



RESILIENT SEAT GATE VALVE SOLUTIONS

Expect... **AVR**

AVK RENOWNED WORLDWIDE



MANUFACTURING IN THE UK FOR 30 YEARS

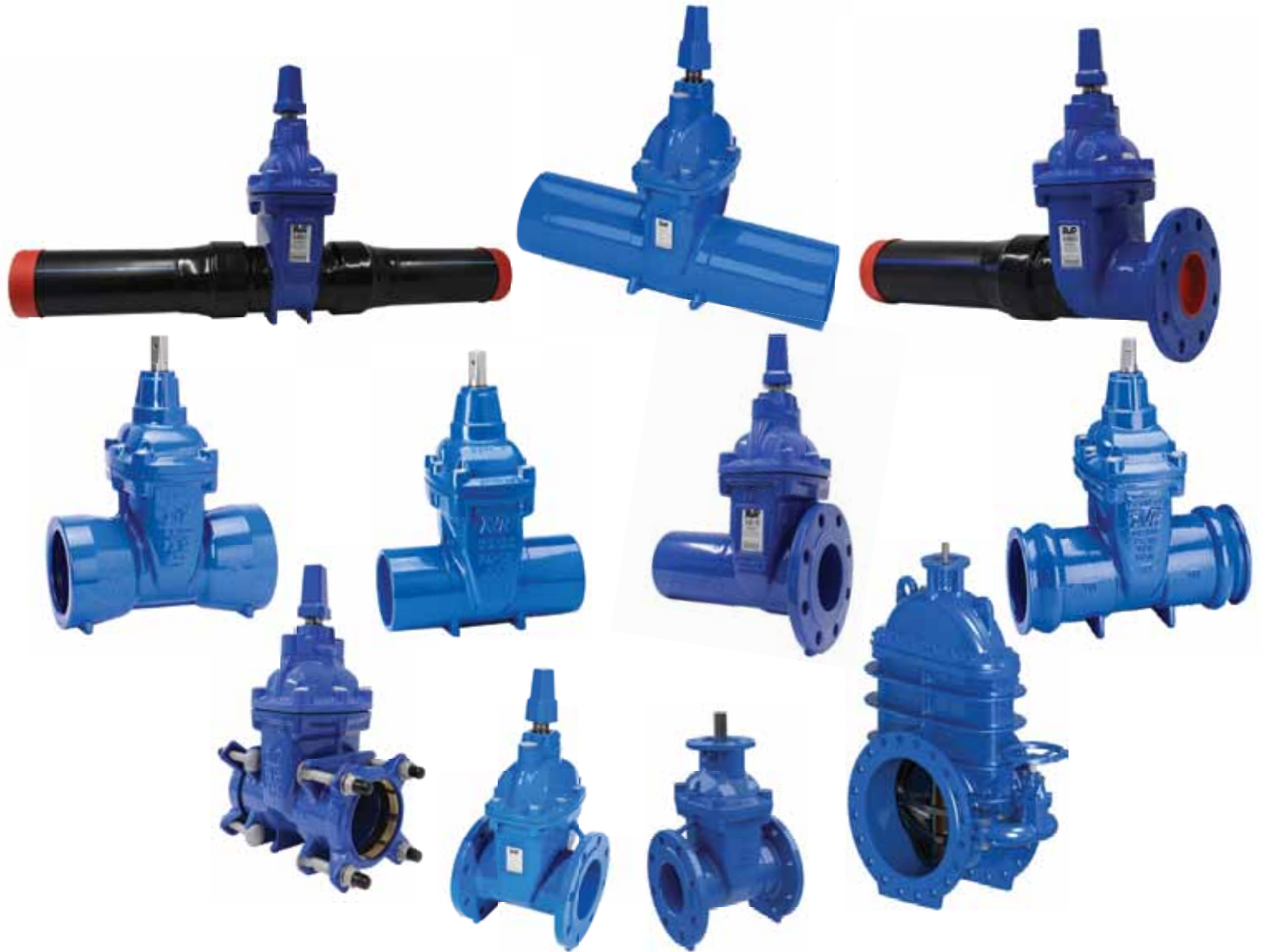
In 1969 AVK introduced its very first gate valve for water, and eight years later was obtaining prestigious European approvals. Having sold our first gate valve into UK and Irish markets in 1984, we now have a 30 year track record of quality supply to the appropriate BS EN standards.

We have developed a complete range of valves and accessories with quality approvals secured from all the leading national and international testing institutions. Our dedication to high quality and continuous product development is widely recognised by customers around the world. More than 3,000 people in the AVK group are doing their utmost to ensure that AVK remains the world's leading manufacturer of valves for water, waste water treatment and fire protection applications.



INTRODUCING

OUR NEW AND EXTENSIVE RANGE OF GATE VALVES TO SUIT ANY APPLICATION



In line with our promise to deliver increased value to our customers, AVK is the first manufacturer to introduce a comprehensive range of resilient seat gate valves into the UK market, primarily addressing the need to:-

1. Reduce the number of time consuming and often awkward to fit mechanical connections to improve efficiency of installation.
2. Reduce the number of mechanical joints thereby decreasing the risk of potential leak paths.
3. Reduce the number of assembly sub components reducing the need to hold multiple product stocks.
4. Reduce the carbon content to assist with CO2 reduction objectives.

By designing products to meet our customers' operating and environmental criteria, we have provided an opportunity to reduce the overall cost of the valve package whilst maintaining the full product integrity and value for money benefits expected from AVK products :-

1. Quality assurance and fully tested to surpass national standards for durability, health and safety and product integrity (see page 15).
2. WRAS approved, fusion bonded epoxy, holiday free coating for durability and safe drinking water compliance (see page 20).
3. Confidence in operation from AVK's WRAS approved wedge, manufactured to exacting standards from rubber made in AVK's own manufacturing facilities (see pages 16 & 17).
4. Peace of mind in AVK's warranty promise and proven track record of supplying valves to the UK market for 30 years.
5. On time delivery and availability as a result of UK manufacture supported by extensive UK stock.

SERIES 36/89 GATE VALVE WITH PE PIPES



The Series 36/89 gate valve comes complete with WRAS approved SDR 17 PE100 pipes. Enables direct welding onto PE pipes by electrofusion or butt fusion welding resulting in a fast, effective and secure assembly. No other fittings are required to complete the valve installation. The full, straight bore valve ensures minimum pressure loss across the valve. For use with water and waste water, suitable for isolation purposes, to a maximum of +40°C.

Application: This wedge gate valve can be installed in conjunction with PE pipe removing any requirement for flange connections whilst maintaining the integrity of the PE pipe system. The valve can be installed above ground prior to placing in the trench, making jointing easier and quicker. With the interchangeable head works and superior coating, the asset life is extended.

