





EXPECT COMPLETE PACKAGE FOR HOUSING CONNECTION





The New Innovation that Guarantees Sustainability and better AMR/AMI data transmission

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# **ABOUT**

### **AVK SAUDI & AVK PLASTIC**

**AVK Saudi** is part of the globally renowned AVK Group, one of the leading manufacturers of valves for water, waste water, gas and fire protection worldwide. Our extensive product programme comprises of valves, hydrants, pipe fittings and accessories, each complying with the highest standards of safety and durability.





AVK Plastic is also part of the AVK Group. AVK Plastics, based in the Netherlands, is the competence centre for the development of high quality synthetic products. Extensive market knowledge, modern production techniques, and the latest design software makes AVK Plastics the market leader in synthetic surface boxes and synthetic pallets manufactured for the European market, offering complete system solutions worldwide while maintaining focus locally.







#### **Product Development**

Even in a market, which has been long established, there are improvements to be made in design and product reliability. We want to make sure the product is easy to install and offers the long term solution you would expect from the AVK product range. This is one of the advantages of being a global leader and local manufacturer as we invest in and develop new products, with existing products continually adapted and tested. In cooperation with the end user, the products are field tested before launch, thus achieving the best result in each individual market.

#### Quality

AVK's products are characterised by a high, consistent quality, competitive prices and a durability in line with market requirements. This calls for strict quality control of the production processes from beginning to end and therefore AVK has been certified according to ISO 9001.

Building on AVK Group's reputation, AVK Plastic with AVK Saudi has developed the MAINS TO METER range to ensure we can meet your product requirements from the water mains to beyond the water meter. It is "our mission to be become the customers' preferred valve and fittings provider" which is part of our Expect customer service promises.







### **OUR UNIQUE SELLING PROPOSITIONS ENABLE US TO GIVE EIGHT IMPORTANT PROMISES TO OUR CUSTOMERS:**

### **EXPECT SOLUTIONS, NOT JUST PRODUCTS**

It takes dedicated expertise to choose the right solution so that our customers get the highest quality at the best price.

#### **EXPECT GLOBAL LEADERSHIP AND LO-CAL COMMITMENT**

Customers expect a partner who can combine the product portfolio and cost efficiency of a global leader with the flexibility and adaptation of a local partner.

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### **EXPECT QUALITY IN EVERY STEP**

Quality is essential! When it comes to valves, hydrants, fittings and accessories customers expect long-lasting solutions.

### **EXPECT A PROMPT RESPONSE**

From the customer's perspective, our valves and fittings form partial, yet vital, parts of complex installations. Therefore, our deliveries have to be punctual and our response to our customers' queries and requests timely, accurate and supportive.

#### **EXPECT LASTING INNOVATIONS**

To stand out from the competition, it is essential that we keep offering our customers innovative solutions that can withstand the challenges of the hardest environmental conditions.

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### **EXPECT TOTAL SAVINGS**

For many of our customers, it is important that we optimize our solutions to maximize their total savings.

#### **EXPECT A LONG-TERM PARTNERSHIP**

We build on and invest in long-term partnerships, because our customers are much more valuable than a single transaction.

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#### **EXPECT IT TO BE EFFECTIVE AND EASY**

Our customers need a business partner who is easy to do business with.

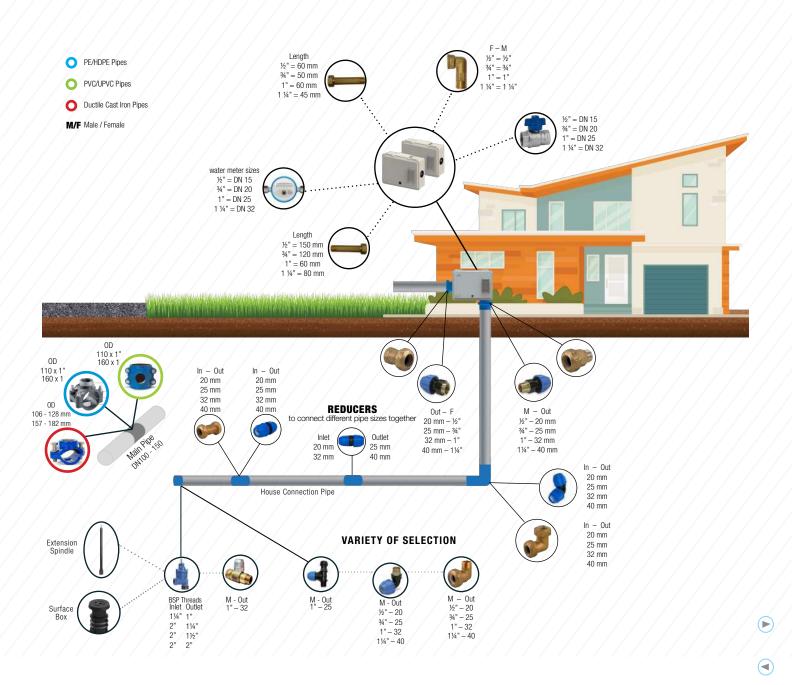






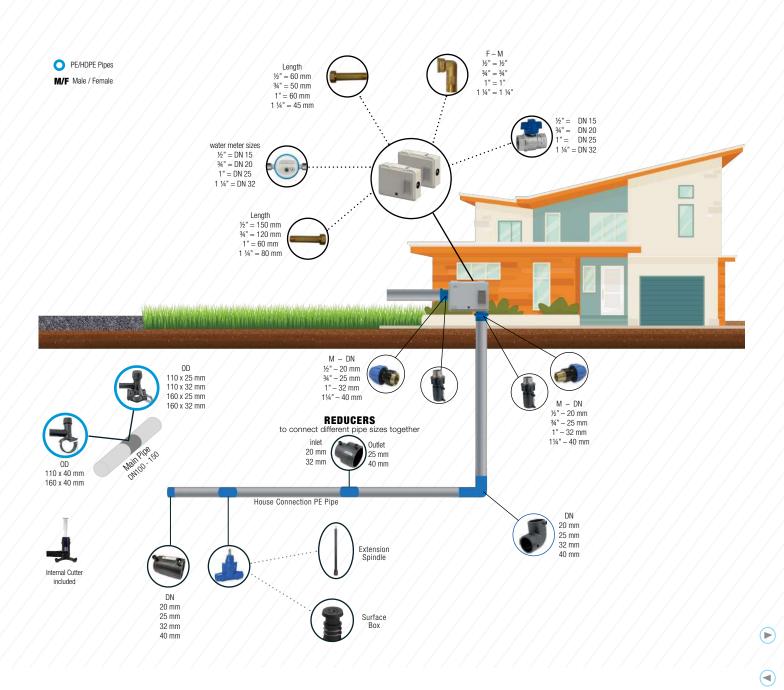
# FROM WATER MAIN TO BEYOND THE WATER METER

