

MODEL**KV-250**

WAFER TYPE KNIFE GATE VALVE

Espana knife gate valve model KV-250 is an uni-direction wafer valve designed for general industrial service applications. The design of the body and seal assures non-clogging shut off on suspended solids in industries such as :

- Pulp and Paper
- Power Plants
- Wastewater treatment plants
- Chemical plants
- Food and Beverage
- Mining etc.

Sizes : DN 50 to DN 1200 (larger diameters on request)

Working pressure:

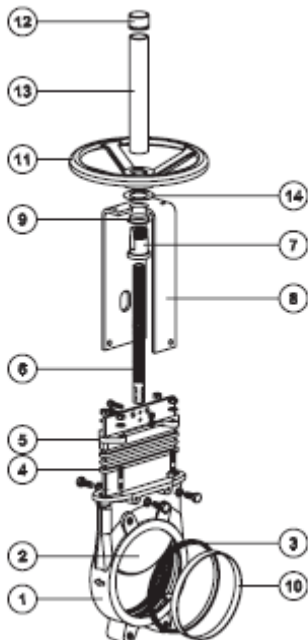
DN 50 to DN 250	: 10 kg/cm ²
DN 300 to DN 400	: 6 kg/cm ²
DN 450	: 5 kg/cm ²
DN 500 to DN 600	: 4 kg/cm ²
DN 700 to DN 1200	: 2 kg/cm ²



Standard flange connection: DIN PN 10 and ANSI B16.5 (class 150)

Note: other flange connections are available on request such as: DIN PN 6 ; DIN PN16; DIN PN25; BS “D” and “E”; ANSI 125; ANSI 150; JIS10K; JIS20K

STANDARD PARTS LIST



Part	Cast iron	Stainless Steel
1 - Body	GG25	CF8M
2 - Gate	AISI 304	AISI 316
3 - Seal	Metal/Metal or EPDM or NBR	
4 - Packing	Tallowed cotton PTFE	
5 - Gland	Ductile Iron	CF8M
6 - Stem	AISI 303	
7 - Stem nut	Brass	
8 - Yoke	Epoxy-coated Steel	
9 - Collar	Nylon	
10 - A ring	AISI 304	AISI 316
11 - Hand wheel	Ductile Iron GGG40	
12 - Cap	Plastic	
13 - Stem Protector	Epoxy-coated carbon steel	
14 - Friction washer	Brass	



DESIGN FEATURES

BODY:

Wafer type cast **mono block** with raised face, with reinforced ribs in larger diameters for extra body strength.
Internal cast-in gate wedges and guides allows for tighter shut-off.
Full port design for greater flow capacity and minimal pressure drop.
Internal design avoids any build up of solids that would prevent valve from closing.

GATE:

Stainless steel gate as standard.
Gate is polished on both sides to avoid jamming and seat damage.
Bottom of the gate edge is machined to a bevel to cut through solids for a tighter seal in the closed position. On request: thickness and/or material of the gate can be changed for higher pressure requirement.

SEAT:

Unique design that mechanically locks the seat in the internal of the valve body with a stainless steel retainer ring.
Standard EPDM also available in different materials such as Viton, PTFE, etc.

PACKING:

Long-life packing with several layers of braided fiber plus an EPDM o-ring, with an easy access packing gland ensuring a tight seat.
Long-life braided packing is available in a wide range of materials.

STEM:

The standard stainless steel stem offers a long corrosion resistant life.
For rising stem hand wheel actuators only, a stem protector is provided for additional protection against dust while the valve is in the open position.

ACTUATORS:

All actuators supplied by **ESPANA** are interchangeable, and supplied with an standard mounting kit to allow for installation on site.