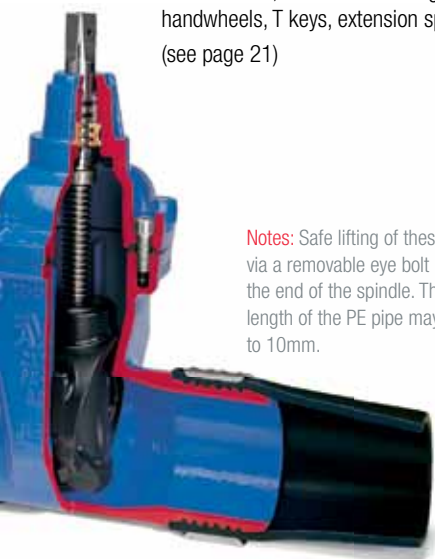
Main Features	Benefits
Type tested to conform to BS EN 5163, BS EN 1074-1 and 2, BS EN 12266 and BS EN 1171. Full traceability with unique serial numbers.	Conforms to the relevant specification standards for use in the UK water infrastructure. Tested for 2500 cycles to guarantee longevity. Fully traceable for peace of mind.
During manufacture, standard SDR 17 (10 bar rated) PE pipe is pressed directly onto the grooved valve end and a sleeve around the valve/pipe connection ensures that the PE pipe is compressed into the groove.	The bolt less, corrosion-free assembly is stronger than the PE pipe itself. This ensures that the connection remains tight and tensile resistant during the entire service life of the pipeline. The connection is sealed with a shrink hose to provide additional corrosion protection.
Fully vulcanised wedge in WRAS approved EPDM rubber, internally and externally. Fully draining to prevent bacterial growth. Full clear bore.	No iron parts exposed to medium which prevents corrosion and settlement of contaminants.
Fully corrosion resistant construction. Fusion bonded epoxy coating, 250µ, in line with WIS 04-52-01 Class B. Countersunk bonnet bolts sealed with hot melt.	Holiday free coating - superior corrosion resistance and durability. Longevity of the product.
WRAS approved materials.	Suitable for use with potable water.
Body/bonnet ductile iron.	Lighter, more durable, reduced carbon footprint.
Rolled stainless steel spindle to BS EN 10088-1 Grade 1.4021. Clockwise to close as standard.	High strength, low friction, corrosion resistance, increased operating safety factor.
Stem seals replaceable under pressure.	Ease of in-line maintenance.

Options

- Clockwise to open.
- SDR 11 (16 bar).

Accessories

- Street covers, mechanical fittings, handwheels, T keys, extension spindles. (see page 21)



Notes: Safe lifting of these valves is via a removable eye bolt located in the end of the spindle. The overall length of the PE pipe may vary up to 10mm.

AVK Ref No.	DN mm	OD mm	Effective length mm	Approximate weight kg
3609089353269	80	90	900	20
3611089353269	100	110	900	27
3612589353269	125	125	900	39
3618089353269	150	180	1100	58
3622589353269	200	225	1100	91
3628089353269	250	280	1350	126
3631589353269	300	315	1350	140
3635589353269	300	355	1525	230
3640089353269	400	400	1660	376



SERIES 01/79

SUPA PLUS™ SOCKET GATE VALVE

Socket connections are a cost-effective and a time reducing alternative to flanged connections upon installation, saving up to 90% in trials.

The Series 01/79 gate valve comes complete with the AVK patented tensile Supa Plus™ mechanical fittings integral to the valve body. Suitable for use on uPVC and PE pipes, with water and waste water, and for isolation purposes, to a maximum of +70°C.

Application: The installation of this product removes all electrofusion or butt fusion requirements where appropriate. Efficiency improvements in the installation time and reduction on materials required in the working area will lead to quicker, simpler installation procedures with the minimum amount of equipment.



Main Features	Benefits
Type tested to conform to BS EN 5163, BS EN 1074-1 and 2, BS EN 12266, BS EN 12842 and BS EN 1171. Full traceability with unique serial numbers.	Conforms to the relevant specification standards for use in the UK water infrastructure. Tested for 2500 cycles to guarantee longevity. Fully traceable for peace of mind.
Comes complete with AVK patented tensile Supa Plus™ mechanical fittings. 16 bar rated. Full end load resistant.	These mechanical joints remove the need for flange joints and electrofusion installation whilst maintaining the full strength of the connection with end load resistant capabilities.
Fully vulcanised wedge in WRAS approved EPDM rubber, internally and externally. Fully draining to prevent bacterial growth. Full clear bore.	No iron parts exposed to medium which prevents corrosion and settlement of contaminants.
Fully corrosion resistant construction. Fusion bonded epoxy coating, 250µ, in line with WIS 04-52-01 Class B. Countersunk bonnet bolts sealed with hot-melt.	Holiday free coating - superior corrosion resistance and durability. Longevity of the product.
WRAS approved materials.	Suitable for use with potable water.
Body/bonnet ductile iron.	Lighter, more durable, reduced carbon footprint.
Rolled stainless steel spindle to BS EN 10088-1 Grade 1.4021. Clockwise to close as standard.	High strength, low friction, corrosion resistance, increased operating safety factor.
Stem seals replaceable under pressure.	Ease of in-line maintenance.

Options

- Clockwise to open.
- Various SDR rating liners available

Accessories

- Support bushes - mandatory use with PE pipe.
- Street covers, handwheels, T keys, extension spindles. (see page 21)



Series 05 support bush
Size range DN50-315

AVK Ref No.	DN mm	OD mm	Effective length mm	Approximate weight kg
010907921469	80	90	200	16
011107921469	100	110	208	25
011807921469	150	180	260	56
012257921469	200	225	309	75
012807921469	250	280	339	119
013157921469	300	315	380	143

Other sizes available upon request.



Note: Safe lifting of these valves is via a removable eye bolt located in the end of the spindle.



SERIES 32/49 LONG SPIGOT GATE VALVE

The Series 32/49 gate valve comes complete with long spigot end connections. For use on CI, DI, PVC, AC pipes with water and waste water to a maximum of +70°C.

Application: The Series 32/49 is a long spigot end wedge gate valve suitable for installation where a replacement valve is required for non-standard face to face dimensions. The valve offers the flexibility of installation using the spigot ends and joint to match the existing pipework and completed with a Supa Maxi™ coupling or standard 601 coupling also available. Time, ease and speed of installation favours this method of valve replacement.



Main Features	Benefits
Type tested to conform to BS EN 5163, BS EN 1074-1 and 2 and BS EN 12266. Full traceability with unique serial numbers.	Conforms to the relevant specification standards for use in the UK water infrastructure. Tested for 2500 cycles to guarantee longevity. Fully traceable for peace of mind.
Comes complete with double spigot ends. PN16 rated.	The connection flexibility of this product allows the transition from all pipe materials via a suitable coupling to allow connection to a flanged fitting.
Fully vulcanised wedge in WRAS approved EPDM rubber, internally and externally. Fully draining to prevent bacterial growth. Full clear bore.	No iron parts exposed to medium which prevents corrosion and settlement of contaminants.
Fully corrosion resistant construction. Fusion bonded epoxy coating, 250µ, in line with WIS 04-52-01 Class B. Countersunk bonnet bolts sealed with hot-melt.	Holiday free coating - superior corrosion resistance and durability. Longevity of the product.
WRAS approved materials.	Suitable for use with potable water.
Body/bonnet ductile iron.	Lighter, more durable, reduced carbon footprint.
Rolled stainless steel spindle to BS EN 10088-1 Grade 1.4021. Clockwise to close as standard.	High strength, low friction, corrosion resistance, increased operating safety factor.
Stem seals replaceable under pressure.	Ease of in-line maintenance.

Options

- Clockwise to open.

Accessories

- Combi-flanges, couplings, street covers, supa maxi couplings, hand wheels, T Keys, extension spindles. (see page 21)

AVK Ref No.	Pipe OD mm	DN mm	Overall length mm	Approximate weight kg
320804921469	97	80	274	21
321004921469	117	100	294	27
321504921469	169	150	344	53
322004921469	221	200	394	77
322504921469	273	250	444	120
323004921469	324	300	494	174

Automated production processes at AVK's manufacturing facility, Corby, UK

Note: Safe lifting of these valves is via a removable eye bolt located in the end of the spindle.



