

# Shear Banded Couplings

- Withstands internal pressure of up to 2.5 bar
- Stainless steel shear band helps prevent pipe displacement
- Less excavation compared to replacing a whole length of pipe
- Approved to WIS 4-41-01- Flexible couplings for gravity sewerage and drainage pipes
- Complies to BS EN 681-1:1996, BS EN 295-4:2013, BS EN 10088-2:1995 & BS EN 16397



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Fernco shear banded couplings are specifically designed to connect and repair pipes on adopted sewer and drainage applications, as required by the UK water companies. The stainless steel central band protects the joint under shear loads and helps to keep the joining pipes aligned, helping to prevent pipe displacement.

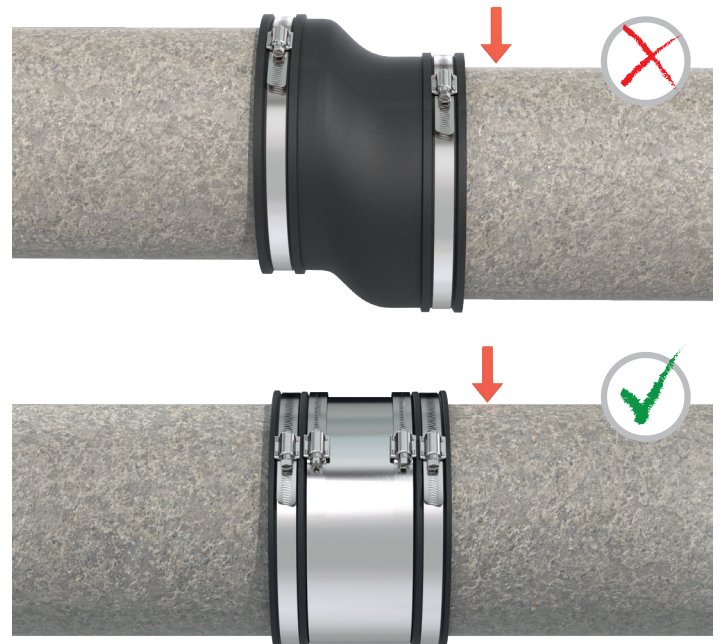
Fernco manufactures the most extensive range of Shear Banded Couplings available in the marketplace and has revolutionised traditional pipe repair methods over the years. Fernco shear banded couplings are specifically designed to connect and repair pipes on adopted sewer and drainage applications.

Shear banded couplings are a requirement of the UK water companies when connecting onto their assets. This requirement forms part of Water Industry Specification (WIS) 4-41-01, which outlines the requirements to connect pipes on adopted systems using only shear banded couplings.

The shear band on this range of couplings gives the connection added protection against shear loads that could cause the pipes to become mis-aligned.

Fit horizontally or vertically

for above or below ground applications



**NOTE:** Although Drain Couplings are available to connect unadopted drainage systems, Fernco would recommend the use of Shear Banded Couplings for any drainage connection underground for added reassurance of joint alignment over time and to follow best practice.

