



CAN RELY ON AS CUSTOMERS RELY ON YOURS



FULL COMMITMENT FROM YOUR LONG-TERM PARTNER



AVK has been in the valve business for more than 40 years. First AVK was a gate valve manufacturer, but today we are offering solutions for numerous applications also counting a complete product package for wastewater treatment.

The package includes all you need within gate valves, knife gate valves, swing check valves, ball check valves, air valves, butterfly valves and penstocks as well as flange adaptors and couplings.

Global leadership and local commitment

AVK is a global leader within valves, hydrants, fittings and accessories for water supply, gas supply, wastewater treatment and fire protection and has a strong presence around the world. We offer the local customer access to our global selection of products, standards and expertise.

Our geographical presence and product range is global, but our focus is local. Our customers are serviced by local sales organisations who engage in the customers' needs. AVK is



therefore able to offer tailor-made solutions that match local specifications.

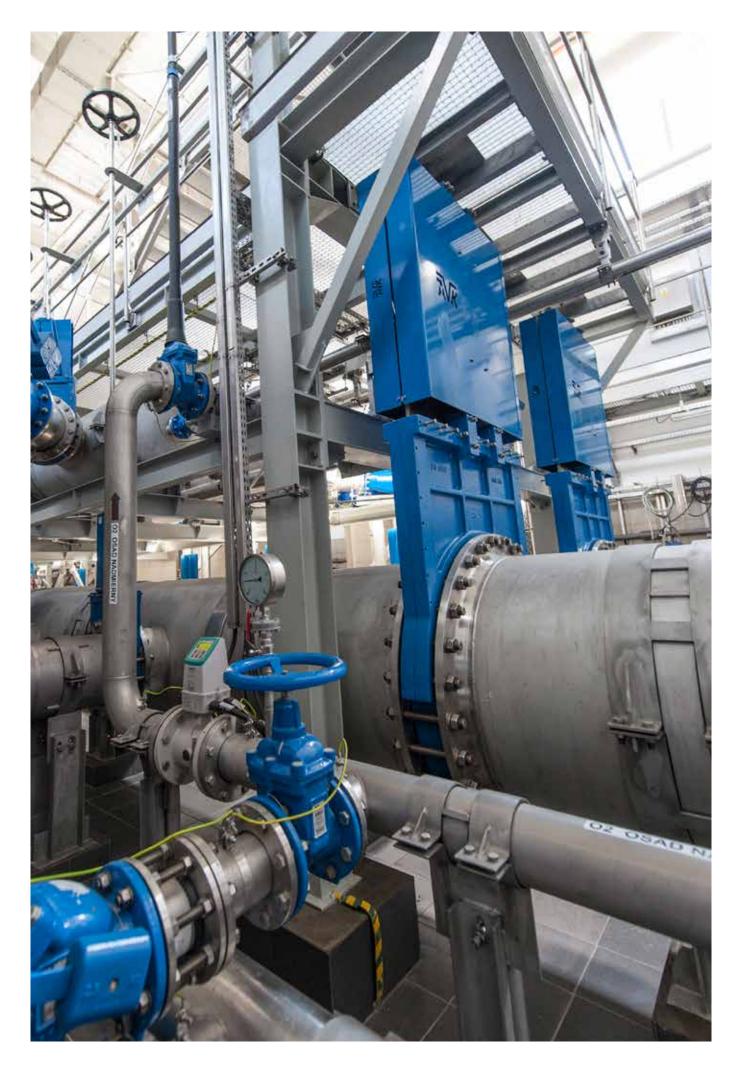
The AVK Group is present in more than 85 countries worldwide. Sales and distribution are handled by AVK sales companies, agents and distributors.

A beneficial partnership

We want to build and invest in a long-term partnership with our customers. For us, longterm partnerships not only imply transactions. They are also an opportunity to develop solutions based on valuable input and to innovate for the benefit of our customers.

To earn our role as a long-term partner, we strive to deliver value for money. We deliver error-free, durable and maintenance-free products that constitute the most cost-efficient solution for our partners in the long run.