SERIES 38/89

GATE VALVE

WITH FLANGE/PE PIPE

The Series 38/89 is a flanged/PE spigot wedge gate valve allowing transition from PE pipe to a flanged connection. The PE tail will allow electrofusion, butt fusion or mechanical coupling connections to be made directly to PE pipe. The PN16 flange allows a bolted connection in the opposite face. For use with water and waste water to a maximum of +40°C.

Application: The Series 38/89 PE/PN16 flange transition valve is suitable for use where a conversion from PE pipe to flanged fittings is required. This valve offers the flexibility to connect directly to pumps, meters etc. from a PE main.



Main Features	Benefits
Type tested to conform to BS EN 5163, BS EN 1074-1 and 2 and BS EN 12266. Full traceability with unique serial numbers.	Conforms to the relevant specification standards for use in the UK water infrastructure. Tested for 2500 cycles to guarantee longevity. Fully traceable for peace of mind.
Comes complete with flange and PE pipe end connections. Pressure rating: PN16 drilled and rated flange, with SDR 17 (10 bar) rated PE pipe.	Enables direct welding into PE pipes by using electrofusion or butt fusion resulting in a fast, effective and secure assembly. The PN16 flange end allows direct connection to flanged products.
Fully vulcanised wedge in WRAS approved EPDM rubber, internally and externally. Fully draining to prevent bacterial growth. Full clear bore.	No iron parts exposed to medium which prevents corrosion and settlement of contaminants.
Fully corrosion resistant construction. Fusion bonded epoxy coating, 250µ, in line with WIS 04-52-01 Class B. Countersunk bonnet bolts sealed with hot-melt.	Holiday free coating - superior corrosion resistance and durability. Longevity of the product.
WRAS approved materials.	Suitable for use with potable water.
Body/bonnet ductile iron.	Lighter, more durable, reduced carbon footprint.
Rolled stainless steel spindle to BS EN 10088-1 Grade 1.4021. Clockwise to close as standard.	High strength, low friction, corrosion resistance, increased operating safety factor.
Stem seals replaceable under pressure.	Ease of in-line maintenance.

Options

- Clockwise to open.
- SDR11 PN16.

Accessories

- Street covers, supra plus and tensile resistant couplings, hand wheels, T keys, extension spindles. (see page 21)

AVK Ref No.	DN mm	Overall length mm	Approximate weight kg
3608089163	80	621	21
3610089163	100	621	27
3615089163	150	730	53
3620089163	200	754	92

For further information on this product please contact our sales team.

Tel: +44 (0) 1604 601188

Email: customerservice@avkuk.co.uk



Coating technology and processes at AVK's manufacturing facility, Corby, UK

Note: Safe lifting of these valves is via a removable eye bolt located in the end of the spindle. The overall length of the PE pipe may vary up to 10mm.



SERIES 21/35 & 21/50 FLANGED GATE VALVE

The Series 21/35 and 21/50 are AVK's ductile iron, double flanged, resilient seat wedge gate valve.

They have been designed to suit the majority of water utility applications up to a maximum of +70°C, and to maintain the high quality of all AVK products. All aspects of the operation and maintenance of the valve remain the same, and the core of the valve - the high quality, industry leading EPDM vulcanised wedge - has been retained.

The Series 21/35 is a re-design of the 21/50 to provide a lighter valve with reduced carbon footprint and lower operating torque and which like the 21/50 fully complies with the requirements of EN1074 parts 1 & 2 and BS1563 Type B.

Main Features	Benefits
Type tested to conform to BS EN 5163 and BS EN 1074-1 and 2. Full traceability with unique serial numbers.	Conforms to the relevant specification standards for use in the UK water infrastructure. Tested for 2500 cycles to guarantee longevity. Fully traceable for peace of mind.
Fully vulcanised wedge in WRAS approved EPDM rubber, internally and externally. Fully draining to prevent bacterial growth. Full clear bore.	No iron parts exposed to medium which prevents corrosion and settlement of contaminants.
Fully corrosion resistant construction. Fusion bonded epoxy coating, 250µ, in line with WIS 04-52-01 Class B. Countersunk bonnet bolts sealed with hot-melt.	Holiday free coating - superior corrosion resistance and durability. Longevity of the product.
Full WRAS approval.	Suitable for use with potable water.
Body/bonnet ductile iron. PN16 rated as standard.	Lighter, more durable, reduced carbon footprint.
Rolled stainless steel spindle to BS EN 10088-1 Grade 1.4021. Clockwise to close as standard.	High strength, low friction, corrosion resistance, increased operating safety factor.
Lifting bars (1)	Promotes safe handling.
Stem seals replaceable under pressure.	Ease of in-line maintenance.

Options

- Clockwise to open.
- Extended size range DN350-400 with ISO top. (21/50 only)
- Alternative flange drillings.
- Variant for above ground applications and salt laden environments (see series 21/58 on page 9).

Accessories

- Street covers, flange adaptors, dismantling joints, hand wheels, T keys, extension spindles. (see page 21)

AVK Ref No.	DN mm	Face to Face mm	Approximate weight kg
21050503140069	50	178	14
21080353140069	80	203	14
21100353140069	100	229	17
21150353140069	150	267	29
21200353140069	200	292	47
21250503140069	250	330	91
21300503140069	300	356	123
21350503140069	350	381	214
21400503140069	400	406	221



(1) Safety Note. This valve now accommodates lifting bars for safe handling. These lifting bars are rated to the weight of the bare valve and stem cap (where fitted) only and should not be utilised if the valve is fitted with pipe, mechanical pipe joints, gearboxes, actuators or any other external fitment. AVK will not accept any responsibility for loss or damage if the lifting bars are not used in strict accordance with this guidance .

SERIES 21/58

FLANGED GATE VALVE

FOR HARSH ENVIROMENTS

The Series 21/58 is AVK's double flanged, ductile iron, resilient seat gate valve with enhanced specification for more demanding environments.

Incorporating the numerous improvements implemented with the Series 21/50 design, the Series 21/58 has additional corrosion protection in both the coating and the materials of construction and is therefore suitable for use in exposed conditions where there is a salt laden environment.

For isolation purposes, suitable for use with water and waste water, to a maximum temperature of +70°C.



Main Features	Benefits
Type tested to conform to BS EN 5163 and BS EN 1074-1 and 2. Full traceability with unique serial numbers.	Conforms to the relevant specification standards for use in the UK water infrastructure. Tested for 2500 cycles to guarantee longevity. Fully traceable for peace of mind.
Fully vulcanised wedge in WRAS approved EPDM rubber, internally and externally. Fully draining to prevent bacterial growth. Full clear bore.	No iron parts exposed to medium which prevents corrosion and settlement of contaminants.
Fully corrosion resistant construction. Fusion bonded epoxy coating 300µ, in line with WIS 04-52-01 Class B. A4 stainless steel fasteners and countersunk bonnet bolts sealed with hot-melt.	Holiday free coating - superior corrosion resistance and durability. Longevity of the product. Higher level of corrosion protection for salt laden environments.
Full WRAS approval.	Suitable for use with potable water.
Body/bonnet ductile iron. PN16 rated as standard.	Lighter, more durable, reduced carbon footprint.
Rolled stainless steel spindle to BS EN 10088-1 Grade 1.4044. Clockwise to close as standard.	High strength, low friction, corrosion resistance, increased operating safety factor.
Lifting bars (1)	Promotes safe handling.
Stem seals replaceable under pressure.	Ease of in-line maintenance.

Options

- Clockwise to open.
- Alternative flange drillings.

