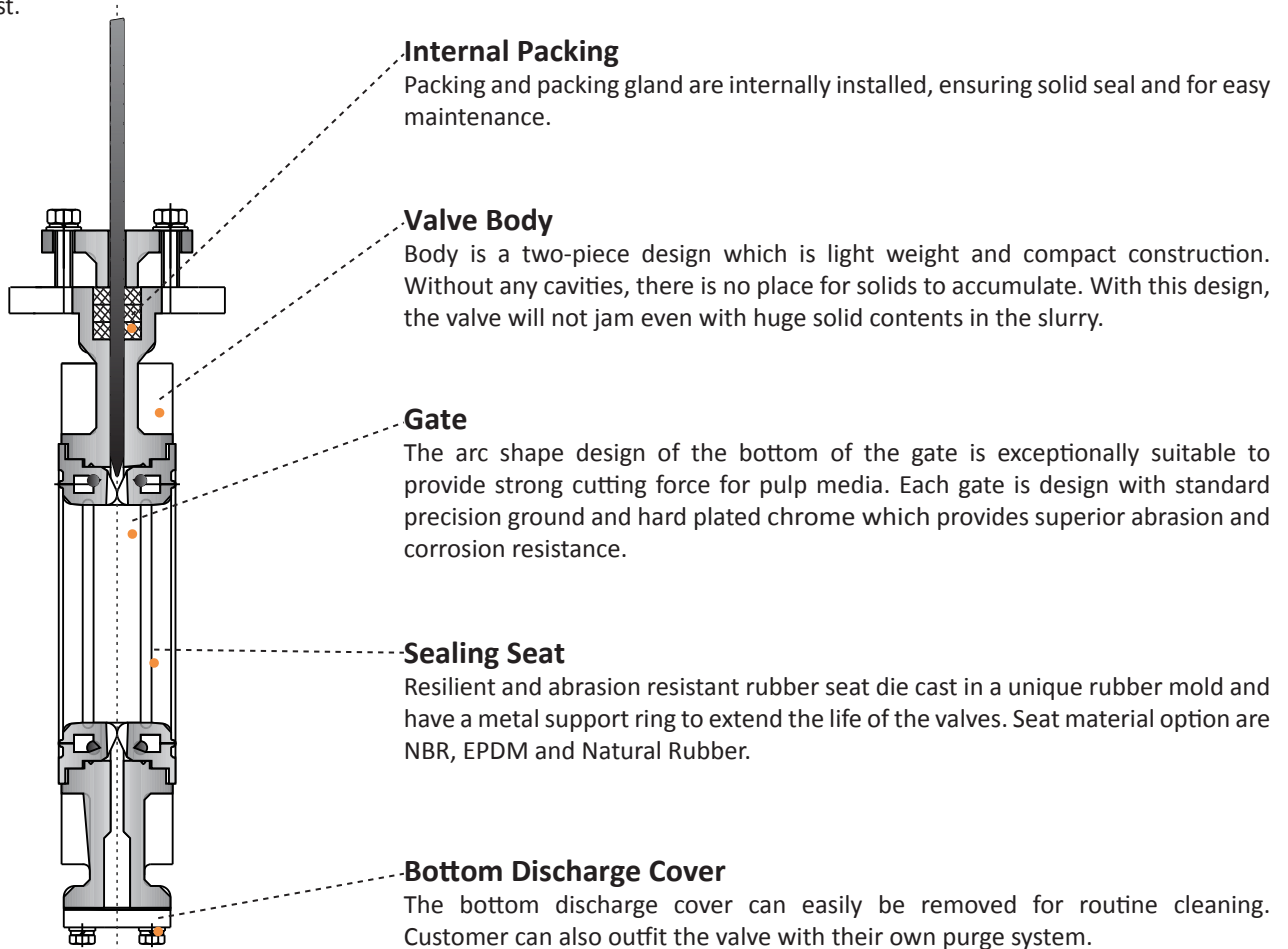
NPS	S	H
2"	4 5/7	16 8/9
2 1/2"	4 5/7	18 1/3
3"	4 5/7	23 1/3
4"	4 5/7	25 1/5
5"	5 5/7	28 1/5
6"	5 5/7	31 8/9
8"	7	37 3/5
10"	9	47 1/5
12"	10 4/5	52 1/9
14"	13	60 1/2
16"	13	71
18"	15	86 3/5
20"	15	102 2/5
24"	16 2/3	116 1/2

unit: mm

DN	S	H
50	120	430
65	120	465
80	120	592
100	120	640
125	145	715
150	145	811
200	180	955
250	225	1200
300	275	1322
350	330	1537
400	330	1805
450	380	2200
500	380	2600
600	425	2960

## DK Series - Slurry Type

Vahn-Tech DK Series knife gate valves are soft sealing shut off valves that are light weight with compact construction, and convenient to install and use. Valves are in full port design and with small flow resistance. When the gate is open, direct current flows between valve and pipeline. Valves can be operated manually with handwheel, or with automatic actuator for remote operation. The cone-shape design of the gates provides strong cutting force. The die-casting rubber seats are with bi-directional sealing. The main advantage of the valves is that when fully open, the medium will not flow into the valve chest, which prevents the pulp from settling in the valve chest and thus reducing the maintenance cost.



## Technical Specification

Specifications		
Size Range	2" - 48" / DN50 - DN1200	
Design Standard	MSS SP-81	
Flange Connection	ANSI B16.5 Class 150	
Connection Type	Lug Type	
Temperature Range	NBR Seat	-20°C to 110°C
	Natural Rubber Seat	-20°C to 70°C
	EPDM Seat	-20°C to 120°C
	Viton Seat	-20°C to 200°C
Applicable Medium	Pulp, Slurry, Trailing	
Nominal Pressure	10.3 bar (150 psi) for sizes up to 24" / 6.9 bar (100 psi) for sizes 28" and above	
Hydraulic Test	100% testing according to MSS SP-81 (respectively AWWA C520)	
	Shell	1.5*PN
	Packing	1.1*PN
	Seat	2.8 bar and maximum allowable differential pressure
DK Slurry Gate Valves are fully bi-directional at working and design pressure.		

VAHN-TECH International Inc. reserves the right to change the technical data without prior notice.

## DK Series - Slurry Type

### Cv Value & Torque

Size		Cv Values
NPS	DN	
2"	50	156
3"	80	340
4"	100	612
5"	125	970
6"	150	1430
8"	200	2620
10"	250	4200
12"	300	5395
14"	350	6730
16"	400	8735
18"	450	10870
20"	500	14095
24"	600	20655

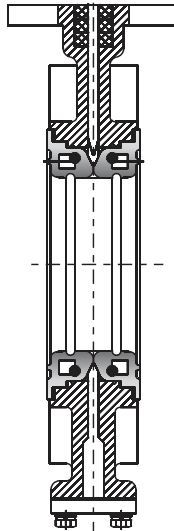
Size		Torque * (N.m)
NPS	DN	
2"	50	73
3"	80	88
4"	100	98
5"	125	146
6"	150	176
8"	200	189
10"	250	280
12"	300	396
14"	350	540
16"	400	592
18"	450	786
20"	500	890
24"	600	1183

\* Including 30% safety factor.