YOKE or ACTUATOR SUPPORT:

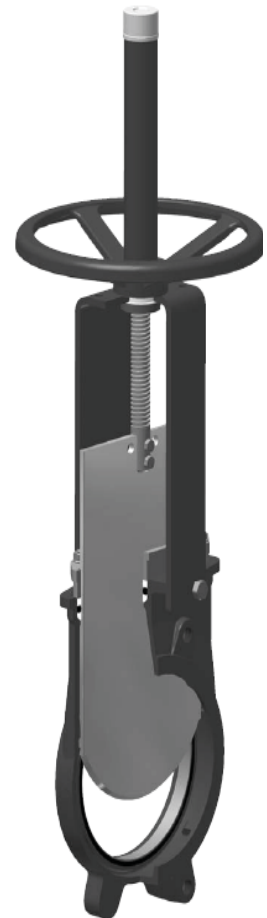
Made of Epoxy coated steel (stainless steel available on request).
Compact design makes it extremely robust even under the most severe conditions.

EPOXY COATING:

The epoxy coating on all **ESPANA** cast iron and carbon steel valve Bodies and components is electro-statically applied making the valves to be corrosion resistant with a high quality finished surface.

GATE SAFETY PROTECTION:

ESPANA automated valves are provided with gate guards in accordance With EU Safety Standards.
The design feature prevents any objects from caught accidentally while The gate is moving.



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ACTUATOR TYPES

Manual:

Hand wheel (rising & non-rising stem)
Chain wheel
Level
Bevel Gear
Other (square nut....)

Automatic:

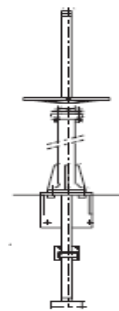
Electric
Pneumatic
Hydraulic

All actuators supplied by ESPANA are interchangeable.

Accessories:

Mechanic Stops
Actuator manual override
Positioners
Proximity Switches
Stem extensions

Locking device
Solenoid valves
Limit Switches
Floor stands



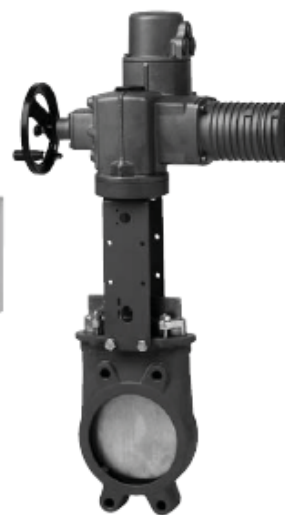
**Standard Hand wheel
(Rising Stem)**



**Hand wheel
(Non rising stem)**



**Pneumatic
Cylinder**



Electric



Level

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TEMPERATURE CHART

SEAT / SEALS

PACKING

SEAT / SEALS			PACKING		
Material	Max.Temp. (C°)	Applications	Material	Max.Temp. (C°)	pH
Metal/Metal	>250	High temp. Low tightness	Tallowed cotton	50	6 - 8
EPDM	120	Acids and non mineral oils	Dry cotton	50	6 - 8
Nitrile	120	Resistance to petroleum products	PTFE synth. fibre	240	2 - 13
Viton	200	General chemical service. High Temperature.	Braided PTFE	260	0 - 14
Silicone	250	Food service / High temperature	Graphite	600	0 - 14
PTFE	250	Corrosion resistance	Ceramic fibre	1200	---

SEAT TYPES



METAL / METAL

For applications with:

- High temperature
- High density media application material
- When full tightness is not required above



RESILIENT, TYPE "A"

- Standard resilient seat
- Temperature limitations according to seat

selected. Consult the chart or our technical.



TYPE "B" SEAT (metal/metal)

For applications with:

- High temperature material
- High density media application above
- When full tightness is not required
- Replaceable design without dismantling the valve



TYPE "B" SEAT (resilient)

- Temperature limitations according to seat

selected. Consult the chart or our technical.



DEFLECTION CONE "C"

- Deflects the media away from any internal exposed Parts of the valve such as gate guides, seat, etc.
- Different types of material available such as AISI 316 stainless, CA 15, Ni Hard, etc.