### **M2M Mechanical Solution**



# FROM WATER MAIN TO BEYOND THE WATER METER

### **M2M Electrofusion Solution**



**TECHNICAL** 



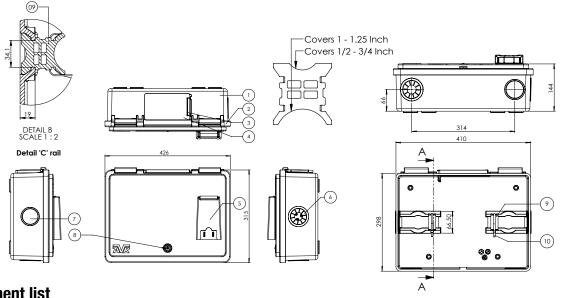
### UV RESISTANT CABLE TIE

### **BOX FEATURES**

- Can withstand harsh environment.
- Polypropylene **SABIC** grade materials.
- Better AMR / AMI Data Transmission.
- Dust and weather proof.
- High temperature resistance.
- UV-resistant.
- High impact resistance .
- Lockable design with universal key.
- Customer logo optional.
- Various mounting orientations.
- Easy maintenance due to releasable cable ties.
- Universal plug for multiple pipe sizes.
- Reading glass cover ensures clean and transparent glass at all times.
- Quality housing without flashes, burrs or sharp edges.
- Flexible positioning of brackets.

### **CABLE TIE FEATURES**

- Excellent resistance to UV rays.
- Bent rounded tip for an easier insertion through the head of the cable ties.
- Rounded edges for the safest application.
- Complying with norm CEI EN 62275 and ISO 4892-2



### **Component list**

- 1. Housing
- 2. Cover
- 3. Reading glass
- 4. Reading glass cover
- Billet holder
- 6. Rubber plug
- 7. Plug
- 8. Lock
- 9. Universal bracket
- 10.Reusable cable tie

- PP
- PC (high viscosity)
- PP

PC (high viscosity)

- TPE
- PP
- N.A.

PP Copolymer

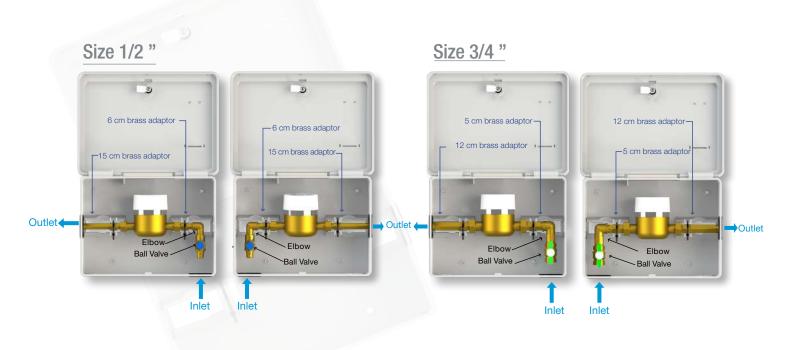
N.A.

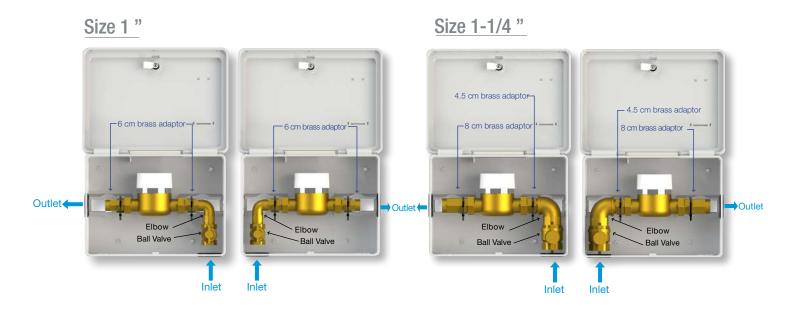




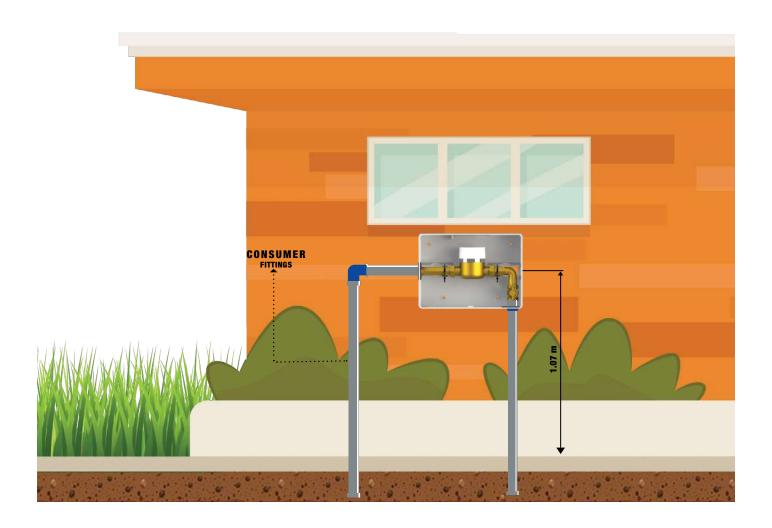


### INLET/OUTLET ORIENTATION





### INSTALLATION



### **INSTALLATION**

- 1.Install the Water Meter Box to the wall via the four internal installation points.
- 2. The recommended height for the consumer outlet fitting (outlet adaptor) to be at 1.07m height.
- 3. Water Meter Box height shall be suitable for the operational condition for each region.







### **BRACKET ASSEMBLY**

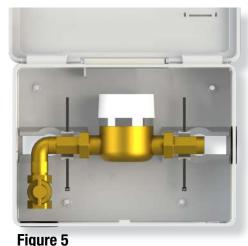
### **CABLE TIE**



Figure 1
Insert the bracket horizontally inside the round center of the bracket rail



**Figure 3**Slide the bracket to the required position



Position the fittings & water meter



**Figure 2**Rotate the bracket 90 degrees towards vertical position



Figure 4

Push the reusable tie wrap through the appropriate hole of the bracket



**Figure 6**Fixate the fittings onto the brackets by tightening the reusable tie wrap

### WMB ASSEMBLY

### STAINLESS STEEL CLAMP



Figure 1
Insert the bracket horizontally inside the round center of the bracket rail



**Figure 3**Slide the bracket to the required position



**Figure 5**Position the fittings & water meter



**Figure 2**Rotate the bracket 90 degrees towards vertical position



Push both stainless steel clamps through the appropriate bracket holes



**Figure 6**Fixate the fittings onto the brackets by tightening the stainless steel clamp

# WMB INTERNAL FITTINGS BALL VALVE

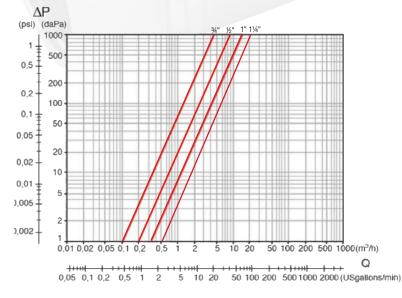


AVK provides the Tamper-proof Ball Valve with 1/2", 3/4", 1", 11/4", and F/F body ends and full bore. It can be provided with EXTRA-LOCK system, which allows the valve to be locked in an open or close position.

