

EXPECT  
EASY  
INSTALLATION

Expect... **AVR**

# COMPLETE RANGE OF HIGH QUALITY COUPLINGS

AVK offers a wide range of universal and dedicated couplings, flange adaptors and end caps designed for easy installation. The excellent corrosion protection and rubber quality ensure durable solutions.

## **Excellent corrosion protection**

AVK products meet the GSK requirements and conform to other international standards of effective corrosion protection. By virtue of our membership of GSK (Gütegemeinschaft Schwerer Korrosionsschutz), our entire coating process complies with RAL-GZ 662 guidelines and is being monitored and approved twice a year by the independent testing institute MPA-Hannover.

Automatic monitoring of time, temperature, coating thickness etc. ensures maximum durability of the coating.

## **State-of-the-art rubber technology**

The rubber for the gaskets and seals is developed and produced by AVK GUMMI A/S with the use of highly advanced technologies.

The EPDM rubber composition is designed to minimise the building of biofilm in order to prevent the rubber from forming breeding ground for bacteria. The compound is also resistant to ozone and water treatment chemicals such as sodiumhypochlorite solutions.

Furthermore, AVK's EPDM rubber has a unique compression set, meaning the ability to regain original shape. Even after many years of service where the rubber has been compressed numerous times, it will regain its original shape and ensure a tight sealing.







# SUPA MAXI™

## TENSILE UNIVERSAL COUPLINGS



Supa Maxi™ is the latest addition to AVK's range of Supa® couplings. It comprises a complete range of large tolerance universal and tensile straight couplings, step couplings, flange adaptors, end caps and transition couplings to EN 14525 for water, gas and wastewater applications. Furthermore, gate valves in DN 80-300 for water and wastewater applications.

**Supa Maxi™ sets a new standard with its unique features:**

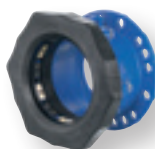
- 11 couplings/adaptors cover DN 50-400
- Fully universal and tensile on all pipe materials
- Patented SupaGrip™ sealing support system with flexible bracket
- PN 16 in all dimensions for water (WP -0,9 to 16 bar), PN 10 for gas
- $\pm 4^\circ$  ( $8^\circ$  in total) angular deflection on each side, even at minimum pipe size
- The pipe will not move inwards when tightening - no longitudinal movement
- Permanent protection caps protect during handling and installation
- Bolts are tightened on the bolt head from the sleeve side
- No re-tightening of bolts needed
- Lifting eye on sizes with a weight exceeding 10 kilos (DN 100-400)
- Fusion bonded epoxy coating to DIN 30677-2, GSK approved
- Gasket of EPDM rubber approved for drinking water/NBR approved for gas
- Temperature range  $-20^\circ\text{C}$  to  $+70^\circ\text{C}$
- The gate valve provides extra safety when repairing old pipes. With a built-in gate valve it is easy to shut-off the water in case of further repair or replacement of the pipeline at a later stage.



Gate valve



Straight coupling



Flange adaptor



Step coupling



End cap



Transition coupling



Before tightening



After tightening



The patented SupaGrip™ sealing support system features a flexible bracket, and combined with the unique grip design, SupaGrip™ provides superior tightness and tensile resistance on all pipe dimensions and materials.

#### **Flexible bracket with rigid metal backup**

SupaGrip™ provides full support and backup of the gasket, even on minimum pipe size within the tolerance range and when used on oval pipes.

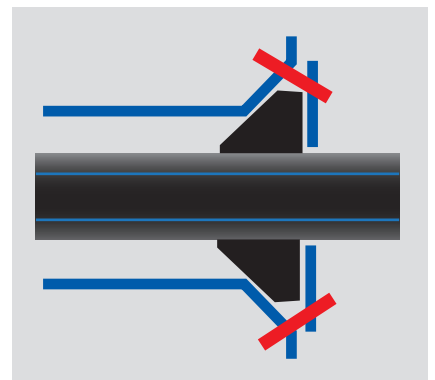
The flexible bracket is designed to contract and follow the external pipe diameter. As a result, it serves as a solid backup for the gasket and enables full deflection up to  $1.5 \times \text{PN}$  test pressure.

