AARYA
PNEUMATIC INDUSTRIES

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KNIFE GATE VALVE

AARYA PNEUMATIC INDUSTRIES
310 & 311 Mahavir Industrial Estate, Ramchandra Lane Extn. Kachpada, Malad West, Mumbai - 400064, INDIA

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KNIFE GATE VALVE

Aarya Pneumatic Industries was started in 2015 with view to provide automation solution to Sugar, Paper, Chemical, Ash handling system, Canvas System Industries, where the automation was still in its nascent stage at that time. company decided to diversify in the manufacturing of knife gate valves. Over the period time company has investment has invested in various dies, moulds and patterns of various valves and its components. Computerized order processing and Production Quality Control System, Latest Manufacturing Technique by using CAD/CAM, CNC Machining and assembling systems, ensures high precision product, completely interchangeable and suiting to aesthetic of modern times, yet economically produced. Aarya Pneumatic's Knife gates are made with utmost accuracy and are very reliable. Our engineers design valve after collecting all technical information from the clients hence each valve offered to the client is exactly suitable to the application. Robust, yet easy to operate. No wonder Aarya Pneumatic's Knife gates are engineers first choice!

KNIFE GATE VALVE

- Single Piece Cast Body
- Uni-Directional Valve / Bi-Directional Valve
- Metal / Resilient seating
- Design as per MSS SP 81
- Simple compact design and construction
- Manual / Pneumatic / Hydraulic / Motorized actuation
- Maximum Operating Pressure : 150 psi
- Hardened beveled gate and hardened seat for shearing and sealing
- Close tolerance machining between bodies
- Precision ground gate
- Removable insert ring for ease of repair
- Sizes range from 2" to 24" (Larger sizes on request)
- 100% factory tested as per MSS SP 81

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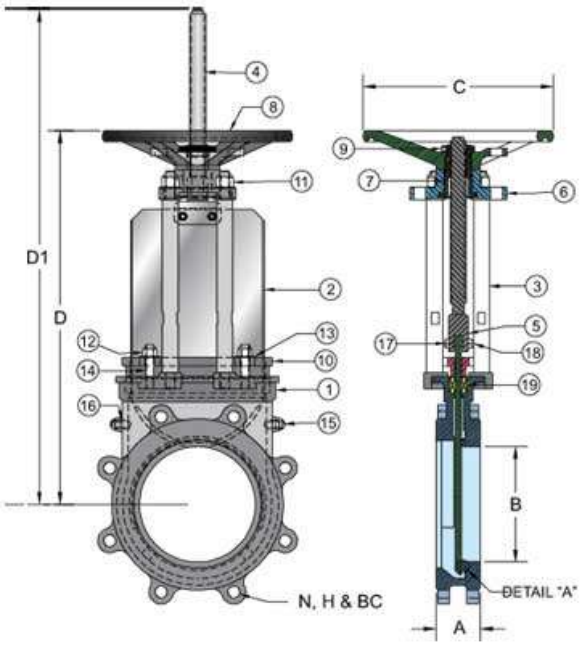
RESILIENT & METAL SEATED

Dimensions (Inches)

Size	2	3	4	5	6	8	10	12	14	16	18	20	24
A	1 7/8	2	2	2 1/4	2 1/4	2 3/4	2 3/4	3	3	3 1/2	3 1/2	4 1/2	4 1/2
B	2	3	3 3/4	4 7/8	5 3/4	7 5/8	9 1/2	11 1/8	13 3/16	15 9/16	17 7/16	19 3/8	23
N (Holes)	4	4	8	8	8	8	12	12	12	16	16	20	20
H (Tap)	5/8-11	5/8-11	5/8-11	3/4-10	3/4-10	3/4-10	7/8-9	7/8-9	1-8	1-8	1 1/8-7	1 1/8-7	1 1/4-7
BC	4 3/4	6	7 1/2	8 1/2	9 1/2	11 3/4	14 1/4	17	18 3/4	21 1/4	22 3/4	25	29 1/2
C	8	8	8	9	12	12	16	16	18	18	20	24	24
D	11 5/8	13 1/2	15	17	18 1/4	23	28	31 7/8	36 7/8	44 1/2	48 1/4	53 7/8	61



