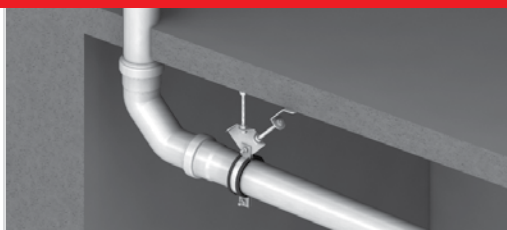


Pipework Systems



Product catalogue

**ACO GM-X PIPE and fittings for building
drainage applications**

ACO Building Drainage

Our built environment is becoming ever more complex. Applications are becoming more sophisticated and the increasing pressure of regulations and standards makes achieving design, performance and financial goals ever tougher.

Our mission: to eliminate design risk, to reduce installed and life cost and to deliver exceptional finish and performance in every product application.

Our global resources and fabrication capacity make it possible for us to deliver best value, both with our standard products and with our bespoke designs. Confidence is further assured with quality systems that are in accordance with ISO 9001-2008.

ACO Building Drainage is a division of ACO Technologies plc and part of the worldwide ACO Group. The Group has sales in excess of £700 million worldwide with production facilities in the UK, Germany, France, Switzerland, Denmark, Spain, Poland, Czech Republic, Australia and the USA. In total more than 4,000 people are employed in over 40 countries throughout the world.



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General Introduction

GM-X Steel drain pipes and fittings

ACO building drainage is presenting new galvanized and coated steel pipe product ranges GM-X and GM-X-VAC for gravity and syphonic drainage. ACO offers today a wide range of standard pipes and all necessary fittings for building drainage applications. There are specially trained staff available for you who are ready to answer all your questions. The product design and reliability of the system is confirmed by leading international classification authorities.



GM-X steel pipes meet the highest safety requirements (see behaviour in fire resistance). The requirements for cost and weight saving can also be taken into account by the GM-X and GM-X-VAC plug-in socket system. A significantly lower weight of GM-X and GM-X-VAC pipe systems against welded or threaded systems is achieved by reduced wall thickness.

Typical applications

GM-X PIPE is ideal for:

- Grey and black water
- Rainwater
- Industrial waste water drainage

Product benefits

- Easy installation
- Lightweight and easy to handle
- Double sealed jointed system
- Simple push-fit assembly
- Low thermal expansion coefficient
- No painting required
- Sustainable material

GM-X PIPE material information

Drain pipes and fittings are manufactured from welded, one-time cold-drawn precision steel pipe in accordance with DIN 2394.

Tensile strength:

Rm 310-410 N/mm²

Elongation at break:

A5 min. 28%

As a material, steel is distinguished by its good technological properties:

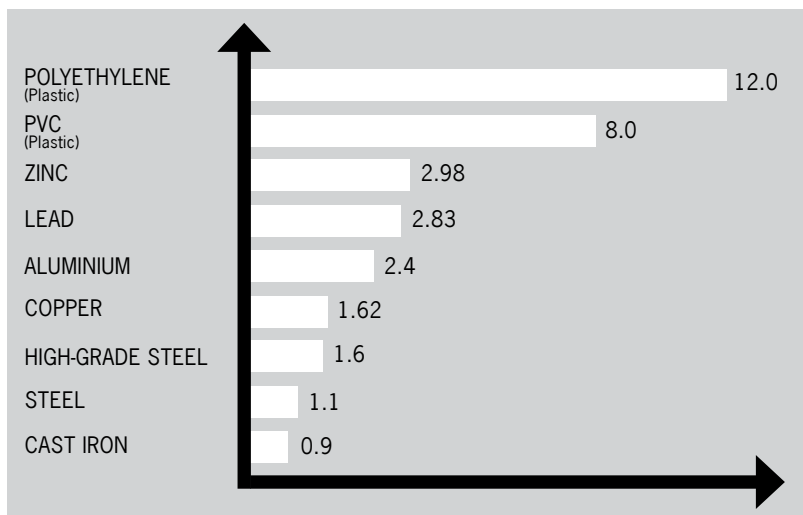
- Unbreakable
- Dimensionally stable
- Heat and frost proof
- Favourable acoustic behaviour
- Non-combustible



Thermal expansion

With steel, thermal expansion is exceptionally limited. When a 1 metre piece of pipe is heated by 100°C, the length increase is 1.1 mm. The thermal expansion produced by the introduction of hot waste water does not therefore need to be considered in the installation. This does not apply to other standard expansion materials.