Facilities of high standards AVK is unique when it comes to high-quality products. We are second to none when it comes to rubber compounds. We have our own research, vulcanization and coating facilities that enable us to deliver durable products.



GATE VALVES RENOWNED FOR SUPERIOR QUALITY



The wedge is the heart of a gate valve and the quality of the wedge rubber is crucial for the valve function and durability. AVK wedges are fully vulcanized with AVK's rubber compound with outstanding characteristics. The double bonding vulcanization process ensures maximum adhesion of the rubber and prevents creeping corrosion.

Outstanding wedge design

AVK's fixed, integral wedge nut design is superior to the traditional loose wedge nut design as it prevents vibration and thus corrosion, malfunction and water hammer.

The fixed wedge nut, combined with the fully vulcanized wedge and guide rails fitted with wedge shoes, secure a smooth operation of the valve and low operating torques. The wedge shoes protect the rubber against wear which otherwise would arise caused by the friction during operation.

The rubber regains its shape

AVK's rubber compounds feature an excellent compression set securing a 100% tight sealing even after many years in service.

Impurities will not affect the rubber surface or the tightness of the valve, as the impurities will be absorbed in the rubber when the valve is in closed position. When the valve is reopened, the impurities will be flushed away, and the rubber will regain its original shape.





Safe operation The large plain and conical stem hole prevents stagnant water and accumulation of impurities. The large rubber volume in the sealing area combined with the excellent compression set provide optimum sealing.





Feature summary

- Fixed, integral wedge nut prevents vibration
- Fully vulcanized wedge and guide rails fitted with wedge shoes prevent corrosion
- AVK's wedge rubber regains its shape which ensures tightness and durability
- Large, conical stem hole in wedge prevents stagnant water
- Rolled threads increase the stem's strength
- Wedge stop provides a firm stop against the wedge nut to protect seals and coating
- Triple safety stem sealing
- Full circle thrust collar provides fixation of the stem and low free running torques
- The bonnet gasket is fixed in a recess in the bonnet and encircles the bonnet bolts to prevent blow-out
- The stainless steel bonnet bolts are countersunk and sealed with hot melt to protect against corrosion
- Full bore ensures low head loss
- Low operating torques ensure easy operation
- Electrostatically applied epoxy coating according to DIN 30677-2

Various configurations

- Standard bonnet in DN 40-400
- Pin indicator and handwheel in DN 50-400
- Rising stem and handwheel in DN 50-400
- Prepared for actuator in DN 40-800
- Pneumatic actuator in DN 65-300





Gate valves DN 450-800

The stem sealing consists of an NBR wiper ring, a polyamide bearing with two O-rings, two roller bearings and a thrust collar of stainless steel, and an EPDM rubber manchette. The design offers low operating torques.

KNIFE GATE VALVES DESIGNED FOR TOUGH CONDITIONS





AVK knife gate valves embody user requests for a valve which functions well under harsh conditions. The wafer/lug knife gate valves are bi-directional with full and plain bore. The protected sealings and high-quality materials bring about a great performance and a long service life. The valves are ATEX approved.

Optimised performance

AVK knife gate valves are designed with full bore without reduction of the flow, and with plain bottom preventing sediment from being accumulated and obstructing a drop tight closure.

There is no cavity in the body and thus no risk of clogging. Supports integrated in the body protect the gate from deflecting under pressure.

Thought out details

With regard to safety, the stem is as standard encaged to ensure hand protection. The yokes are designed with slots for M12 and M18 inductive censors and are prepared for easy mounting of micro switches.

The screws with locking nuts secure a safe and durable connection between stem and gate, even when the valve is exposed to vibration.

Long life under harsh conditions The screws with locking nuts secure a safe and durable connection between stem and gate, even when the valve is exposed to vibration.

The adjustabale top packing gland enables sealing replacement without disassembly of the valve.









Protected sealings

The one-piece U-shaped NBR sealing between the body parts makes up for tolerances in coating and casting, and offers therefore a complete tightness. It is reinforced with a steel insert to protect it from being damaged during operation.

The adjustabale top packing gland enables sealing replacement without disassembly of the valve.