# Shear Banded Coupling Variants



**Standard Coupling**

**Extra Wide Standard Coupling**

**Large Coupling**

**Extra Wide Large Coupling**

**Magnum Coupling**

|   | Standard Coupling   | Extra Wide Standard Coupling  | Large Coupling  | Extra Wide Large Coupling  | Magnum Coupling   |
|---|---|---|---|--|---|
| Width   | 80-190mm varies depending on coupling diameter  | 300mm   | 190mm   | 300mm  | 370mm   |
| Size Range  | 50-620mm  | 200-620mm   | 400mm +   | 400mm +  | 300mm +   |
| Bolting System  | 8mm Worm Drive  | 8mm Worm Drive  | M8 13mm Bolt  | M8 13mm Bolt   | M8 13mm Bolt  |
| Pressure Rating   | 2.5bar  | 2.5bar  | LC400-599: 2.5bar<br>LC600-999: 1.5bar<br>LC1000-1399: 1bar<br>LC1400+: 0.5bar  | LC400-599W: 2.5bar<br>LC600-999W: 1.5bar<br>LC1000-1399W: 1bar<br>LC1400W+: 0.5bar   | MAG300: 4bar<br>MAG400-599: 2.5bar<br>MAG600-999: 1.5bar<br>MAG1000+: 1bar  |
| Max gap between connecting pipe ends  | Max:<br>≤ SC137: 20mm<br>≤ SC290: 45mm<br>≤ SC620: 50mm   | Max: 150mm  | Max: 50mm   | Max: 150mm   | Max: 160mm  |
| A minimum joint gap should be allowed to account for any pre-set angular deflection before tightening and practical angular deflection after installation |   |   |   |  |   |
| Applications  | Used to connect two plain ended pipes when additional pipe alignment protection is required, usually when a joint is subject to heavy shear loads. Shear banded couplings are advised for all connections made on adopted drainage systems to protect water company assets. | Used to connect two plain ended pipes when an extended sealing zone is required, such as, a connection to Twinwall pipe to create a seal on more ribs or when a greater pipe deflection is required than Standard Couplings can provide. Connections to Twinwall pipes between 225-600mm should use Extra Wide Standard Couplings as opposed to Standard Couplings. | Used to connect two plain ended pipes above 400mm, usually in cases when drainage lines are being extended and therefore socket connections are not present. Connections to concrete pipes above 400mm should use Large Couplings as opposed to Standard Couplings. | Used to connect two pipes where a cut section has left the pipe end uneven or not square to the axis of the pipe; this coupling will bridge the gap. Extra Wide Large Couplings are usually used as standard on pipes above 1000mm to compensate for this and for improved angular deflection. Extra Wide Large Couplings are to be used on Twinwall pipes from 600mm as the sealing zone covers more ribs than the narrower Large Coupling. | Used to connect two pipes where a cut section has left a pipe end severely uneven or not square to the axis of the pipe. Additional bolts with the Magnum Coupling provides extra strength. |
| All shear banded couplings are specifically designed to help maintain joint alignment and joint stability.  |   |   |   |  |   |

Note: Concrete pipes can sometimes have imperfections on their surface due to the casting process. Thus, when connections are made onto concrete pipes, it is recommended to apply a neat cement grout to the sealing area; this provides a smooth surface and ensures an airtight seal. Due to the variable nature of concrete, no pressure over 0.5 to 1.0 bar (dependent on size) can be guaranteed. The stated maximum pressure ratings are only achievable when couplings are fitted onto pipes with a good surface finish i.e. PVC, GRP, and Clay.

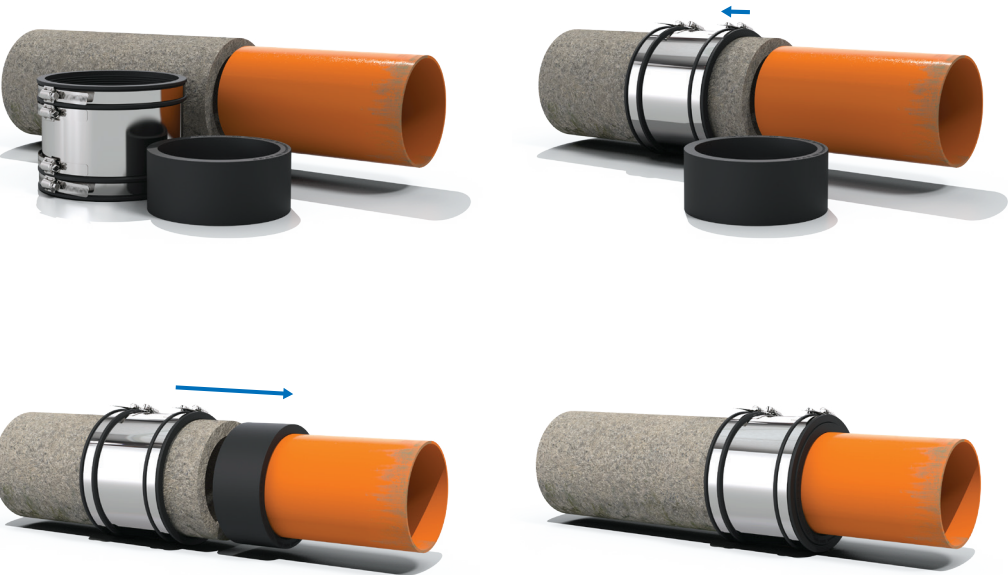




# Connecting Different Size Pipes

Shear Banded Couplings have the ability to connect two pipes with the same or similar outside diameter (OD), and also have the flexibility to accommodate small differences in pipe OD's.

When the pipe OD's are outside of the limitations of a Shear Banded Coupling, 'Bushes' can be used to make up the annual space between the smaller pipe OD and the Shear Banded Coupling.