When tightening the bolts, the bracket segments and bolts move inwards, securing that the gasket tightens around the pipe and that the grip segments grip into the pipe surface.

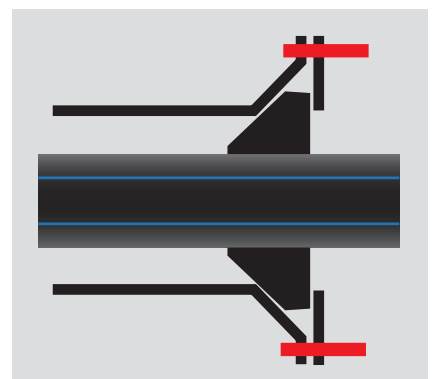
#### **Tensile on all pipe materials**

Optimum grip and tensile abilities on all pipe materials are secured by means of two different metal grip segments - gunmetal for PE and PVC pipes and hardened stainless steel for cast iron, ductile iron, steel, stainless steel, GRP, and AC pipes. The couplings are designed according to EN 14525.

The grip segments are mounted with pins on the bracket segments to provide maximum durability. The high quality materials safeguard that the sealing does not lose compression over time, and that the coupling stays tensile.



Supa Maxi™



Typical coupling

# OPTIMIZE HANDLING AND INSTALLATION

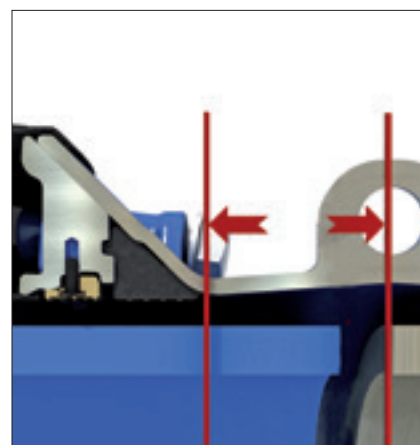
AVK Supa Maxi™ couplings and adaptors offer maximum flexibility, facilitating a secure, fast and easy installation even under difficult conditions.

## Reduce time spent on installation

The couplings enable  $\pm 4^\circ$  deflection on each side (in total  $8^\circ$ ) up to a maximum pressure of PN 16.

The large insertion depth tolerances allow the pipe to be cut slightly angled. This gives a simple installation without need for precise adjustment.

All items with a weight exceeding 10 kilos are designed with a lifting eye on the sleeve enabling easy and ergonomically safe handling.





### Optimized bolt design

The bolt design is optimized for fast and simple assembly. The number of bolts is kept to an absolute minimum, and they are all standard bolts enabling use of standard tools. The bolts and nuts are anti-friction coated to prevent galling.

The bolts are tightened from the sleeve side to ease assembly when space in the trench is limited, and the threads are protected by the permanent protection cap.

The nuts are encaptured in the bracket and covered by a protection cap to ensure that they will not fall off when loosening the bolts. Re-tightening of bolts is not necessary due to the all metal SupaGrip™ sealing support system.

### Permanent protection cap

During handling the centre piece of the protection cap covers the sharp grip segments and prevents dirt from settling inside the coupling. When the centre piece is removed the coupling is ready for installation.

### High quality materials

The couplings are designed with sleeves of ductile iron and brackets of cast steel with epoxy coating to DIN 30677-2, GSK approved.

The gaskets of EPDM rubber are approved by NF and DVGW for drinking water applications and the gaskets of NBR rubber are approved by DVGW and Gastec.

The bolts and washers are of stainless steel A2 as standard and optionally of A4. The nuts are of acid-resistant stainless steel A4.

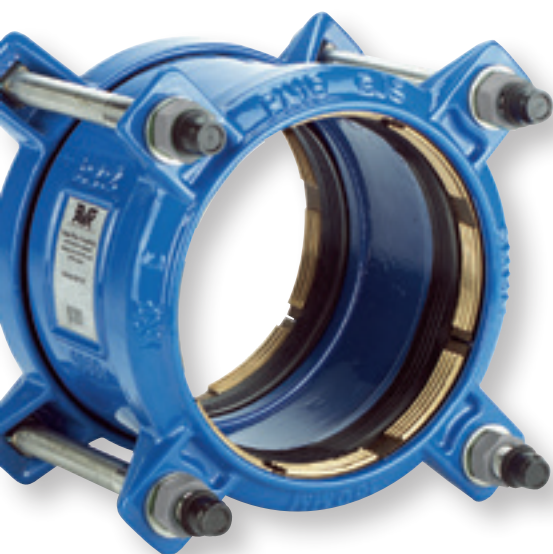
The grip segments are of RG5 bronze and hardened stainless steel, mounted with pins of polyamide.