Feature summary

- Bi-directional
- Full bore and plain bottom
- Adjustable top packing gland
- U-shaped reinforced NBR sealing (other materials on request)
- Encaged stem with yokes prepared for inductive censors and micro switches
- Stem/gate connection with self-locking nuts
- Supports integrated in the body
- Gate, stem, bolts and nuts of acid-resistant stainless steel
- Body of ductile iron with 150µ fusion bonded epoxy coating, optionally other materials
- Washers under the secondary bolts protect the coating
- Slim design and low weight
- With lever, handwheel, pneumatic actuator, ISO top flange and complete with electric actuator
- Scraper for cleaning off sediment from the gate to protect the packing gland (optional extra)
- Available up to PN 100
- ATEX approved



CHECK VALVES ENSURING OPTIMUM PUMP PERFORMANCE



Unique design

By unscrewing a few bolts the bonnet assembly including hinge and disc can be removed from the body. The hinge is tightened around the shaft with bolts to eliminate play and thus ensure durability.



easy to maintain.

AVK offers a wide range of swing and ball check valves featuring full bore and low head loss resulting in maximum utilisation of the pump capacity. The check valves can be installed in both horizontal and vertical positions and are

Swing check valves

AVK swing check valves are available in DN 50-600 and feature full bore and low head loss, as well as easy access to maintenance and a great durability.

Lever and weight

Swing check valves with lever and weight are appropriate for installations with an increased risk of water hammer at standard velocities.

The solution enables visual check and valves in small dimensions offer the possibility of priming by moving the lever manually. The weight is adjustable on the lever to achieve a soft closing against the seat as well as an optimum closing speed to prevent water hammer.

Feature summary

- Bonnet/disc design gives easy access to maintenance
- Disc with steel insert is fully vulcanized with EPDM rubber (up to DN 300) ensuring optimum sealing ability
- Lip sealing on the disc ensures tightness
- Light-weight disc requires a minimum of force to open and close the valve
- The disc is mounted in a nylon bushing, which allows it to move slightly both horizontally and vertically to close completely tight also in case of minor impurities in the seat
- Hinge tightened around the shaft with bolts to eliminate play and thus ensure durability
- Full bore ensures low head loss
- Ductile iron epoxy coated to DIN 30677-2



A guard covering the lever and weight eliminates the risk of injuries. Optionally with limit switches for remote monitoring.

Swing check valves with lever and external spring are suitable for high pressure, insufficient back pressure and high flow velocities.





Ball check valves

AVK ball check valves are self-cleaning, as the ball rotates during operation which eliminates the risk of impurities getting stuck on the ball. The metal core is NBR rubber lined, and the rubber hardness is optimized to prevent the ball from getting stuck in the seat.

The standard balls are made with a solid aluminium core in DN 32-40, a hollow aluminium core in DN 50-100 and DN 500-600, and a hollow cast iron core in DN 125-400.

This is done to achieve the correct characteristics for the balls during operation.

A full and smooth bore ensures full flow with low pressure loss and eliminates the risk of deposits at the bottom that could prevent tight closure.

Feature summary

- Self-cleaning construction
- Full and smooth bore ensures low head loss
- Tightness at minimum back pressure
- Polyurethane balls available for abrasive media
- Different ball weights available
- Ductile iron body and bonnet with epoxy coating internally and externally
- Available with flanges in DN 50-600, internal BSP threads in DN 32-50 in ductile iron and DN 32-80 in acid-resistant stainless steel





Balls dedicated for the application

Balls of polyurethane are suitable for abrasive media and when different balls weights are needed to prevent noise and water hammer. NBR rubber lined balls have a metal core of aluminium or cast iron depending on the size.



AIR VALVES HIGH CAPACITY AND RELIABLE FUNCTION

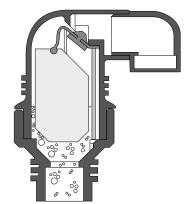


AVK combination air valves combine an air & vacuum orifice and an automatic air release orifice in a single body. The innovative design with a large air gap between liquid and sealing system ensures a reliable function even when used with aggressive liquids and liquids with solid particles.

