vahn-tech®
international inc.

KNIFE GATE VALVES

License Number 6D-1724

C US

NSF®

WRAS APPROVED PRODUCT

ISO 9001:2015 CERTIFICATION™

Intertek

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:

Oil and Gas

Water and Sewage, Desalination

Chemicals

Paper and Pulp

Irrigation

Power Plants

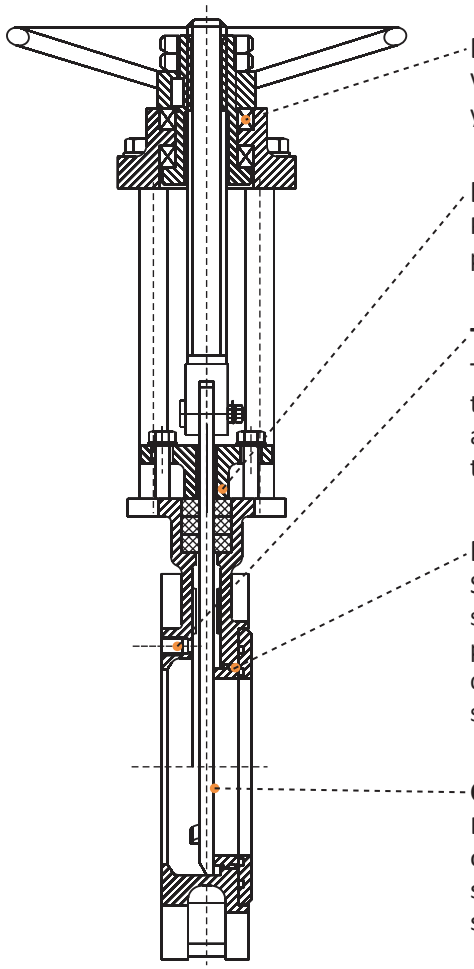
Various Industrial Applications

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.

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

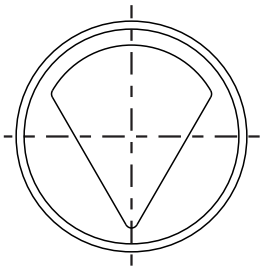
Size		Torque Value* (N.m)
NPS	DN	
2"	50	58
2 1/2"	65	65
3"	80	78
4"	100	91
5"	125	110
6"	150	143
8"	200	175
10"	250	208
12"	300	312
14"	350	390
16"	400	585
18"	450	754
20"	500	832
24"	600	936
28"	700	1105
32"	800	1365
36"	900	1625

* Including 30% safety factor.

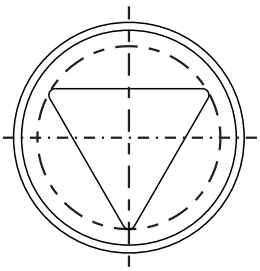
DC Series - Wafer/Lug Type

Diversified Flow Port Option

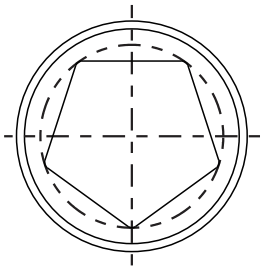
Available in custom port shapes including:



