

AVK SAUDI PENSTOCK & KNIFE GATE VALVES



		<h1>SEWAGE TREATMENT SOLUTIONS</h1>	 <b>Expect... AVK</b> الشركة السعودية لصناعة الصمامات المحدودة SAUDI VALVES MANUFACTURING CO. LTD.
			



# EXPECT SUPREME PRODUCTS

**AVK** is one of the leading manufacturers of valves for the water, gas and sewage industries as well as fire protection worldwide. Our product programme comprises a large range of valves, hydrants, pipe fittings and accessories, each complying with the highest standards of safety and durability. Today, AVK is the only manufacturer offering gate valves that meet most of the common national and international standards such as ISO, CEN, DIN, NF, BS, AWWA, JAWA, SABS, AS and GOST. Our global position ensures that we are able to give you, your partners and your customers the quality products you require.

## WHEN IT COMES TO QUALITY AT AVK, NOTHING IS LEFT TO CHANGE

**AVK's** products are characterized by a high, consistent quality, competitive prices and a durability in line with market requirements. This calls for strict quality control of the production process from beginning to end leading to AVK being certified according to ISO 9001.

**ORBINOX** is high quality manufacturers based in Spain and it is a member of the AVK group of companies. It presents in more than 70 countries worldwide with over 45 years of experience designing, manufacturing, and distributing knife gate valves, penstocks, dampers, and valves for hydraulic works.



### High Quality Manufacture

Manufactured in Europe, the AVK penstock range is designed using Finite Stress Structural Analysis (FSA). This ensures optimum rigidity and allows modelling which prevents any undesirable deformation to be designed in pre-production.



Products are also subject to FEA as part of their design. Computer controlled laser cutting and the latest robotic welding machines ensure minimal waste material and correct welding processes - minimising deformation across the penstock. Stainless steel grade 304 or 316 on Duplex gives maximum corrosion resistance with low mass for ease of installation.



### WASTEWATER TREATMENT

Wastewater is a natural by-product in modern societies. Wastewater from households, industries, and production causes waste and pollution and is a threat to our environment unless we handle and clean it properly. Wastewater is an aggressive medium requiring a high degree of corrosion protection of products.

AVK also offers a wide range of products for the handling and treatment of wastewater including valves mounted with pneumatic or electric actuators as well as position indicator. Resilient seated gate valves from DN 40 up to and including DN 800, and metal seated gate valves, knife gate valves, butterfly valves up to and including DN 2000.



# AVK PENSTOCK RANGE



## 4-SIDED PENSTOCK

The versatile **4-sided sealing penstock** is suitable for **wall mounted** applications.



### Product Characteristics

- 4-sided closed frame design
- Suitable for wall mounting with a square or rectangular opening
- Standard size range: 150 to 4000mm, larger sizes available
- Fabricated stainless steel frame and slide, resilient rubber sealing with either non-rising spindle or rising spindle
- Flush invert available
- Bi-directional up to and including 1200 x 1200mm
- Uni-directional and bi-directional available on larger sizes
- Designed according to DIN 19569-4 / AWWA C561 / BS-7775
- Leakage Allowance – lower than allowable in DIN 19569-4 (class 5) AWWA C561 / BS-7775
- Replaceable seals



## 3-SIDED PENSTOCK

The versatile **3-sided sealing penstock** is suitable for **channel mounting** applications.



### Product Characteristics

- 3-sided open top frame design suitable for channel mounting
- Square or rectangular opening
- Standard size range: 150 to 3500mm larger sizes available
- Fabricated stainless steel frame and slide, resilient rubber sealing with either non-rising, rising spindle also available
- Flush invert available
- Bi-directional to the height of the slide, uni-directional sealing also available
- Designed in general accordance with DIN 19569-4 / AWWA C561 / BS-7775
- Leakage Allowance – lower than allowable in DIN 19569-4 (class 5) / AWWA C561 / BS-7775
- Replaceable seals

A choice of mounting designs are available i.e. concreting into pre-cast rebates for new structures, sidewall fixed for existing channels or wall mounting at the end of channels.

Variety of actuation options are available i.e. manual, electric, extension spindles, pedestals.



# WEIR PENSTOCK

The **weir penstock** is a versatile **3 or 4-sided sealing** suitable for **wall mounted** applications.