\*\*Other sizes available upon request.

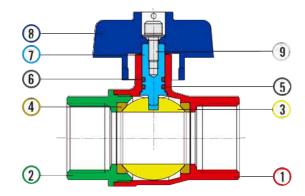


#### PRESSURE LOSS CHART



### Kv & Cv COEFFICIENT

Size	Kv	Cv
1/2"	15.5	17.9
3/4"	31	36
1"	52	60
1¼"	87	101

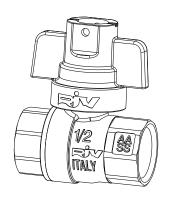


N	MATERIALS
1- Body	Brass
2-Body end	Brass
3-Ball	Brass
4-Seat	PTFE
5-o-ring	NBR
6-o-ring	NBR
7-Stem	Brass
8-Butterfly handle	Brass: (1"1/4) Aluminum: (1/2",3/4",1")
9-Screw	Steel zinc plated

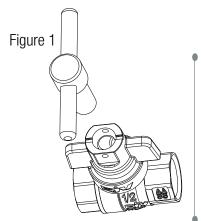
Connection ISO 228-1

## WMB INTERNAL FITTINGS

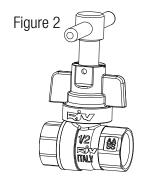
### BALL VALVE EXTRA-LOCK SYSTEM



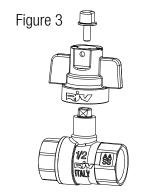
The **EXTRA-LOCK SYSTEM** allows the valve to be locked in open and close positions



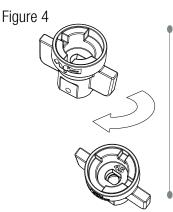
Place the control unit in the position where the valve should be locked.
You must have the appropriate Key to operate the system.
Insert the Key into the screw



Unscrew the screw by turning the key anticlockwise



Remove the control unit



Rotate the control unit of 180 to get "lock" (Figure 4) Insert the control unit of the valve and the screw (Figure 3) Close lightly, turning the key clockwise until it stops Remove the key

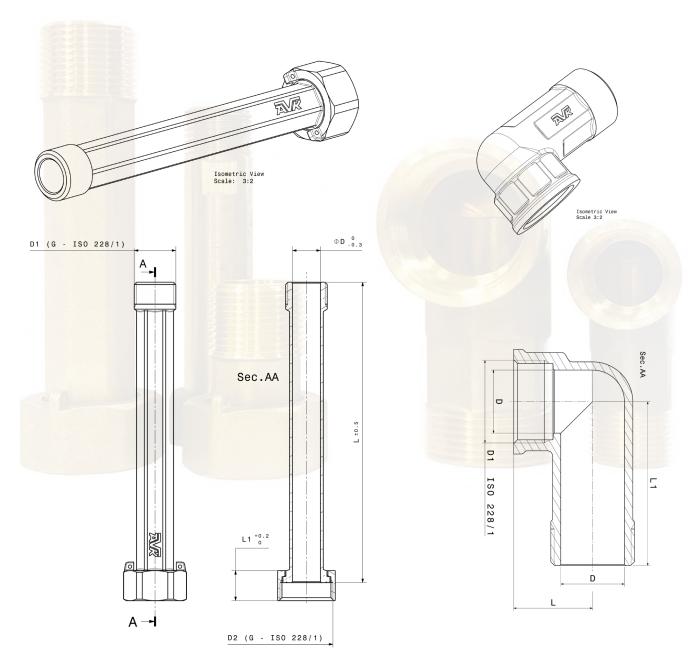






# WMB INTERNAL FITTINGS

### **ELBOWS & ADAPTORS**



### **AVK BRASS ADAPTOR**

D1	D2	D	L
1/2"	3/4"	14	60
1/2"	3/4"	14	50
3/4"	1"	20	50
3/4"	1"	20	120
1"	1"1/4	25	60
1"1/4	1"1/2	32	45
1"1/4	1"1/2	32	80

#### **AVK BRASS ELBOW**

D1	D	L	L1
1/2"	14	24	48
3/4"	20	25	60
1"	25	31	65
1 1/4"	32	43	75







# WATER METER BOX PRODUCTS RANGE

Type Series 80/50	Model	d mm
Water Meter Box RAL 9010	MEWA	½" - 1 ¼"
Polypropylene Dust and weather proof High temperature and Impact resistance UV resistant Various mounting	NWC	½" - 1 ¼"
Series/4080 Box Key	ONE SIZE	N/A
Series 970/0601 Brass Ball Valve Ball valve F\F Full bore Extra-Lock Aluminum tamper-proof Butterfly handle * Brass Tamper-proof for size 11/4"	d mm ½" ¾" 1" 1¼"	PN  25 25 25 25 25 25
Series 970/0670 Tamper-proof Key Extra lock	ONE SIZE	N/A
Series 970/XXXX Brass Elbow Male/Female ends PN16	½" ¾" 1" 1¼"	16 16 16 16
Series 970/XXXX Brass Adaptor Male/Female ends PN16	½" 34" 1" 1¼"	16 16 16 16
Series 970/XXXX UV Resistant Cable Ties Raw material: polyamide 6.6. Halogen- free Humidity absorption: 2,7% (50% relative humidity). Working temperature: -40°C ÷ 105°C. Flammability rating: UL 94 class V2.	245x7	-











### INTERNAL FITTINGS

16 bar mechanical fittings for pressure piping applications are designed with an innovative Balance Sealing System.

This feature offers a technical solution whereby the tightening of the nut improves the seal performance, with the extra benefit of maximum reliability in all possible conditions of use. Keeping the basic features of easy and fast assembly without any particular preparation of the pipe.

- Innovative seal ensures a water tight solution.
- Seal design improves connections to undersize pipe, pipe showing wear and
- Seal design reduces effort to insert pipe in sizes > d50mm.
- Dedicated fittings means dedicated seals, no long term joint stresses.
- All fittings are rated PN16 including stop taps.

#### **Main Applications**

Water supply, house connections and water treatment plants.

#### **Technical Specification - Materials**

WRAS approved materials are used, this makes the fittings highly resistant and reliable over time. Suitable for drinking water and environment compatible.