V-Port

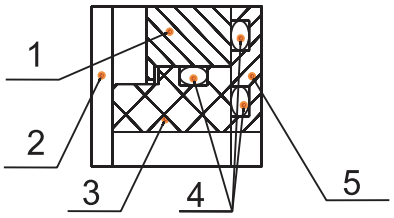


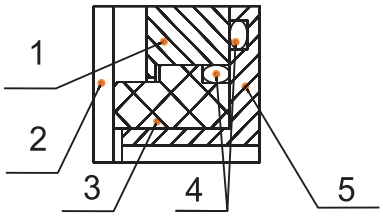
Triangle Port

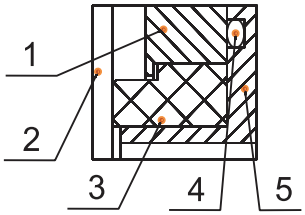


Hexagon Port

Seat Construction







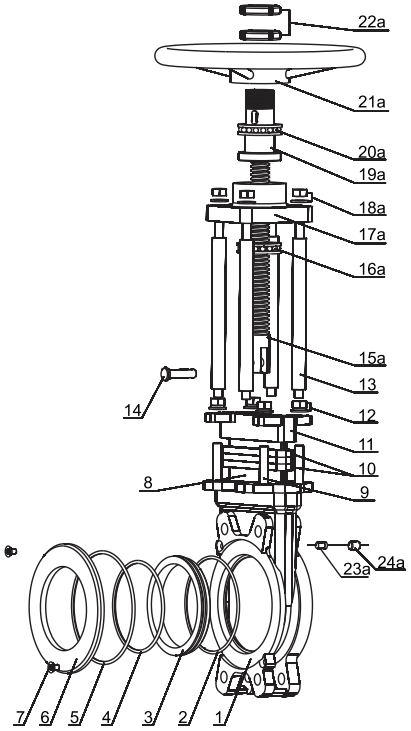
Metal Seat		
No.	Name	Temperature
1	Body	-20°C to 100°C -4°F to 212°F Options: -20°C to 230°C -4°F to 212°F
2	Gate	
3	Seat	
4	O-Ring	
5	Retainer	

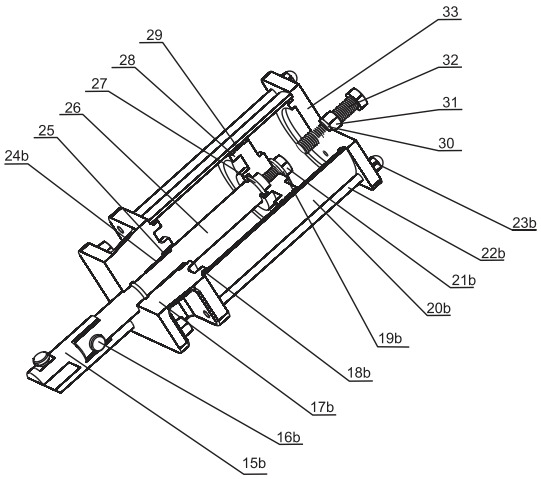
PTFE Seat		
No.	Name	Temperature
1	Body	-20°C to 120°C -4°F to 248°F
2	Gate	
3	Seat	
4	O-Ring	
5	Retainer	