Face to face dimension increase:

DN 50 to DN 250 X = 9 mm

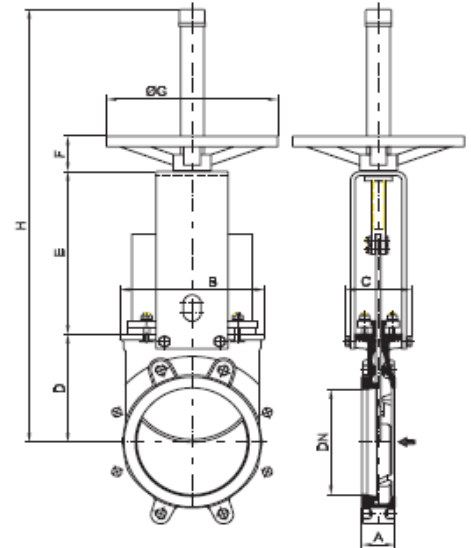
DN 300 to DN 600 X = 12 mm

Larger diameters on request.

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HAND WHEEL (rising stem)

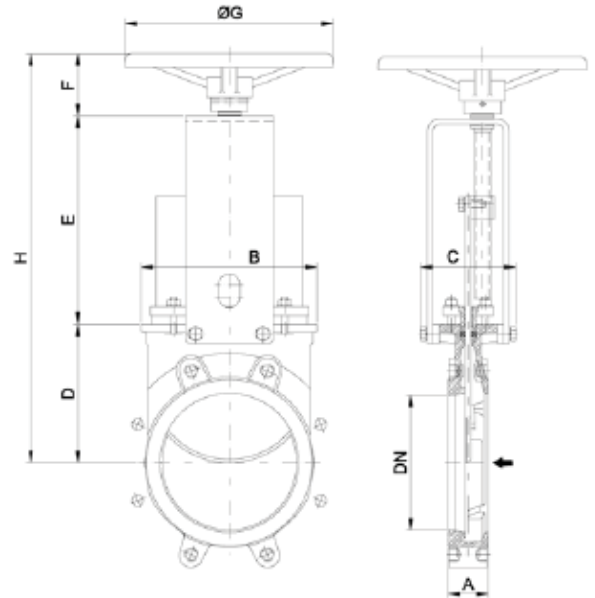
- Standard hand wheel actuator.
- Consists on:
 - Hand wheel: Epoxy coated Cast Iron
 - Stem
 - Stem nut
 - Stem protector
- Available from DN 50 to DN 1000
- Option:
 - Locking Device
 - Extension



DN	A	B	C	D	E	F	ΦG	H	weight(kg)
50	40	119	100	105	129	47	225	420	7
65	40	134	100	115	146	47	225	450	8
80	50	149	100	124	162	47	225	475	9
100	50	169	100	140	187	47	225	520	11
125	50	180	100	150	211	47	225	600	15
150	60	210	100	175	237	47	225	652	18
200	60	262	122	205	309	67	310	822	30
250	70	318	122	250	364	67	310	1022	44
300	70	372	122	300	414	67	310	1122	58
350	96	431	197	338	486	66	410	1323	96
400	100	486	197	392	536	66	410	1427	124
450	106	540	201	432	588	66	550	1594	168
500	110	602	201	485	648	66	550	1707	192
600	110	708	201	590	748	66	550	2022	245
700	110	834	380	686	890	74	800	2575	405
750	110	884	380	760	945	74	800	2704	455
800	110	1015	320	791	989	74	800	3479	512
900	110	1040	320	895	1118	74	800	3798	680
1000	110	1150	320	975	1220	74	800	3980	865