Accessories

- Street covers, flange adaptors, dismantling joints, hand wheels, T keys, extension spindles. (see page 21)

AVK Ref No.	DN mm	Face to Face mm	Approximate weight kg
21050502741358	50	178	14
21080502741358	80	203	17
21100502741358	100	229	22
21150502741358	150	267	41
21200502741358	200	292	56
21250502741358	250	330	91
21300502741358	300	356	123
21350502741358	350	381	214
21400502741358	400	406	221

Wedge assembly at AVK's manufacturing facility, Corby, UK

(1) Safety Note. This valve now accommodates lifting bars for safe handling. These lifting bars are rated to the weight of the bare valve and stem cap (where fitted) only and should not be utilised if the valve is fitted with pipe, mechanical pipe joints, gearboxes, actuators or any other external fitment. AVK will not accept any responsibility for loss or damage if the lifting bars are not used in strict accordance with this guidance.





SERIES 21/60 PN25 WEDGE GATE VALVE

The Series 21/60 is a double flanged, ductile iron, resilient seat wedge gate valve, rated to PN25. For isolation purposes, suitable for use with water and waste water, to a maximum temperature of +70°C. For use where line pressure is above 16 bar up to a maximum of 25 bar.

Main Features	Benefits
Type tested to conform to BS EN 5163 and BS EN 1074-2. Full traceability with unique serial numbers.	Conforms to the relevant specification standards for use in the UK water infrastructure. Tested for 2500 cycles to guarantee longevity. Fully traceable for peace of mind.
Fully vulcanised wedge in WRAS approved EPDM rubber, internally and externally. Fully draining to prevent bacterial growth. Full clear bore.	No iron parts exposed to medium which prevents corrosion and settlement of contaminants.
Fully corrosion resistant construction. Fusion bonded epoxy coating, 250µm, in line with WIS 04-52-01 Class B. Countersunk bonnet bolts sealed with hot-melt.	Holiday free coating - superior corrosion resistance and durability. Longevity of the product.
Full WRAS approval.	Suitable for use with potable water.
Body/bonnet ductile iron. PN16 rated as standard.	Lighter, more durable, reduced carbon footprint.
Rolled stainless steel spindle to BS EN 10088-1 Grade 1.4021. Clockwise to close as standard.	High strength, low friction, corrosion resistance, increased operating safety factor.
Stem seals replaceable under pressure.	Ease of in-line maintenance.

Options

- Clockwise to open.
- Extended range DN350-400.

Accessories

- Hand wheels, street covers, T keys, extension spindles. (see page 21)

AVK Ref No.	DN mm	Face to Face mm	Approximate weight kg
210506027	50	178	18
210806027	80	203	22
211006027	100	229	30
211506027	150	267	52
212006027	200	292	80
212506027	250	330	132
213006027	300	356	180

Note: Safe lifting of these valves is via a removable eye bolt located in the end of the spindle.



SERIES 21/78

WEDGE GATE VALVE

WITH ISO TOP

The Series 21/78 is a ductile iron, resilient seat, wedge gate valve with an ISO mounting gland flange for the safe and cost effective fitting of gearboxes and actuators. Suitable for use with water and neutral liquids, to a maximum temperature of +70°C.



Main Features	Benefits
Type tested to conform to BS EN 5163 and BS EN 1074-2. Full traceability with unique serial numbers.	Conforms to the relevant specification standards for use in the UK water infrastructure. Tested for 2500 cycles to guarantee longevity. Fully traceable for peace of mind.
Fully vulcanised wedge in WRAS approved EPDM rubber, internally and externally. Fully draining to prevent bacterial growth. Full clear bore.	No iron parts exposed to medium which prevents corrosion and settlement of contaminants.
Fully corrosion resistant construction. Fusion bonded epoxy coating, 250µ, in line with WIS 04-52-01 Class B. Countersunk bonnet bolts sealed with hot-melt.	Holiday free coating - superior corrosion resistance and durability. Longevity of the product.
Full WRAS approval.	Suitable for use with potable water.
Body/bonnet cast iron. PN16 rated as standard.	Lighter, more durable, reduced carbon footprint.
Rolled stainless steel spindle to BS EN 10088-1 Grade 1.4021. Clockwise to close as standard.	High strength, low friction, corrosion resistance, increased operating safety factor.
Stem seals replaceable under pressure.	Ease of in-line maintenance.
F10 ISO top flange as standard with keyed spindle.	Ability to direct mount actuation/gearing.

Options

- Clockwise to open.
- DN250-300 with F14 mounting flange.
- Sizes DN350-400 available (with F14 mounting flange as standard).

Accessories

- Electric actuation.
- Bevel or spur gearboxes,
- Street covers, flange adaptors, dismantling joints, hand wheels, T keys, extension spindles. (see page 21)

AVK Ref No.	DN mm	Face to Face mm	Approximate weight kg
210507801	50	178	11
210657801	65	190	13
210807801	80	203	17
211007801	100	229	22
211507801	150	267	40
212007801	200	292	55
212507801	250	330	84
213007801	300	356	122
213507801	350	381	218
214007801	400	406	225

Note: Electric actuation available on all sizes.





SERIES 55/48 AND 55/49

RESILIENT SEAT FLANGED GATE VALVE

The Series 55/48 and 55/49 are AVK's high performance, large diameter, resilient seat gate valves. In comparison to the Series 55/30 the bodies have a British standard reduced face to face and the optional by-pass has been redesigned to be a single part. This valve option significantly reduces operating torque when compared to other valve designs, thus allowing the use of smaller, more cost effective actuation. The main difference between the two variants are the ISO flanges, the Series 55/48 has a F14 ISO flange where as the 55/49 has a F16 ISO flange.

The unique design of the fully encapsulated wedge allows for flexibility in the final installed position. The valve is designed for installation above or below ground and is designated as a BS 5163, BS EN 1074-2 Type B valve for water, neutral liquids and waste water with a maximum of 10% solid matter, to a maximum temperature of +70°C.

Main Features	Benefits
Type tested to conform to BS EN 5163 and BS EN 1074-1 and 2. Full traceability with unique serial numbers.	Conforms to the relevant specification standards for use in the UK water infrastructure. Tested for 2500 cycles to guarantee longevity. Fully traceable for peace of mind.
Fully vulcanised wedge in WRAS approved EPDM rubber, internally and externally. Fully draining to prevent bacterial growth. Full clear bore.	No iron parts exposed to medium which prevents corrosion and settlement of contaminants. No disbondment. Polyacetal wedge shoes for horizontal or vertical installation.
Fully corrosion resistant construction. Fusion bonded epoxy coating, 250µ, in line with WIS 04-52-01 Class B. Stainless steel fasteners and countersunk bonnet bolts sealed with hot-melt.	Holiday free coating - superior corrosion resistance and durability. Longevity of the product.
WRAS approved product.	Suitable for use with potable water.
Body/bonnet ductile iron. PN16 rated as standard.	Lighter, more durable, reduced carbon footprint.
Rolled stainless steel spindle to BS EN 10088-1 Grade 1.4021. Clockwise to close and cap-top as standard.	High strength, low friction, corrosion resistance, increased operating safety factor.
Integral lifting eye bolts. (1)	Promotes safe handling.
Stem seals replaceable under pressure.	Ease of in-line maintenance.

Additional Standard Features

- ISO top flange for actuator and gearbox mounting.
- Flanged bosses for by-passing or sampling.
- Very low torques compared to metal faced valve.

Options

- Clockwise to open.
- Alternative flange drillings.
- Bypass.