Combined function

The valves combine large volume air discharge/ intake whilst filling or draining a pipeline with automatic discharge of air not being dissolved in the fluid.

During filling of the line, air is released through the air & vacuum orifice until the line is full. During normal operation the automatic orifice releases trapped air accumulated in the line while the air & vacuum orifice remains closed. During emptying of the line, the air & vacuum orifice admits air to prevent vacuum damage.



Features dedicated for wastewater

- Large air gap between liquid and sealing ensures reliable function
- Conical shape allows maximum air volume in a reduced valve size
- Funnel-shaped lower body prevents accumulation of deposits
- Low weight body of steel or reinforced nylon
- The large automatic orifice releases large volumes of air under pressure
- Spring between upper and lower float prevents unnecessary activation of the automatic function
- Drainage and flushing from external clean water source is possible
- An exhaust tube can be mounted in the threaded opening on the top of the valve
- · Available in DN 50-200

Reliable valve function

Automatic orifice: When air bubbles appear in the valve, the float will drop, allowing air to be released. When water rises again, the float will be lifted, and the valve will close.

Air & vacuum orifice: When emptying the pipeline, the float will drop completely, allowing large volume air intake through the large orifice. When refilling, the water flow will force the air out through the large orifice.





Advantageous alternative

The underground system is a competitive solution compared to a typical chamber construction and offers convenient and fast access to maintenance from ground level, even when the system is under pressure.

When maintenance is needed the pressure is released by means of the ball valve, the knife gate shut-off valve is closed by means of the T-key, and the complete valve assembly is taken out for service or maintenance. Alternatively the system can be backflushed on site.



Corrosion resistant parts

The air valve is made of reinforced nylon, steel or stainless steel. The valve box is made of polyethylene and the connections of polypropylene. The ball valve, shut-off valve extension, T-key and the air valve bridge are of stainless steel.





BUTTERFLY VALVES WITH FIXED LINER OR LOOSE LINER



No turbulence or pressure drops The streamlined disc gives low flow resistance when the valve is open. Therefore the valves will not cause any turbulence, pressure drops or valve vibration, and will

reduce energy costs for the user.

Profiled disc and unique AVK rubber ensure exceptional durability The unique AVK rubber compound has an excellent ability to regain shape after compression, and this ability combined with the profiled disc secure tightness even after thousands of operation cycles. AVK offers the widest range of butterfly valves at the market. The fixed liner butterfly valves from the AVK Group are among the very few of its kind and offer outstanding advantages. Furthermore, we offer a wide range of loose liner butterfly valves for applications where this type of valve is suitable.

Unique fixed liner design

An outstanding seating concept is the heart of the valve. The rubber is injection moulded directly on the valve body forming a permanent bond with an optimal rubber shore hardness. Consequently, there is no risk of deformation or dislocation of the liner making the valves suitable under vacuum conditions.

The disc has a profiled sealing edge which requires minimal deformation of the liner to achieve a tight sealing. This gives less wear of the liner and low operating torques.



Feature summary

- Fixed liner with no risk of deformation or dislocation, thus suitable under vacuum conditions
- AVK rubber liner with excellent ability to regain shape after compression
- Disc with profiled sealing edge gives less wear of liner
- Low operating torques due to fixed liner, profiled disc and shaft bearings
- Streamlined disc prevents turbulence, pressure drops and valve vibration
- Available as wafer, semilug, full lug, double flanged short and double flanged long in DN 40-2000 with any type of actuation.





Wide range with loose liner

AVK's range of loose liner butterfly valves comprises wafer, lug and U-section butterfly valves in DN 25-1600 with any type of actuation and with a wide selection of disc and liner materials.

A strict control of the coating process and of the tolerances ensures a durable corrosion protection under the liner. Furthermore, it ensures that the liner fits perfectly on the body. This gives low operating torques, and there will be no risk of damaging the coating when compressing the liner.