MODEL**KV-250****HAND WHEEL (non-rising stem)**

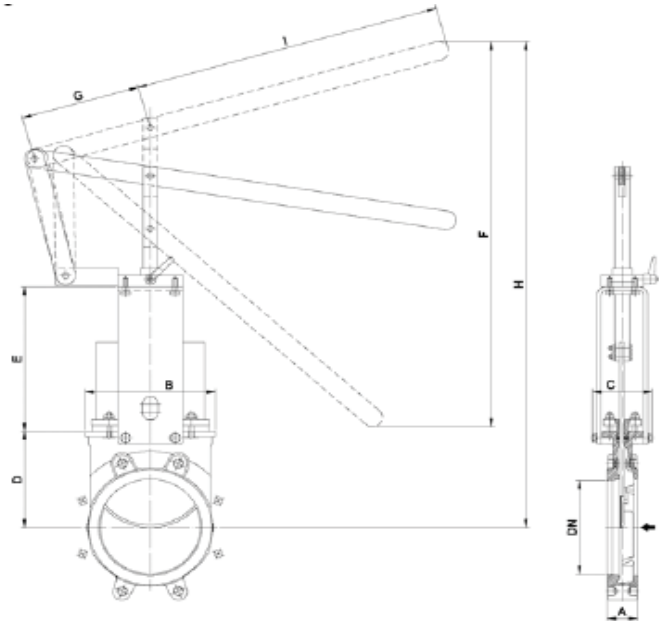
- Recommended for installation where space is limited
- Consists on:
 - Hand wheel: Epoxy coated Cast Iron
 - Stem
 - Yoke bushing
 - Stem nut fixed to the gate
- Available from DN 50 to DN 1000
- Option:
 - Locking Device
 - Extension
 - Square Nut Drive



DN	A	B	C	D	E	F	ØG	H
50	40	119	125	105	132	78	225	315
65	40	134	125	115	149	78	225	342
80	50	149	125	124	165	78	225	367
100	50	169	125	140	190	78	225	408
125	50	180	125	150	214	78	225	442
150	60	210	125	175	240	78	225	493
200	60	262	142	205	305	92	310	602
250	70	318	142	250	360	92	310	702
300	70	372	142	300	410	92	310	802
350	96	431	197	338	487	110	410	935
400	100	486	197	392	537	110	410	1039
450	106	540	201	432	589	111	550	1132
500	110	602	201	485	649	111	550	1245
600	110	708	201	590	748	111	550	1449
700	110	834	380	686	890	150	800	1726
750	110	884	380	760	945	150	800	1855
800	110	1015	320	791	989	150	800	1934
900	110	1040	320	895	1118	150	800	2168
1000	110	1150	320	975	1220	150	800	2350

MODEL**KV-250****LEVEL**

- Recommended for quick opening and closing
- Consists on:
 - Level
 - Stem
 - Yoke sleeve
 - Level lock
- Available from DN 50 to DN 300



DN	A	B	C	D	E	F	G	H	I
50	40	119	100	105	129	256	150	408	315
65	40	134	100	115	146	259	150	435	315
80	50	149	100	124	162	307	150	509	315
100	50	169	100	140	187	378	150	637	415
125	50	180	100	150	211	439	150	755	415
150	60	210	100	175	237	529	150	895	415
200	60	262	122	205	309	620	235	1038	620
250	70	318	122	250	364	822	235	1307	620
300	70	372	122	300	414	995	235	1578	620

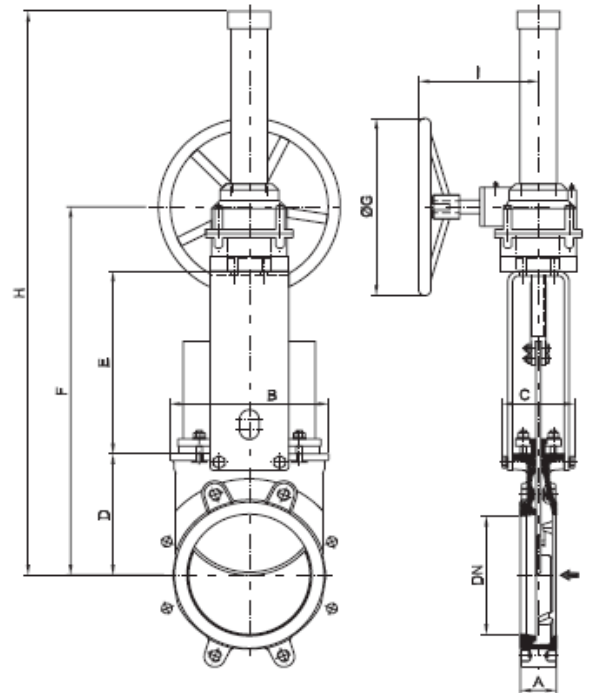
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GEAR