### Fully Open and Close Status

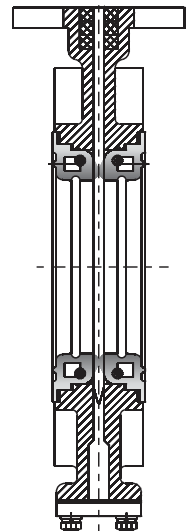
#### Full Open Status

Low flow resistance at full open position as both seats will be in tight contact to form full bore flow path which is ensured by good seat strength with internal metal support ring as well as pipeline pressure. It offers perfect sealing performance to prevent the clogging inside body cavity by medium during the operation, extending service life and reducing maintenance cost.

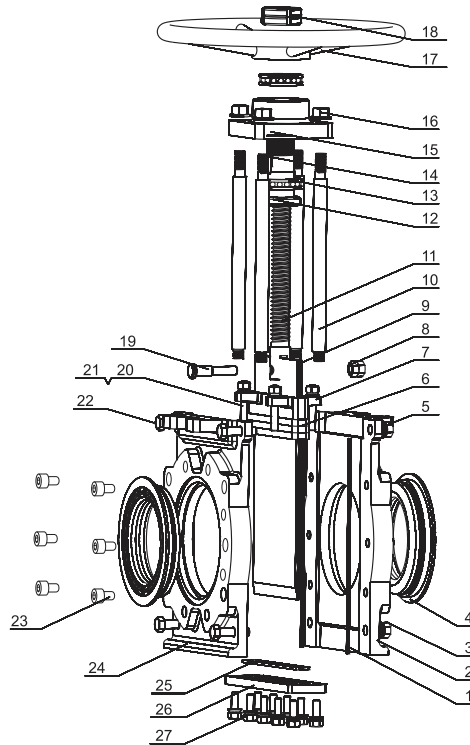


#### Full Close Status

Both seats will be in tight contact with gate by good seat strength with internal metal support ring as well as pipeline pressure to ensure absolute bi-directional bubble tightness.



## DK Series - Slurry Type



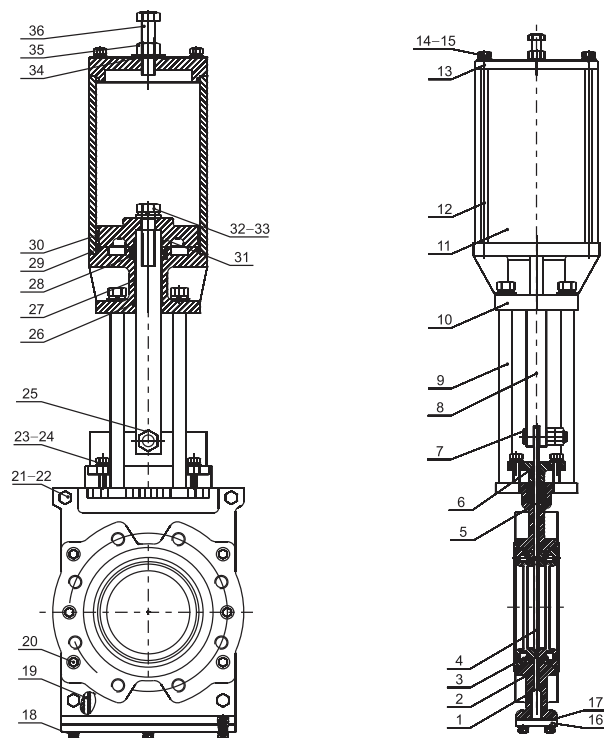
DK Series with Handwheel

### Parts List

No.	Parts Name	Materials	Qty.
1	Gasket	NBR	1
2	Upper Body	CF8M / CF8 / WCB	1
3	Hexagon Nut	SS304	-
4	Seat	EPDM / NBR / NB	2
5	Hexagon Nut	SS304	-
6	Packing	PTFE	-
7	Gland	CF8M / CF8 / WCB	1
8	Hexagon Nut	SS304	2
9	Gate	SS304 / SS316 / SS410 + HCr	1
10	Pillar	SS304 / 45# + HCr	4
11	Stem	SS304	1
12	Nut	H59	1
13	Plane Bearing	Gcr6	2
14	Flat Key	45#	1

No.	Parts Name	Materials	Qty.
15	Square Plate	WCB / SS304	1
16	Nut	SS304	4
17	Handwheel	Ductile Iron	1
18	Nut	45# Nickel Plating	1
19	Driving Nut	SS304	1
20	Nut	SS304	-
21	Connection Bolt	SS304	-
22	Hexagon Bolt	SS304	-
23	Screws	SS304	-
24	Lower Body	CF8M / CF8 / WCB	1
25	Gasket	NBR	1
26	Cap	CF8M / CF8 / WCB	1
27	Hexagon Bolt	SS304	-

## DK Series - Slurry Type



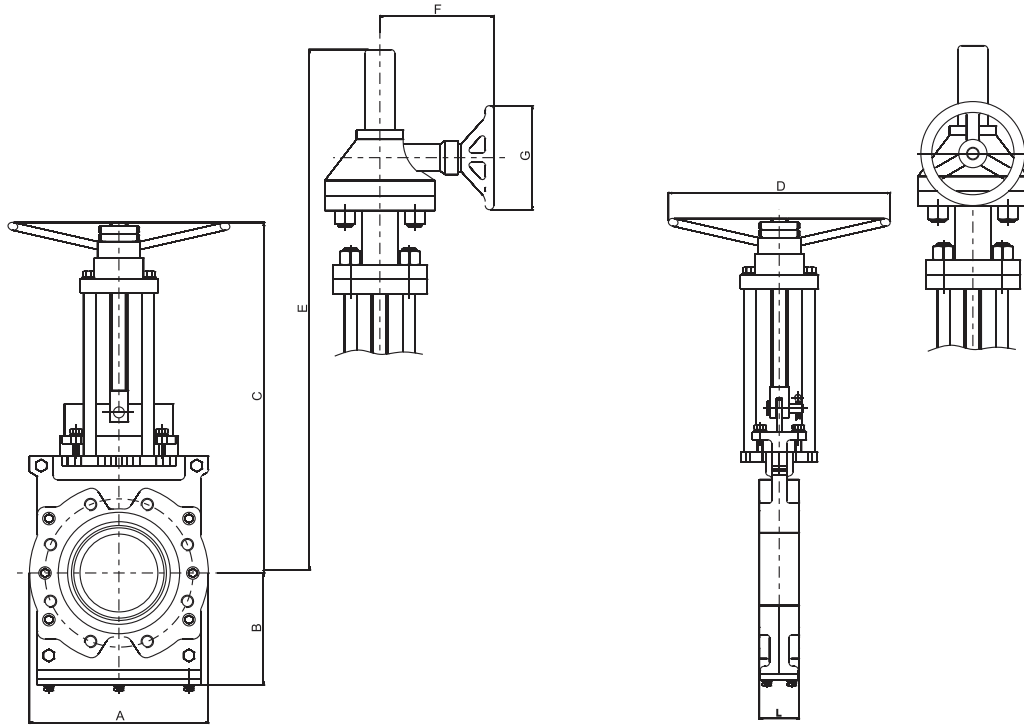
DK Series with Pneumatic Cylinder

### Parts List

No.	Parts Name	Materials	Qty.
1	Upper Body	WCB / CF8 / CF8M	1
2	Lower Body	WCB / CF8 / CF8M	1
3	Seat	EPDM / NBR	3
4	Gate	SS410 / SS304 / SS316 + HCr	1
5	Packing	PTFE	1
6	Gland Packing	WCB / CF8 / CF8M	1
7	Connection Pin	SS304	1
8	Piston Rod	45# + Cr	1
9	Pillar	SS304 / 45# + Cr	4
10	Lower Cylinder Cover	Carbon Steel / SS304	1
11	Cylinder	Aluminum Alloy / Q235	1
12	Connection Rod	Carbon Steel + Zn	-
13	Upper Cylinder Cover	Carbon Steel / SS304	1
14	Hexagon Nut	SS304	-
15	Spring Gasket	65Mn	-
16	Cap	WCB / CF8 / CF8M	1
17	Gasket	NBR	1
18	Hexagon Bolt	SS304	-