## Product Characteristics

- 3 or 4-sided frame design
- Suitable for wall mounting with a square or rectangular opening
- Standard size range : 150 to 2000mm, larger sizes available
- Fabricated stainless steel frame and slide, resilient rubber sealing with non-rising or rising spindle available
- Bi-directional sealing
- Designed according to DIN 19569-4 /AWWA C561 / BS-7775
- Leakage allowance – lower than allowable in DIN 19569-4 (class 5) / AWWA C561 / BS-7775
- Replaceable seals

Variety of actuation options are available i.e. Manual, electric, extension spindles, pedestals

# STOP LOGS

The stainless steel and aluminium **stop logs** are designed for **open channel** installation

**Stainless steel** stop logs are designed for waste water treatment plants, irrigation, hydraulic works and hydro electric power plants.They can be made with stainless steel from grade 304, 316 or duplex steel.



## Product Characteristics

- The frames can be:
  - Channel or wall mounted
  - Bi-directional sealing
  - Standard size range : 150 to 2000mm, larger sizes available on request
  - Lifting devices available i.e. lifting poles or lifting beams dependent on size



## Product Characteristics

- Standard size range : 150 to 2000mm, larger sizes available on request
- Hand lifting device included
- Flush bottom design

**Aluminium** stop logs are designed for temporary isolation and flow control. Stop logs are ideal for maintenance and repair work on flood control and reservoirs.



## Product Characteristics

The stop logs are made from extruded aluminium and are easy to handle due to their:

- Light weight construction
- Bi-directional sealing
- Sizes to suit application
- Lifting devices available i.e. lifting poles or lifting beams



# FLAP VALVE

The **flap valves** are designed for discharge lines such as river levies, sewer lines and drainage conduits and are available in either **round, square** or **rectangular** openings.



## Product Characteristics

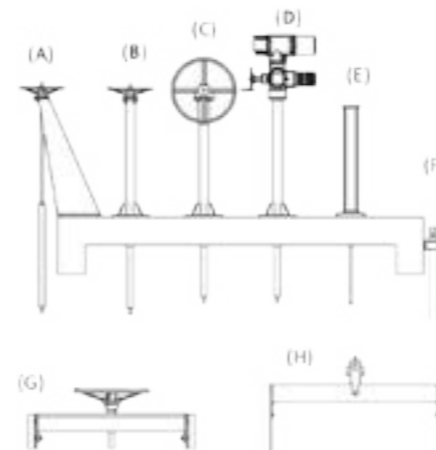
- The flap stays closed preventing water back-flow, and it opens automatically when the unseating water head is higher than the seating water head
- Standard size range : 150 to 3000mm larger sizes available
- For maximum corrosion resistance the flap gates are manufactured from stainless steel or duplex.
- Where required chemical or exporting anchor bolts can be supplied

\* Flap valves are available in wall or flange mounted

# ACCESSORIES

All the penstocks in the range can be supplied with operating equipment and accessories to meet all requirements.

## HEAD STOCKS



- A. Handwheel on inclined floor stand
- B. Handwheel on straight floor stand
- C. Bevel Gear operator on straight floor stand
- D. Electric actuator on straight floor stand
- E. Hydraulic or pneumatic actuator
- F. 2" Square nut Non-Rising stem
- G. Yoke mounted handwheel
- H. Yoke mounted gear and crank

## ACTUATORS



# PRODUCT RANGE TABLE

# AVK KNIFE GATE VALVE



	WALL PENSTOCK	CHANNEL GATE	WEIR GATE	STOP GATE	STOP LOG	ALUMINIUM STOP LOG	FLAP GATES
<b>SEALING</b>	4 SIDE SEALING As std: DN200-1000; 10mwc More than 1100; 6mwc Higher water heads optional		(Optional)				As std: DN200-1400; 5mwc Bigger sizes and lighter water heads optional
		✓	✓	✓	✓	✓	
<b>WATER LEVEL REGULATION</b>			Downward opening		Add remove or logs	Add remove or logs	
<b>ACTUATION SYSTEM</b>	Integrated (Manual, Bevel Gearbox, Electric Motor, Sqr. Nut, Pneumatic Cylinder, Hydraulic Cylinder)			External (Manual Lifting Pole, External Crane or Lifting Device connected to crane)			Water pressure
<b>CONSTRUCTION</b>	Fabricated Stainless Steel					Extruded Aluminium (Option of stainless steel frame)	Fabricated Stainless Steel