- Recommended for valves larger than DN 350
And working pressures greater than 3.5 kg/cm²
- Consists on:
 - Stem
 - Yoke
 - Bevel Gear Actuator with Hand wheel
(Standard Ratio 4:1)
- Available from DN 200 to DN 1200
- Option:
 - Locking device
 - Extension
 - Chain wheel
 - Non-rising stem



DN	A	B	C	D	E	F	ΦG	H	I
200	60	262	122	205	309	623	300	964	198
250	70	318	122	250	364	723	300	1064	198
300	70	372	122	300	414	823	300	1164	198
350	96	431	197	338	500	922	450	1563	218
400	100	486	197	392	550	1026	450	1668	218
450	106	540	201	432	598	1114	450	1754	218
500	110	602	201	485	658	1227	450	1868	218
600	110	708	201	590	758	1432	450	2074	218
700	110	834	290	686	900	1660	450	2803	268
750	110	884	290	760	945	1789	650	2932	268
800	110	1015	320	791	968	1886	650	3029	307
900	110	1040	320	895	1118	2120	650	3263	307
1000	110	1150	320	975	1220	2302	650	3445	307
1200	150	1400	450	1230	1485	2820	850	4165	365

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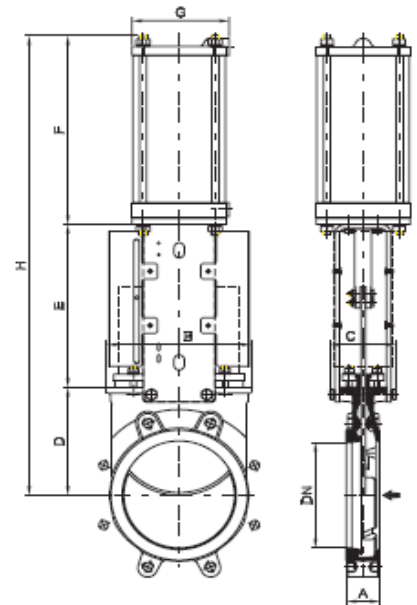
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PNEUMATIC CYLINDER

- The standard pneumatic actuator (double acting on-off

Cylinder) consists on:

- Aluminium jacket and covers
- Stainless steel (AISI 304) piston rod
- Nitrile coated steel piston
- Available from DN 50 to DN 1000
- Supply Pressure: minimum 3.5 kg/cm² – maximum 10 kg/cm²
- For valves installed in a horizontal position, we recommended U-type support plates and/or actuator support.
- Options:
 - Hard anodized jacket and covers
 - Over / Undersized cylinder
 - Stainless steel jacket and covers
 - Manual override
- Instrumentation (on request):
 - Positioners
 - Solenoid valves
 - Flow regulators