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



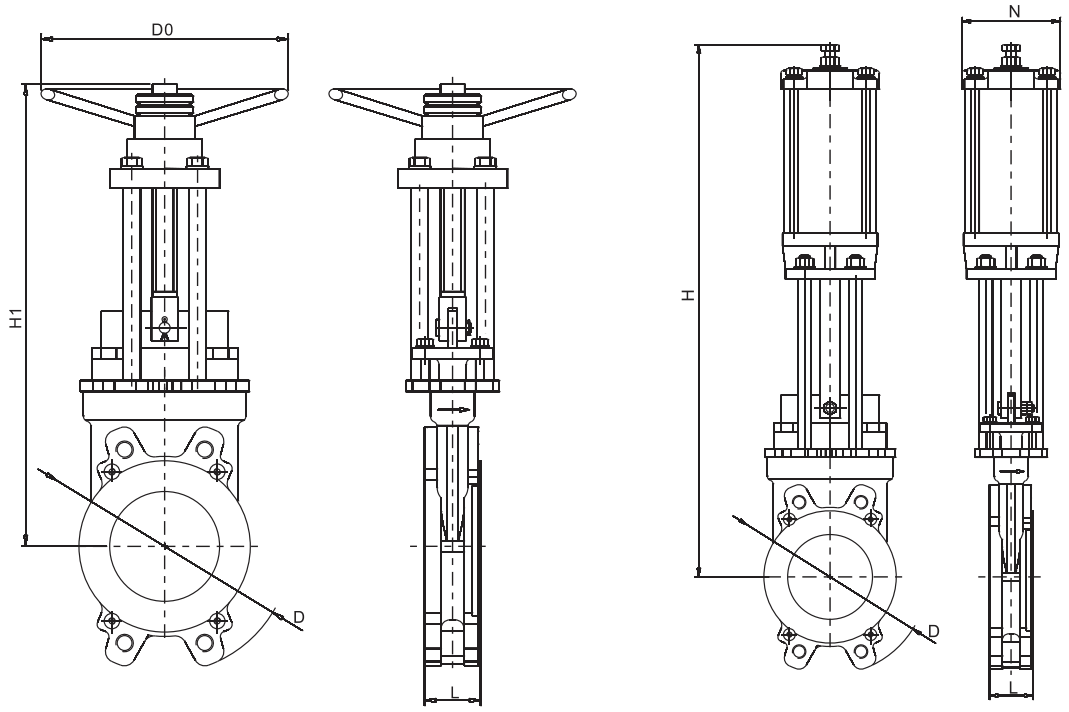


Parts List

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

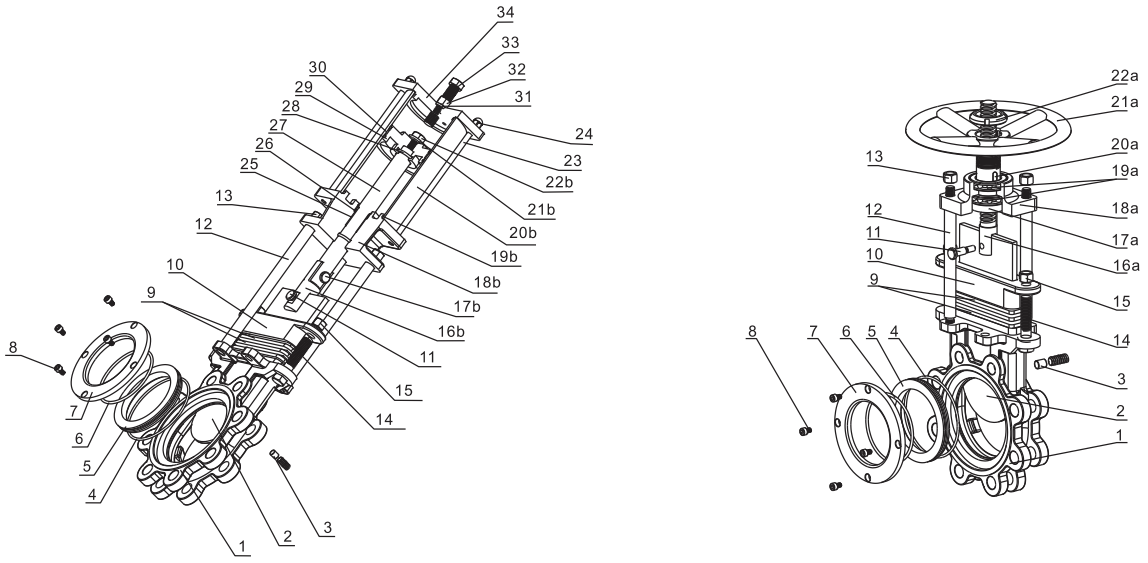
NPS	L	D	H1 (Open)	H1 (Close)	D0	H	N
2"	1 8/9	6 1/2	13	15 2/5	8	19 1/3	4 5/7
2 1/2"	1 8/9	7 2/7	14 1/5	17 1/9	8	20 1/2	4 5/7
3"	2	8	15 2/5	19 1/9	8 2/3	23 1/5	4 5/7
4"	2	9 1/3	16 8/9	21 1/2	8 2/3	25 3/5	4 5/7
5"	2 1/5	10	18 2/3	24 1/5	9 4/5	28 1/5	5 5/7
6"	2 1/5	11 1/5	20 1/9	26 3/5	11	31 1/9	5 5/7
8"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