Accessories

- Hand wheels, bevel or spur gearboxes, electric actuators, extension spindles, flange adaptors, dismantling joints. (see page 21)

Series 55/48 F14

AVK Ref No.	DN mm	Face to Face mm	Approximate weight kg
5545048014	450	432	500
5550048014	500	457	565
5560048014	600	508	775

Series 55/49 F16

AVK Ref No.	DN mm	Face to Face mm	Approximate weight kg
5545049014	450	432	500
5550049014	500	457	565
5560049014	600	508	775

Series 55/48 with bypass

AVK Ref No.	DN mm	Face to Face mm	Approximate weight kg
554504801400k	450	432	500
555004801400k	500	457	565
556004801400k	600	508	775

Series 55/49 with bypass

AVK Ref No.	DN mm	Face to Face mm	Approximate weight kg
554504901400k	450	432	500
555004901400k	500	457	565
556004901400k	600	508	775

THE DN800 RESILIENT SEAT FLANGED GATE VALVE



Additional Features:

- Roller thrust bearings for low operation torque.
- Quadruple stem seals for leakage free operation and isolation of lubrication chamber.
- Prepared for by-pass valve.
- Integrally cast lifting lugs on bonnet and body.
- Fully vulcanised wedge in WRAS approved EPDM rubber, internally and externally.
- Wedge shoe with scraper function for displacement of debris when operating the valve.
- Detachable covers for flushing/cleansing.

Strength and Durability:

Fusion bonded epoxy coating (min 250 µm) on the interior and exterior of the valve, applied to all ferrous surfaces in line with WIS 4-52-01 Class B. Corrosion free coating approved for drinking water.

(1) Safety Note. This valve is fitted with lifting eye bolts for safe handling. These lifting eye bolts are rated to the weight of the bare valve only and should not be utilised if the valve is fitted with pipe, mechanical pipe joints, gearboxes, actuators or any other external fitment. AVK will not accept any responsibility for loss or damage if the lifting eye bolts are not used in strict accordance with this guidance.

To ensure warranty, by-pass valves must be ordered as such. We offer a service if retrofitting is required.

AVK Ref No.	DN mm	Face to Face mm	Approximate weight kg
5580030	800	1000	1475



SERIES 37/51 METAL SEAT GATE VALVE WITH ISO FLANGE



EPDM wedge
Epoxy internally and externally
Standard stem sealing
For cast iron pipes
DN50-300, PN16

Options:

- Clockwise to open
- Street covers, flange adaptors, handwheels, T keys, extension spindles

SERIES 01/80 SOCKET GATE VALVE



EPDM wedge
Epoxy internally and externally
Standard stem sealing
For uPVC pipes
DN40-400, PN16

Options:

- Clockwise to open
- Stem cap, handwheels, extension spindles and street covers

SERIES 12/51 SPIGOT END / FLANGED GATE VALVE



EPDM wedge
Epoxy internally and externally
Standard stem sealing
For cast iron pipes
DN85-300, PN16

Options:

- Clockwise to close
- Stem cap, handwheels, extension spindles, street covers, combi-flanges and couplings

SERIES 32/70 SHORT SPIGOT END GATE VALVE



EPDM wedge
Epoxy internally and externally
Standard stem sealing
For cast iron pipes
DN50-300, PN16

Options:

- Clockwise to open
- Stem cap, handwheels, extension spindles, street covers, combi-flanges and couplings.

SERIES 33/00 TYTON SOCKET GATE VALVE



EPDM wedge
Epoxy externally and enamel internally
Standard stem sealing
For cast iron pipes
DN80-300, PN16

Options:

- Clockwise to open
- Stem cap, handwheels, extension spindles and street covers

SERIES 18/40 COMBI-TEE FLANGED GATE VALVE



EPDM wedge
Epoxy internally and externally
Standard stem sealing
For cast iron pipes
DN80-100, PN16

Options:

- Clockwise to open
- Stem cap, handwheels, extension spindles, street covers, flange adaptors and combi-flanges

SERIES 18/70 COMBI-CROSS GATE VALVE 4 FLANGED OUTLETS



With 4 outlets and DN100 center outlet
EPDM wedge
Epoxy internally and externally
Standard stem sealing
DN100-300, PN16

Options:

- Clockwise to open
- Extension piece
- Stem cap, handwheels, extension spindles, flange adaptors and combi-flanges

SERIES 18/80 COMBI-CROSS GATE VALVE 3 FLANGED OUTLETS



With 3 outlets and DN100 center outlet
EPDM wedge
Epoxy internally and externally
Standard stem sealing
DN100-300, PN16

Options:

- Clockwise to open
- Extension piece
- Stem cap, handwheels, extension spindles, flange adaptors and combi-flanges

QUALITY VALVES FOR VITAL SYSTEMS

ADVANCED TECHNOLOGY IN PRODUCTS AND PROCESSES

For more than four decades, AVK has successfully been meeting and exceeding the strict safety demands from water companies. AVK valves are manufactured in our modern, highly automated factories across the world. We are entirely committed to ensuring that quality remains a naturally integrated part of our production flow.

AVK's quality assurance system is certified according to ISO 9001, ISO 14001 the international standard for environmental management, and OHSAS 18001 the international occupational health and safety standard.



PART OF VITAL INFRASTRUCTURES

The majority of our gate valves are installed underground and must therefore be maintenance free and remain fully functional for many years. All our gate valves are part of vital infrastructures delivering clean drinking water, efficient handling of wastewater, as well as crucial fire protection systems. Compromise on quality is not an option in AVK.

We also offer a comprehensive range of extension spindles and street covers for easy operation of valves installed below ground. A representative selection of AVK accessories can be found on page 21.



THE WEDGE IS THE HEART OF A GATEVALVE

AVK fixed, integral wedge nut sealed with EPDM rubber prevents corrosion.

UNIQUE FEATURES AND BENEFITS OF THE AVK WEDGE

- Fixed, integral wedge nut sealed with rubber prevents corrosion (1).
- Double bonding vulcanization process ensures maximum adhesion of the rubber.
- Guide rails with integrated wedge shoes ensure low friction and smooth operation (2).
- Rubber vulcanized to the core with min. 1.5mm on all pressure bearing surfaces and 4mm on all sealing surfaces gives optimum corrosion protection.
- Large rubber volume in the sealing area provides optimum sealing (3).
- Large plain and conical stem hole (4) prevents stagnant water and accumulation of impurities.
- AVK's rubber compound features an outstanding compression set value, resistance to water treatment chemicals and ensures minimised biofilm formation.

FIXED INTEGRAL WEDGE NUT PREVENTS CORROSION

AVK's wedge nut design is superior to the traditional loose wedge nut design as it prevents vibration, corrosion, malfunction and water hammer. The wedge nut is made of dezincification resistant brass with lubricating abilities.

INTEGRATED WEDGE SHOES FOR SMOOTH OPERATION

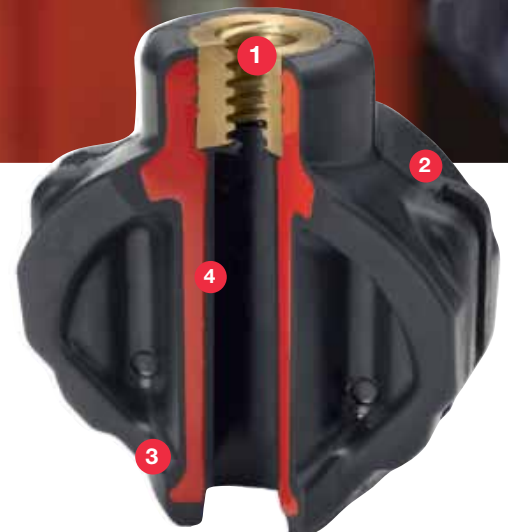
The fixed wedge nut, combined with the guide rails with integrated wedge shoes, secures a smooth operation of the valve and low operating torques. The wedge shoes protect the rubber against wear which otherwise would arise caused by the friction during operation.