No.	Parts Name	Materials	Qty.
19	Sealing Rope	NBR	1
20	Socket Head Screw	SS304	-
21	Hexagon Bolt	SS304	-
22	Hexagon Nut	SS304	-
23	Connection Bolt	SS304	-
24	Hexagon Nut	SS304	-
25	Hexagon Nut	SS304	2
26	O-Ring	NBR	2
27	Bushing	Composite Material	1
28	Y-Ring	Polyurethane	1
29	O-Ring	NBR	4
30	Guiding Ring	PTFE	1
31	Piston	SS304 / Q235	1
32	Hexagon Bolt	45#	1
33	Spring Gasket	65Mn	1
34	Gasket	PTFE	1
35	Hexagon Nut	SS304	1
36	Adjusting Bolt	SS304	1

## DK Series - Slurry Type



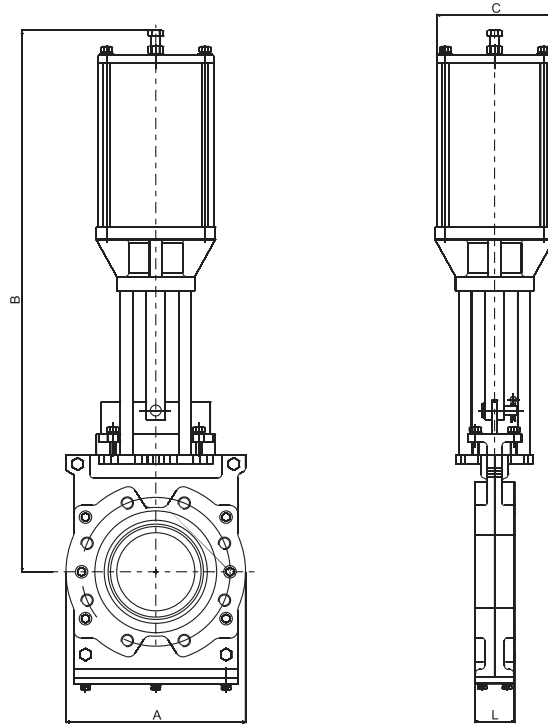
DK Series (Manual)

### Dimensions

Size		Main Dimension (mm)									
NPS	DN	A	B	L	C		E		D	F	G
					(Open)	(Closed)	(Open)	(Closed)			
2"	50	165	120	48	445	360	-	-	Ø220	-	-
2 1/2"	65	190	130	48	475	390	-	-	Ø220	-	-
3"	80	200	145	51	535	415	-	-	Ø220	-	-
4"	100	230	150	51	600	450	-	-	Ø250	-	-
5"	125	230	180	57	690	510	-	-	Ø250	-	-
6"	150	285	200	57	740	550	-	-	Ø280	-	-
8"	200	345	220	70	885	660	-	-	Ø355	-	-
10"	250	405	275	70	1061	780	-	-	Ø355	-	-
12"	300	485	330	76	-	-	1400	1050	-	260	Ø310
14"	350	535	350	76	-	-	1570	1160	-	260	Ø310
16"	400	600	380	89	-	-	1670	1220	-	260	Ø310
18"	450	635	400	89	-	-	1800	1230	-	340	Ø460
20"	500	705	450	114	-	-	1950	1790	-	340	Ø460
24"	600	820	510	114	-	-	2490	1890	-	340	Ø460



## DK Series - Slurry Type



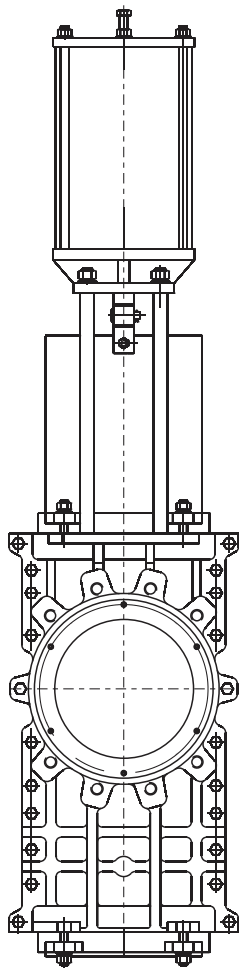
DK Series (Pneumatic Cylinder)

### Dimensions

Size		Main Dimension (mm)			
NPS	DN	L	A	B	C
2"	50	48	165	550	120
2 1/2"	65	48	190	600	120
3"	80	51	200	640	120
4"	100	51	230	700	145
5"	125	57	230	840	190
6"	150	57	285	910	180
8"	200	70	345	1100	225
10"	250	70	405	1280	225
12"	300	76	485	1440	280
14"	350	76	535	1700	260
16"	400	89	600	1855	410

## DT Series - Through-Going Type

Vahn-Tech DT Series knife gate valve is mainly intended for process control in pulp slurry, residue discharge and sewage treatment. It is especially suitable for installation with equipment such as stock cleaners, gravity separators, aqua pulper.



### Features

1. Valve is full port in the position with low flow resistance.
2. Two-piece body construction with no cavities eliminates product build-up.
3. Tight shutoff, reliable performance.
4. O-ring loaded removable seat is self-compensating with good abrasion resistance and long service life.
5. Available seat materials: Metal, PTFE or EPDM

### Technical Specification

Specifications	
Size Range	3" - 24" / DN80 - DN600
Flange Connection	ANSI Class 150
Connection Type	Wafer Type
Temperature Range	-20°C to 120°C (-4°F to 248°F)
Applicable Medium	Pulp, Slurry, Sewage, Slag
Nominal Pressure	10.3 bar (150 psi) for sizes up to 24" / 6.9 bar (100 psi) for sizes 28" and above
Hydraulic Test	100% testing according to MSS SP-81 (respectively AWWA C520)
	Shell 1.5*PN
	Packing 1.1*PN
	2.8 bar and maximum allowable differential pressure

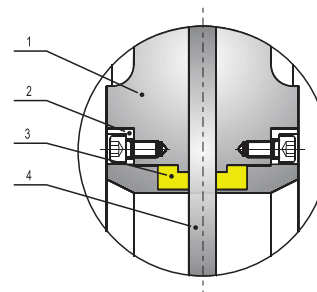
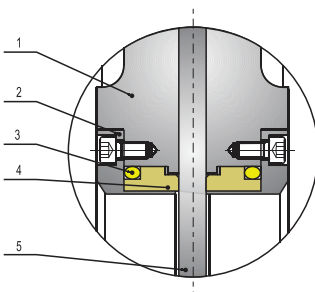
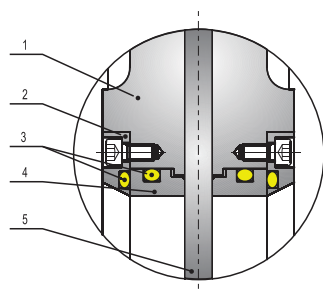
DT Series are bi-directional up to 10 bar.