Expansion of various pipe materials



Increase in length of a body 1m long when heated by 100°C

Sound

Sound measurements of discharge noises in built-in drain pipes produced results within the requirements of DIN 4109. The measured noise figure was below the permissible sound level. To further decrease discharge noise, and as an additional sound proofing measure, plastic insulating supports can be inserted in the socket bed on which the pipe end sits.

Reaction to fire

The steel drain pipe is fireproof. As per DIN 4102 and DIN 1986 Part 4, steel drain pipe is classified as Incendiary Matter A1 - not flammable.



GM-X Socket

The GM-X socket is a two-stage design. The seal is retained by the first socket stage. The second stage centre the inserted pipe.



The socket shape construction enables a solid, buckle-proof and rigid connection of pipes and mouldings to be made, and thus guarantees great tightness between the pipe and the socket, without the risk of the seal being compressed by its own or an outside load.

GM-X Seal

The GM-X seal is in the shape of a lip collar. It is inserted into the upper socket chamber. As a result of the other pipe end being pushed in, the sealing lips are forced



against the inner wall of the seal housing and against the outer wall of the inserted pipe. The seal collar is located on the socket rim and ensures the seating of the seal when the other pipe is pushed in. The sealing lips press more firmly against the pipe walls as fluid pressure rises, thus positively increasing the tightness of the joint. The seal is manufactured as standard from an effluent-resistant grade (as per DIN 4060):

NBR (Nitrile Butadiene Rubber)
SBR (Styrene Butadiene Rubber)

For special use areas seals can be supplied in the following grades on request:

EPDM (APTK)
CR (Neoprene)
Si (Silicon)
FKM (Viton)

Seal-tight values

The socket seal-tight connection value requirements in EN 1123 are met. All pipes and fittings, including their joints, are tight at an inside and outside pressure above atmospheric of 0 to 0.5 bar. For lines in which high pressures can occur, the GM-X securing clip is to be used for extra security against axial thrust. Instead of the securing clip, GM-X securing clamps are supplied for

DN 150 and DN 200 pipes and fittings for axial security.

The seal-tight values thus produced are:

DN 150 – 2 bar
DN 200 – 1 bar

The following seal-tight values were determined for GM-X seal joints with securing clips and glued-on seals:

| Operation pressure | | |
|--------------------|-----|--------|
| DN | 40 | 15 bar |
| DN | 50 | 15 bar |
| DN | 70 | 5 bar |
| DN | 80 | 5 bar |
| DN | 100 | 5 bar |
| DN | 125 | 4 bar |

Vacuum connection

The GM-X-VAC plus sealing element allows the vacuum installations with standard socket Type A1. The seal is manufactured from EPDM and is provided with two flexible lip sealing elements.