EFFICIENT BONDING IS THE KEY TO DURABILITY

The wedge core is immersed in two different baths providing:

- A primer to prevent corrosion
- Bonding between rubber and ductile iron core

We offer the best rubber adhesion and corrosion protection on the market.



DN450-600: External wedge shoes on reversed guide rails.



DN40-400: Integrated wedge shoes in internal guide rails.




A thin layer of rubber must remain after the peeling test.



The double bonding process prevents creeping corrosion.

STATE-OF-THE-ART RUBBER TECHNOLOGY



AVK Gummi develops and manufactures the rubber compound for wedges and gaskets using highly advanced technology.

Unlike most manufacturers of resilient seat gate valves, AVK has its own in house manufacturer of rubber components, AVK GUMMI A/S. AVK Gummi develops and manufactures the rubber compound for wedges and gaskets using highly advanced technology. Data is collected throughout the entire manufacturing process which provides traceability of every individual ingredient, each compound and the finalised components. AVK GUMMI carries out a number of tests to ensure that the compression set values, the adhesion and the tensile strength meet the predefined requirements.

EXCELLENT ABILITY TO REGAIN ORIGINAL SHAPE

AVK GUMMI A/S has an extensive knowledge of a rubber's compression set (its ability to regain its original shape). Even after many years of service where the wedge rubber has been compressed numerous times, the rubber will regain its original shape and ensure a tight sealing.

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

NO CONTAMINATION OF DRINKING WATER

The EPDM rubber composition is designed to minimise the formation of biofilm. The rubber will therefore not provide a breeding ground for bacteria.

HIGH RESISTANCE

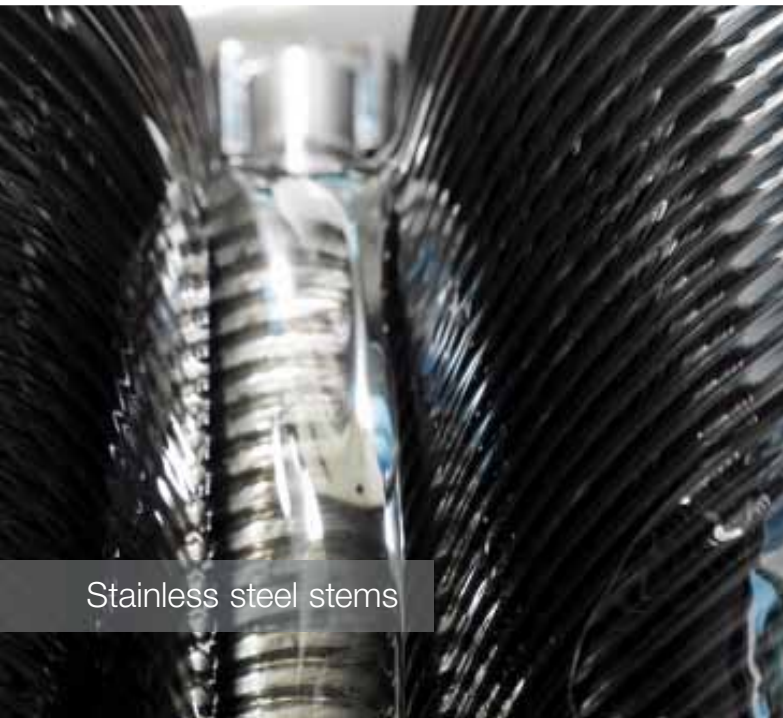
The drinking water approved EPDM compounds are resistant to ozone and water treatment chemicals such as sodium hypochlorite solutions and are taste, smell and colour neutral. The NBR rubber is resistant to oil and gas and holds an approval according to EN 682.

THE COST OF GETTING IT WRONG...

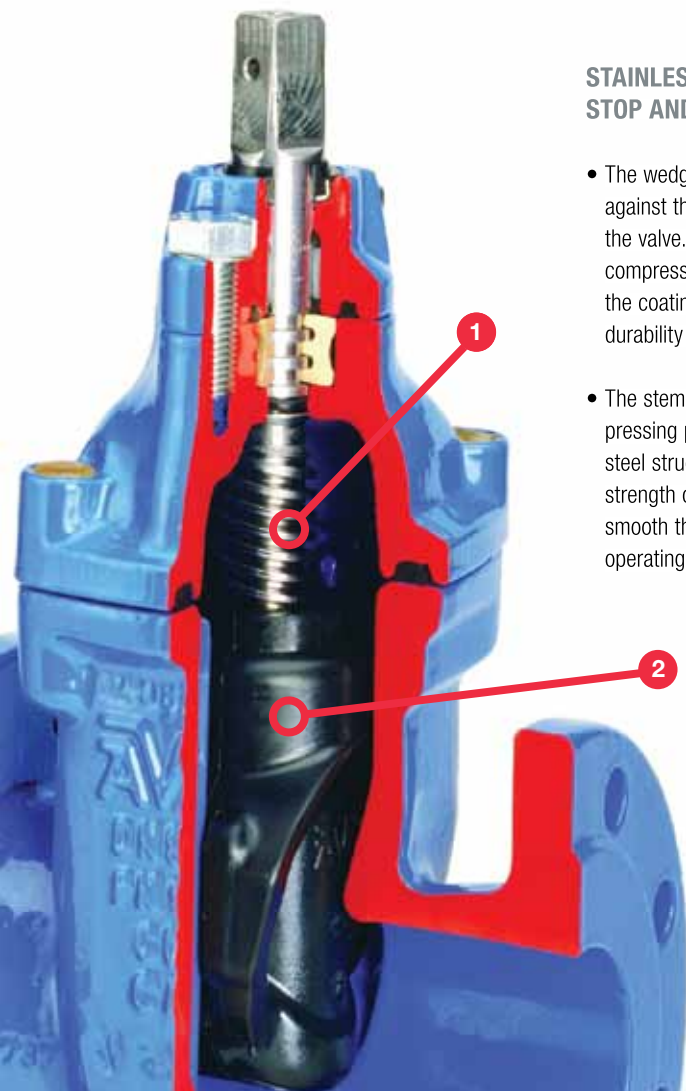
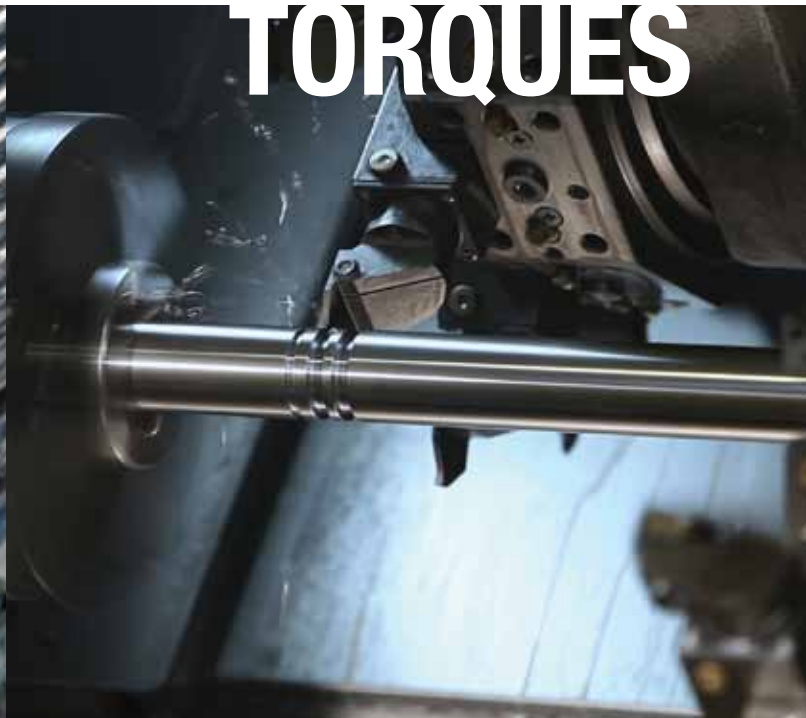
Competitor wedges - totally destroyed due to lack of bonding and incorrect vulcanisation.



