

A faded background image of an industrial facility, showing a tall cylindrical tower with a spiral staircase, various pipes, and structural elements under a clear sky.

KNIFE GATE VALVE

Service

Linuo DQ knife gate valves are linear shut off valves that are light weight with compact construction. Valves are available as manual with hand-wheel, or can be automated with pneumatic cylinder 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, so 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

At the top of the yoke, our knife gate valves are equipped with two stem bearings for reduced torque and easy operation.

Internal Packing

Packing gland and packing are internally located, packing leakage can be avoided by construction.

Travel Aligning Block

Travel aligning block is made in soft material backing with stainless steel screw located at the inlet to offer reliable supportive force to align the travel of gate which may be deviated by the accumulated medium between body cavity and gate during the closing, therefore good tightness can be ensured and clogging risk can be prevented.

Replaceable Seats

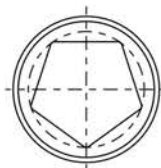
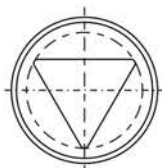
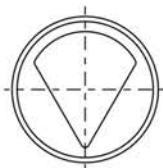
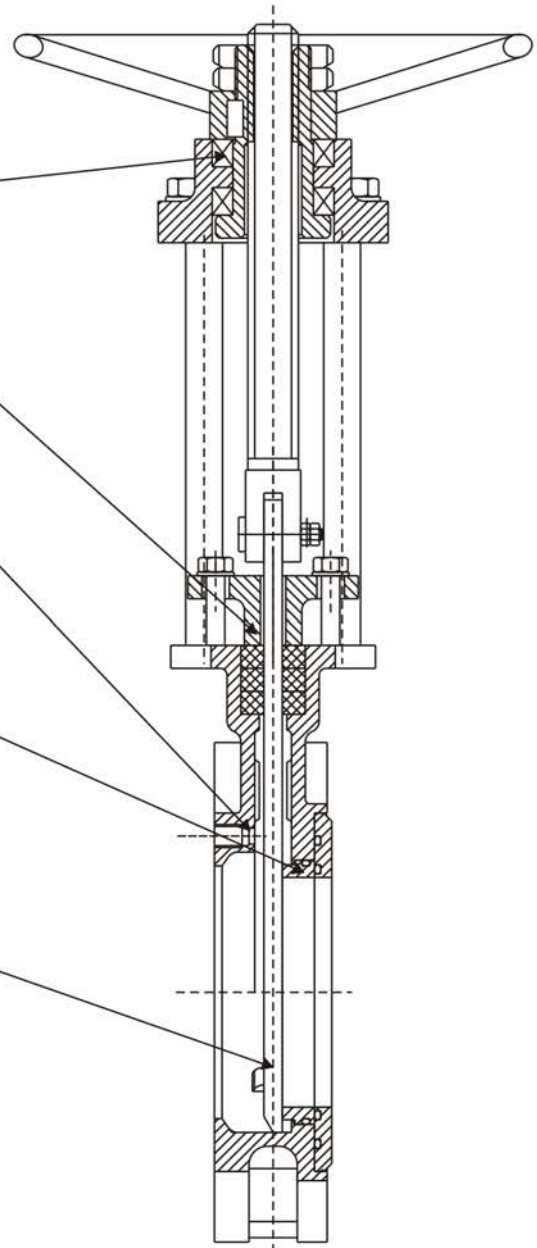
Seats in the Linuo knife gate valves are backed with by an o-ring to give the seat a self-compensating wear function. This results in excellent seat tightness and prolonged life cycle. When seats do wear and need replacement, maintenance to change the seats is easy and fast. Available seat materials include metal seated, EPDM seated, and PTFE seated. Contact Linuo for assistance in seat selection.