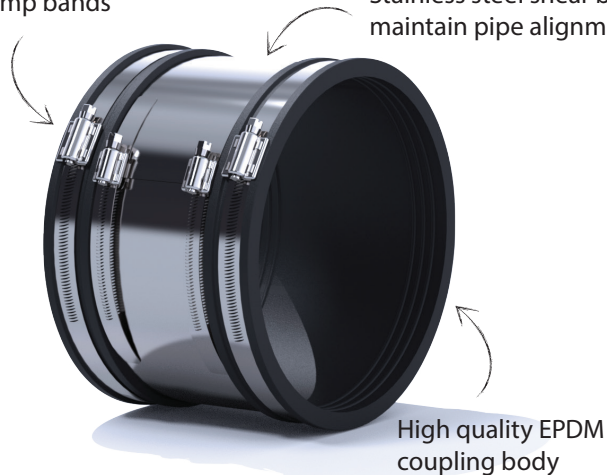
[See 'Bushes' datasheet for technical information.](#)

# Standard Couplings

## 50-620mm

Strong stainless steel clamp bands

Stainless steel shear band to maintain pipe alignment



High quality EPDM coupling body

|                    |   |
|--------------------|---|
| Product Code       | SCXXX   |
| Description        | Ferco Standard Coupling   |
| Width              | 190mm   |
| Size Range         | 50 - 620mm  |
| Material           | EPDM<br>1.4301 (304) Stainless Steel<br><i>Couplings with a different material makeup are available on request.</i> |
| Pressure Rating    | 2.5bar, 36.25psi  |
| Temperature Range  | -50°C to 80°C constant,<br>100°C intermittent   |
| Jetting Resistance | 180 bar   |
| Standards          | WIS 4-41-01<br>BS EN 681-1:1996<br>BS EN 295-4:2013<br>BS EN 10088-2:1995<br>BS EN 16397                            |

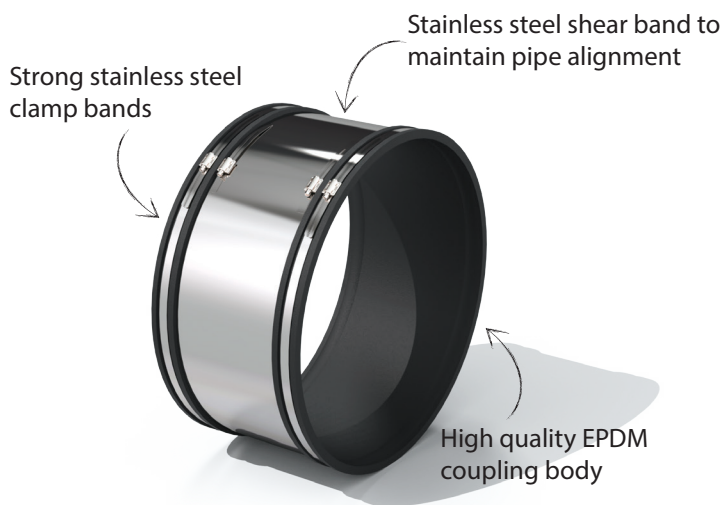
| Product Code | Size Range (mm) | Tightening Torque | Maximum difference between pipes OD's (mm) |
|--------------|-----------------|-------------------|--|
| SC65         | 50 - 65         | 6Nm               | 6  |
| SC75         | 60 - 75         | 6Nm               | 6  |
| SC85         | 70 - 85         | 6Nm               | 6  |
| SC95         | 80 - 95         | 6Nm               | 6  |
| SC115        | 100 - 115       | 6Nm               | 6  |
| SC120        | 105 - 120       | 6Nm               | 6  |
| SC125        | 110 - 125       | 6Nm               | 6  |
| SC137        | 122 - 137       | 6Nm               | 6  |
| SC150        | 125 - 150       | 6Nm               | 6  |
| SC165        | 140 - 165       | 6Nm               | 6  |
| SC175        | 150 - 175       | 6Nm               | 6  |
| SC185        | 160 - 185       | 6Nm               | 6  |
| SC200        | 175 - 200       | 6Nm               | 6  |
| SC215        | 190 - 215       | 13Nm              | 6  |
| SC225        | 200 - 225       | 13Nm              | 6  |
| SC250        | 225 - 250       | 13Nm              | 6  |
| SC265        | 240 - 265       | 13Nm              | 6  |
| SC275        | 250 - 275       | 13Nm              | 6  |
| SC290        | 265 - 290       | 13Nm              | 6  |
| SC310        | 285 - 310       | 13Nm              | 8  |
| SC320        | 295 - 320       | 13Nm              | 8  |
| SC335        | 310 - 335       | 13Nm              | 8  |
| SC345        | 320 - 345       | 13Nm              | 8  |
| SC360        | 335 - 360       | 13Nm              | 8  |
| SC370        | 345 - 370       | 13Nm              | 8  |
| SC385        | 360 - 385       | 13Nm              | 8  |
| SC395        | 370 - 395       | 13Nm              | 8  |
| SC410        | 385 - 410       | 13Nm              | 8  |
| SC425        | 400 - 425       | 13Nm              | 8  |
| SC430        | 405 - 430       | 13Nm              | 8  |
| SC445        | 420 - 445       | 13Nm              | 10   |
| SC450        | 425 - 450       | 13Nm              | 10   |
| SC465        | 440 - 465       | 13Nm              | 10   |
| SC470        | 445 - 470       | 13Nm              | 10   |
| SC490        | 465 - 490       | 13Nm              | 10   |
| SC510        | 485 - 510       | 13Nm              | 10   |
| SC525        | 500 - 525       | 13Nm              | 10   |
| SC540        | 515 - 540       | 13Nm              | 10   |
| SC550        | 525 - 550       | 13Nm              | 10   |
| SC560        | 535 - 560       | 13Nm              | 10   |
| SC570        | 545 - 570       | 13Nm              | 10   |
| SC580        | 555 - 580       | 13Nm              | 10   |
| SC600        | 575 - 600       | 13Nm              | 10   |
| SC620        | 595 - 620       | 13Nm              | 10   |