HIGH STRENGTH AND LOW OPERATING TORQUES



Stainless steel stems



STAINLESS STEEL STEMS WITH WEDGE STOP AND ROLLED THREADS

- The wedge stop (1) provides a firm stop against the wedge nut when opening the valve. This prevents the wedge from compressing the stem seals and damaging the coating inside the bonnet prolonging the durability of the valve.
- The stem threads (2) are rolled in a cold pressing process which maintains the steel structure and therefore increases the strength of the stem. This method results in smooth thread surfaces and brings about low operating torques and prolonged durability.

THE COST OF GETTING IT WRONG...

Competitor's spindles and wedge nut damaged due to low quality materials and processes.

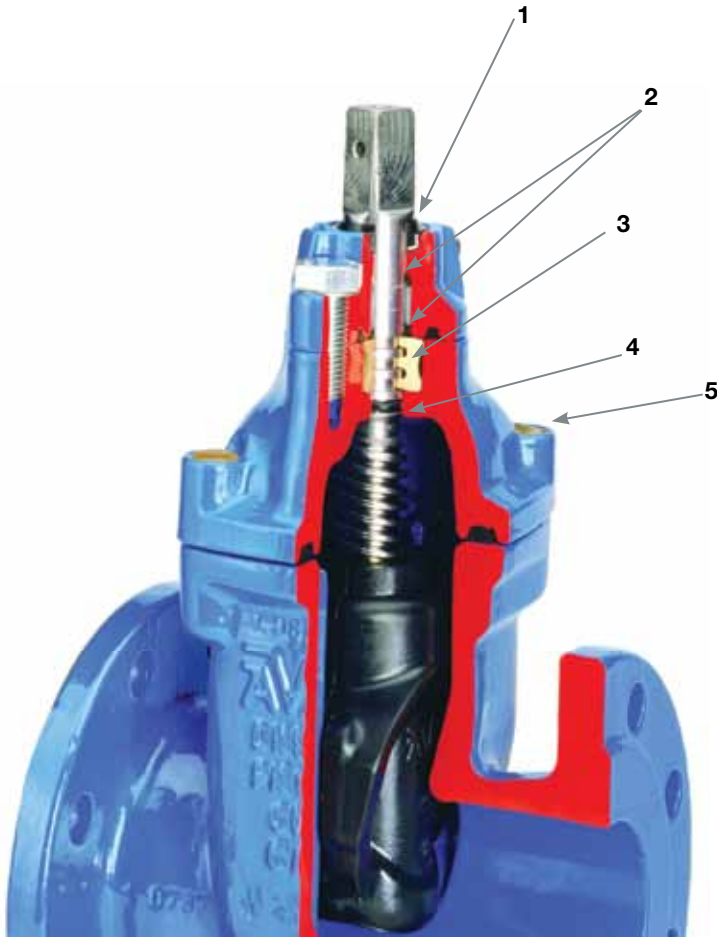


Broken wedge nut



Damaged spindle thread and O-ring

NO COMPROMISE ON LEAKAGE



TRIPLE SAFETY STEM SEALING SYSTEM

1. An NBR wiper ring protects against impurities from the outside.
2. Two EPDM O-rings in a polyamide bearing provide tightness around the stem.
3. The full circle thrust collar of dezincification resistant brass provides a low free running torque.
4. An O-ring is the main seal to the flow.
5. Hot melt seal.

SECURE ASSEMBLY OF VALVE BODY AND BONNET

A bonnet gasket fits into a recess between the valve body and the bonnet, which prevents it from being blown out in the event of a pressure surge. The bonnet bolts are encircled by the bonnet gasket, countersunk in the bonnet and finally sealed with hot melt to prevent corrosion.

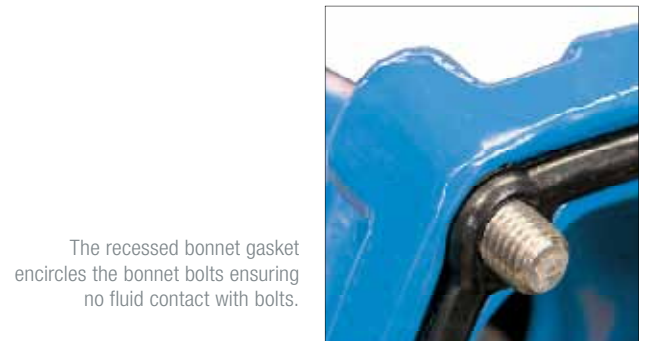
100% PRESSURE TEST

Every single valve is pressure tested according to BS EN 1074-1&2 and EN 12266 before leaving the factory.

THE COST OF GETTING IT WRONG...

Competitor valves completely destroyed due to the low quality castings used and poor corrosion resistance.

Competitors valve on arrival at site.



The recessed bonnet gasket encircles the bonnet bolts ensuring no fluid contact with bolts.



Every single valve is pressure tested



An infrared eye controls the pressure test automatically



Series 21 production at AVK's manufacturing facility, Corby, UK.



Pressure test reports ensure full traceability of valves

AVK gate valves have as standard internal and external epoxy coating in line with WIS 4-52-01. The epoxy powder coating can be applied either manually or robotically using the latest, process efficient, state-of-the-art equipment.

SUPERIOR CORROSION PROTECTION

THOROUGH CONTROL OF THE COATING

We control each batch of epoxy coated components to ensure a minimum thickness of 250µ. The impact resistance of the coating is tested by dropping a steel cylinder on the coating surface through a one meter long tube. The curing of the epoxy coating is checked in an adhesive disbondment (v cut) test. The coating of all internal surfaces are 100% holiday free tested to ensure that there are no pin hole cavities exposing raw material.



The epoxy layer thickness must be min. 250µ on all surfaces



The impact resistance is tested with a steel cylinder



Each valve is 100% holiday tested



EFFICIENT PACKAGING

Our dedication to superior corrosion protection is continued following production. Each valve is packaged to avoid damage during transit to ensure that our products reach our customers in perfect condition.

THE COST OF GETTING IT WRONG...

Examples of competitor's valves demonstrating poor coating material, poor application and adhesion and inevitably becoming rusty.



WE CARE ABOUT THE ENVIRONMENT



CARBON EMISSIONS MANAGEMENT POLICY

The AVK UK Carbon Emissions Management Policy monitors, manages, reviews and reduces carbon emissions across AVK UK. Taking a significant initial step forward in understanding its carbon emissions, AVK UK is preparing for a carbon-restricted future. We are aware of and responding to the increasing importance that both UK and international governments are acting to reducing carbon emissions over the next few years.