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

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

DC Series - Lug Type

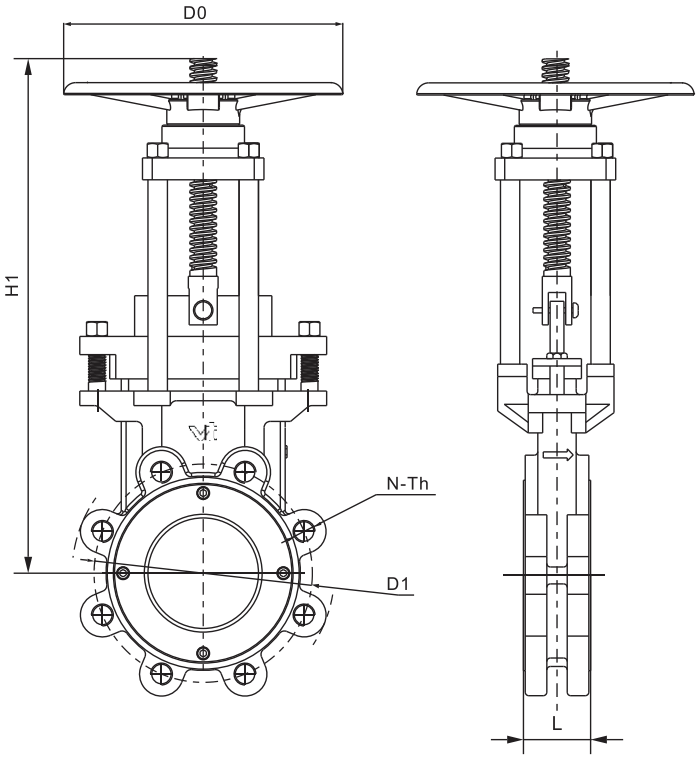


Parts List

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

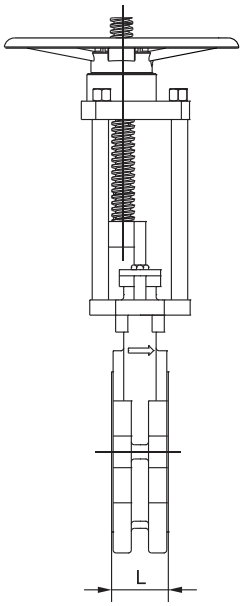
unit: inch

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

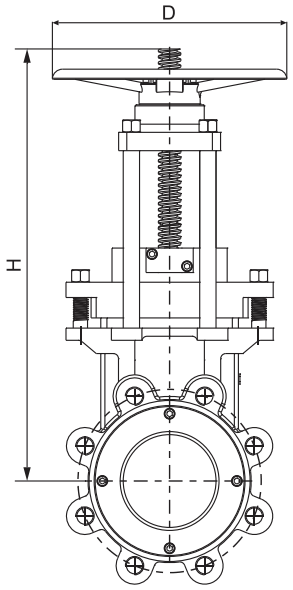
unit: mm

DN	L	D0	H1 (Open)	H1 (Closed)	D1	N-Th
50	48	200	290	350	120.5	4 x 5/8 - 11 NC
65	48	200	310	375	139.7	4 x 5/8 - 11 NC
80	51	220	350	430	152.5	4 x 5/8 - 11 NC
100	51	220	436	535	190.5	8 x 5/8 - 11 NC
125	57	220	460	585	216	8 x 3/4 - 11 NC
150	57	280	510	660	21	8 x 3/4 - 11 NC
200	70	280	610	810	298.5	8 x 3/4- 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

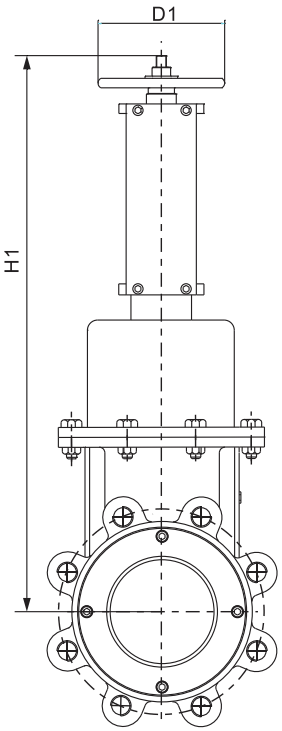
DC Series - Lug Type



DCN - Non-Rising Stem



DCN - Non-Rising Stem



DCB - Bonneted

Dimensions

unit: inch

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

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

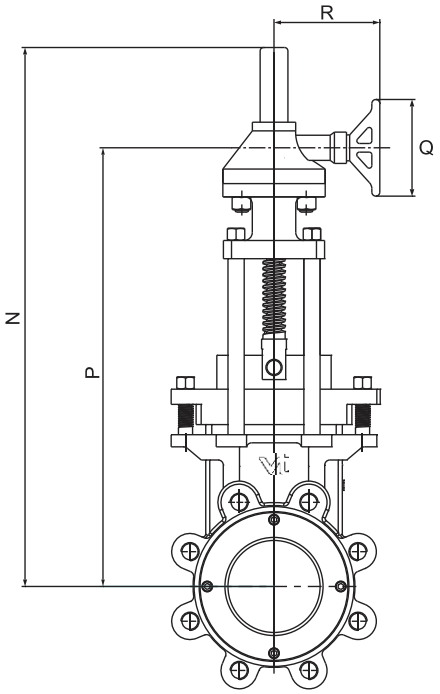
unit: mm

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

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

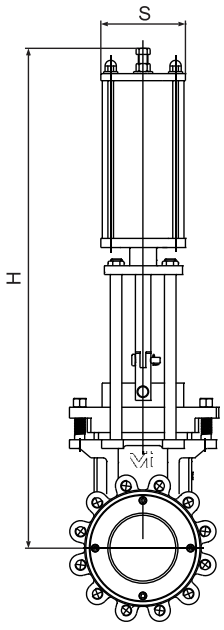
Dimensions

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 8/9
14"	61 1/2	10 1/5	12 1/5	39 4/5
16"	65 2/5	10 1/5	18 1/9	45 2/7
18"	71 2/7	10 1/5	18 1/9	51 2/5
20"	74 4/5	13 2/5	18 1/9	55 8/9
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