- Body, nut, thrust ring: virgin Polypropylene (PP-B), higher mechanical resistance and thermal stability. For coloured nuts, top UV resistant master-batch are used (Grade 8- ASTM D2565)
- Grip ring: copolymer Polyacetal resin (POM), white colour
- Conical gasket: rubber EPDM, hardness 70sh, black colour

### **WRAS**

#### **Standards**

- Dimensions, features and functional tests: WIS 4-32-11, BS EN150 BS EN911:1996, BS 3501:2015, 2782, UNI 9561, EN712, EN713, EN715, EN911, ISO3458, ISO3459, ISO3501, ISO3503, ISO14236, DIN8076.3, AS/ NZS 4129, BRL K534-03
- Pipe compatibility: PE-HD (PE63-80-100), PE-LD, PEX-a: UNI10910, EN12201-1, ISO4427, DIN8072, DIN8074, AS/ NZS4130, BS6572, BS6730, UNI7990
- Sealing threads (male and female): EN10226-3 (ex ISO7/1), DIN2999.1, BS21, AS/NZS1722.1
- Flange: IS07005, DIN2501, DIN8063

#### Nominal Pressure (PN) and Product **Approvals**

fittings are designed and pressure rated to PN16; fittings are tested and certified by major international approval institutions, such as DVGW (Germany), IIP (Italy), WM (Australia), Kiwa (Holland).





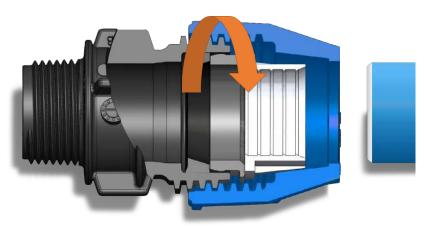




# WMB MECHANICAL FITTINGS INSTALLATION

#### 1. Prepare pipe and unscrew nut

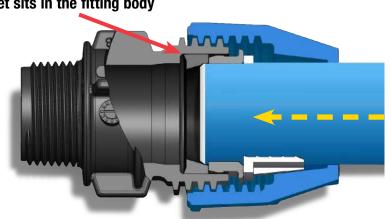
Cut the pipe square and remove the burrs and chamfer the pipe. Unscrew the nut to the last thread, leave it on the fitting while inserting the pipe.



### Radial gasket sits in the fitting body

#### 2. Insert pipe up to the first pipe stop

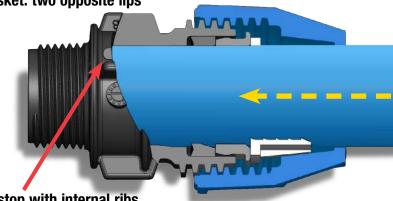
Twist the pipe into the fitting through the grip ring to the first stop: the pipe has reached the conical gasket



### Conical gasket: two opposite lips

#### 3. Insert pipe up to the body pipe stop

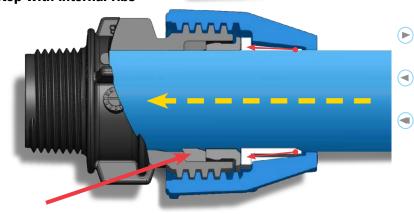
Push the pipe through the gasket to the second stop, you have reached the pipe stop, with incorporated ribs within the fitting.



### Body pipe stop with internal ribs

### 4. Tighten the nut

Tighten the nut firmly by hand or standard tool up to 32mm. Above d≥40mm use a standard tool or dedicated wrench.



### POLYETHYLENE SADDLE



Stainless steel reinforcing ring

Gasket grip system

Gasket grip system

Patented anti-rotation system the innovative insert works very effectively and long lasting against rotation and axial slide of the saddle, suitable to grip different type of PE 80-100 pipes with no risk of damage.





### **Clamp Saddle**

AVK M2M Clamp Saddle with anti-rotation system is equipped to secure pipes from damaging. The unique technique of inserting (3) works effectively inside and outside the Saddle's body, and ensures a long lasting against pipes rotation.



#### Starting position:

- The saddle is not tightening the pipe .
- The anti-rotation insert does not grip the pipe.

#### **Technical features**

- Clamp Saddle
- Material: grey copolymer PP
- Stainless steel reinforced
- Galvanized bolts
- Flat gasket NBR 70sh
- Bolt grip system
- Gasket grip system
- Anti-rotation system
- BSP threads
- Available for OD sizes from 25mm up to 315mm

### **Final position:**

- The saddle is tightening the pipe
- The anti-rotation insert teeth get into the pipe preventing the saddle rotation and sliding.





# WMB MECHANICAL FITTINGS DUCTILE IRON SADDLE



AVK offers a wide range of tapping saddles, that comprises tapping saddles for PE/PVC, ductile iron, cast iron, and steel pipes.

AVK tapping saddles offer easy and fast installation, reliable function, maintenance-free and designed to last.

#### Series 10/00 and 10/11

- Stainless steel bolts, nuts, and a fusion bonded epoxy coating secure long life without the risk of corrosion.
- Nut of acid-resistant stainless steel with anti-friction coating to prevent it from causing friction against the stainless steel bolt. The nut is located in a recess in the lower part, making the installation fast and easy.
- A large profiled rubber gasket of drinking water approved EPDM rubber ensures a drop tight seal against a rough pipe surface. Only a quick cleaning and lubrication of the surface is necessary.
- The female pipe connection is a standard BSP pipe thread. The thread depth is kept to a minimum to ensure that no raw threads are exposed to the water once the male thread fitting is mounted.

### **TECHNICAL**

### **APPENDIX**

#### **Approvals:**

The Coating and EPDM Rubber are approved for use in drinking water systems, our coating meets all specified toxicological conditions standards by



#### **Certificates:**

The production of all products in the AVK-programme are controlled in accordance with the procedures and specifications laid down in the »AVK-quality manual«. AVK products and procedures are approved and certified according to:

- ISO 9001 (quality)
- ISO 14001 (environment)







Туре	d mm	PN
Series 1110/33		
Male Adaptor	20x½" 25x¾"	16 16
With Brass insert	32x1"	16
Threads male Taper	40x1¼"	16
R series		
Series 1110/34	20x½"	16
90° Male Elbow	20x/2 25x¾"	16
Nith Brass insert	32x1"	16
Threads male Taper R series	40x1¼"	16
Series 1110/06		
Male Adaptor Polypropylene body, nut, thrusting ring,	20x½"	16
Polyacetal grip ring	25x¾" 32x1"	16 16
EPDM Seals	40x1½"	16
Mechanical operation WIS 4-32-11 WRAS approved materials PN16 Threads male Taper R series		
Polypropylene body, nut, thrusting ring, Polyacetal grip ring EPDM Seals Mechanical operation MIS 4-32-11 WRAS approved materials PN16 Inreads male Taper R series	20x½" 25x¾" 32x1" 40x1¼"	16 16 16 16
Series 1110/01 Coupler Polypropylene body, nut, thrusting ring, Polyacetal grip ring EPDM Seals Mechanical operation	25X20 40X32	16 16
WIS 4-32-11 WRAS approved materials PN16		
eries 1110/12 0° Elbow  Dlypropylene body,  ut, thrusting ring,  Dlyacetal grip ring	20 25 32 40	16 16 16
PDM Seals lechanical operation VIS 4-32-11 VIRAS approved N16	40	16