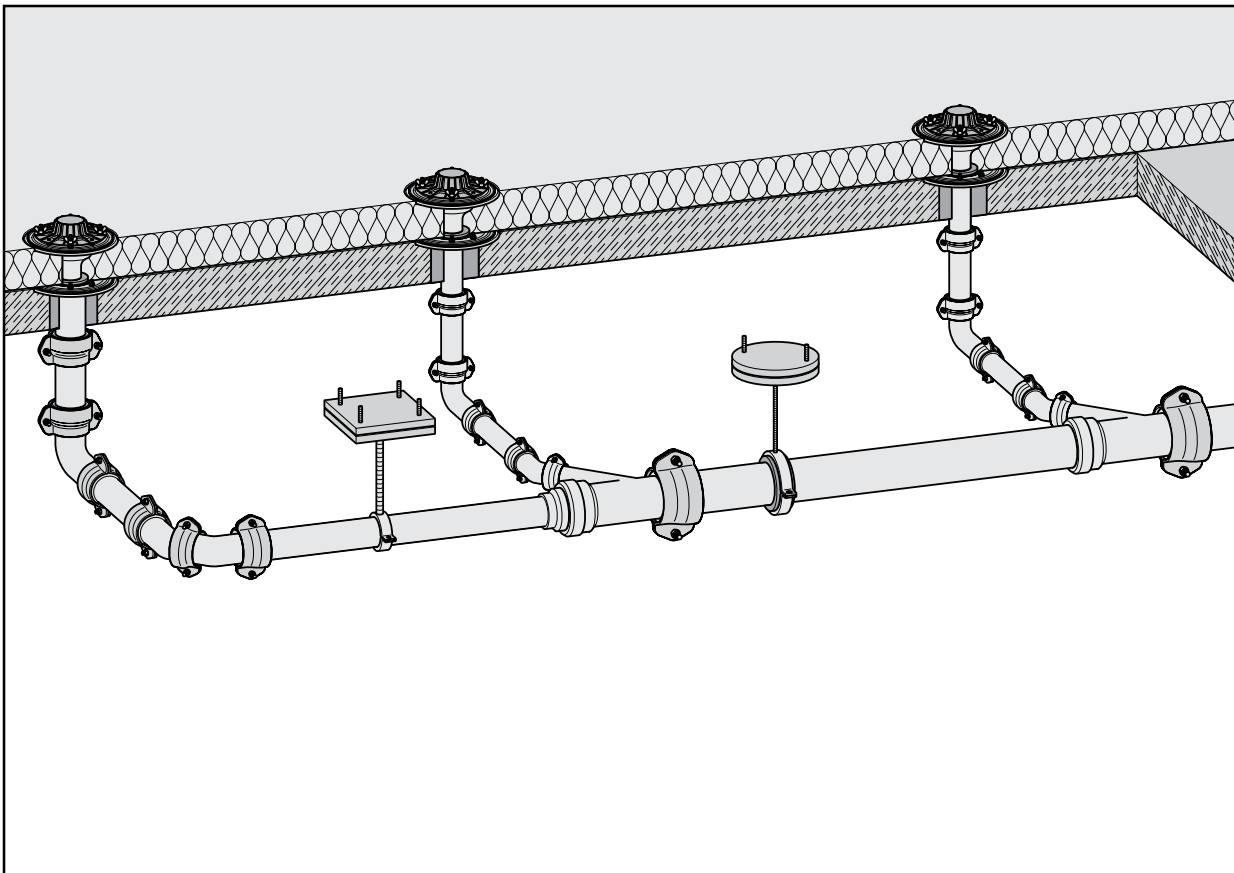
The outer lip deforms to follow the contour of the socket and the inner lip deforms to follow the contour of the spigot to ensure a reliable, sealed joint. Please contact ACO BD Enquiries team on 01462 810421 or email abdestimating@aco.co.uk for further details.



Characteristics and system overview

ACO GM-X PIPE is an ideal solution for grey/black water, rainwater and industrial waste water building drainage applications.

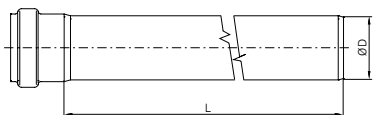
ACO GM-X PIPE pipes and fittings are available in 32mm, 40mm, 75mm, 110mm, 125mm, 160mm and 200mm external diameters with the standard lengths from 0.15 metre up to 3 metres for optimum practicality and ease of assembly.



Straight pipes

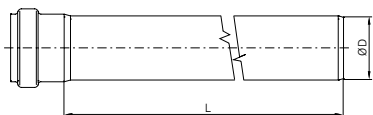
Socketed Pipe

Straight pipe 32mm



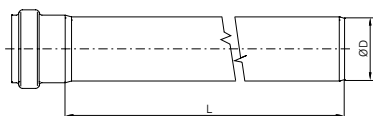
| Part No | Outlet diameter ØD [mm] | Active length L [mm] | Weight [kg] |
|---------|----------------------------|-------------------------|----------------|
| 108850 | 32 | 250 | 0.3 |
| 108851 | 32 | 500 | 0.5 |
| 108852 | 32 | 1000 | 1.0 |
| 108853 | 32 | 1500 | 1.2 |
| 108854 | 32 | 2000 | 1.8 |

Straight pipe 40mm



| Part No | Outlet diameter ØD [mm] | Active length L [mm] | Weight [kg] |
|---------|----------------------------|-------------------------|----------------|
| 108855 | 40 | 250 | 0.4 |
| 108856 | 40 | 500 | 0.9 |
| 108857 | 40 | 750 | 1.2 |
| 108858 | 40 | 1000 | 1.6 |
| 108859 | 40 | 1500 | 2.4 |
| 108860 | 40 | 2000 | 3.2 |
| 108861 | 40 | 2500 | 3.9 |
| 108862 | 40 | 3000 | 5.0 |