*Bushes can be used to accommodate differences between pipe OD's which fall outside the limitations of the coupling.*



# Extra Wide Standard Couplings

## 200-620mm



|                    |   |
|--------------------|---|
| Product Code       | SCXXXW  |
| Description        | Ferco Extra Wide Standard Coupling  |
| Width              | 300mm   |
| Size Range         | 200 - 620mm   |
| Material           | EPDM<br>1.4301 (304) Stainless Steel<br><i>Couplings with a different material makeup are available on request.</i> |
| Pressure Rating    | 2.5bar, 36.25psi  |
| Temperature Range  | -50°C to 80°C constant,<br>100°C intermittent   |
| Jetting Resistance | 180 bar   |
| Standards          | WIS 4-41-01<br>BS EN 681-1:1996<br>BS EN 295-4:2013<br>BS EN 10088-2:1995<br>BS EN 16397                            |

| Product Code | Size Range (mm) | Tightening Torque | Maximum difference between pipes OD's (mm) |
|--------------|-----------------|-------------------|--|
| SC225W       | 200 - 225       | 13Nm              | 8  |
| SC290W       | 265 - 290       | 13Nm              | 8  |
| SC310W       | 285 - 310       | 13Nm              | 10   |
| SC320W       | 295 - 320       | 13Nm              | 10   |
| SC335W       | 310 - 335       | 13Nm              | 10   |
| SC345W       | 320 - 345       | 13Nm              | 10   |
| SC360W       | 335 - 360       | 13Nm              | 10   |
| SC370W       | 345 - 370       | 13Nm              | 10   |
| SC385W       | 360 - 385       | 13Nm              | 10   |
| SC395W       | 370 - 395       | 13Nm              | 10   |
| SC410W       | 385 - 410       | 13Nm              | 10   |
| SC425W       | 400 - 425       | 13Nm              | 10   |
| SC430W       | 405 - 430       | 13Nm              | 10   |
| SC445W       | 420 - 445       | 13Nm              | 12   |
| SC450W       | 425 - 450       | 13Nm              | 12   |
| SC465W       | 440 - 465       | 13Nm              | 12   |
| SC470W       | 445 - 470       | 13Nm              | 12   |
| SC490W       | 465 - 490       | 13Nm              | 12   |
| SC510W       | 485 - 510       | 13Nm              | 12   |
| SC525W       | 500 - 525       | 13Nm              | 12   |
| SC540W       | 515 - 540       | 13Nm              | 12   |
| SC550W       | 525 - 550       | 13Nm              | 12   |
| SC560W       | 535 - 560       | 13Nm              | 12   |
| SC570W       | 545 - 570       | 13Nm              | 12   |
| SC580W       | 555 - 580       | 13Nm              | 12   |
| SC600W       | 575 - 600       | 13Nm              | 12   |
| SC620W       | 595 - 620       | 13Nm              | 12   |