Туре	d mm	PN
Series 1110/03 Reducing Coupler Polypropylene body,nut, thrusting ring, Polyacetal grip ring EPDM Seals Mechanical operation WIS 4-32-11 WRAS approved PN16	20 25 32 40	16 16 16 16
Series 1110/XX Female Adaptor with Brass insert Threads male Taper R series	20x½" 25x¾" 32x1" 40x1¼"	16 16 16 16
Series 1110/XX 90° Female Elbow with Brass insert Threads male Taper R series	20x½" 25x¾" 32x1" 40x1¼"	16 16 16 16
Series 1110/13 90° Female Elbow Polypropylene body,nut, thrusting ring, Polyacetal grip ring EPDM Seals Mechanical operation WIS 4-32-11 WRAS approved PN16 Threads female-Parallel Rp series	20x½" 25x¾" 32x1" 40x1¼"	16 16 16 16
Series 1110/05 Female Adaptor Polypropylene body,nut, thrusting ring, Polyacetal grip ring EPDM Seals Mechanical operation WIS 4-32-11 WRAS approved PN16 Threads female Parallel Rp series	20x½" 25x¾" 32x1" 40x1¼"	16 16 16 16
Series 1110/04 End Cap Polypropylene body, nut, thrusting ring, Polyacetal grip ring EPDM Seals Mechanical operation WIS 4-32-11 WRAS approved materials PN16	20 25 32 40	16 16 16 16





Туре	d mm	PN
Series 970/1402 Hot Tapping Neck	25x1" 3/4"x1"	16 16
Series 970/1450 Elbow Quick Connection Adaptor PE/PE tensile	20x½" 25x¾" 32x1" 40x1¼" 50X1½" 63X2"	16 16 16 16 16 16
Series 970/X1450 Quick Connection Adaptor PE/PE Tensile	20X20 25X25 32X32 40X40 50X50 63X63	16 16 16 16 16 16
Series 970/1450 Quick Connection Adaptor MALE/PE Tensile/threads	20x½" 25x¾" 32x1" 40x1¼" 50X1½" 63X2"	16 16 16 16 16 16
Series 970/1450 Elbow Quick Connection Adaptor PE/PE Tensile	20X20 25X25 32X32 40X40 50X50 63X63	16 16 16 16 16 16
Series 970/1450 Elbow Quick Connection Adaptor PE/PE Tensile	20x½" 25x¾" 32x1" 40x1¼" 50X1½" 63X2"	16 16 16 16 16 16





Туре	d	OD Pipe	BSP
	mm	mm	Thread
Series 1112/02 Clamp Saddle Polypropylene, stainless steel Reinforcing ring and Stainless Steel nuts and bolts NBR seals Outlet - female ½"-4" BSP Anti-rotation system	100	110	½", ¾", 1", 1½", 1½", 2'
	150	160	½", ¾", 1", 1¼", 1½", 2'
Series 10/00 AVK Tapping Saddle For PVC & PE pipes Metric size, Tapping int. Threaded Body Ductile Iron Bolts AISI 420	100	110	34", 1", 11⁄4", 11⁄2", 2"
	150	160	34", 1", 11⁄4", 11⁄2", 2"
Series 10/11 Tapping Saddle Use for Cast Iron, Ductile Iron pipes Upper & Lower parts: Ductile Iron Gasket: EPDM Bolts/Nuts & Washers: Stainless Steel Coating: Fusion Bonded Epoxy Blue	100	110	¾", 1", 1¼", 1½", 2"
	150	160	¾", 1", 1¼", 1½", 2"
Series 730 Universal Tapping Saddle Ductile iron, steel and other metal pipes Band & trim in Stainless Steel 0D80-300	100	105-133	½", ¾", 1", 1¼", 1½", 2
	150	156-186	½", ¾", 1", 1½", 1½", 2







### ECHNICAL

Together, Electrofusion fittings and Polyethylene pipes enable utilities, designers, and contractors to create fully welded pipe networks. Joints are critical points in any of pipe network. The production quality, reliability, and flexibility of AVK-Fusion electrofusion fittings buys you peace of mind and certainty. AVK-Fusion has further extended the competitive advantage of the fittings by developing SBOX-Max, the world's leading electrofusion control box.



Fusamatic pin provides a fully automatic method for ensuring the correct welding parameters are used. Within each Fusamatic pin is a resistor.

#### 5) BARCODE

The barcode carries the welding parameters for use with electrofusion boxes equipped with a barcode scanner. The QR code on all fittings illustrate full traceability on each individual fitting that reaches the consumer.

#### 2) INDICATORS

has been achieved.

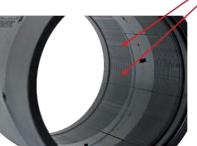
The pressure created by the expanding molten plastic in the jointing area inside the fitting during the electrofusion pro-cess will force out the indicator lugs. This is a visible sign that the necessary jointing pressure

#### 3) MOULDED-IN WELDING PARAMETERS

Manual welding parameters are moulded into the body of all Fusion's fittings.

### 4) PERMANENTLY MARKED BATCH NUMBER

The injection mould batch number is just one of numerous quality control identifiers on each Fusamatic fitting. It is replicated on the fitting's barcode



#### Element

To promote joint quality, all AVK-Fusion elements are coated with polyethylene before being moulded into the fitting body.



Fusamatic couplers have removable pipe stops. The stops ensure pipes cannot be inserted past the midpoint, but can be removed for use in, for example, repair situations.



#### **SBOX-Lite**

The SBOX-Lite is a lightweight and electrofusion control box which is capable of welding any brand of electrofusion fittings for gas, water and other pressure pipe applications in sizes 20mm - 125mm. It is extremely lightweight at just 8 kg comes with a manual scraper and transport bag.









**TECHNICAL** 

**AVK-FUSION Multiseal Tapping Tee** provides the installer with a leak free method of cutting into low and medium pressure mains. Because of the unique design, the fittings also offer a dual sealing mechanism, the first seal is by the cutter, thus preventing leakage whilst trying to locate the cap, the second seal is via the traditional sealing in the cap.