No	PART NAME	SPECIFICATION
1	BODY	CAST IRON / WCD CF8 / CF8M / CF83
2	GATE	M.S. / SS304 / SS316 / SS316L
3	YOKE	MS-POWDER COATED / SS
4	STEM	STAINLESS STEEL
5	FORK	M.S. / SS304 / SS316 / SS316L
6	BRIDGE	ALUMINIUM, MS
7	YOKE SLEEVE	BRASS
8	HANDWHEEL	CAST IRON
9	HANDWHEEL NUT	M.S. / SS304 / SS316 / SS316L
10	GLAND	STAINLESS STEEL, MS
11	BRIDGE NYLOCK NUT	STAINLESS STEEL
12	GLAND NYLOCK NUT	STAINLESS STEEL
13	GLAND WASHER	STAINLESS STEEL
14	GLAND STUD	STAINLESS STEEL
17	COUPLING BOLT	STAINLESS STEEL
18	COUPLING NYLOCK NUT	STAINLESS STEEL
19	PACKING	PTFE ROPE / GRAPHITE

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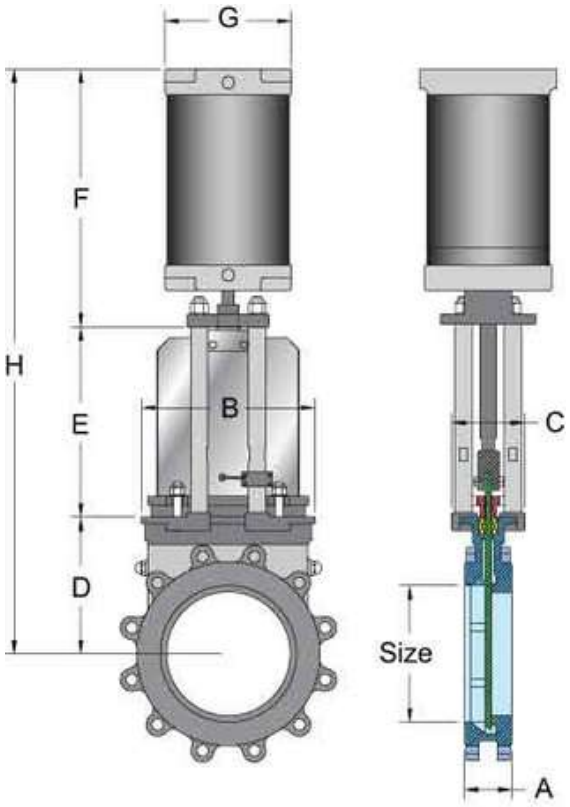
PNEUMATIC ACTUATOR



The standard pneumatic actuator (double acting on-off cylinder) consists of:
Aluminum jacket and covers Stainless steel (AISI 304) piston rod Nitrile coated steel piston

Supply Pressure:
Available from 2" to 40" minimum 0 Kg/cm2 - maximum 2.8 Kg/cm2 for valves installed in a horizontal position, we recommend U-type support plates and/or actuator support.

Options:

- Hard anodized jacket and covers
- Over / Undersized cylinder
- Stainless steel jacket and covers
- Manual override
- Fail safe system
- Travel stops

Dimensions (Inches)