Feature summary

- Fully coated body with extended neck for insulation
- Square driven anti-blowout shaft in one-piece design up to DN 400, and from DN 450 with key and keyway in two-piece stub design with two self-lubricating bearings
- Disc of acid-resistant stainless steel with machined and polished edges reducing the friction between liner and disc
- EPDM liner for high temperature (110°C) with integrated gasket faces and "saw profile" for optimum grip in body

The range for frequent operation is designed with self-lubricating PTFE coated steel bearings, 200µ polyurethane coating and EPDM liner suitable for temperatures to max. 130°C.





PENSTOCKS COMPLEMENT THE WIDE RANGE



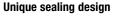
AVK's wide range of wall and channel penstocks features low leakage rates, a heavy-duty construction and a modular design which enables easy customization.

The self-adjusting seal design offers easy operation and does not require on-site adjustments.

Overall design

AVK wall and channel penstocks feature a lower leakage rate than the max. allowable in DIN 19569-4. The heavy-duty construction ensures long service life and the modular design makes it possible to offer customized penstocks with a short delivery time.

The penstocks are as standard of stainless steel AISI 304 and optionally of acid-resistant stainless steel AISI 316. We offer different material combinations as well as several mounting configurations and many types of extensions, accessories and actuators.



Self-cleaning guides of HMWPE (high molecular weight polyethylene) reduce the friction during operation giving easy operation and extended seal durability.

The self-adjusting "lip-design" sealing seals without the need of wedges. This gives small torques during opening and closing, which allows the use of a smaller size actuator than typically required. Furthermore, it does not require on-site adjustments and it prevents vibration during operation.



Sealing design Self-cleaning guides reduce the friction and the self-adjusting "lip-design" sealing ensures low torques during operation.





General features

- Heavy-duty construction with min. 6 mm slide thickness
- Self-cleaning guides ensure easy operation and long durability
- Self-adjusting lip-design sealing prevents vibration and offer low torques
- Low torques allow use of a smaller size actuator
- Option of supplying design calculations (FEM and analytical)
- Non-rising stem and closed frame as standard, optionally rising stem and open frame

Channel penstocks

- Uni-directional up to and incl. 1000 X 1000 mm as standard (optionally bi-directional), in larger sizes bi-directional only
- With handwheel up to and incl. 1400 X 1400 mm, in larger sizes with bevel gear
- For embedding in concrete as standard, optionally for wall mounting and face mounting in existing channel

Wall penstocks

- Bi-directional up to and incl. 1200 X 1200 mm, in larger sizes bi- or uni-directional
- With handwheel up to and incl. 1000 X 1000 mm, in larger sizes with bevel gear
- For wall mounting up to and incl. 1200 X 1200 mm as standard. In larger sizes also available for embedding in concrete and for invert flush bottom mounting
- The flange-back frame in sizes above 1200 X 1200 mm ensures that the sealing performance is not affected by uneven walls
- 10 mwc is standard sealing performance up to and incl. 1000 X 1000 mm



A WIDE SELECTION OF ACTUATION SOLUTIONS



To match our range of gate valves, knife gate valves, butterfly valves and penstocks, AVK offers a selection of levers, handwheels and gearboxes as well as pneumatic and electric actuators. From manually operated solutions to advanced systems operated remotely, the actuators contribute to efficient flow management and control precision.

Standard solution or to specifications

AVK has defined a standard range of actuation solutions of a high quality at a competitive price. For our knife gate valves and penstocks we make our own pneumatic actuators. All actuators are factory mounted on our valves to ensure a durable and safe solution.





















GATE VALVES AND KNIFE GATE VALVES



Series 06/80 Flanged gate valve Short face to face DIN F4 NBR wedge Stainless steel stem Ductile iron DN 40-600 and 800 From DN 450 with ISO top flange



Series 06/84 Flanged gate valve Short face to face DIN F4 NBR wedge AISI 316 stem Ductile iron DN 40-600 and 800 From DN 450 with ISO top flange

Series 06/89

handwheel

Ductile iron

DN 50-400

Series 702/20

Knife gate valve

with rising stem

and handwheel

• other materials

Ductile iron

DN 50-1200

Options:

on site

Flanged gate valve

with rising stem and

The handwheel can be

replaced by an actuator

Short face to face DIN F4 EPDM wedge







Series 06/35 Flanged gate valve

with position indicator and handwheel Short face to face DIN F4 EPDM wedge Ductile iron DN 50-400

