



AVK UK MORE THAN JUST A KNIFE GATE VALVE

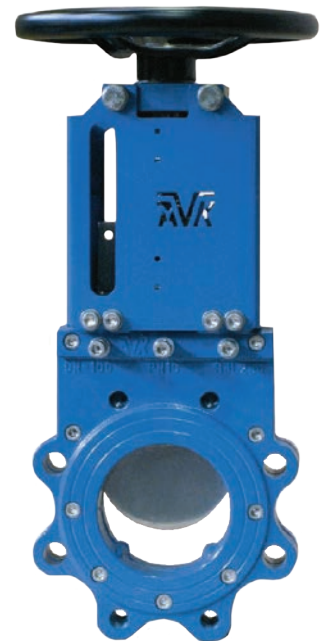


AVK UK manufactures an extensive range of products in the UK as well as in our manufacturing plants globally. Many of these products overlap in terms of functionality and are ultimately specified by designers who consider not only the traditional valve features such as valve type, materials, coatings but elements such as face to face dimensions, working envelope and lead times which all contribute to the final valve choice.

Knife gate valves have historically been used for a defined application which is generally on-off manual /actuated for typically low pressure sludge duty.

Today's AVK Series 702 knife gate valve is 'more than just a knife gate valve'.

AVK UK's Stuart Montgomery said "Whilst offering a light weight design, 100% tightness in both directions, full bore capability and short face to face dimensions to name but a few, the AVK UK knife gate valve is one such product that is truly versatile".



SERIES 702 KNIFE GATE VALVE



For further details, please contact:

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Choice of Sector and Materials

The variety of component and sealing materials available make this valve commonplace in many sectors with duties ranging from within sludge control - waste water, mining, power plants, pulp mills and many more.

Materials of construction

- Body materials include ductile iron, carbon steel, stainless steel 316, duplex and super duplex.
- Seating materials include NBR, EPDM, EPDM WRAS approved, VITON, silicone, natural rubber and polyurethane.
- All of these dependant on the media and temperature requirements.



Choice of working pressures

Many associate a knife gate valve for operation where working pressures are typically low; sludge plants where pressures such as 4/5 bar, even less are the norm, however AVK routinely manufactures knife gate valves that in some cases exceed 100 bars. These are very much dependant on valve size, please see figure.

In addition the working pressure of the valve can be reduced to suit the application whilst still maintaining PN16 flanges. This reduces the valves weight and cost, and is a standard specification for the UK water industry.



VALVE SIZE
DN50 to DN300
DN50 to DN400
DN50 to DN600
DN50 to DN800
DN50 to DN1000
DN1200 to DN1400
DN1500 to DN1800



MAXIMUM W.P.
160 BAR
100 BAR
64 BAR
40 BAR
25 BAR
10 BAR
3 BAR



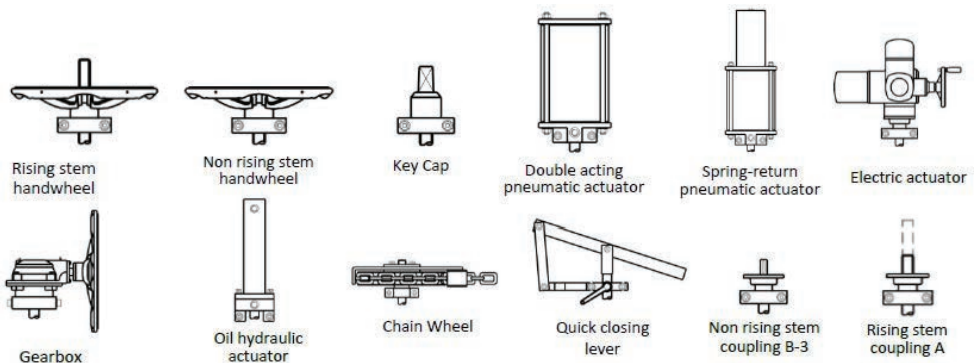
Choice of Functionality

The AVK UK series 702 knife gate valves can be supplied with operators such as;

- Hand wheels
- Gearboxes
- Chain wheel operation
- Electric actuators
- Double and single acting pneumatic actuators
- Linak actuators
- Hydraulic actuators
- Basic levers

All are designed and manufactured to suit a specific application.