# KNIFE GATE VALVE PRODUCTS

**S.779(ET)**  
Knife gate valve  
acc. to MSS SP-81



**S.779(BT)**  
Bi-directional knife gate  
valve acc. to MSS SP-81



(ET)

(BT)

	(ET)	(BT)
APPLICATION	General service (solid loaded fluids) Pulp&paper, waste water, solids...	General service (solid loaded fluids) Pulp&paper, waste water, solids...
SIZES	2" to 36" (DN 50 to DN 900)	2" to 24" (DN 50 to DN 600)
WORKING PRESSURE	2" - 24" (150 psi) DN 50 - DN 600 (10 bar) 30" (100 psi) DN 750 (7 bar) 36" (100 psi) DN 900 (7 bar)	2"-24" (150 psi) DN50-600 (10bar)
FLANGE DRILLING	ANSI 150 PN10	ANSI 150 PN10

Note: larger diameters, higher pressures and/or other flange drilling on request.

# KNIFE GATE VALVE PRODUCTS

**S.779(EB)**  
Wafer Knife Gate Valve  
Bi-directional knife gate valve



**S.779(EX)**  
Wafer Knife Gate Valve  
Uni-directional knife gate valve



(EB)

(EX)

	(EB)	(EX)
APPLICATION	General service (solid loaded fluids) waste water, sludges...	General service (solid loaded fluids) Pulp&paper, waste water, solids...
SIZES	2" to 48" (DN 50 to DN 1200)	2" to 48" (DN 50 to DN 1200)
WORKING PRESSURE	2"-10" (150 psi)/DN 50 - 250 (10 bar) 12"-16" (90 psi)/DN 300 - 400 (6 bar) 18" (75 psi)/DN 450 (5 bar) 20"-24" (60 psi)/DN 500 - 600 (4 bar) 28"-48" (30 psi)/DN 700 - 1200 (2 bar)	2"-10" (150 psi)/DN 50 - 250 (10 bar) 12"-16" (90 psi)/DN 300 - 400 (6 bar) 18" (75 psi)/DN 450 (5 bar) 20" - 24" (60 psi)/DN 500 - 600 (4 bar) 28" - 48" (30 psi)/DN 700 - 1200 (2 bar)
FLANGE DRILLING	ANSI 150 PN10	ANSI 150 PN10

Note: larger diameters, higher pressures and/or other flange drilling on request.

# DESIGN & MATERIALS

## S.779(EX/ET)

**BODY**  
Cast Iron EN-GJL250  
Stainless Steel CF8M

**A/B/C RINGS**  
CF8M Stainless  
CA15  
NiHard

**GATE**  
Stainless Steel AISI 304  
Stainless Steel AISI 316

\*\*Other materials  
on request

### SEATING OPTIONS



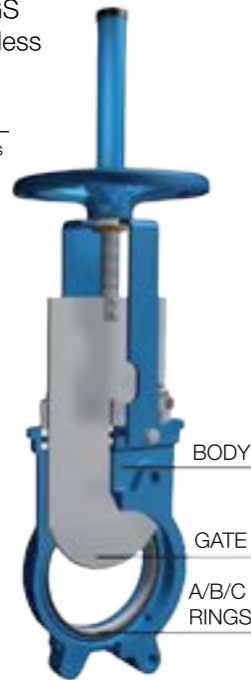
Metal to metal

Resilient A type  
(standard)



Resilient B type  
(reinforced)