ANNUAL GREENHOUSE GAS REPORT

AVK UK Group have produced an Annual Greenhouse Gas Report following DEFRA 2011 guidelines. It is anticipated that producing carbon emissions reports may become mandatory.

CARBON TRUST

AVK UK has recently developed its carbon management regime by transferring to The Carbon Trust accreditation scheme which works around the world, with offices in the UK, China, South Africa, Mexico and the USA. The Carbon Trust has a main focus of promoting a low carbon society, and helping organisations around the world to reduce their ongoing emissions. These actions are critical in order to tackle global issues such as climate change and global warming.

Organisations which currently work with the Carbon Trust include Coca Cola Enterprises, Marks and Spencer, British Telecom and Samsung Electronics.

AVK is proud to have its name added to the list, as we take pride in working to cut down on our carbon footprint, and will continue our efforts to work towards an environmentally friendly future.

THE PRINCE'S MAYDAY NETWORK

AVK UK is part of The Prince's Mayday Network, formed by HRH The Prince of Wales, which is a network of forward thinking businesses, that have made a pledge to take action on climate change.

DERBYSHIRE'S BEST BUSINESS AWARDS 2012 ENVIRONMENTAL CATEGORY

With a high calibre of entries from a range of companies it was AVK Company, Bryan Donkin Valves Ltd who picked up the Environment Award sponsored and judged by Toyota Manufacturing (UK) Ltd. AVK and Bryan Donkin Valves continue to use the Carbon Disclosure Project to benchmark against other environmentally aware companies and use the results to identify areas in which improvements could be made.

ENGINEERING SITE SOLUTIONS



As part of our strategy to provide 'solutions, not just products', **AVK UK**, through **Invicta Valves** now offer full **Engineering Site Solutions** to support our unrivalled water and waste water product range.

We are able to deliver both our products and services through a variety of supply options from emergency, through short term planned to full scheduled deliveries to suit you and your client's requirements.

SERVICES

- One stop shop
- Project management
- Site audit / feasibility
- Valve replacement and refurbishment
- Valve / pump chamber refurbishment
- Penstock installation and commission
- Network leakage management
- Supply and fit repair solutions
- Under-pressure connections / hot tapping / flow stopping
- Pipe relining
- Chlorination

- Pipe measurement
- Pipeline supply and installation
- Warranty projects
- Specialist design
- Bespoke solutions and design packages



www.avkuk.co.uk/engineeringsitesolutions

ASSOCIATED PRODUCTS FOR THE RESILIENT SEAT GATE VALVE RANGE

SERIES 265

AVK Dismantling Joints
DN50-2200
PN10/PN16
Steel



SERIES 603/633/260

AVK Flange Adaptors
DN40-1200
PN16
Ductile Iron



SERIES 712

AVK Ductile Iron Fittings
Complete range
DN40-600
Ductile Iron
Epoxy coated



Series 601/621/631/258/259

AVK Universal Couplings
DN40-1200
PN16
Ductile Iron



AVK Handwheel



AVK Street Covers



AVK Support Bush



AVK Stem Cap



AVK Extension Spindles

AVK UK also offers a full range of valves including: non-return valves, air valves, hydrants, butterfly valves and pressure reducing valves. For more information on all AVK products please contact us on **+ 44 (0) 1604 601188** or visit our website **www.avkuk.co.uk**

TECHNICAL APPENDIX

- PRESSURE TEST AND FLANGE DRILLINGS

PRESSURE TESTS:

Hydraulic test according to EN 1074-1 and 2 / EN 12266

Shell test with water:

Valves PN10 tested at 15 Bar

Valves PN16 tested at 24 Bar

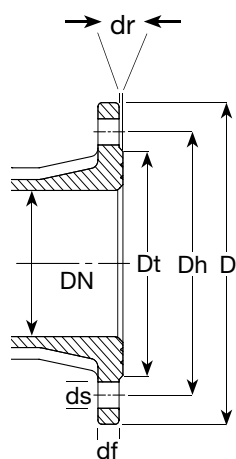
Valves PN25 tested at 37.5 Bar

Seat test with water:

Valve PN x 1.1

Seat tests are done from both sides and with one end open.

STANDARD FLANGE DRILLINGS:



PN10 / 16

DN	D	Dt		Dh		df	dr	ds		Number of		Bolt size	
		mm		mm				mm		holes		PN10	PN 16
		PN10	PN16	PN10	PN16			PN10	PN16	PN10	PN16		
40	150	84		110		16	3	19		4		M16	
50	165	99		125		16	3	19		4		M16	
65	185	118		145		16	3	19		4		M16	
80	200	132		160		16	3	19		8		M16	
100	220	156		180		16	3	19		8		M16	
125	250	184		210		16	3	19		8		M16	
150	285	211		240		16	3	23		8		M20	
200	340	266		295	295	17	3	23	23	8	12	M20	
250	400	319		350	355	19	3	23	28	12	12	M20	M24
300	455	370		400	410	21	4	23	28	12	12	M20	M24
350	520	430		460	470	23	4	23	28	16	16	M20	M24
400	575	482		515	525	28	4	28	31	16	16	M24	M27
450	640	530		565	585	30	4	26	30	20	20	M24	M27
500	715	585		620	650	31.5	4	26	33	20	20	M24	M30
600	840	685	725	725	770	36	5	30	36	20	20	M27	M33

PN25

DN	D	Dt mm	Dh mm	df mm	dr mm	ds mm	Number of holes	Bolt size
40	150	84	110	19	3	19	4	M16
50	165	99	125	19	3	19	4	M16
65	185	118	145	19	3	19	8	M16
80	200	132	160	19	3	19	8	M16
100	235	156	190	19	3	23	8	M20
125	270	184	220	19	3	28	8	M24
150	300	211	250	20	3	28	8	M24
200	360	274	310	22	3	28	12	M24
250	425	330	370	24.5	3	31	12	M27
300	485	389	430	27.5	4	31	16	M27
350	555	448	490	30	4	34	16	M30
400	620	503	550	32	4	37	16	M33
450	670	548	600	34.5	4	37	20	M33
500	730	609	660	36.5	4	37	20	M33
600	845	720	770	42	5	41	20	M36

TECHNICAL APPENDIX

- OPERATION

FIELD OF APPLICATION:

Fields of application are water, waste water and neutral liquids.

If the solids of the medium make up more than 10% the AVK knife gate valves (series 702) is recommended.

If the medium contains special substances, information of the chemical designation, concentration and the temperature of the medium must be supplied with all enquiries.

OPERATION:

To avoid any potential seizure of the internal parts, it is recommended to operate any gate valve at the following minimum intervals :-

- Gate valves for water : every year.
- Gate valves for sewage and industry : every third month.

After operation the gate valve must be:

- Fully open and the stem released from stress or,
- Closed with the closing torque stated in the table.

Maximum temperature:

- For water and waste water max. 70°C.
- For valves with PE ends max. 40°C.
- The valve must not be exposed to low temperatures, causing the medium to freeze.

TORQUES AND NUMBER OF TURNS TO OPEN:

Series	Valve dimension DN mm	Closing torque Nm	Turns to open
21	50	60	5
21	80	70	7
21	100	80	9
21	150	130	13
21	200	180	17
21	250	210	21
21	300	220	25
21	350	240	29
21	400	290	33
55/66	450	450	43
55/66	500	450	43
55/66	600	500	52
55/30	800	850	70

The designs, materials and specifications shown in this brochure are subject to change without notice due to our continuing programme of product development.



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Expect... **AVR**