The permanent protection caps of recyclable PE are black for water and wastewater applications and yellow for gas applications.





# SUPA PLUS™ TENSILE COUPLINGS DEDICATED FOR PE AND uPVC PIPES



AVK Supa Plus™ is a range of high quality tensile gate valves, couplings, flange adaptors and end caps in DN 40-300 dedicated for PE and uPVC pipes. The Supa Plus™ range is a strong supplement to AVK's renowned Supa range and is suitable for water and wastewater applications.

Supa Plus™ couplings offer a great flexibility and are very easy to mount due to the combined compression gasket which enables a large angular deflection and makes it easy to insert the pipes.

- The combined gasket of drinking water approved EPDM rubber with tensile grip segments of RG5 bronze enables  $\pm 3.5^\circ$  angular deflection on each side (total  $7^\circ$ )
- The design with external bolts prevents corrosion between sleeve and bolts.

- The M16 bolts of stainless steel A2 and the nuts of acid-resistant stainless steel A4 are anti-friction coated to offer easy tightening and to prevent galling.
- The compression type gasket makes it easy to insert the pipe, even in large dimensions.
- Sleeve and bracket of ductile iron with epoxy coating according to DIN 30677-2 and AVK guidelines.
- The couplings are delivered with tape securing the bolts during transport and handling. A mounting instruction is printed on the tape.



Gate valve



Straight coupling



Flange adaptor



End cap



# SUPA<sup>®</sup> UNIVERSAL NON-TENSILE COUPLINGS



The AVK Supa<sup>®</sup> universal straight couplings, step couplings and flange adaptors are suitable for uPVC, cast iron, ductile iron, steel and AC pipes. The couplings range from DN 40 to 400 and are suitable for water and wastewater applications.

With its wide tolerance span and  $\pm 4^\circ$  angular deflection on each side the AVK Supa<sup>®</sup> range is a very flexible coupling system used for the assembly of pipes of almost any kind of pipe material and for repair of old piping systems.

- $\pm 4^\circ$  angular deflection on each side (total  $8^\circ$ ).
- Drinking water approved EPDM gasket with moulded ribs absorbs minor imperfections in the pipe.
- The design with loose bolts prevents corrosion between sleeve and bolts.
- The bolts of stainless steel A2 and the nuts of acid-resistant stainless steel A4 are anti-friction coated to offer easy tightening and to prevent galling.
- Ductile iron with epoxy coating according to DIN 30677-2 and AVK guidelines.



Straight coupling



Step coupling



Flange adaptor

# COMBI-FLANGES FOR PE, PVC, DUCTILE IRON AND STEEL PIPES



AVK's combi-flange system comprises tensile combi-flanges for PE, PVC and ductile iron pipes in DN 50-300 as well as non-tensile combi-flanges for PVC, ductile iron and steel pipes in DN 50-600. The combi-flanges are suitable for water and wastewater applications.

## **A lot of great features**

- Up to  $\pm 3.5^\circ$  deflection of the pipe is possible even in tensile executions.
- The design features a flexible positioning and chamfering of the pipe.
- The pipe will not move inwards during installation which helps securing a tight connection.
- The EPDM rubber sealings are approved for drinking water applications and are resistant to water treatment chemicals.
- The flanges are coated according to DIN 30677-2 and AVK guidelines.

## **Also suitable for Bi-PVC pipes**

The tensile combi-flange for PE/PVC features a wide stainless steel tension ring that offers full tensile resistance for all types of PE and uPVC pipes, and even thin wall Bi-PVC pipes.

The rubber sealing for both tensile and non-tensile combi-flanges has a special lip profile that provides hydraulic sealing. It also minimizes the compression on the pipe and thus prevents deformation of thin wall Bi-PVC pipes.