DN	A	B	C	D	E	F	G	H	Standard Cyl	Connect.
50	40	119	100	105	129	178	115	412	C100/62	¼" G
65	40	134	100	115	146	193	115	454	C100/77	¼" G
80	50	149	100	124	162	211	115	497	C100/95	¼" G
100	50	169	100	140	187	231	115	558	C100/115	¼" G
125	50	180	100	150	211	271	140	632	C125/143	¼" G
150	60	210	100	175	237	296	140	708	C125/168	¼" G
200	60	262	122	205	309	358	175	872	C160/220	¼" G
250	70	318	122	250	364	428	220	1042	C200/270	3/8" G
300	70	372	122	300	414	478	220	1192	C200/320	3/8" G
350	96	431	197	338	500	549	277	1387	C250/375	3/8" G
400	100	486	197	392	550	599	277	1541	C250/425	3/8" G
450	106	540	270	432	598	680	382	1710	C300/475	½" G
500	110	602	270	485	658	730	382	1873	C300/525	½" G
600	110	708	270	590	758	830	382	2178	C300/625	½" G
700	110	834	380	686	900	960	444	2546	C350/730	¾" G
750	110	884	380	760	945	1020	444	2725	C350/780	¾" G
800	110	1015	320	791	968	1095	444	2854	C350/830	¾" G
900	110	1040	320	895	1118	1185	515	3203	C400/930	¾" G
1000	110	1150	320	975	1225	1285	515	3485	C400/1030	¾" G

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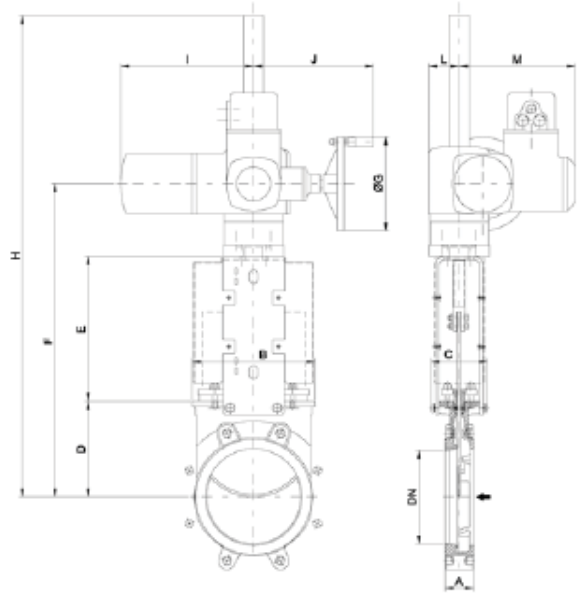


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ELECTRIC ACTUATOR

- Consist on:
 - Electric actuator
 - Rising stem
 - Motor support yoke flange
(Acc. to ISO 5210 / DN 3338)
- The standard electric motor is equipped with:
 - Manual emergency operation
 - Limit switches (open/closed)
 - Torque switches
- Available from DN 50 to DN 1200
- Wide range of types and marks available to meet Customer's needs.
- Option:
 - Non rising stem



DN	A	B	C	D	E	F	G	H	I	J	L	M	Torque(Nm)
50	40	119	100	105	129	377	160	547	265	249	62	237	20
65	40	134	100	115	146	404	160	574	265	249	62	237	25
80	50	149	100	124	162	429	160	599	265	249	62	237	30
100	50	169	100	140	187	470	160	640	265	249	62	237	40
125	50	180	100	150	211	504	160	674	265	249	62	237	50
150	60	210	100	175	237	555	160	1125	265	249	62	237	60
200	60	262	122	205	309	669	200	1289	282	256	65	247	70
250	70	318	122	250	364	769	200	1349	282	256	65	247	80
300	70	372	122	300	414	869	200	1454	282	256	65	247	90
350	96	431	197	338	500	968	200	1553	282	256	85	247	105
400	100	486	197	392	550	1072	200	1657	282	256	85	247	120
450	106	540	270	432	598	1205	315	1805	385	325	90	285	160
500	110	602	270	485	658	1318	315	1918	385	325	90	285	180
600	110	708	270	590	758	1523	315	2223	385	325	90	285	210
700	110	834	380	686	900	1763	315	2846	385	325	90	285	230
750	110	884	380	760	945	1882	400	2965	385	332	90	285	260
800	110	1015	320	791	980	1945	400	3031	385	332	90	285	290
900	110	1040	320	895	1087	2157	400	3240	385	332	90	285	325
1000	110	1150	320	975	1200	2350	400	3431	385	332	90	285	370
1200	150	1400	450	1230	1485	3025	500	4330	510	355	115	310	650