### Torque

Size		Torque Value* (N.m)
NPS	DN	
3"	80	91
4"	100	111
5"	125	150
6"	150	182
8"	200	215
10"	250	312
12"	300	403
14"	350	598
16"	400	676
18"	450	845
24"	600	1105

\* Including 30% safety factor.

### Seat Construction



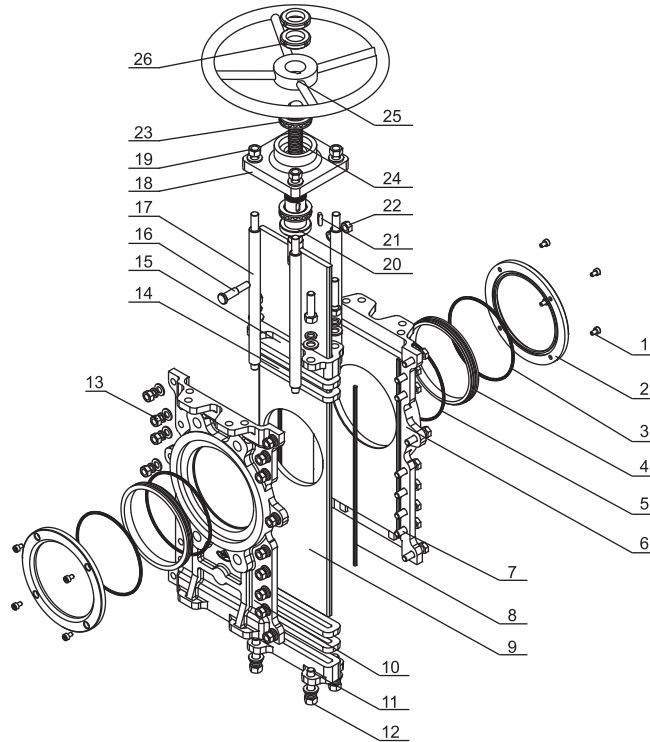
Metal Seat		
No.	Name	Temperature
1	Body	-29°C to 100°C Option: -20°C to 230°C
2	Retainer	
3	O-Ring	
4	Seat	
5	Gate	

PTFE Seat		
No.	Name	Temperature
1	Body	-20°C to 120°C
2	Retainer	
3	O-Ring	
4	PTFE Seat	
5	Gate	

EPDM Seat		
No.	Name	Temperature
1	Body	-20°C to 120°C
2	Retainer	
3	EPDM Seat	
4	Gate	

VAHN-TECH International Inc. reserves the right to change the technical data without prior notice.

## DT Series - Through-Going Type



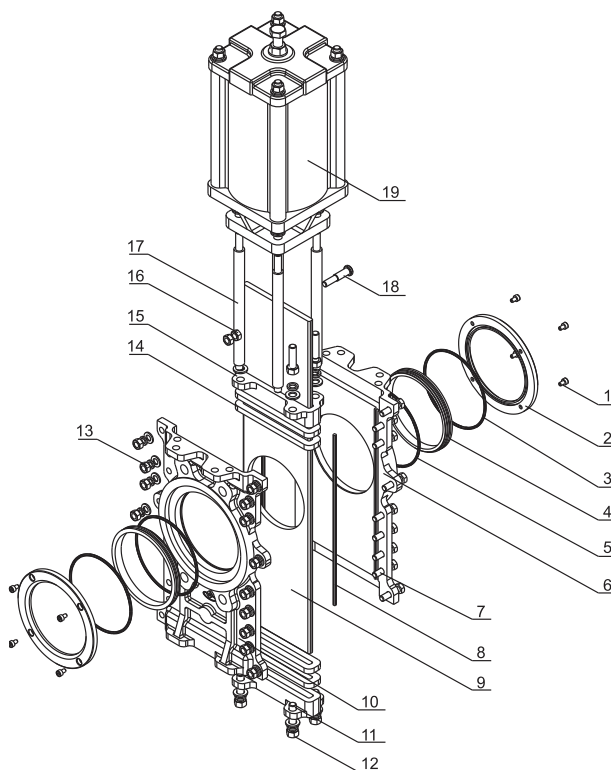
DT Series with Handwheel

### Parts List

No.	Parts Name	Materials	Qty.
1	Hexagon Socket Head Cap Screws	SS304	-
2	Sealing Cap	SS304 / SS316	2
3	O-Ring	NBR / Viton	2
4	Seat	SS304 / SS316 + Cr	2
5	O-Ring	NBR / Viton	2
6	Upper Body	CF8 / CF8M / WCB	1
7	Hexagon Bolt	SS304	-
8	Gasket	NBR	2
9	Gate	SS304 / SS316 / SS410 + Cr / N	1
10	Lower Body	CF8 / CF8M / WCB	1
11	Stud	SS304	-
12	Hexagon Nut	SS304	-
13	Hexagon Nut	SS304	-

No.	Parts Name	Materials	Qty.
14	Packing	PTFE	1
15	Gland Packing	CF8 / CF8M / WCB	2
16	Connection Pin	SS304	1
17	Pillar	SS304 / 45# + Cr	4
18	Square Plate	ZI108	1
19	Hexagon Nut	SS304 / 45# + Cr	4
20	Driving Nut	SS304	1
21	Flat Key	45# Nickel Plating	1
22	Hexagon Nut	SS304	2
23	Plane Bearing	GCr6	2
24	Connection Rod	SS304 / 45# + Cr	1
25	Handwheel	Ductile Iron	1
26	Nut	45# Nickel Plating	1

## DT Series - Through-Going Type



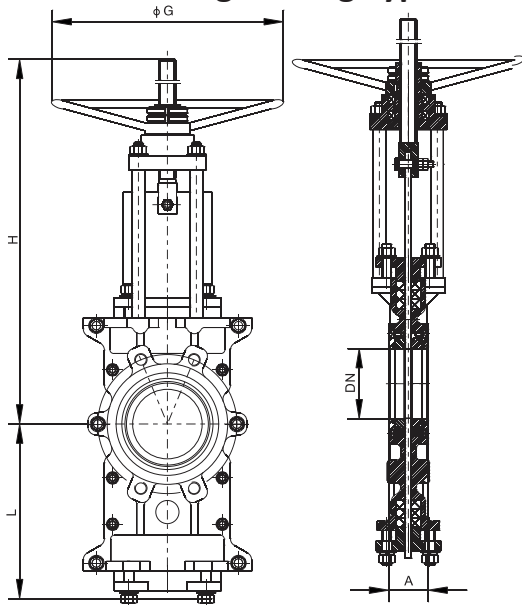
**DT Series with Pneumatic Cylinder**

### Parts List

No.	Parts Name	Materials	Qty.
1	Hexagon Socket Head Cap Screws	SS304	-
2	Sealing Cap	SS304 / SS316	2
3	O-Ring	NBR / Viton	2
4	Seat	SS304 / SS316 + Cr	2
5	O-Ring	NBR / Viton	2
6	Upper Body	CF8 / CF8M / WCB	1
7	Hexagon Bolt	SS304	-
8	Gasket	NBR	2
9	Gate	SS304 / SS316 / SS410 + Cr / N	1
10	Lower Body	CF8 / CF8M / WCB	1