In addition, end of travel limit switches, scrapers, closed bonnet (only for standard working pressures) etc, can all be supplied to the basic valve as and when required.



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Choice of Duty

Standard gate valves have become the core product for isolation in the water sector over the years. Although not suited for modulating or flow control applications, and in terms of sludge flow control there are but a few valve types available for such arduous duty.

Series 764 plug valves, manufactured by AVK UK, although quarter turn in design have a full bore and where square ported, have linear flow capability which offers a solution for many flow control applications in sludge.

Depending on the specialist nature of the 'flow control' application - the standard AVK knife gate valve is available in larger sizes and gives a viable alternative in a light weight option, as well as a reduced face to face dimension, reducing working confines giving less costly pipe supports/ civils structures culminating in potentially lower craneage costs.

Where the standard wedge gate valve should not be used as a modulating flow control device, the AVK knife gate valve can and is used as a flow control option. This valve can also be fitted with specially designed ports to match the flow requirements, for example; V port, diamond port, square port etc. This offers a greater degree of reliable flow control function than that of the standard knife gate valve.

Full flow control curves / KV values and technical information are available.

Valve selection checklist;

1. Valve function- flow control/modulating/ on off application /cycle (details e.g. 6 time operation per hour)
2. Valve size / diameter
3. Valve pressures - maximum/minimum working pressures
4. Differential pressure
5. Valve flow - maximum/minimum
6. Operation- how is the valve operated and where from e.g. locally or from platform above
7. Actuator location- direct mounted /indirect mount via floor mounted pillar etc.
8. Actuator specification- Electrical supply

Summary

As referenced in the opening paragraph AVK UK can offer a wide range of products to suit a multitude of applications and because we manufacture all of these options, we will offer what is 'right' for the application not just because we want to promote a particular range (which is often the case for some distributor competitors).

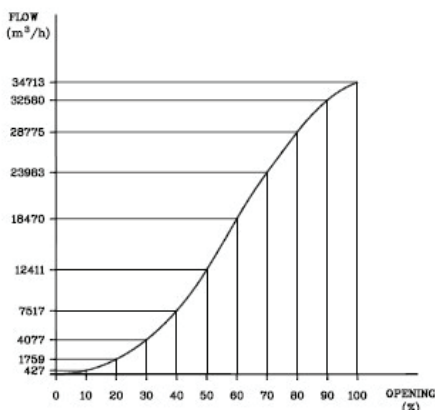
For more information regarding this range of products please refer to AVK UK website; www.avkuk.co.uk

Written by Stuart Montgomery AVK UK Project Manager

V-port (Aisi 316) shown with any shape port available to match flow - square /diamond



KV/CV values for normal valve and adapted valve with V port



% Linear flow details with Typical V port

DN	Normal flow Values		V Notch Flow Values	
	Kv	Cv	Kv	Cv
50	98.96	435.70	60.26	235.31
65	167.24	736.33	101.85	448.43
80	253.33	1115.37	154.28	679.27
100	395.84	1742.83	241.06	1061.35
125	618.50	2723.17	376.66	1658.38
150	890.64	3921.36	542.39	2388.07
200	1583.36	6971.32	964.26	4245.50
250	2474.00	10892.69	1506.66	6633.62
300	3562.56	15685.47	2169.59	9552.41
350	4849.04	21349.67	2953.05	13001.88
400	6333.45	27885.33	3857.05	16982.07
450	8015.77	35292.36	4487.58	19731.79
500	9896.01	43570.82	6026.65	26534.53
600	14250.26	62741.99	8678.37	38209.70
700	19396.19	85389.83	11772.27	51831.73
800	25333.80	111541.34	15428.22	67928.39
900	32063.09	141169.51	19526.35	85971.91
1000	39584.06	174283.34	24106.60	106138.15



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