Deflection cone C  
type



BODY

GATE

A/B/C  
RINGS

## S.779(BT)

**BODY**  
Stainless Steel CF8M

**GATE**  
Stainless Steel AISI 316

\*\*Other materials  
on request



Resilient seat



BODY

GATE

## S.779(EB)

**BODY**  
Cast Iron EN-GJL250  
Stainless Steel CF8M

**GATE**  
Stainless Steel AISI 304  
Stainless Steel AISI 316

\*\*Other materials  
on request

### SEAT



BODY

GATE

O-RING



# SPECIAL ENGINEERED VALVES

## S.779(CW) Single wedge knife gate valve



## S.779(WS) Fabricated single wedge knife gate valve

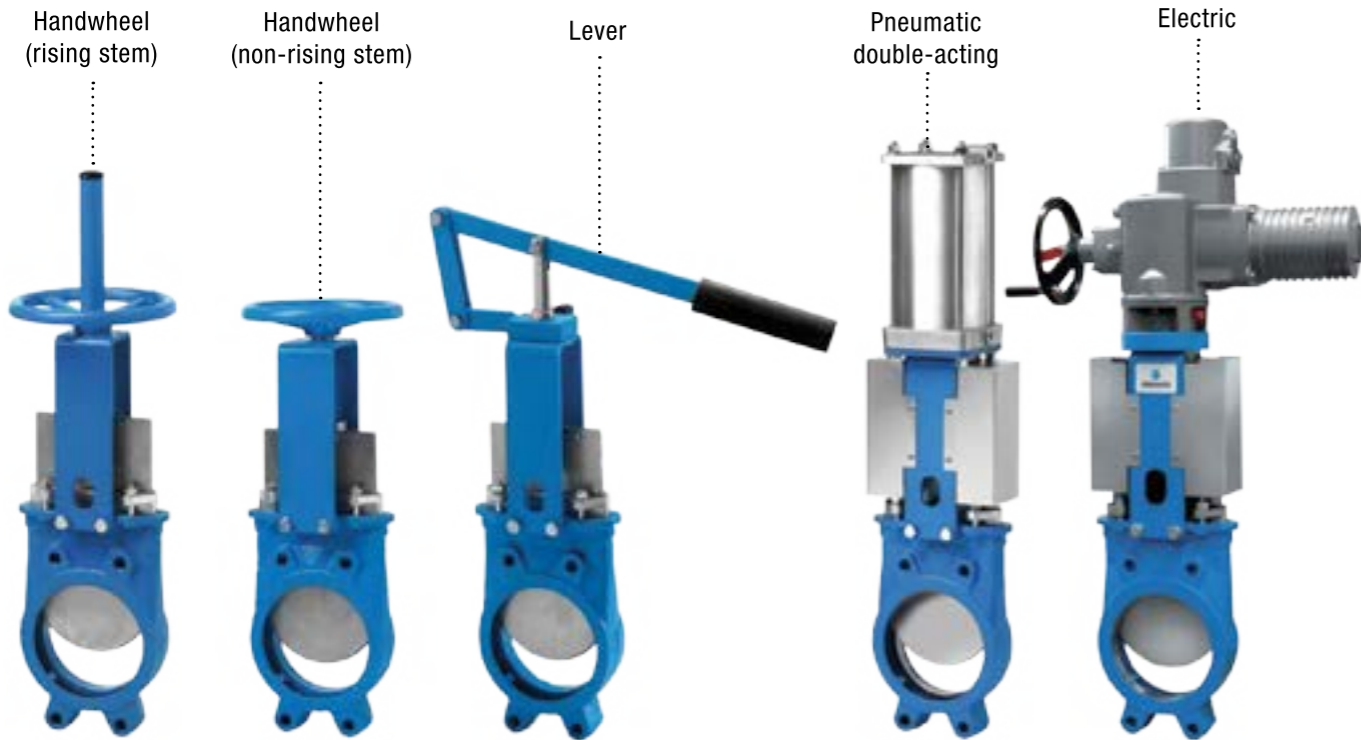


	CW	WS
APPLICATION	Solid loaded / hazardous fluids high pressure	Solid loaded / hazardous fluids high pressure
SIZES	3" to 36" (DN 80 to DN 900)	Up to 96" (up to DN 2400)
WORKING PRESSURE	1500 psi (up to 100 bar) depending on size	582 psi (up to 40 bar) depending on size