*Bushes can be used to accommodate differences between pipe OD's which fall outside the limitations of the coupling.*

# Large Couplings

## 600mm +

Strong stainless steel clamp bands

Stainless steel shear band to maintain pipe alignment



High quality EPDM coupling body

|                    |  |
|--------------------|--|
| Product Code       | LCXXX  |
| Description        | Fernco Large Coupling  |
| Width              | 190mm  |
| Size Range         | 400mm +  |
| Material           | EPDM<br>1.4301 (304) Stainless Steel<br><i>Couplings with a different material makeup are available on request.</i>              |
| Pressure Rating    | LC400 - LC500: 2.5bar, 36.25psi<br>LC600 - LC900: 1.5bar, 21.75psi<br>LC1000 - LC1300: 1bar, 14.5psi<br>LC1400+: 0.5bar, 7.25psi |
| Temperature Range  | -50°C to 80°C constant,<br>100°C intermittent  |
| Jetting Resistance | 180bar   |
| Standards          | WIS 4-41-01<br>BS EN 681-1:1996<br>BS EN 295-4:2013<br>BS EN 10088-2:1995<br>BS EN 16397   |

| Product Code | Size Manufactured Within (mm) | Tightening Torque | Maximum difference between pipes OD's (mm) |
|--------------|-------------------------------|-------------------|--|
| LC400        | 400 - 499                     | 20Nm              | 12   |
| LC500        | 500 - 599                     | 20Nm              | 12   |
| LC600        | 600 - 699                     | 20Nm              | 12   |
| LC700        | 700 - 799                     | 20Nm              | 12   |
| LC800        | 800 - 899                     | 20Nm              | 12   |
| LC900        | 900 - 999                     | 20Nm              | 12   |
| LC1000       | 1000 - 1099                   | 25Nm              | 12   |
| LC1100       | 1100 - 1199                   | 25Nm              | 12   |
| LC1200       | 1200 - 1299                   | 25Nm              | 12   |
| LC1300       | 1300 - 1399                   | 25Nm              | 12   |
| LC1400       | 1400 - 1499                   | 25Nm              | 12   |
| LC1500       | 1500 - 1599                   | 25Nm              | 12   |
| LC1600       | 1600 - 1699                   | 25Nm              | 12   |
| LC1700       | 1700 - 1799                   | 25Nm              | 12   |
| LC1800       | 1800 - 1899                   | 25Nm              | 12   |
| LC1900       | 1900 - 1999                   | 25Nm              | 12   |
| LC2000       | 2000 - 2099                   | 25Nm              | 12   |

*Bushes can be used to accommodate differences between pipe OD's which fall outside the limitations of the coupling.*

Note: Large Diameter Couplings are made bespoke to the exact requirements of the connection. 'Size Manufactured Within' in the table above is an indication of what size each coupling can be manufactured within. If a connection over 1000mm is required, Fernco would always recommend an Extra Wide Large Coupling or Magnum Coupling.

# Extra Wide Large Couplings

## 600mm +



|                    |   |
|--------------------|---|
| Product Code       | LCXXXW  |
| Description        | Fernco Extra Wide Large Coupling  |
| Width              | 300mm   |
| Size Range         | 400mm +   |
| Material           | EPDM<br>1.4301 (304) Stainless Steel<br><i>Couplings with a different material makeup are available on request.</i>                     |
| Pressure Rating    | LC400W - LC500W: 2.5bar, 36.25psi<br>LC600W - LC900W: 1.5bar, 21.75psi<br>LC1000W - LC1300W: 1bar, 14.5psi<br>LC1400W+: 0.5bar, 7.25psi |
| Temperature Range  | -50°C to 80°C constant,<br>100°C intermittent   |
| Jetting Resistance | 180bar  |
| Standards          | WIS 4-41-01<br>BS EN 681-1:1996<br>BS EN 295-4:2013<br>BS EN 10088-2:1995<br>BS EN 16397  |