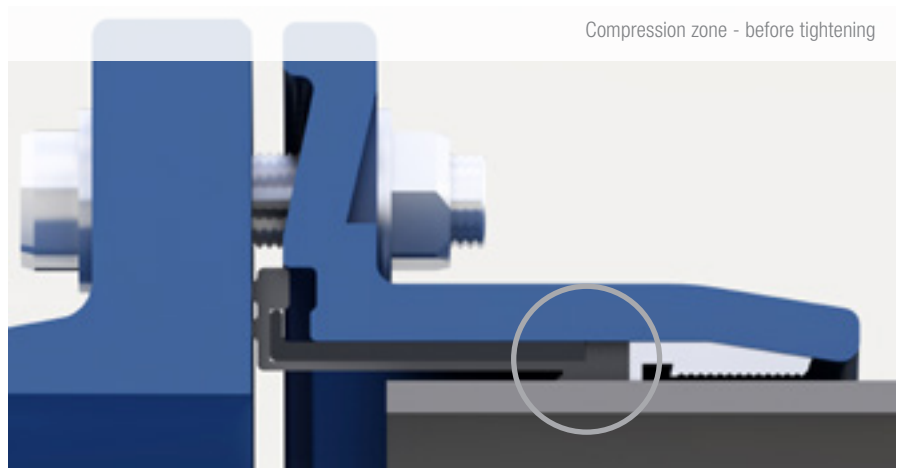
## **A complete unit, with or without bolts**

The flange and sealing are delivered as a complete unit in DN 50-300 in all four versions and are available complete with bolts on request. For larger dimensions and for steel pipes the flange and the non-tensile sealing for ductile iron or uPVC are to be ordered separately.

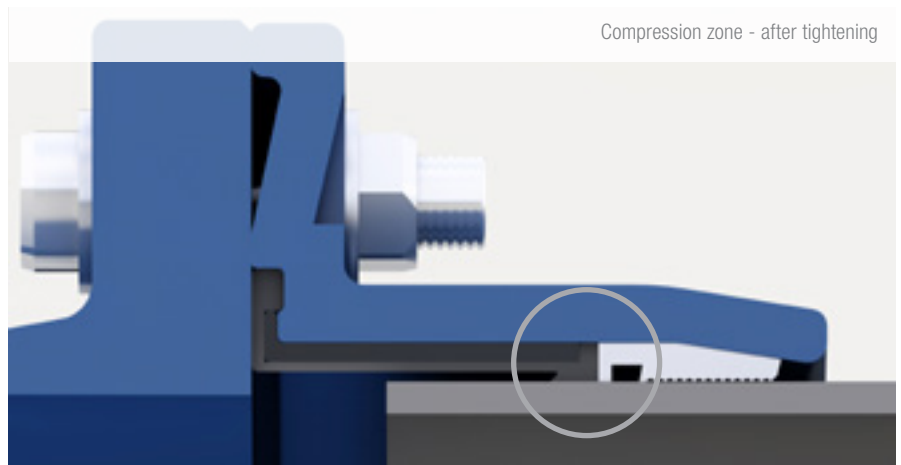
For PE pipes in all dimensions and Bi-PVC pipes in DN 250 / 280 mm and DN 300 / 315 mm a support bush must be used. This is recommended by pipe manufacturers to prevent slow deformation of the pipe.







Compression zone - before tightening



Compression zone - after tightening

### Large pipe deflection possible

Combi-flanges are typically used for connecting two pipes with a flanged valve in between, and often the pipes are positioned out of level.

The barrel shaped rubber sealing allows for a significant pipe deflection of up to  $\pm 3.5^\circ$  even in the tensile executions. Consequently, combi-flanges provide great flexibility without compromising with tightness.

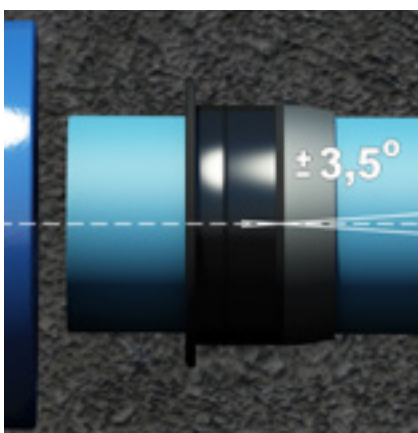
### Flexible positioning of the pipe

It is possible to retract the pipe end up to 50 mm from the combi-flange gasket face, as long as it is positioned within the buffer zone. The large buffer zone makes it easy to install the combi-flange, as there is no need for accurate adjustments.