### **FEATURES**

- Spigot end on cutter
- Stainless Steel Cutters
- No need for additional tooling
- Quicker and easier to use
- Joint is clamped throughout the welding process
- Ratchet Cap with anti-vibration (to prevent tampering)







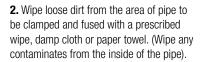


### INSTALLATION

### 1 - SOCKETS JOINT ASSEMBLY PREPARATION



**1.** Check that the pipe ends are cut square and are free from surface damage and swarf.





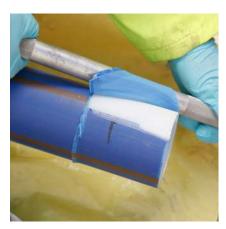
**3.** Mark the insertion depth on the pipe by holding the bagged fitting against the pipe.



**4.** Cross hatch the area to be scraped plus an additional 20-50mm using the indelible marker pen.



**5.** Scrape one pipe end using a prescribed tool, for the length of the insertion depth plus 10-20mm. Ensure the whole surface area has been scraped.



**6.** For skinned pipe use the manufacturers' recommended tools to remove the skin. Some skinned pipe still requires a scraping operation but advice from the pipe manufacturer should be sought before preparing to join the pipe.



**7.** Open fitting bag, check the fitting is clean and immediately place over pipe end and push up to centre stops, or for fittings without centre stops insert the pipe to half the overall fitting length (mark this distance on the pipe prior to insertion).



**8.** Prepare the second pipe in the same way as the first, as previously described.

- **9.** Remove the bag and push the second pipe into the fitting. Mark the penetration depth on the pipe and tighten the restraining clamp.
- **10.** Check fitting penetration using previously marked lines on pipe. Visually check pipe alignment in all planes. Rotate the fitting to ensure no excessive forces are present.







### INSTALLATION

### 2- MAKING THE WELD



- 1. Check generator has sufficient fuel.
- 2. Start the generator and then plug the control box input lead into the generator output socket. Connect the control box output leads to the fitting terminals if automatic fittings and control box are being used, connect the red lead to the fitting terminal with the red pin, connect black lead to plain pin.

- **3.** Check that the weld time marked on the fitting is displayed on the control box display. For manual fittings, check the weld time marked on the fitting and enter this figure into the control box. For 'barcode' fittings weld parameters are selected by scanning the barcode with the barcode scanner.
- **4.** Respond to prompts from the box. Press 'START' and hold down until display begins countdown. The weld cycle is complete when the timer reaches zero and the control box 'CYCLE FINISH' indicator shows.



**5.** Allow weld to cool for the full time stated on fitting before removing clamps and moving the assembly.

### **3**- SADDLE JOINT ASSEMBLY PREPARATION

- **1.** Expose pipe to which saddle is to be welded ensuring the pipe has no inclusions or gouges in the area where the fitting is to be fused.
- **2.** Ensure enough clearance has been provided (in a trench environment) to carry out the installation.
- **3.** Remove loose dirt from the pipe using a prescribed wipe, damp cloth or paper towel and ensure any risk of contamination from trench wall is minimized.
- **4.** With the fitting still in its protective bag, place over required position on pipe. Mark pipe surface 10mm clear all around contact area and cross hatch the area using a marker pen.





- **5.** Scrape the marked area, ensuring that each stroke of the scraper overlaps the preceding one, keeping hand clear of the scraped surface at all times.
- **6.** For skinned pipe use the manufacturers' recommended tools to remove the skin. Some skinned pipe still requires a scraping operation but advice from the pipe manufacturer should be sought prior to commencement of the installation.



**7.** Immediately after pipe preparation remove fitting from bag and attach to pipe using suitable clamping equipment.

### Quality Checks

- Check for any error messages on the control box.
- Check fusion indicators have risen on both sides of the fitting.
- Check for signs of melt exudation from the ends of the fitting.
- Check that the pipe has not moved by looking at the insertion depth marks.







## ELECTROFUSION FITTINGS INSTALLATION

### 4- MAKING THE WELD

- **1.** Follow the same procedure as per socket jointing.
- **2.** Allow weld to cool for the full time stated on fitting before removing stack load clamp or carrying out any cutting or pressure testing operations.

#### **Quality Checks**

- Check for any error messages on the control box
- Check fusion indicator has risen on the fitting (saddle fittings only usually have one indicator).
- Check for signs of melt exudation around the saddle base.
- Check that the fitting is square to the main.

### 5 - SADDLE JOINT ASSEMBLY PREPARATION



**1.** Scrape outlet of tapping tee and service pipe following the procedure described previously for sockets, using an appropriate mechanical scraper



- **2.** Align service pipe and fittings with restraining clamp and make the weld as before.
- 3. Carry out quality checks as detailed previously

#### PRESSURE TESTING OF JOINT

- Once the tapping tee has been fused to the pipe and connected to the service pipe, a pressure test can be carried out using a test cap in accordance with the appropriate industry guidelines. Please note it is not possible to use a universal test cap on a Multi-Seal Tapping Tee
- It is recommended that a pressure no greater than 1.5x the working pressure be used to test the joint integrity.

### 6- CUTTING THROUGH MAIN

The Multi-Seal Tapping Tee offers two cutting options for 'dead' and 'live' mains situations:

#### **OPTION 1 - DEAD OR LOW PRESSURE**

- **1.** Unscrew cap and insert cutter key into integral cutter.
- **2.** Turn the cutter key clockwise until the cutter has cut through the main.



**3.** Retract cutter until top is flush with stack and refit cap

\* Note: with this option a small amount of leakage will occur until the cutter is fully retracted.







# ELECTROFUSION FITTINGS PRODUCTS RANGE

Type Series 1250/00 Male Transition Coupler Black PE100 PN16 Plain Brass CW617N Tapered BSPT	d mm 25 x ¾" 32 x 1" 40 x 1¼"	PN bar 16 16 16
Series 1200/03 90° Elbow 4.7mm Pin Automatic Pin Black PE100 PN16	20 25 32 40	16 16 16 16
Series1200/03 Reducer 4.7mm Pin Automatic Pin Black PE100 PN16	32x25 40x32	16 16
Series1200/03 Coupler 4.7mm Pin Automatic Pin Black PE100 PN16 With tube	20 25 32 40	16 16 16 16
Series 1206/08 Multiseal Tapping Tee 4.7mm Pin Automatic Pin Black PE100 PN16 With tube	160x20 160x25 160x32	16 16 16
Series 1206/18 Multiseal Tapping Tee 4.7mm Pin Automatic Pin Black PE100 PN16 With tube	110x40 160x40	16 16
Series 1250/00 Male Transition 90° Elbow Black PE100 PN16 Plain Brass CW617N Tapered BSPT	25 x 34" 32 x 1" 40 x 1¼"	16 16 16
Series 1250/10 Female Transition 90° Elbow Black PE100 PN16 Plain Brass CW617N Tapered BSPT	25 x ¾" 32 x 1" 40 x 1¼"	16 16 16





# HOUSING CONNECTION ISOLATION VALVE



AVK offers a comprehensive range of service connection valves of ductile iron, with internal threads, push-in socket ends, screw couplings and PRK couplings as well as combinations with external thread.