Size	A	B	C	D	E	F	G	H	Weight (lb.)	Standard Cylinder	Air Connection
2	1 37/64	4 11/16	3 15/16	4 1/8	5 5/64	7	4 17/32	16 7/32	20	C100/62	1/4"
2 1/2	1 37/64	9 9/32	3 15/16	4 33/64	5 3/4	7 19/32	4 17/32	17 7/8	22	C100/77	1/4"
3	1 31/32	5 7/8	3 15/16	4 7/8	6 3/8	8 5/16	4 17/32	19 9/16	24	C100/95	1/4"
4	1 31/32	6 21/32	3 15/16	5 1/2	7 3/8	9 3/32	4 17/32	21 31/32	33	C100/115	1/4"
5	1 31/32	7 5/64	3 15/16	5 29/32	8 19/64	10 43/64	5 1/2	24 7/8	44	C125/143	1/4"
6	2 23/64	8 3/8	3 15/16	6 57/64	9 21/64	11 21/32	5 1/2	24 7/8	55	C125/168	1/4"
8	2 23/64	10 5/16	4 13/16	8 1/16	12 5/32	14 3/32	6 57/64	34 21/34	97	C160/220	1/4"
10	2 3/4	12 33/64	4 13/16	9 27/32	14 21/64	16 55/64	8 21/32	41 1/32	147	C200/270	3/8"
12	2 3/4	14 41/64	4 13/16	11 13/16	16 19/64	18 13/16	8 21/32	46 15/16	180	C200/320	3/8"
14	3 25/32	16 63/64	7 3/5	13 5/16	19 11/16	21 5/8	10 29/32	54 39/64	295	C250/375	3/8"
16	3 15/16	19 9/64	7 3/4	15 7/16	21 21/32	23 37/64	10 29/32	60 43/64	364	C250/425	3/8"
18	4 11/64	21 17/64	10 5/8	17	23 35/64	26 25/32	15 1/32	67 21/64	485	C300/475	1/2"
20	4 21/64	23 45/64	10 5/8	19 3/32	25 29/32	28 3/4	15 1/32	73 3/4	617	C300/525	1/2"
24	4 21/64	27 7/8	10 5/8	23 7/32	29 27/32	32 43/64	15 1/32	85 3/4	728	C300/625	1/2"
28	4 21/64	32 27/32	14 31/32	27	35 7/16	37 51/64	17 31/64	100 15/64	1146	C350/730	3/4"
30	4 21/64	34 13/16	14 31/32	29 59/64	37 13/64	40 5/32	17 31/64	107 9/32	1290	C350/780	3/4"
32	4 21/64	39 31/32	12 19/32	31 9/64	38 7/64	43 7/64	17 31/64	112 23/64	1433	C350/830	3/4"
36	4 21/64	40 61/64	12 19/32	35 15/64	44 1/64	46 21/32	20 17/64	126 7/64	1874	C400/930	3/4"
40	4 21/64	45 9/32	12 19/32	38 25/64	48 15/64	50 19/32	20 17/64	137 13/64	2337	C400/1030	3/4"

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TEMPERATURE CHART & BOLTING SPECIFICATIONS

TEMPERATURE CHARTS

SEAT / SEALS		
Material	**Max. Temp. (°F)**	**Applications**
Metal / Metal	>482	High temperature, Low Tightness
EPDM (E)	248	Acids and non mineral oils
Nitrile (N)	248	Resistance to petroleum products
Viton® (V)	392	General chemical service, High temperature
Silicone (S)	482	Food service, High temperature
PTFE (T)	482	Corrosion Resistance

More details and other materials under request.

PACKING

Material	Max. Temp. (°C)	pH
PTEF Impregn. synth. fibre (ST)	240	2 - 13
Braided PTFE (TH)	260	0 - 14
Graphited (GR)	600	0 - 14
Special yarn	1200	0 - 14

TEMPERATURE CHARTS

Size	K	n°	M	pH
2"	4 3/4"	4	5/8" UNC	4--
2 1/2	5 1/2"	4	5/8" UNC	4--
3"	6"	4	5/8" UNC	4--
4"	7 1/2"	8	5/8" UNC	4-4
5"	8 1/2"	8	3/4" UNC	4-4
6"	9 1/2"	8	3/4" UNC	4-4
8"	11 3/4"	8	3/4" UNC	4-4
10"	14 1/4"	12	7/8" UNC	6-6
12"	17"	12	7/8" UNC	6-6
14"	18 3/4"	12	1" UNC	8-4
16"	21 1/4"	16	1" UNC	10-6
18"	22 3/4"	16	1 1/8" UNC	10-6
20"	25"	20	1 1/8" UNC	14-6
24"	29 1/2"	20	1 1/4" UNC	14-6
28"	34"	28	1 1/4" UNC	20-8
30"	36"	28	1 1/4" UNC	20-8
32"	38 1/2"	28	1 1/2" UNC	20-8
36"	42 3/4"	32	1 1/2" UNC	22-10
40"	47 1/4"	36	1 1/2" UNC	26-10
48	56"	44	1 1/2" UNC	28-16