It also allows easy pipe chamfering, which means that a pipe cut unevenly or out of angle does not cause any problems, as long as it stays within the buffer zone. The buffer zone is clearly marked on the sealings.

### No horizontal pipe movement

The combi-flange sealing features a narrow compression zone which secures fast compression when tightening the bolts. The rubber sealing will always tighten around the pipe before the tensile ring grips into the pipe surface, which prevents longitudinal movement.



# FABRICATED NON-TENSILE DEDICATED COUPLINGS AND FLANGE ADAPTORS



AVK's range of fabricated fittings comprises non-tensile straight couplings, step couplings and flange adaptors in DN 350-2000. The range is suitable for ductile and grey cast iron, steel, uPVC and GRP pipes for water and wastewater applications up to 25 bar.

AVK fabricated couplings and adaptors are designed to facilitate the joining of pipe of matching or differing outside diameter (OD) or for fitting flanged equipment into pipeline systems.

The AVK fabricated fittings range is highly versatile where any pipe OD or flange variant can be accommodated within the range.

The sealing arrangement allows a tolerance of 7 mm ensuring that minor deviations in OD can be accommodated. Angular deflection per seal end is + 4 mm < DN 600, + 3 mm < DN 800, + 2 mm < DN 2000.

Increased coating thickness and a range of fastener options including A2 and A4 stainless steel are available for more aggressive installation environments. All materials are certified as suitable for use with potable water.



Straight coupling



Step coupling

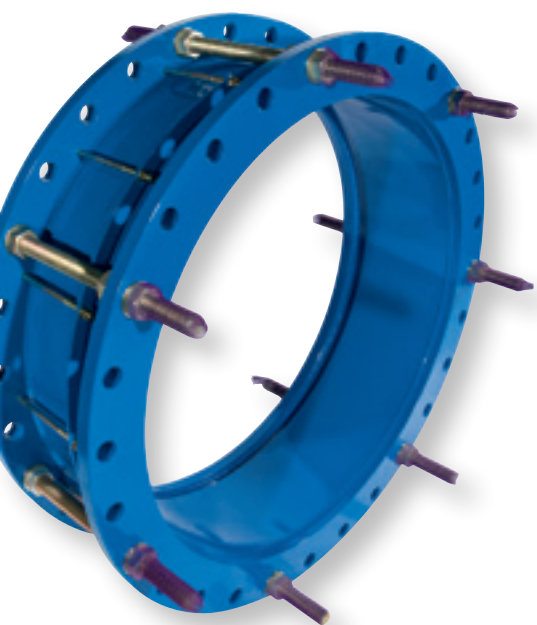


Flange adaptor





# DISMANTLING JOINTS UNIVERSAL FOR ALL PIPE MATERIALS



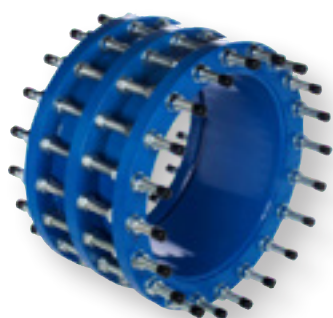
AVK dismantling joints provide easy installation and disassembly of flanged pipework and equipment and compensate for axial displacement of the pipe during installation and dismantling. The range is available in DN 50-2200 in PN 10 and 16, and optionally PN 25.

The dismantling joint compensates for axial displacement of the pipe during installation and dismantling, as the telescopic action between the inner and outer flange body allows for longitudinal adjustment.

As with the other AVK fabricated fitting range, the dismantling joints are highly versatile in design where different flange and fastener options are available as well as enhanced coatings.

The standard axial adjustment of  $\pm 60$  mm offers a high level of flexibility in the installation and removal of flanged equipment for either maintenance or replacement. Larger adjustments can be accommodated if required.

The AVK dismantling joints are manufactured from mild steel in DN 300-2200 and ductile iron in DN 50-250. All materials are certified for use with potable water.