No.	Parts Name	Materials	Qty.
11	Stud	SS304	-
12	Hexagon Nut	SS304	-
13	Hexagon Nut	SS304	-
14	Packing	PTFE	1
15	Gland Packing	CF8 / CF8M / WCB	2
16	Hexagon Nut	SS304	2
17	Connection Rod	SS304 / 45# + Cr	4
18	Connection Pin	SS304	1
19	Actuator	/	1

## DT Series - Through-Going Type



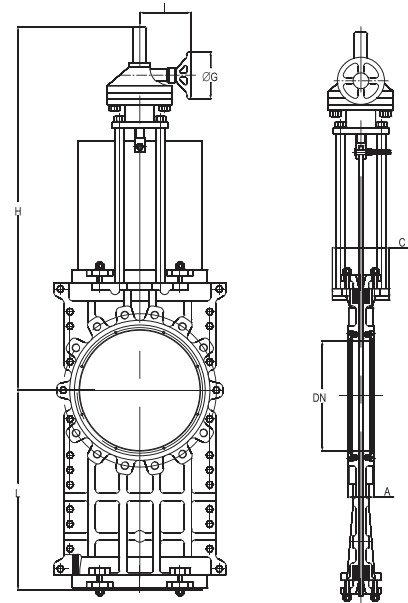
DT Series with Handwheel

### Dimension

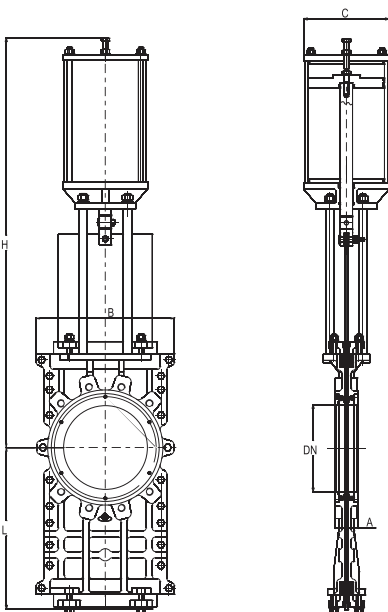
Size		Main Dimension (mm)						
NPS	DN	A	B	C	$\phi G$	H (Open)	H (Close)	L
3"	80	51	200	100	220	400	480	250
4"	100	51	220	100	220	430	530	350
5"	125	57	250	100	250	490	615	410
6"	150	57	270	120	280	530	695	450
8"	200	70	350	130	315	620	820	570
10"	250	70	410	140	355	740	990	630
12"	300	76	470	160	400	840	1140	710
14"	350	76	550	200	450	950	1300	810
16"	400	89	620	210	500	1030	1430	910

### Dimensions

Size		Main Dimension (mm)							
NPS	DN	A	B	C	$\phi G$	H (Open)	H (Close)	I	L
8"	200	70	350	130	310	750	850	225	570
10"	250	70	410	140	310	860	1110	225	630
12"	300	76	470	160	310	990	1290	225	710
14"	350	76	550	200	310	1100	1450	260	810
16"	400	89	620	210	310	1170	1570	260	910
18"	450	110	700	220	460	1360	1810	340	1000
20"	500	114	730	220	460	1410	1910	340	1110
24"	600	134	860	250	460	1630	2190	340	1280



DT Series with Bevel Gear



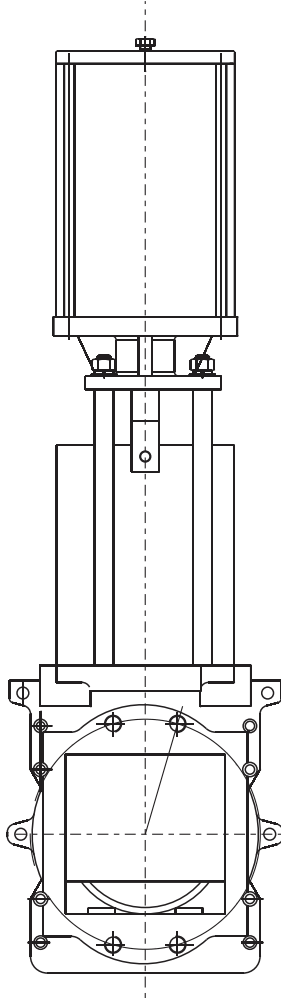
DT Series with Pneumatic Actuator

### Dimensions

Size		Main Dimension (mm)					
NPS	DN	A	B	C	L (Open)	L (Close)	H
3"	80	51	200	120	250	250	610
4"	100	51	220	145	350	350	620
5"	125	57	250	180	410	410	755
6"	150	57	270	180	450	450	800
8"	200	70	350	240	520	520	1000
10"	250	70	410	240	630	630	1170
12"	300	76	470	290	710	710	1350
14"	350	76	550	350	810	810	1570
16"	400	89	620	400	910	910	1700
18"	450	110	700	450	1000	1000	1940
20"	500	114	730	450	1100	1100	2050
24"	600	134	860	500	1280	1280	2350

## DF Series -Square Type

Vahn-Tech DF Series square knife gate valve is mainly used as pneumatic on/off valve for process control in pulp making slurry or sewage treatment. It is particularly suitable to serve as a residue discharger on equipment such as stock cleaners, gravity separators and hydra pulper in the paper making industry



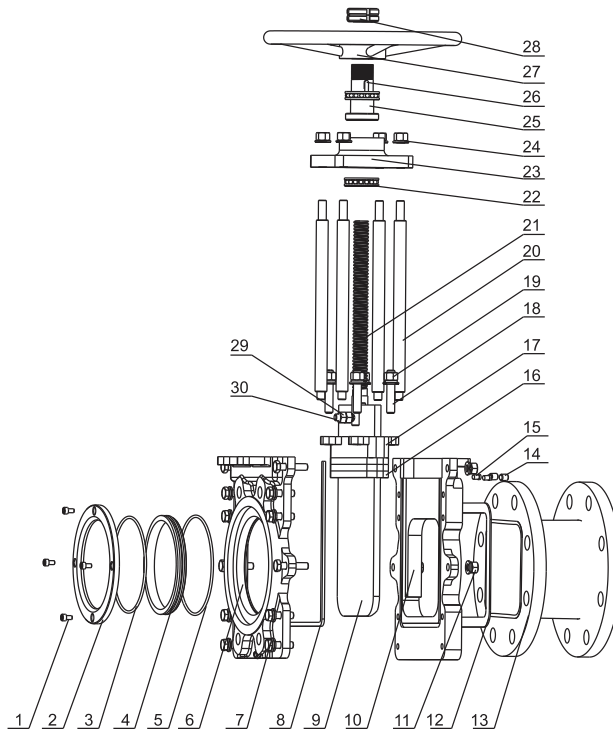
### Features

1. Valve is full port in the position with low flow resistance.
2. Two-piece body construction with no cavities eliminates product build-up.
3. Tight shutoff, reliable performance.
4. O-ring loaded removable seat is self-compensating with good abrasion resistance and long service life.
5. Available seat materials: Metal, PTFE or EPDM

### Technical Specification

Specifications		
Size Range	3" - 24" / DN80 - DN600	
Flange Connection	ANSI Class 150	
Connection Type	Wafer Type	
Temperature Range	-20°C to 120°C (-4°F to 248°F)	
Applicable Medium	Pulp, Slurry, Sewage, Slag	
Nominal Pressure	10.3 bar (150 psi) for sizes up to 24" / 6.9 bar (100 psi) for sizes 28" and above	
Hydraulic Test	100% testing according to MSS SP-81 (respectively AWWA C520)	
	Shell	1.5*PN
	Packing	1.1*PN
	Seat	2.8 bar and maximum allowable differential pressure
DF Series are bi-directional up to 10 bar.		