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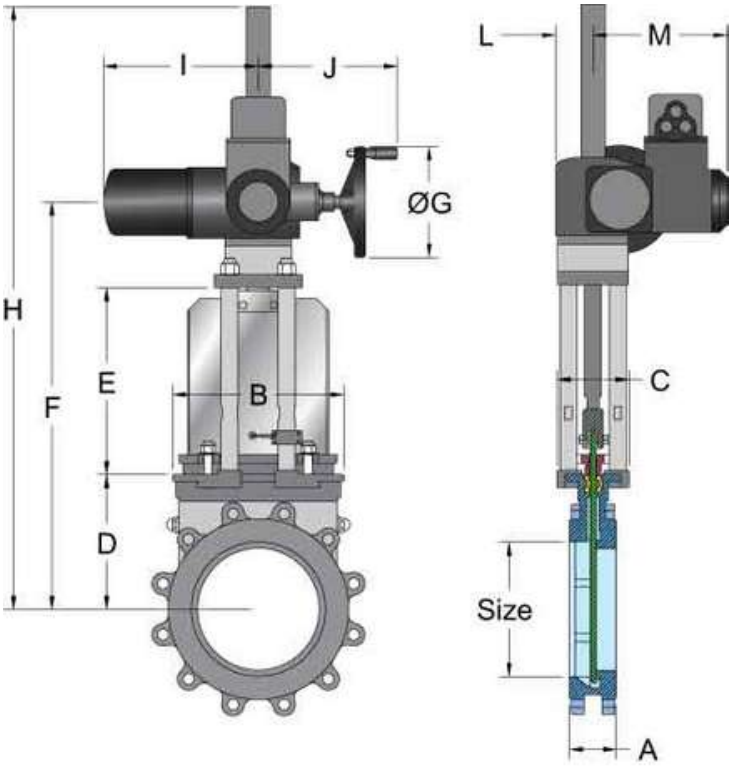
ELECTRIC ACTUATOR

- Electric Actuator
- Rising Stem
- The standard electric motor is equipped with: Manual emergency operation limit switches (open / closed) Torque switches



Dimensions (Inches)