With centre flange



# SUPA MAXI™, SUPA PLUS™ AND SUPA® COUPLINGS, ADAPTORS END CAPS AND VALVES



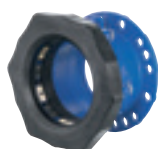
**Series 636**  
Supa Maxi™ gate valve  
Universal and tensile for  
all pipes  
Ductile iron  
DN 80-300  
PN 16



**Series 631**  
Supa Maxi™ straight  
coupling  
Universal and tensile  
for all pipes  
Ductile iron  
DN 50-400  
PN 16



**Series 632**  
Supa Maxi™ step  
coupling  
Universal and tensile  
for all pipes  
Ductile iron  
DN 50-300  
PN 16



**Series 633**  
Supa Maxi™ flange  
adaptor  
Universal and tensile  
for all pipes  
Universal drilling  
Ductile iron  
DN 40-400  
PN 10/16



**Series 634**  
Supa Maxi™ end cap  
Universal and tensile  
for all pipes  
Ductile iron  
DN 50-400  
PN 16



**Series 635**  
Supa Maxi™ transition  
coupling with PN 10 or  
PN 16 pipe end  
Universal and tensile  
for all pipes  
Ductile iron  
DN 50-300  
PN 10/16



**Series 01/70**  
Supa Plus™ gate valve  
Tensile for PE and uPVC  
pipes  
Ductile iron  
DN 40-300  
PN 16



**Series 621/10**  
Supa Plus™  
straight coupling  
Tensile for PE and uPVC  
pipes  
Ductile iron  
DN 32-300  
PN 16



**Series 623/10**  
Supa Plus™  
flange adaptor  
Tensile for PE and uPVC  
pipes  
Universal drilling  
Ductile iron  
DN 40-300  
PN 10/16



**Series 624/10**  
Supa Plus™  
end cap  
Tensile for PE and uPVC  
pipes  
Ductile iron  
DN 40-300  
PN 16



**Series 601**  
Supa® straight coupling  
universal for uPVC, AC,  
steel, cast iron and ductile  
iron pipes  
Ductile iron  
DN 40-400  
PN 16

Options:  
• Step coupling



**Series 603**  
Supa® flange adaptor  
universal for uPVC, AC, steel,  
cast iron and ductile iron  
pipes  
Universal drilling  
Ductile iron  
DN 40-400  
PN 10/16



# COMBI-FLANGES, FABRICATED COUPLINGS & ADAPTORS AND DISMANTLING JOINTS



**Series 05**  
Combi-flange for ductile iron pipes  
Tensile  
Ductile iron  
DN 50-300  
PN 10/16



**Series 05**  
Combi-flange for ductile iron pipes  
Non-tensile  
Ductile iron  
DN 50-300  
PN 10/16



**Series 05**  
Combi-flange for PE and PVC pipes  
Tensile  
Ductile iron  
DN 50-300  
PN 10/16



**Series 05**  
Combi-flange for PVC pipes  
Non-tensile  
Ductile iron  
DN 50-300  
PN 10/16



**Series 05**  
Combi-flange for uPVC, steel or ductile iron pipes  
Non-tensile  
Ductile iron  
DN 400-600 (uPVC and ductile)  
DN 50-300 (steel)  
PN 10/16



**Series 05**  
Combi-flange sealing for uPVC, steel or ductile iron pipes  
Non-tensile  
SBR rubber  
DN 400-600 (uPVC and ductile)  
DN 50-300 (steel)



**Series 05**  
Support bush for PE pipes  
Suitable for Supa Maxi™, Supa Plus™ and combi-flanges  
Stainless steel  
DN 50-400  
PN 6.3/10/16



**Series 258**  
Fabricated straight coupling for AC, steel, cast iron or ductile iron pipes  
Steel  
DN 350-2000  
PN 8 to 25



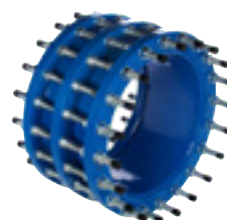
**Series 259**  
Fabricated step coupling for AC, steel, cast iron or ductile iron pipes  
Steel  
DN 350-2000  
PN 8 to 25