### **Unique stem**

Sealing our ductile iron valves are designed with a triple safety stem sealing system, where a manchette is the main seal to the flow. Also four NBR O-rings in a polyamide bearing provide tightness around the stem and an NBR wiper ring protects against impurities from the outside. A full circle thrust collar of dezincification resistant brass provides a low free running torque and fixation of the stem

### **Two strong coatings**

Our ductile iron valves are as standard with internal and external epoxy coating according to DIN 30677-2. Optionally, we offer inside enameling suitable for installation in special corrosive media where the complete smooth surface ensures that no impurities will stick to the surface. Enameling gives a durability and resistance to be compared with glass and prevents creeping corrosion.

### Tight 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 during pressure surges. The stainless steel bonnet bolts are encircled by the bonnet gasket, countersunk in the bonnet and finally sealed to prevent corrosion.

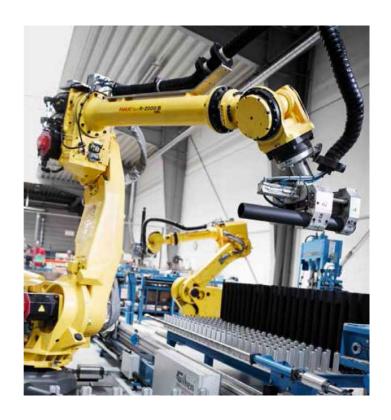






# **HOUSING CONNECTION**

### **EXTENSION SPINDLE**



Extension spindles are used for easy access to operation of valves installed below ground.

The extension spindles are made of corrosion resistant materials and random samples are torque tested to ensure long service life. The conical key adaptor fits most standard T-keys. The inner tube is press fit to the top spanner and bottom adaptor to safeguard the galvanization of the tube and the bottom cover protects the valve spindle from impurities and enables it to rotate freely.

### Series 04

AVK fixed and telescopic extension spindles are designed for ease of use and long service life. The length can be extended up to 3000 mm.









# **HOUSING CONNECTION**

SURFACE BOX

The robust design of AVK Plastics' height adjustable surface boxes with reinforced rim, registered by AVK, makes the surface box perfectly suitable for heavy duty application areas. The reinforced rim ensures a better support of the top part, a unique advantage compared to the traditional height adjustable surface box.

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#### **Features**

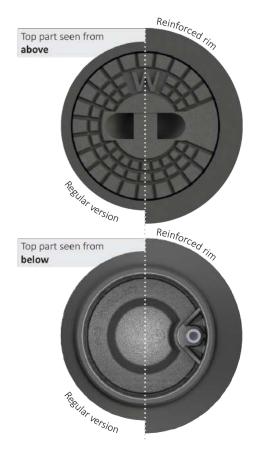
- Large height range and flexible positioning of top part
- Inscription in lid to be positioned easily
- No costly corrections after installation
- Design registered by AVK
- Reinforced rim ensures better support of top part
- Strong rim makes product suitable for heavy duty application areas

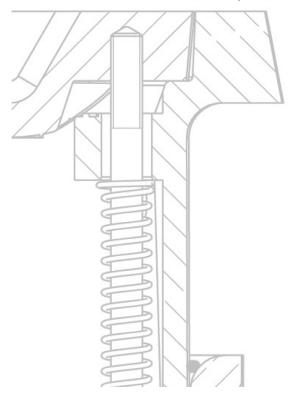
### Reinforced surface box with locking system

AVK reinforced surface boxes with locking system prevent unauthorized access to underground valves and hydrants. The lid is only to be opened with a special key that is made available for authorized people only. The locking system makes the surface box tamper-proof.

#### Reinforced surface box with spring

AVK also offers a surface box with a spring around the bolt. It can occur the lids are being lifted when traffic is running over the surface box. This so called, suction effect, is unavoidable due to the high speed of traffic. AVK offers a solution by mounting a spring around the bolt. The spring makes sure the lid stays in its place and avoids unsafe situations.