## DF Series -Square Type



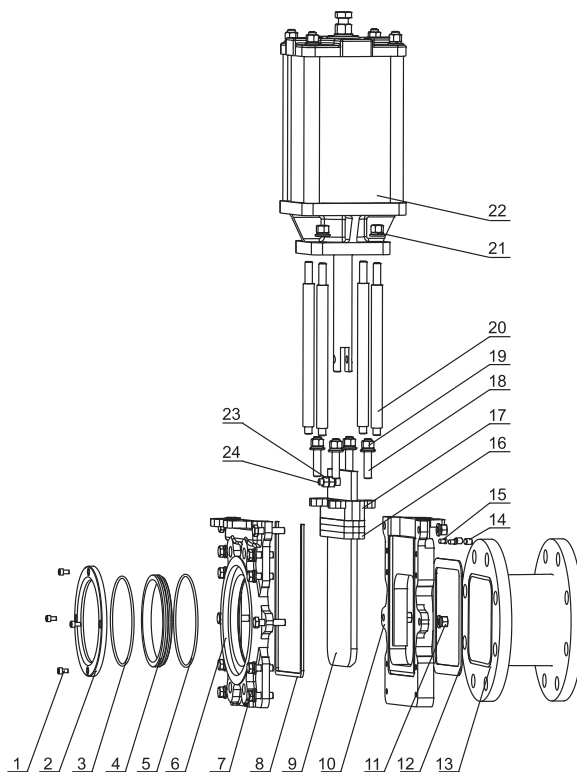
DF Series with Handwheel

### Parts List

No.	Parts Name	Materials	Qty.
1	Hexagon Socket Head Cap Screws	SS304	-
2	Sealing Cap	SS304 / SS316	2
3	O-Ring	NBR / Viton	2
4	Seat	SS304 / SS316 + Cr	2
5	O-Ring	NBR / Viton	2
6	Upper Body	CF8 / CF8M / WCB	1
7	Hexagon Bolt	SS304	-
8	Sealing Rope	NBR	2
9	Gate	CF8 / SS316 / SS410 + Cr / N	1
10	Lower Body	CF8 / CF8M / WCB	1
11	Hexagon Nut	SS304	-
12	Gasket	PTFE	1
13	Flange Converter	SS304 / SS316	1
14	Screw	SS304	2
15	Guiding Ring	Nylon	2

No.	Parts Name	Materials	Qty.
16	Packing	PTFE	1
17	Gland Packing	CF8 / CF8M / WCB	1
18	Stud	SS304	-
19	Hexagon Nut	SS304	-
20	Pillar	SS304 / 45# + Cr	4
21	Stem	SS304	1
22	Plain Bearing	GCr6	2
23	Square Plate	SS304	1
24	Hexagon Nut	SS304	4
25	Driving Nut	SS304	1
26	Flat Key	45#	1
27	Handwheel	WCB	1
28	Nut	45#	2
29	Connection Pin	SS304	1
30	Hexagon Nut	SS304	2

## DF Series -Square Type



DF Series with Pneumatic Cylinder

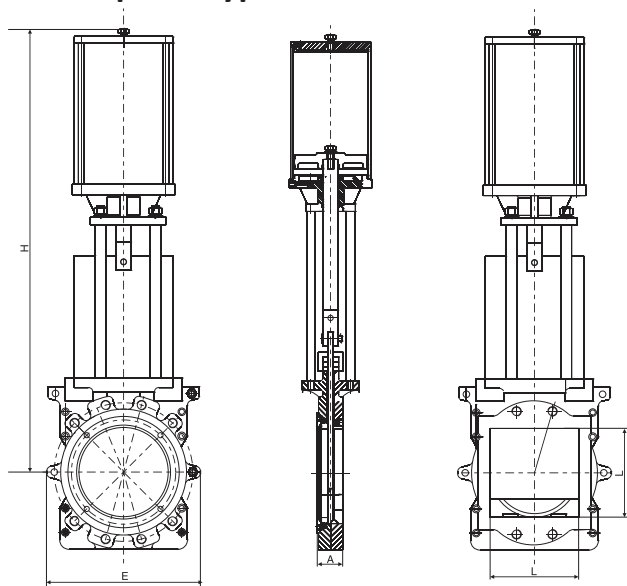
### Parts List

No.	Parts Name	Materials	Qty.
1	Hexagon Socket Head Cap Screws	SS304	-
2	Sealing Cap	SS304 / SS316	2
3	O-Ring	NBR / Viton	2
4	Seat	SS304 / SS316 + Cr	2
5	O-Ring	NBR / Viton	2
6	Upper Body	CF8 / CF8M / WCB	1
7	Hexagon Bolt	SS304	-
8	Sealing Rope	NBR	2
9	Gate	SS304 / SS316 / SS410 + Cr / N	1
10	Lower Body	CF8 / CF8M / WCB	1
11	Hexagon Nut	SS304	-
12	Gasket	PTFE	1

No.	Parts Name	Materials	Qty.
13	Flange Converter	SS304 / SS316	1
14	Screw	SS304	2
15	Guiding Pin	Nylon	2
16	Packing	PTFE	1
17	Gland Packing	CF8 / CF8M / WCB	1
18	Stud	SS304	-
19	Hexagon Nut	SS304	-
20	Connection Rod	SS304 / 45# + Cr	4
21	Hexagon Nut	SS304	4
22	Pneumatic Actuator	/	1
23	Hexagon Nut	SS304	2
24	Connection Pin	SS304	1



## DF Series -Square Type

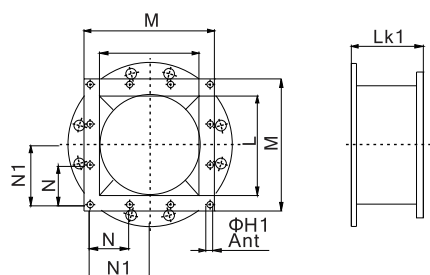


DF Series with Pneumatic Cylinder

### Dimensions

Size		Main Dimension (mm)			
NPS	DN	A	L	E	H
4"	100	51	100	220	650
5"	125	57	125	250	730
6"	150	57	150	270	820
8"	200	70	200	350	1040
10"	250	70	250	410	1230
12"	300	76	300	470	1390
14"	350	76	350	550	1590
16"	400	89	400	620	1750