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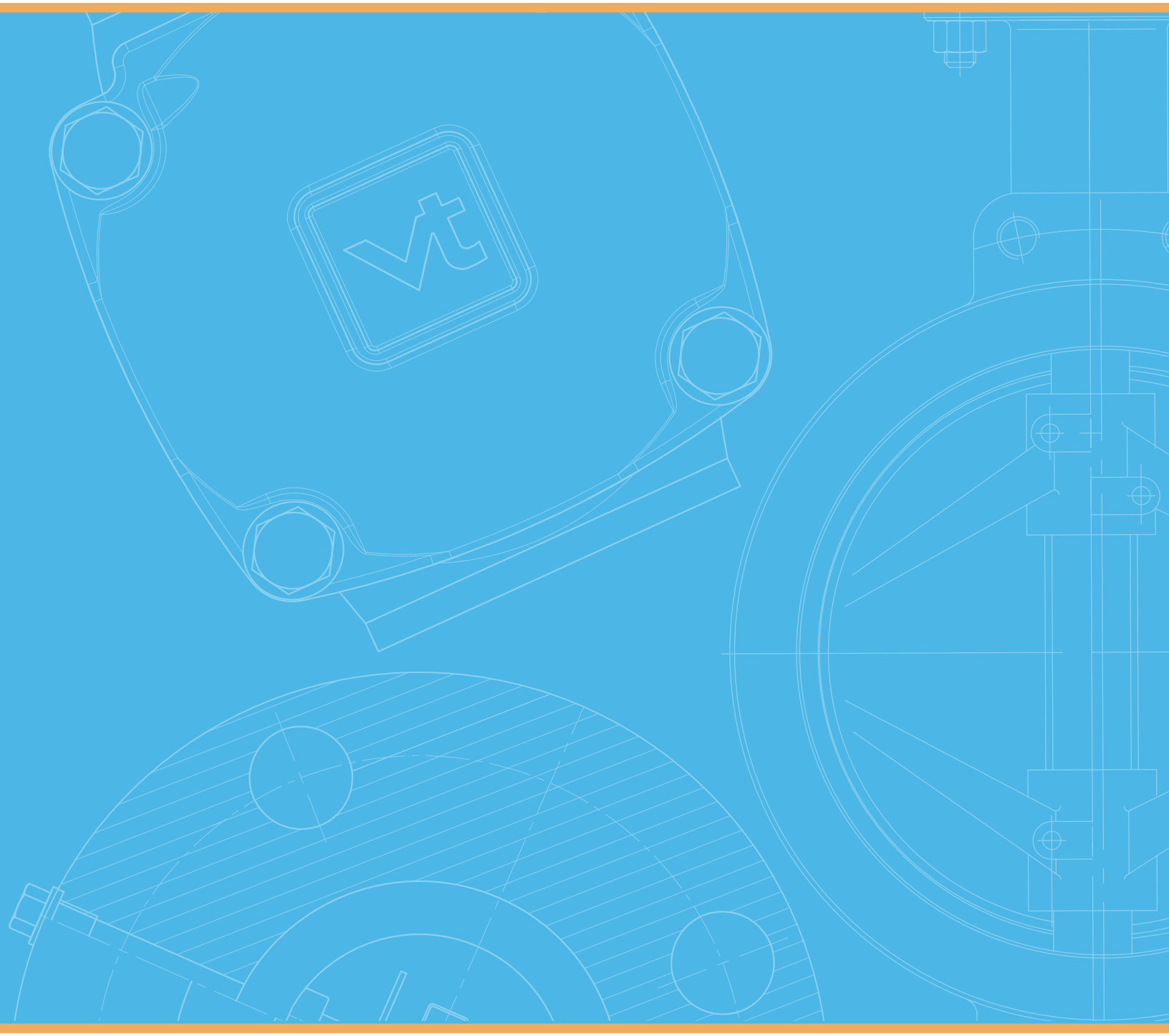

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