Options: • NBR wedge

• DIN F5, 02/66

Series 715

Flanged gate valve with pneumatic actuator NBR wedge Short face to face DIN F4 Ductile iron DN 65 - 300

Options:solenoid valve kit and proximity switches

Series 702/30

Knife gate valve with lever Ductile iron DN 50-200

Options: • other materials



Series 15/42 Flanged gate valve ISO flange for electric actuator Short face to face DIN F4 EPDM wedge Ductile iron DN 40-400

Options:

DIN F5, 15/72
hydraulic/pneumatic actuator
NBR wedge



Series 702/10 Knife gate valve with non-rising stem and handwheel Ductile iron DN 50-1200

Options: • other materials



Series 702/40 Knife gate valve with double acting pneumatic actuator Ductile iron DN 50-1000

Options:other materials



Series 702/50

Knife gate valve with ISO top flange prepared for actuator Ductile iron DN 50-1200

Options: • other materials



SERVICE CONNECTION VALVES, CHECK VALVES AND PENSTOCKS



Series 03/30 Service connection valve with tensile socket ends for PE pipes PN 16 Ductile iron DN 20-50

Options:

thread



Series 16/54 Service connection valve with tensile socket ends for PE pipes PN 16 POM (Polyoxymethylene) DN 25-50



Series 53/35 Ball check valve with flanges Ductile iron DN 50-600



Series 53/30 Ball check valve with internal BSP threads Ductile iron DN 32-50

 for side tapping with internal thread / external



Series 53/40 Ball check valve with internal BSP threads Acid-resistant steel DN 32-80



Series 41/60

Swing check valve with free shaft end Resilient seated Ductile iron DN 50-300

with lever and weightwith lever and spring

Options:



Series 41/61 Swing check valve with closed bushings Resilient seated Ductile iron DN 50-300



Series 41/36 Swing check valve with lever and weight Metal seated

Ductile iron

DN 350-600

Options: • with free shaft end, 41/39



Series 772/61

Wall penstock Bi-directional up to and incl. 1200 X 1200 mm, in larger sizes bi- or unidirectional With non-rising stem Stainless steel AISI 304 200 x 200 mm - 2000 x 2000 mm

Options: • rising stem • AISI 316



Series 772/7172 Channel penstock

Uni-directional up to and incl. 1000 X 1000 mm, bi-directional in larger sizes With non-rising stem Stainless steel AISI 304 200 x 200 mm - 2000 x 2000 mm

Options:

rising stemAISI 316

• AISI 316

BUTTERFLY VALVES, AIR VALVES AND Y-STRAINERS



Series 75/10 Centric butterfly valve with fixed liner Wafer Ductile iron DN 40-1000 With any type of actuation



Series 75/31 Centric butterfly valve with fixed liner Semi-lug Ductile iron DN 50-300 With any type of actuation

Options: • full lug, 75/41

Series 820/10 Centric butterfly valve with loose liner Lug Ductile iron

DN 25-600

With any type of actuation Options: • for frequent operation,

85/60

Series 701/96

Combination air valve Orifice sizes: Automatic: 12 mm² Kinetic: 804 mm² Stainless steel Inlet flange or 2" BSP thread PN 16 DN 50-200

Options: • steel, 701/70

Series 701/33 Air & vacuum valve Orifice size: 5026 mm² Steel Inlet flange PN 16 DN 80-100



Series 75/20 Centric butterfly valve with fixed liner Double flanged short Ductile iron DN 50-2000 With any type of actuation

Options: • double flanged long, 75/21

Series 820/20

Centric butterfly valve with loose liner U-section Ductile iron DN 150-1600 With any type of actuation



Series 701/78 Combination air valve Orifice sizes: Automatic: 16 mm² Kinetic: 5024 mm² Steel Inlet flange PN 16 DN 80-200



Series 910 Y-strainer PN 10/16 Ductile iron DN 50-300



Series 820/00 Centric butterfly valve with loose liner Wafer Ductile iron DN 25-1000 With any type of