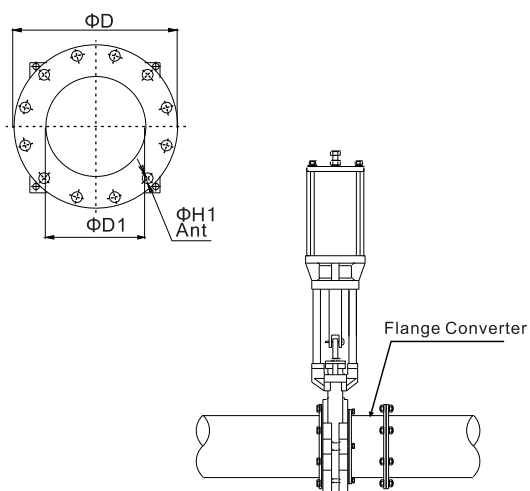
## Square Face



### Dimensions

Size		Main Dimension (mm)							
NPS	DN	L	M	N	N1	H1	Ant	Lk1	D1
4"	100	100	180	70	70	14	8	90	100
6"	150	150	230	95	95	14	8	140	150
8"	200	200	280	122.5	122.5	14	8	140	200
10"	250	250	340	150	150	14	8	150	250
12"	300	300	400	124	186	14	12	167	300
14"	350	350	450	137	205.5	18	12	165	350
16"	400	400	500	154	231	18	12	155	400

## Flange Face



### Dimensions

Size		Main Dimension (mm)						Ant
NPS	DN	D	R	V	V/2	ØH2	Ant	
4"	100	220	90	45	22.5	18	8	
6"	150	285	120	45	22.5	22	8	
8"	200	340	147.5	45	22.5	22	8	
10"	250	395	175	30	15	22	12	
12"	300	445	200	30	15	22	12	
14"	350	505	230	22.2	11.25	22	16	
16"	400	565	257.5	22.5	11.25	26	16	

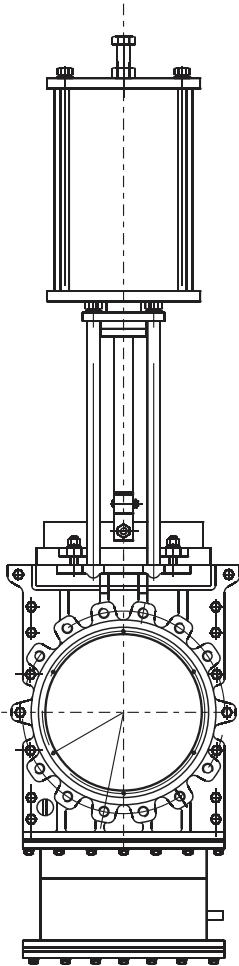
Size		Main Dimension (mm)						Ant
NPS	DN	D	R	V	V/2	ØH2	Ant	
4"	100	224	224	45	22.5	18	8	
6"	150	280	280	45	22.5	22	8	
8"	200	340	340	45	22.5	22	8	
10"	250	405	405	30	15	22	12	
12"	300	480	480	30	15	26	12	
14"	350	530	530	30	15	30	12	
16"	400	597	597	22.5	11.25	30	16	

Size		Main Dimension (mm)						Ant
NPS	DN	D	R	V	V/2	ØH2	Ant	
4"	100	224	224	45	19	19	8	
6"	150	280	280	45	23	23	8	
8"	200	340	340	30	23	23	12	
10"	250	405	405	30	25	25	12	
12"	300	480	480	22.5	25	25	6	
14"	350	530	530	22.5	22	22	16	
16"	400	550	550	22.5	27	27	16	

Installation of square knife gate valve into a pipeline, requires special adapter flange for the square side of the valve. One side of the adapter needs square flange compatible to the valve, and one end to match the piping flange.

## DB Series - Funnel Type

Vahn-Tech DB Series funnel knife gate valve is used in service as a pneumatic residue discharge valve in pulp making, paper making and sewage treatment. This type of valve is well suited for high consistency media containing solids, fiber or residue, serving as a residue discharge valve on stock cleaners, gravity separators or pressurized screens. The “funnel” at the bottom of the collects waste discharged from the valve body during the closing stroke. This greatly reduces the wear between the body and gate, and prolongs the life cycle of the valve.



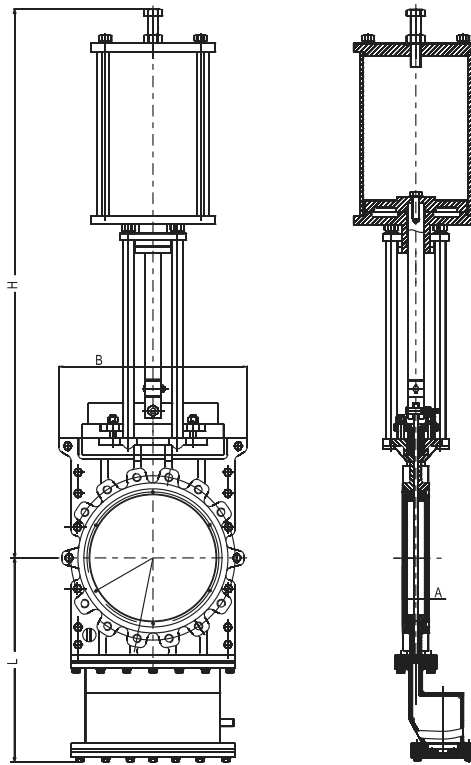
### Features

1. A sight glass set at the bottom of the funnel allows for observation of the waste level in the funnel.
2. Valve is full port in the position with low flow resistance.
3. Two-piece body construction with no cavities eliminates product build-up.
4. Tight shutoff, reliable performance.
5. O-ring loaded removable seat is self-compensating with good abrasion resistance and long service life.
6. Available seat materials: Metal, PTFE or EPDM

### Technical Specification

Specifications		
Size Range	4" - 16" / DN100 - DN400	
Flange Connection	ANSI Class 150	
Connection Type	Wafer Type	
Temperature Range	-20°C to 120°C (-4°F to 248°F)	
Applicable Medium	Pulp, Slurry, Sewage, Slag	
Nominal Pressure	10.3 bar (150 psi) for sizes up to 24" / 6.9 bar (100 psi) for sizes 28" and above	
Hydraulic Test	100% testing according to MSS SP-81 (respectively AWWA C520)	
	Shell	1.5*PN
	Packing	1.1*PN
	Seat	2.8 bar and maximum allowable differential pressure
DB Series are bi-directional up to 10 bar.		

## DB Series - Funnel Type

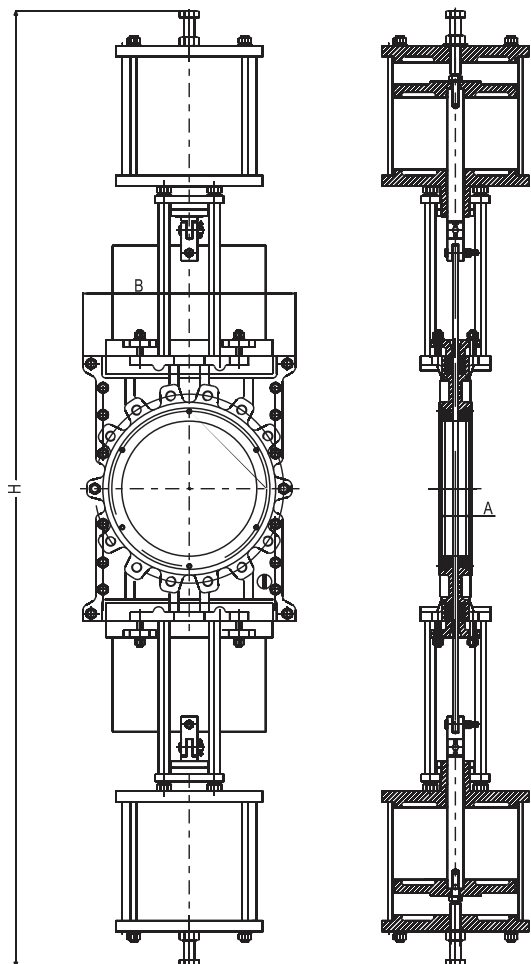


### Dimensions

Size		Main Dimension (mm)			
NPS	DN	A	B	L	H
4"	100	51	220	310	650
5"	125	57	250	380	730
6"	150	57	270	400	820
8"	200	70	350	480	1040
10"	250	70	410	520	1230
12"	300	76	470	560	1390
14"	350	76	550	590	1590
16"	400	89	620	640	1750

## DS Series - Double Type

Vahn-Tech DS Series double knife gate valve is typically used for on/off service in pulp making, slurry, residue discharge and sewage treatment. It is particularly suitable for residue discharge service on stock cleaners, gravity separators hydra pulper, etc. in the paper making industry.