| Product Code | Size Manufactured Within (mm) | Tightening Torque | Maximum difference between pipes OD's (mm) |
|--------------|-------------------------------|-------------------|--|
| LC400W       | 400 - 499                     | 20Nm              | 12   |
| LC500W       | 500 - 599                     | 20Nm              | 12   |
| LC600W       | 600 - 699                     | 20Nm              | 12   |
| LC700W       | 700 - 799                     | 20Nm              | 12   |
| LC800W       | 800 - 899                     | 20Nm              | 12   |
| LC900W       | 900 - 999                     | 20Nm              | 12   |
| LC1000W      | 1000 - 1099                   | 25Nm              | 12   |
| LC1100W      | 1100 - 1199                   | 25Nm              | 12   |
| LC1200W      | 1200 - 1299                   | 25Nm              | 12   |
| LC1300W      | 1300 - 1399                   | 25Nm              | 12   |
| LC1400W      | 1400 - 1499                   | 25Nm              | 12   |
| LC1500W      | 1500 - 1599                   | 25Nm              | 12   |
| LC1600W      | 1600 - 1699                   | 25Nm              | 12   |
| LC1700W      | 1700 - 1799                   | 25Nm              | 12   |
| LC1800W      | 1800 - 1899                   | 25Nm              | 12   |
| LC1900W      | 1900 - 1999                   | 25Nm              | 12   |
| LC2000W      | 2000 - 2099                   | 25Nm              | 12   |
| LC2100W      | 2100 - 2199                   | 25Nm              | 12   |
| LC2200W      | 2200 - 2299                   | 25Nm              | 12   |
| LC2300W      | 2300 - 2399                   | 25Nm              | 12   |
| LC2400W      | 2400 - 2499                   | 25Nm              | 12   |
| LC2500W      | 2500 - 2599                   | 25Nm              | 12   |
| LC2600W      | 2600 - 2699                   | 25Nm              | 12   |
| LC2700W      | 2700 - 2799                   | 25Nm              | 12   |
| LC2800W      | 2800 - 2899                   | 25Nm              | 12   |
| LC2900W      | 2900 - 2999                   | 25Nm              | 12   |
| LC3000W      | 3000 - 3099                   | 25Nm              | 12   |

Larger sizes available on request.

*Bushes can be used to accommodate differences between pipe OD's which fall outside the limitations of the coupling.*

Note: Extra Wide Large Diameter Couplings are made bespoke to the exact requirements of the connection. 'Size Manufactured Within' in the table above is an indication of what size each coupling can be manufactured within.



# Magnum Couplings

## 300mm +



|                    |   |
|--------------------|---|
| Product Code       | MAGXXX  |
| Description        | Ferco Magnum Coupling   |
| Width              | 370mm   |
| Size Range         | 300mm +   |
| Material           | EPDM<br>1.4301 (304) Stainless Steel<br><i>Couplings with a different material makeup are available on request.</i> |
| Pressure Rating    | MAG300: 4.0bar<br>MAG400 - MAG500: 2.5bar<br>MAG600 - MAG900: 1.5bar<br>MAG1000+: 1.0bar                            |
| Temperature Range  | -50°C to 80°C constant,<br>100°C intermittent   |
| Jetting Resistance | 180bar  |
| Standards          | WIS 4-41-01<br>BS EN 681-1:1996<br>BS EN 295-4:2013<br>BS EN 10088-2:1995<br>BS EN 16397                            |

| Product Code | Size Manufactured Within (mm) | Tightening Torque | Maximum difference between pipes OD's (mm) |
|--------------|-------------------------------|-------------------|--|
| MAG300       | 300 - 399                     | 25Nm              | 12   |
| MAG400       | 400 - 499                     | 25Nm              | 12   |
| MAG500       | 500 - 599                     | 25Nm              | 12   |
| MAG600       | 600 - 699                     | 25Nm              | 12   |
| MAG700       | 700 - 799                     | 25Nm              | 12   |
| MAG800       | 800 - 899                     | 25Nm              | 12   |
| MAG900       | 900 - 999                     | 25Nm              | 12   |
| MAG1000      | 1000 - 1099                   | 25Nm              | 12   |
| MAG1100      | 1100 - 1199                   | 25Nm              | 12   |
| MAG1200      | 1200 - 1299                   | 25Nm              | 12   |
| MAG1300      | 1300 - 1399                   | 25Nm              | 12   |
| MAG1400      | 1400 - 1499                   | 25Nm              | 12   |
| MAG1500      | 1500 - 1599                   | 25Nm              | 12   |
| MAG1600      | 1600 - 1699                   | 25Nm              | 12   |
| MAG1700      | 1700 - 1799                   | 25Nm              | 12   |
| MAG1800      | 1800 - 1899                   | 25Nm              | 12   |
| MAG1900      | 1900 - 1999                   | 25Nm              | 12   |
| MAG2000      | 2000 - 2099                   | 25Nm              | 12   |
| MAG2100      | 2100 - 2199                   | 25Nm              | 12   |
| MAG2200      | 2200 - 2299                   | 25Nm              | 12   |
| MAG2300      | 2300 - 2399                   | 25Nm              | 12   |
| MAG2400      | 2400 - 2499                   | 25Nm              | 12   |
| MAG2500      | 2500 - 2599                   | 25Nm              | 12   |
| MAG2600      | 2600 - 2699                   | 25Nm              | 12   |
| MAG2700      | 2700 - 2799                   | 25Nm              | 12   |
| MAG2800      | 2800 - 2899                   | 25Nm              | 12   |
| MAG2900      | 2900 - 2999                   | 25Nm              | 12   |
| MAG3000      | 3000 - 3099                   | 25Nm              | 12   |