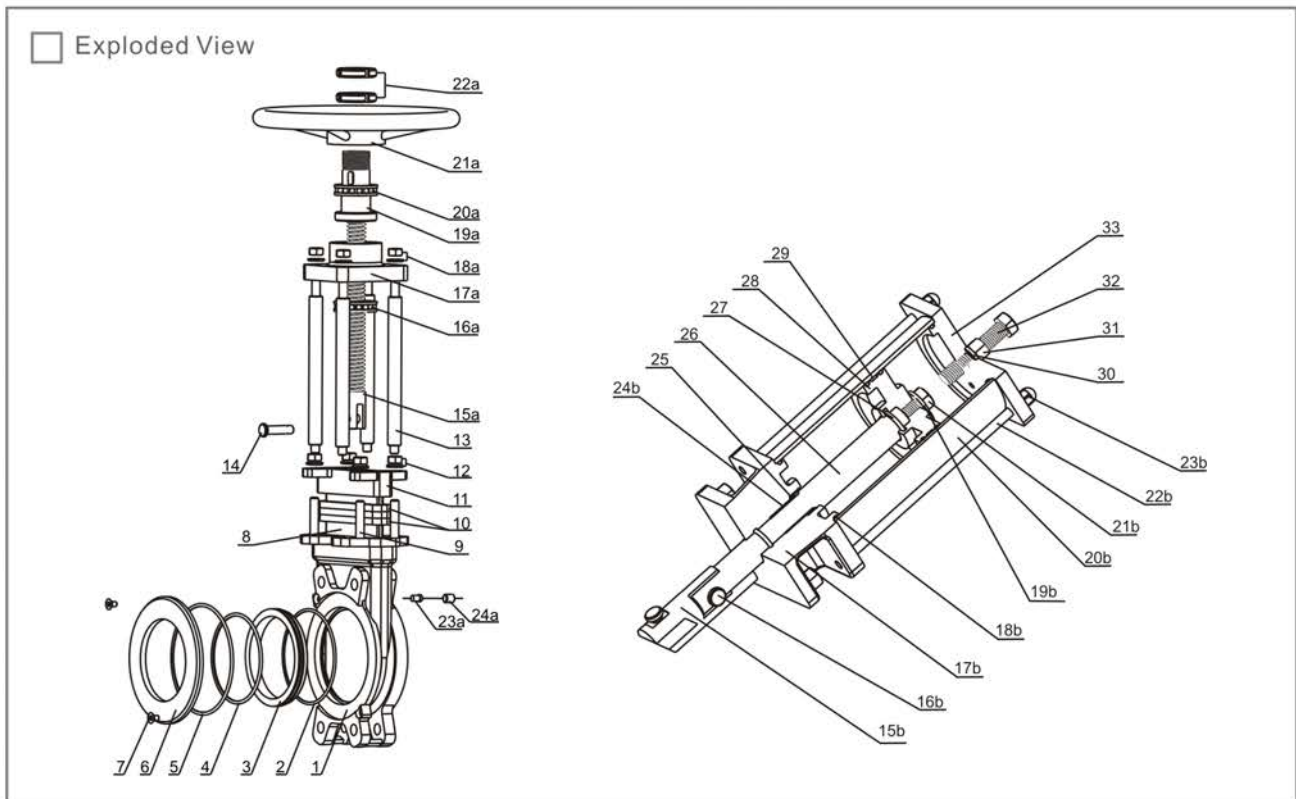
Gate Design

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

Diversified Flow Port Option

Custom port shapes including V-port, triangle port, and hexagon port are available. Consult Linuo with your specific needs.