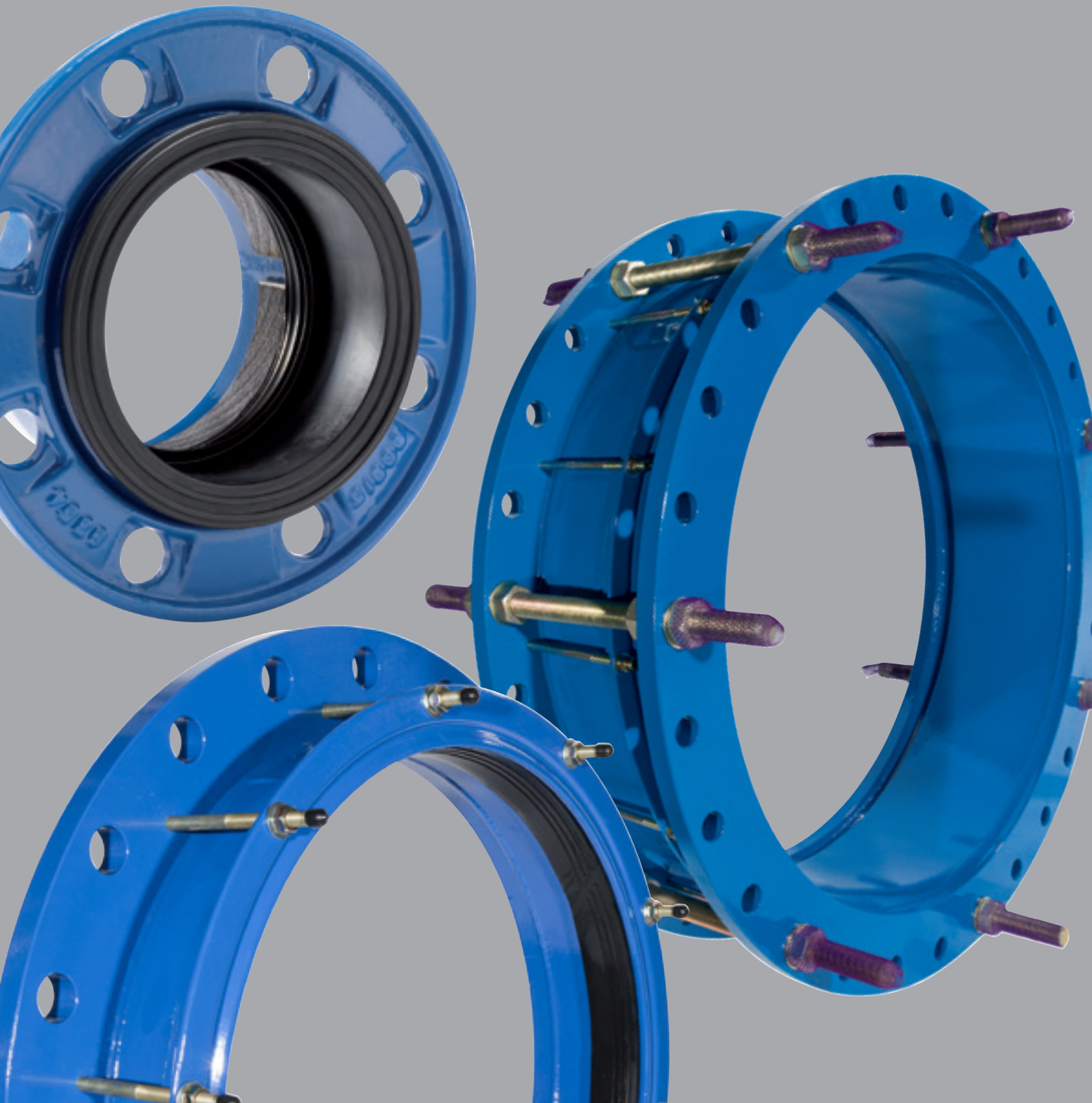
**Series 260**  
Fabricated coupling and flange adaptor for AC, steel, cast iron and ductile iron pipes  
Steel  
DN 350-2000  
PN 10/16/25



**Series 265/30**  
Fabricated dismantling joint for all pipe materials  
Steel  
DN 300-1200  
PN 10/16/25



**Series 265/50**  
Fabricated dismantling joint for all pipe materials  
With centre flange  
Steel  
DN 50-2200  
PN 10/16/25



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2016-04-19  
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