DS Series with Pneumatic Actuator

### Features

1. Double gate design shortens the full travel to half that of standard knife gate valves. The operation by twin cylinders will reduce the opening and closing speed by half.
2. Two-piece body construction with no cavities eliminates product build-up.
3. Tight shutoff, reliable performance.
4. O-ring loaded removable seat is self-compensating with good abrasion resistance and long service life.
5. Available seat materials: Metal, PTFE or EPDM

### Technical Specification

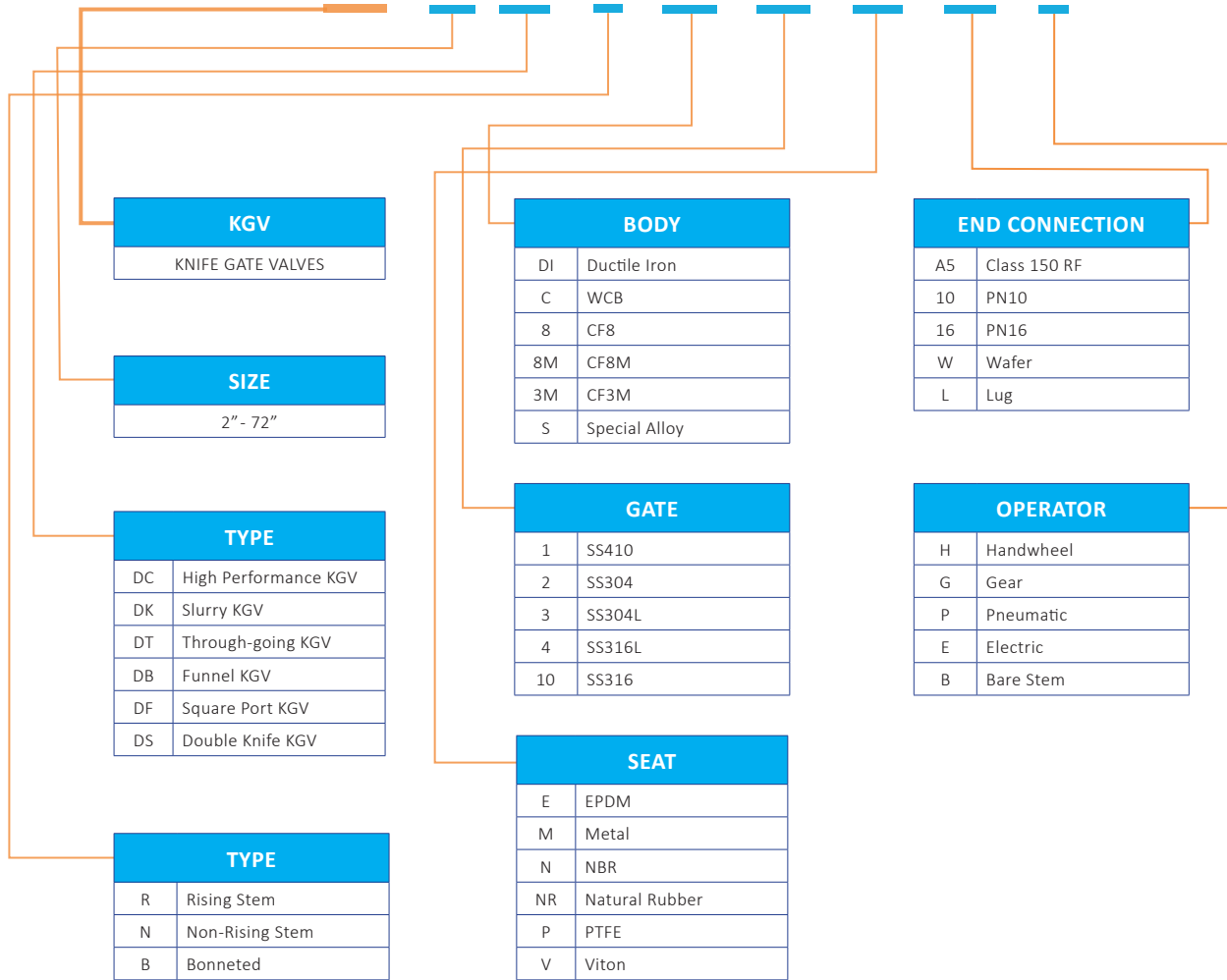
Specifications		
Size Range	4" - 16" / DN100 - DN400	
Flange Connection	ANSI Class 150	
Connection Type	Wafer Type	
Temperature Range	-20°C to 120°C (-4°F to 248°F)	
Applicable Medium	Pulp, Slurry, Sewage, Slag	
Nominal Pressure	10.3 bar (150 psi) for sizes up to 24" / 6.9 bar (100 psi) for sizes 28" and above	
Hydraulic Test	100% testing according to MSS SP-81 (respectively AWWA C520)	
	Shell	1.5*PN
	Packing	1.1*PN
	Seat	2.8 bar and maximum allowable differential pressure
DS Series are bi-directional up to 10 bar.		

### Dimensions

Size		Main Dimension (mm)		
NPS	DN	A	B	H
6"	150	57	270	1250
8"	200	70	350	1600
10"	250	70	410	1840
12"	300	76	470	2080
14"	350	76	550	2500
16"	400	89	620	2680

# PRODUCT SELECTION

**VT - KGV - XX - XX - X - XX - XX - XX - XX - X**



KGV	
KNIFE GATE VALVES	

SIZE	
2" - 72"	

TYPE	
DC	High Performance KGV
DK	Slurry KGV
DT	Through-going KGV
DB	Funnel KGV
DF	Square Port KGV
DS	Double Knife KGV

TYPE	
R	Rising Stem
N	Non-Rising Stem
B	Bonneted

BODY	
DI	Ductile Iron
C	WCB
8	CF8
8M	CF8M
3M	CF3M
S	Special Alloy

GATE	
1	SS410
2	SS304
3	SS304L
4	SS316L
10	SS316

SEAT	
E	EPDM
M	Metal
N	NBR
NR	Natural Rubber
P	PTFE
V	Viton

END CONNECTION	
A5	Class 150 RF
10	PN10
16	PN16
W	Wafer
L	Lug

OPERATOR	
H	Handwheel
G	Gear
P	Pneumatic
E	Electric
B	Bare Stem



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