PARTS LIST - Model DQ

Table 1

No.	Description	Qty	Material of Construction	No.	Description	Qty	Material of Construction
1	Body	1	WCB, CF8, CF8M	23a	Travel Aligning Block	2	SS304+Nylon, PTFE, PPL
2	O-ring	1	NBR, Viton	24a	Screw	2	SS304
3	Seat	1	SS304, SS316 Hard Chrome Plating, PTFE, EPDM	15b	Connection Stem	1	SS304
4	O-ring	1	NBR, Viton	16b	Connection Pin	1	SS304
5	O-ring	1	NBR, Viton	17b	Lower Cylinder Cover	1	WCB
6	Retainer	1	WCB, SS304, SS316	18b	O-ring	1	NBR
7	Socket Head Screw	2	SS304	19b	Gasket	1	SS304
8	Gate	1	SS410, SS304, SS316 Hard Chrome Plating	20b	Cylinder	1	Aluminium Alloy+Spray Coating Teflon/Steel+Cr
9	Stud	4	SS304	21b	Hexagon Bolt	1	WCB
10	Packing	1 set	PTFE, Graphite	22b	Screw	4	45#+Galvanize
11	Gland	1	WCB, CF8, CF8M	23b	Nut	4	WCB
12	Hexagon Nut	4	SS304	24b	Bearing	1	Composite Material
13	Pillar	4	45#+Hard Chrome Plating, SS304	25	Y-ring	1	Polyurethane(TPU)
14	Connection Pin	1	SS304	26	Piston Rod	1	45#+Hard Chrome Plating
15a	Stem	1	SS304	27	O-ring	1	NBR
16a	Plane Bearing	1	GCr6	28	Piston	1	ZL102, WCB
17a	Square Plate	1	Aluminium Alloy	29	Guiding Belt	1	R-PTFE
18a	Hexagon Nut	4	SS304	30	Gasket	1	Teflon
19a	Driving Nut	1	Brass	31	Nut	1	WCB
20a	Plane Bearing	1	GCr6	32	Bolt	1	WCB
21a	Handwheel	1	WCB	33	Upper Cylinder Cover	1	WCB
22a	Nut	1	45# Anti-Corrosion Treated				

Technical Specification

Nominal Diameter: DN50 through DN1200/2" through 48"
 Nominal Pressure Rating: PN 10/PN 16/ANSI 150
 Connection Type: Wafer

Temperature: 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 Media: Pulp, Sewage, Coal Slurry, Syrup, Slag.

Leakage: Each knife gate valve undergoes hydraulic pressure testing as per MSS SP-81

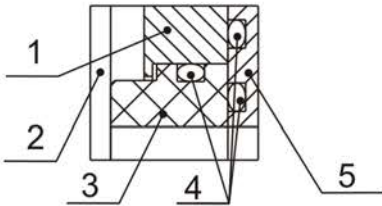
Shell testing pressure: 1.5*PN

Packing tightness testing pressure: 1.1*PN

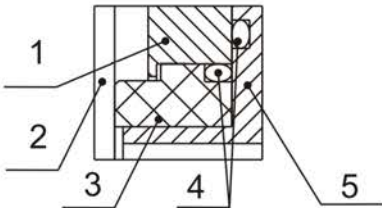
Seat tightness testing pressure: 2.8Bar and maximum allowable working differential pressure (10.3bar for size ≤ DN600/24", 6.9bar for size > DN600/24") .

Bi-Directional: Soft seated knife gate valves are bi-directional with zero leakage to 10 bar/150 psi in the preferred direction and limited tightness in the non-preferred direction at low pressure.

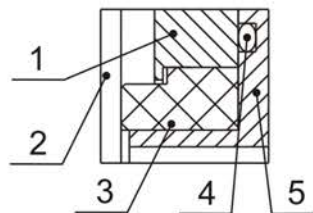
Seat Construction



Metal Seat



PTFE Seat



EPDM Seat

For service temperature exceeds the above range, please consult Linuo factory for solution.

Knife Gate Valve

Size	Torque(N · m)
DN50	58.5
DN65	65
DN80	78
DN100	91
DN125	110.5
DN150	143
DN200	175.5
DN250	208
DN300	312
DN350	390
DN400	585
DN450	754
DN500	832
DN600	936
DN700	1105
DN800	1365
DN900	1625