Size	A	B	C	D	E	F	ØG	H	I	J	L	M	Torque
2	1 37/64	4 11/16	3 15/16	4 1/8	5 5/64	14 3/32	6 5/16	21 17/32	10 7/16	9 13/16	2 7/16	9 11/32	177
2 1/2	1 37/64	5 9/32	3 15/16	4 17/32	5 3/4	15 29/32	6 5/16	21 17/32	10 7/16	9 13/16	2 7/16	9 11/32	212
3	1 31/32	5 7/8	3 15/16	4 7/8	6 3/8	16 57/64	6 5/16	23 37/64	10 7/16	9 13/16	2 7/16	9 11/32	265
4	1 31/32	6 21/32	3 15/16	5 33/64	7 25/64	18 1/2	6 5/16	25 13/34	10 7/16	9 13/16	2 7/16	9 11/32	354
5	1 31/32	7 3/32	3 15/16	5 29/32	8 5/16	19 27/32	6 5/16	26 17/32	10 7/16	9 13/16	2 7/16	9 11/32	442
6	2 23/64	8 9/32	3 15/16	6 57/64	9 21/64	21 55/64	6 5/16	44 19/64	10 7/16	9 13/16	2 7/16	9 11/32	531
8	2 23/64	10 5/16	4 13/16	8 5/64	12 5/32	26 21/64	7 7/8	50 3/4	11 7/64	10 5/64	2 7/16	9 23/32	619
10	2 3/4	12 33/64	4 13/16	9 27/32	14 21/64	30 17/64	7 7/8	53 1/8	11 7/64	10 5/64	2 7/16	9 23/32	708
12	2 3/4	14 21/32	4 13/16	11 13/16	16 5/16	34 7/32	7 7/8	57 1/4	11 7/64	10 5/64	2 7/16	9 23/32	796
14	3 25/32	16 31/32	7 3/4	13 5/16	19 11/16	38 7/64	7 7/8	61 9/64	11 7/64	10 5/64	3 23/64	9 23/32	929
16	3 15/16	19 1/8	7 3/4	15 7/16	21 21/32	42 13/64	7 7/8	65 1/4	11 7/64	10 5/64	3 23/64	9 23/32	1062
18	4 11/64	21 1/4	10 5/8	17 1/64	23 35/64	47 7/16	12 13/32	71 1/16	15 5/32	12 25/32	3 35/64	11 7/32	1416
20	4 21/64	23 45/64	10 5/8	19 3/32	25 29/32	51 57/64	12 13/32	75 33/64	15 5/32	12 25/32	3 35/64	11 7/32	1593
24	4 21/64	27 7/8	10 5/8	23 7/32	29 27/32	60 1/32	12 13/32	87 33/64	15 5/32	12 25/32	3 35/64	11 7/32	1859
28	4 21/64	32 53/64	14 31/32	27 1/64	35 7/16	69 13/32	12 13/32	112 1/16	15 5/32	12 25/32	3 35/64	11 7/32	2036
30	4 21/64	34 13/16	14 31/32	29 59/64	37 13/64	74 3/32	15 3/4	116 47/64	15 5/32	13 1/16	3 35/64	11 7/32	2301
32	4 21/64	39 31/32	12 39/64	31 9/64	38 37/64	76 11/16	15 3/4	119 11/32	15 5/32	13 1/16	3 35/64	11 7/32	2567
36	4 21/64	40 15/16	12 39/64	35 1/4	42 51/64	84 59/64	15 3/4	127 9/16	15 5/32	13 1/16	3 35/64	11 7/32	2876
40	4 21/64	45 9/32	12 39/64	38 3/8	47 15/64	92 17/32	15 3/4	135 5/64	15 5/32	13 1/16	3 35/64	11 7/32	3275
48	5 29/32	55 1/8	17 23/32	48 27/64	58 15/32	119 3/32	19 11/16	170 15/32	20 5/64	13 63/64	4 17/32	12 13/64	5753

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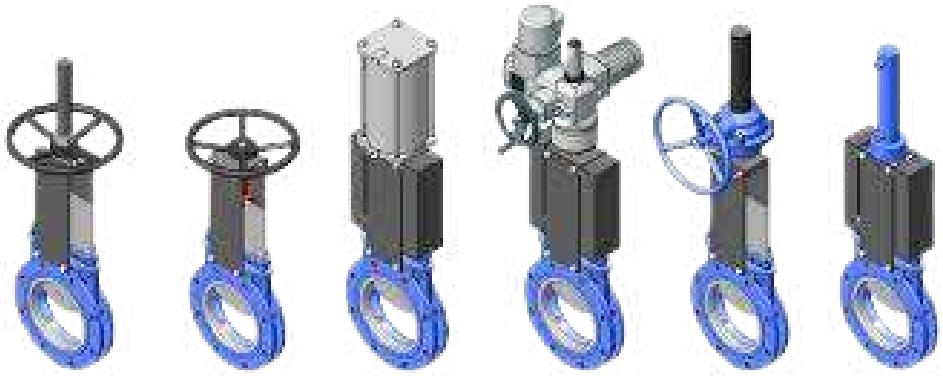
TECHNICAL INFORMATION

Size	Metal Seated Cv	Resilient Seated Cv	No. Turns to Open/Close	Pounds Thrust @ 100 psi
2"	162	131	7	420
2.5"	182	131	8	480
3"	394	316	10.5	650
4"	566	508	12.2	900
5"	958	508	16	1150
6"	1332	1197	18	1400
8"	2343	2046	19.5	2100
10"	2637	3396	24.5	2600
12"	4987	4559	30	3300
14"	7012	6233	53	4200
16"	9744	8986	64	5400
18"	12290	11441	71	6600
20"	15088	14167	79	7850
24"	21317	19949	95	10800

$$Cv = Q\sqrt{\frac{SG}{\Delta P}}$$

Q = Flow (gpm)
SG = Specific Gravity
ΔP = Pressure Drop (psi)



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