# ACTUATORS

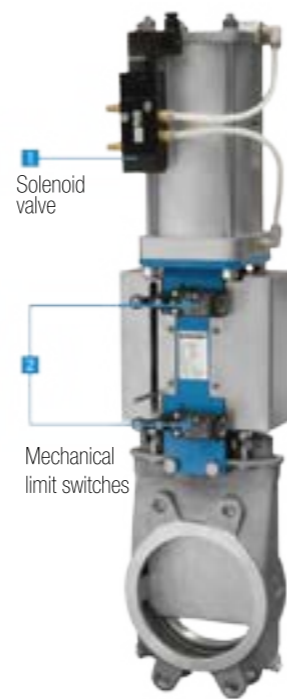
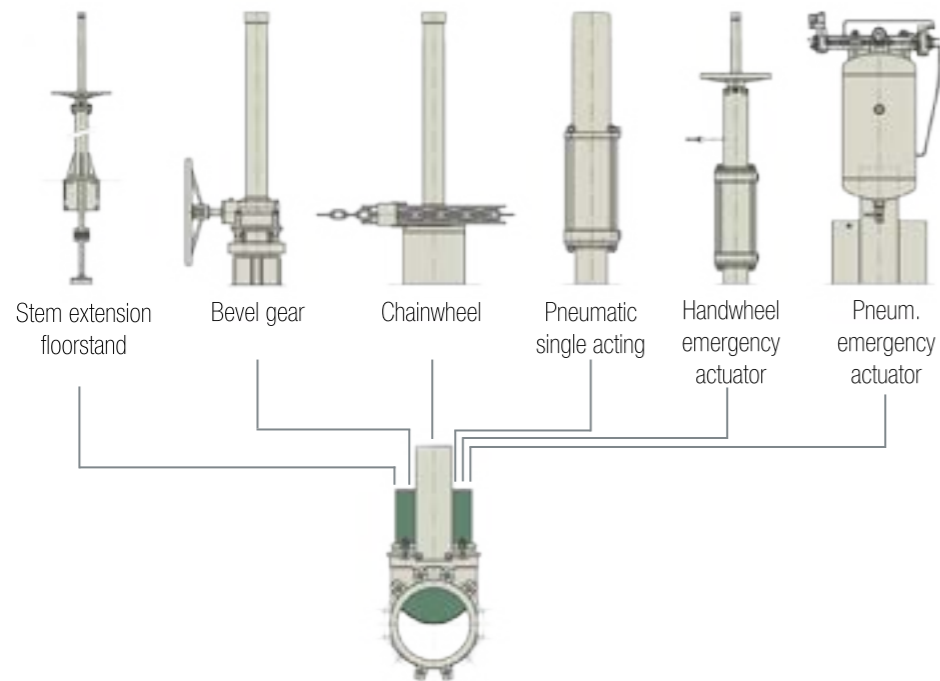
## MANUAL

## AUTOMATED



## MORE ACTUATORS

## ACCESSORIES



# ASSOCIATED PRODUCTS FOR PENSTOCK & KNIFE GATE VALVE



**SERIES 641**  
AVK Non-Slam Check Valve  
DN100-1600  
PN10/16  
Ductile Iron



**SERIES 41**  
AVK Swing Check Valve  
DN50-300  
PN16  
Ductile Iron  
BS 5153:1974



**SERIES 41**  
AVK Swing Check Valve with Lever & Weight  
DN350-600  
PN16  
Ductile Iron  
BS 5153:1974



**SERIES 02**  
AVK Resilient Gate Valve  
DN50-400  
PN16  
Ductile Iron  
BS 5163 type A



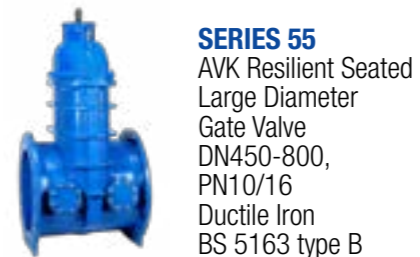
**SERIES 06**  
Flanged gate valve Face-to-face DIN F4  
DN40-800  
PN10/16  
Ductile iron  
Resilient seated



**SERIES 15**  
Flanged gate valve prepared for electric actuator  
Face-to-face DIN F4  
DN40-400  
PN10/16  
Ductile iron



**SERIES 54**  
Metal Seated Gate Valve  
DN700-2000  
PN10/16  
Ductile iron  
Metal seated



**SERIES 55**  
AVK Resilient Seated Large Diameter Gate Valve  
DN450-800,  
PN10/16  
Ductile Iron  
BS 5163 type B



**SERIES 75**  
Butterfly valve Centric with fixed liner  
Double flanged short  
DN50-2000  
PN10/16  
Ductile iron



**SERIES 756**  
AVK Double eccentric Butterfly Valve  
DN200-2400  
PN10/16  
Ductile Iron



**SERIES 861**  
AVK-CSA Anti-Water Hammer Combination Air Valve  
DN50-100  
PN16  
Ductile Iron



**SERIES 861**  
AVK-CSA Air Valve  
DN50-200  
PN16  
Ductile Iron





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Expect... **AVR**

We highly recommend that any person using this data for practical purposes should have specialist training and expertise in the application of these products and knowledge of their installation and operating conditions. If any assistance is required, please consult with a member of AVK team.