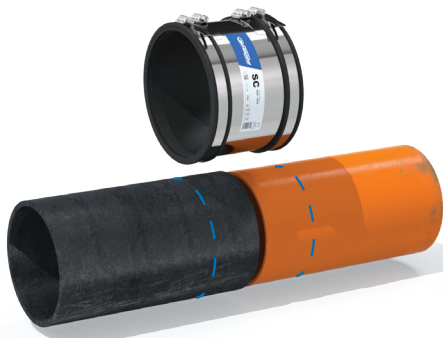
Larger sizes available on request.

*Bushes can be used to accommodate differences between pipe OD's which fall outside the limitations of the coupling.*

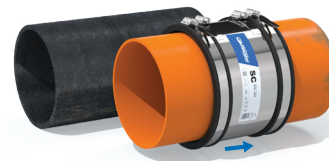
Note: Magnum Couplings are made bespoke to the exact requirements of the connection. 'Size Manufactured Within' in the table above is an indication of what size each coupling can be manufactured within.



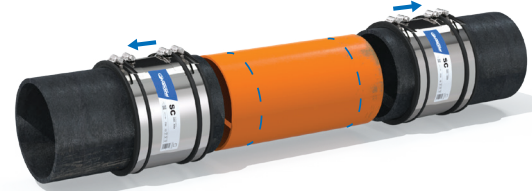
# Installation



**1.** Mark both pipes, from the end to be connected, half the width of the coupling, less the required joint gap, which is usually 10mm.



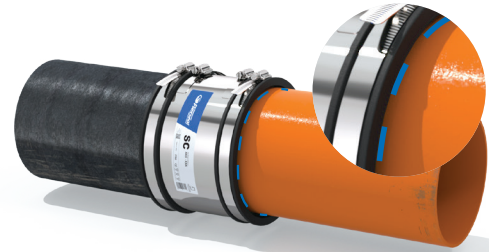
**2a.** Slide the coupling fully over one of the pipes.



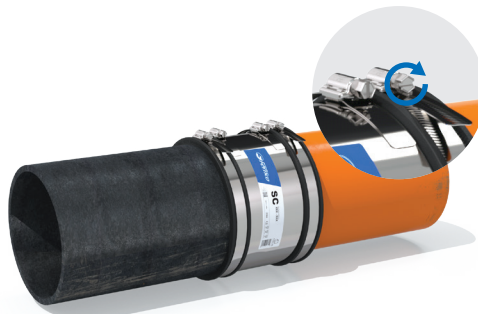
**2b.** If replacing a cut section of pipe, slide both couplings over each of the existing drain pipes.



**3.** Align the pipes and slide the coupling onto the other pipe, ensuring the coupling face and marked line are flush. Tighten this clamp band.



**4.** Position the second pipe, ensuring the coupling face and marked line are flush. Tighten this clamp band.



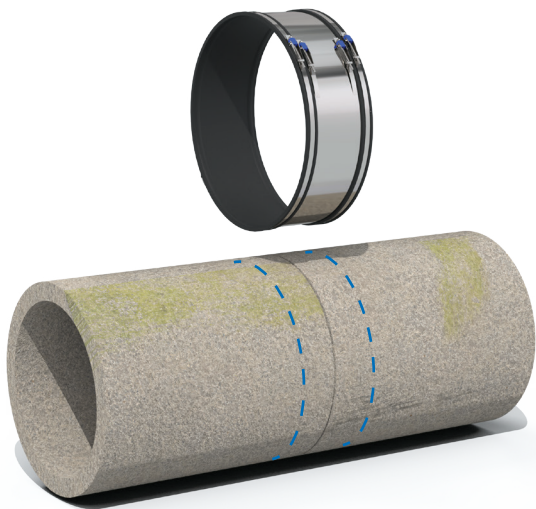
**5.** Tighten all clamp bands to the recommended torque in sequence across the width of the coupling starting with the central shear band.