Options: • for frequent operation, 85/50

actuation



Series 701/75 Combination air valve Orifice sizes: Automatic: 12 mm² Kinetic: 804 mm² Reinforced nylon Inlet flange or 2"/3" BSP thread PN 10 DN 50-100

Options: • PN 16, 701/95



Series 701/79 Underground air valve system Valve box of polyethylene, Any of the above air valves can be mounted in the system PN 10 DN 80-100



FLANGE ADAPTORS, COUPLINGS AND REPAIR CLAMPS



Series 05 Combi-flange Tensile for PE, uPVC or GGG pipes DN 50-300



Series 05 Combi-flange Non-tensile for uPVC, steel or GGG pipes Ductile iron DN 50-600



Series 631

Supa Maxi™ straight coupling Universal and tensile for all pipes Ductile iron DN 50-400

Options: • end cap, 634

Series 601

Supa® coupling Universal for cast iron, ductile iron, steel, uPVC and asbestos cement pipes Ductile iron DN 40-400

Options: • step coupling, 602



Series 729/01 Repair clamp Single band with support plate Stainless steel AISI 304 or AISI 316 NBR or EPDM rubber

Options:

FingersHandgrip



Series 632 Supa Maxi™ step coupling Universal and tensile for all pipes Ductile iron DN 50-300



Series 633 Supa Maxi™ flange adaptor Universal and tensile for all pipes Ductile iron DN 40-400



Series 603 Supa® flange adaptor Universal for cast iron, ductile iron, steel, uPVC and asbestos cement pipes Ductile iron DN 40-400



Series 623 Supa Plus™ flange adaptor Tensile for PE and uPVC pipes Ductile iron DN 40-300

Options: • coupling, 621 • end cap, 624



Series 729/32 Repair clamp Double band with flanged branching and fingers Stainless steel AISI 304 or AISI 316 NBR or EPDM rubber

Options: • Support plate • Handgrip





ACTUATION

Electric actuation		Pneumatic actuation, linear		Pneumatic actuation, quarterturn	
	Linear actuator	Ì	Double acting actuator		Double acting or single acting actuator
	Multiturn actuator, basic, local/remote and fieldbus		Solenoid valves 5/2- ways		Solenoid valves 5/2- ways or 3/2-ways
	Quarterturn actuator		Proximity switch for gate valves		Proximity switch and receiver
	Quarter- and multiturn actuator		Proximity switch for knife gate valves	F	Switch box
					Positioner
Manual actuation, gear		Manual actuation, handwheel		Manual actuation, lever	
	Bevelgear for penstocks and knife gate valves	\$	Handwheel for penstocks		Lever for knife gate valves
	Wormgear for butterfly valves	T	Handwheel for knife gate valves		Lever for butterfly valves
	Chainwheel for knife gate valves	7	Handwheel for gate valves		

HOW TO FIND FULL DOCUMENTATION



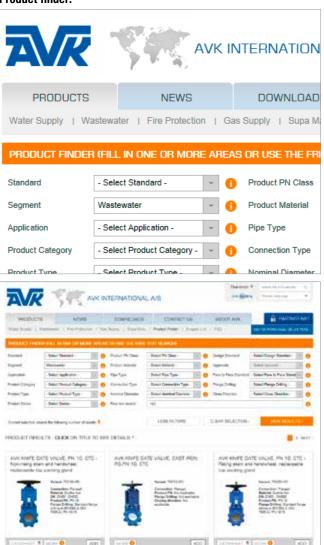
We have done our utmost to make it easy to find specific product documentation on www.avkvalves.eu.

Two paths to our documentation

Choose your area of interest in the upper menu. e.g. "wastewater", and get an overview of our products within this area (to the left).

You can also go directly to the "product finder" (to the right), and pick your choice in the drop down lists. You can choose to fill in all the blanks to find a specific product, or just fill in a few to get an overview of the range. Or you can choose the quick path, "product series", using the product series numbers stated in this brochure. In the free search field you can state other details such as a specific item number.

Product finder:







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