With 30% safety factor included

Metal Seat

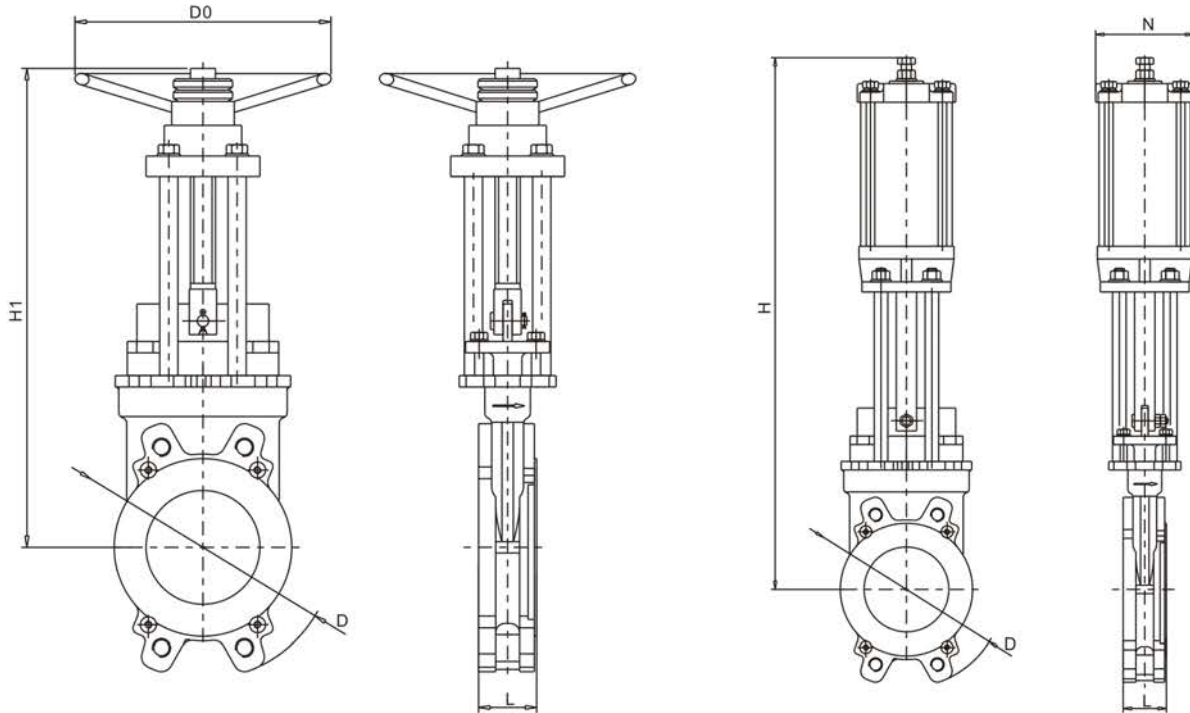
No.	Name	Temperature
1	Body	-20°C to 100°C
2	Gate	-4°F to 212°F
3	Seat	option:
4	O-ring	-20°C to 230°C
5	Retainer	-4°F to 212°F

PTFE Seat

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

EPDM Seat

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



DIMENSIONS - Model DQ

Dimensions in mm/inches

Table 2

Size	L	D	H1(Full Closed)	H1(Full Open)	D0	H	N
DN50/2"	48/1.9	165/6.5	330/13.0	390/15.4	200/7.9	490/19.3	120/4.7
DN65/2-1/2"	48/1.9	185/7.3	360/14.2	435/17.1	200/7.9	520/20.5	120/4.7
DN80/3"	51/2.0	200/7.9	390/15.4	485/19.1	220/8.7	590/23.2	120/4.7
DN100/4"	51/2.0	235/9.3	430/16.9	545/21.5	220/8.7	650/25.6	120/4.7
DN125/5"	57/2.2	255/10.0	475/18.7	615/24.2	250/9.8	715/28.2	145/5.7
DN150/6"	57/2.2	285/11.2	510/20.1	675/26.6	280/11.0	790/31.1	145/5.7
DN200/8"	70/2.8	345/25.4	620/24.4	835/32.9	315/12.4	1040/40.9	180/7.1
DN250/10"	70/2.8	405/15.9	740/29.1	1010/39.8	355/14.0	1225/48.2	240/9.4
DN300/12"	76/3.0	485/19.1	850/33.5	1170/46.1	400/15.7	1390/54.7	290/15.4
DN350/14"	76/3.0	535/21.1	940/37.0	1300/51.2	450/17.7	1650/65.0	350/13.8
DN400/16"	89/3.5	600/23.6	1060/41.7	1460/57.5	500/19.7	1820/71.7	350/13.8
DN450/18"	89/3.5	640/25.2	1190/46.9	1640/64.6	550/21.7	2015/79.3	400/15.7
DN500/20"	114/4.5	715/28.1	1290/50.8	1790/70.5	600/23.6	2185/86.0	400/15.7

Note: End Connection Dimension as per EN1092-2 PN10,PN16 or ASME/B16.5 150LB