Tamp the bedding under the pipe and re-tighten prior to backfilling.

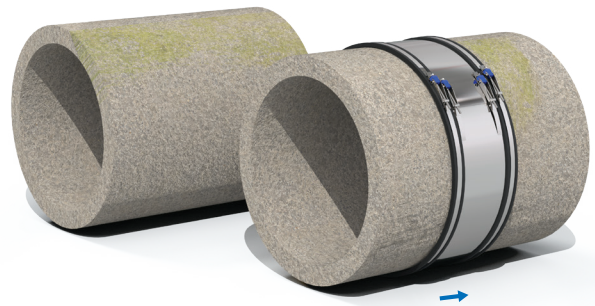




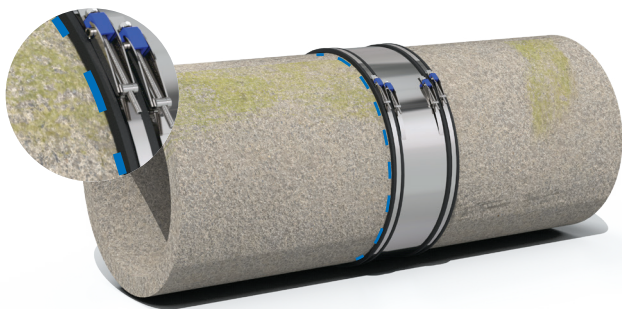
# Installation



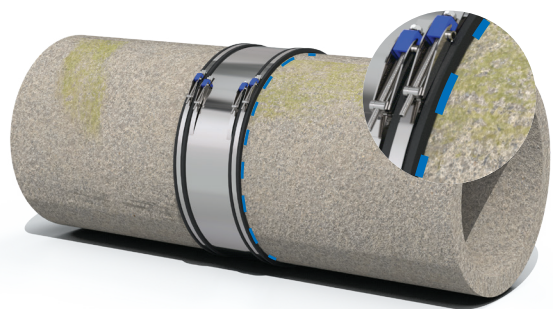
**1.** Mark both pipes, from the end to be connected, half the width of the coupling, less the required joint gap, which is usually 10mm.



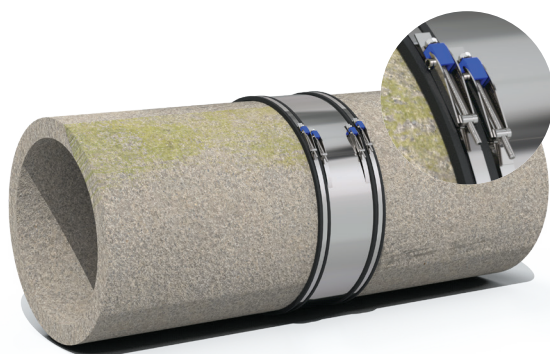
**2a.** Slide the coupling fully over one of the pipes.  
**2b.** If replacing a cut section of pipe, slide both couplings over each of the existing drain pipes.



**3.** Align the pipes and slide the coupling onto the other pipe, ensuring the coupling face and marked line are flush. Tighten this clamp band.



**4.** Position the second pipe, ensuring the coupling face and marked line are flush. Tighten this clamp band.



**5.** Tighten all clamp bands to the recommended torque in sequence across the width of the coupling starting with the central shear band.

Tamp the bedding under the pipe and re-tighten prior to backfilling.



# General Information

## Quality, Standards and Approvals

Fernco has been certified by the British Standards Institution (BSI) as a company of assessed capability, with a quality management system which meets the requirements of BS EN ISO 9001:2015

Fernco UK, part of a global group of companies, are the leaders in wastewater connection innovation; utilising the most advanced methods and techniques for precision-manufactured products, all of which comply with or exceed relevant British and European standards to ensure reliability and sustainability.

## Environment

Fernco operate Environmental Management Systems which are certified to ISO 14001: 2015.

## Supply

Fernco are proud members of the Builders Merchants Federation (BMF). All Fernco products are supplied through a national and global network of distribution and merchant partners. For stockist details, contact Fernco.