# HOUSING CONNECTION PRODUCTS RANGE

Туре	DN	OD Pipe mm	PN		BSP hread
Series 03/00 (1997)					
Service Connection Valve	25	32	16		1"
Female threaded to BSP	32	40	16		11/4"
o DIN 3352 part 4	40	50	16		1½"
Body Ductile Iron	50	63	16		2"
		00	10		_
Stem AISI 420					
Wedge EPDM					
Series 03/30	DN	OD Pipe	PN		
Service Connection Valve		mm			
Nith tensile resistant socket					
Joint for PE pipes	20	25	16		
	25	32	16		
Body Cast Iron	32	40	16		
Stem AISI 420	40	50	16		
Nedge EPDM	50	63	16		
	50	03	10		
Series 11/00	DN	OD Pipe mm	PN	BSP Inlet Thread	BSP Inte
Service Connection Valve					
Angle type	25	32	16	11/4"	1"
Ext. Threaded BSP on inlet	32	40	16	2"	11/4"
	40	50	16	2"	1½"
nt. Threaded BSP on outlet	50	63	16	2"	2"
Body Ductile Iron Wedge EPDM	30	00	10	۷	۷
Series 11/30 Service Connection Angle Valve	DN	OD Pipe mm	PN		BSP Thread
Angle valve with external thread on					
	25	32	16		11/4"
nlet and tensile resistant socket	25	32	16		2"
oint for PE pipes on outlet	32	40	16		2"
	40	50	16		2"
	50	63	16		2"
Series 970/0680 AVK Ball Valve	DN	OD Pipe mm	PN		BSP Thread
For PE and PVC pipes	25	20	16	3/#	1 411 41/11
Export extra lock	25	32	16	9/4	', 1", 1½"
Full bore	**Other sizes	upon request			
Series 85/50		OD Dine			
PE Ball Valve	DN	OD Pipe mm	PN		
PE Ball Valve Fusible ends	25	<b>mm</b> 32	16		
PE Ball Valve Fusible ends Full bore	25 32	<b>mm</b> 32 40	<b>16</b> 16		
PE Ball Valve Fusible ends Full bore DD20-180	25	<b>mm</b> 32	16		
PE Ball Valve Fusible ends Full bore DD20-180 PN16	25 32	<b>mm</b> 32 40	<b>16</b> 16		
PE Ball Valve Fusible ends Full bore DD20-180 PN16 PE100-RC	25 32 40	<b>mm</b> 32 40 50	<b>16</b> 16 16		
PE Ball Valve Fusible ends Full bore DD20-180 PN16 PE100-RC Series 80/32 AVK Surface Box-with spring Adjustable Height	25 32 40	<b>mm</b> 32 40 50	<b>16</b> 16 16	Hei	ght
PE Ball Valve Fusible ends Full bore DD20-180 PN16 PE100-RC Series 80/32 AVK Surface Box-with spring Adjustable Height	25 32 40 50	<b>mm</b> 32 40 50	<b>16</b> 16 16	<b>Hei</b>	•
PE Ball Valve Fusible ends Full bore DD20-180 PN16 PE100-RC  Series 80/32 AVK Surface Box-with spring Adjustable Height 1-4057 HD-GG	25 32 40 50	<b>mm</b> 32 40 50	<b>16</b> 16 16		•
PE Ball Valve Eusible ends Full bore DD20-180 PN16 PE100-RC  Series 80/32 AVK Surface Box-with spring Adjustable Height 1-4057 HD-GG Lid: EN-GJL-250	25 32 40 50	<b>mm</b> 32 40 50	<b>16</b> 16 16		•
PE Ball Valve Eusible ends Full bore DD20-180 PN16 PE100-RC  Series 80/32 AVK Surface Box-with spring Adjustable Height 1-4057 HD-GG Lid: EN-GJL-250 Housing: PA+	25 32 40 50	<b>mm</b> 32 40 50	<b>16</b> 16 16		•
Fusible ends Full bore 0D20-180 PN16 PE100-RC  Series 80/32 AVK Surface Box-with spring Adjustable Height H-4057 HD-GG Lid: EN-GJL-250 Housing: PA+ Bolts: Stainless Steel A2  Series 04	25 32 40 50	<b>mm</b> 32 40 50	<b>16</b> 16 16	330-	430
PE Ball Valve Fusible ends Full bore DD20-180 PN16 PE100-RC  Series 80/32 AVK Surface Box-with spring Adjustable Height 1-4057 HD-GG Lid: EN-GJL-250 Housing: PA+ Bolts: Stainless Steel A2  Series 04	25 32 40 50 <b>Use</b> Water	<b>mm</b> 32 40 50	<b>16</b> 16 16	330-	
PE Ball Valve Fusible ends Full bore 0D20-180 PN16 PE100-RC  Series 80/32 AVK Surface Box-with spring Adjustable Height H-4057 HD-GG Lid: EN-GJL-250 Housing: PA+ Bolts: Stainless Steel A2  Series 04 Ext. Spindle for service	25 32 40 50 Use Water	<b>mm</b> 32 40 50	<b>16</b> 16 16	330- Ler n	430
PE Ball Valve Fusible ends Full bore 0D20-180 PN16 PE100-RC  Series 80/32 AVK Surface Box-with spring Adjustable Height H-4057 HD-GG Lid: EN-GJL-250 Housing: PA+ Bolts: Stainless Steel A2  Series 04 Ext. Spindle for service Connection valves -	25 32 40 50 Use Water  DN/DN 25-50	<b>mm</b> 32 40 50	<b>16</b> 16 16	330- Len n	430 agth nm 800
PE Ball Valve Fusible ends Full bore DD20-180 PN16 PE100-RC  Series 80/32 AVK Surface Box-with spring Adjustable Height H-4057 HD-GG Lid: EN-GJL-250 Housing: PA+ Bolts: Stainless Steel A2  Series 04 Ext. Spindle for service Connection valves - Fixed Length Type	25 32 40 50 <b>Use</b> Water  DN/DN  25-50 25-50	<b>mm</b> 32 40 50	<b>16</b> 16 16	230- Ler n	430 agth nm 800 000
PE Ball Valve Fusible ends Full bore 0D20-180 PN16 PE100-RC  Series 80/32 AVK Surface Box-with spring Adjustable Height H-4057 HD-GG Lid: EN-GJL-250 Housing: PA+ Bolts: Stainless Steel A2  Series 04 Ext. Spindle for service	25 32 40 50 Use  Water  DN/DN  25-50 25-50 25-50	<b>mm</b> 32 40 50	<b>16</b> 16 16	230- Ler n 1:	430 430 agth mm 800 000 200
PE Ball Valve Fusible ends Full bore DD20-180 PN16 PE100-RC  Series 80/32 AVK Surface Box-with spring Adjustable Height H-4057 HD-GG Lid: EN-GJL-250 Housing: PA+ Bolts: Stainless Steel A2  Series 04 Ext. Spindle for service Connection valves - Fixed Length Type	25 32 40 50 <b>Use</b> Water  DN/DN  25-50 25-50	<b>mm</b> 32 40 50	<b>16</b> 16 16	Ler n 1 1 1	430 agth nm 800 000

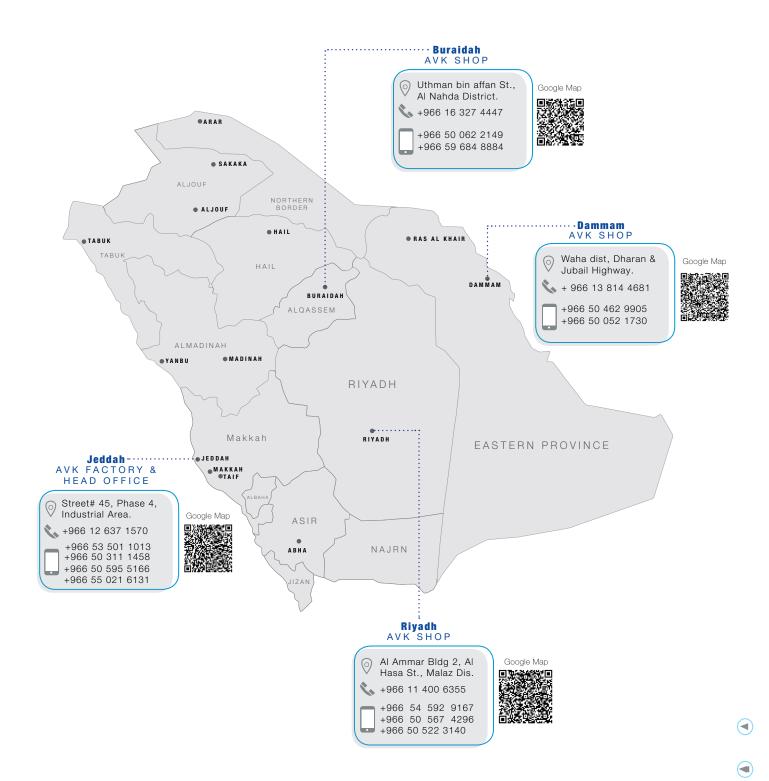






## **WE ARE SERVING YOU**

### IN ALL KINGDOM REGIONS





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