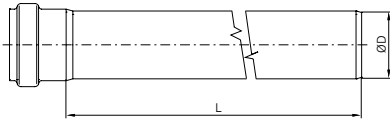
Straight pipe 50mm



| Part No | Outlet diameter ØD [mm] | Active length L [mm] | Weight [kg] |
|---------|----------------------------|-------------------------|----------------|
| 108863 | 50 | 250 | 0.6 |
| 108864 | 50 | 500 | 1.1 |
| 108865 | 50 | 750 | 1.6 |
| 108866 | 50 | 1000 | 2.1 |
| 108867 | 50 | 1500 | 3.1 |
| 108868 | 50 | 2000 | 4.2 |
| 108869 | 50 | 2500 | 5.2 |
| 108870 | 50 | 2750 | 5.7 |
| 108871 | 50 | 3000 | 6.2 |

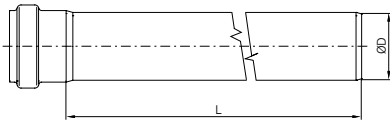
Socketed Pipe

Straight pipe 70mm



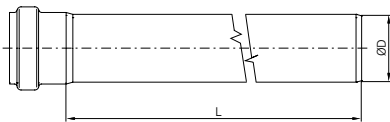
| Part No | Outlet diameter øD [mm] | Active length L [mm] | Weight [kg] |
|---------|----------------------------|-------------------------|----------------|
| 108872 | 70 | 250 | 0.9 |
| 108873 | 70 | 500 | 1.6 |
| 108874 | 70 | 750 | 2.3 |
| 108875 | 70 | 1000 | 3.0 |
| 108876 | 70 | 1500 | 4.6 |
| 108877 | 70 | 2000 | 5.8 |
| 108878 | 70 | 2500 | 7.2 |
| 108879 | 70 | 2750 | 8.1 |
| 108880 | 70 | 3000 | 8.8 |

Straight pipe 80mm



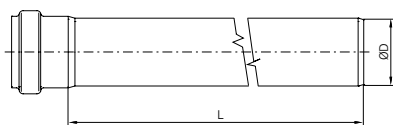
| Part No | Outlet diameter øD [mm] | Active length L [mm] | Weight [kg] |
|---------|----------------------------|-------------------------|----------------|
| 108881 | 80 | 250 | 1.3 |
| 108882 | 80 | 500 | 2.3 |
| 108883 | 80 | 750 | 3.5 |
| 108884 | 80 | 1000 | 4.4 |
| 108885 | 80 | 1500 | 6.4 |
| 108886 | 80 | 2000 | 8.4 |
| 108887 | 80 | 2500 | 10.8 |
| 108888 | 80 | 3000 | 12.8 |

Straight pipe 100mm

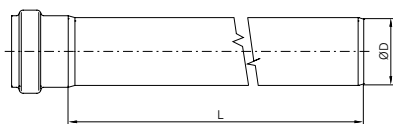


| Part No | Outlet diameter øD [mm] | Active length L [mm] | Weight [kg] |
|---------|----------------------------|-------------------------|----------------|
| 108889 | 100 | 250 | 1.7 |
| 108890 | 100 | 500 | 2.8 |
| 108891 | 100 | 750 | 3.9 |
| 108892 | 100 | 1000 | 5.2 |
| 108893 | 100 | 1500 | 8.0 |
| 108894 | 100 | 2000 | 9.8 |
| 108895 | 100 | 2500 | 13.2 |
| 108896 | 100 | 2750 | 15.3 |
| 108897 | 100 | 3000 | 14.6 |

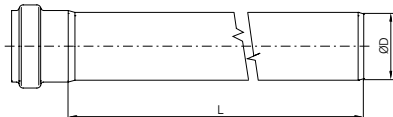
Please note that seals for GM-X Pipes are to be ordered separately, please see page 24.

Straight pipe 125mm

| Part No | Outlet diameter øD [mm] | Active length L [mm] | Weight [kg] |
|---------|----------------------------|-------------------------|----------------|
| 108898 | 125 | 250 | 2.8 |
| 108899 | 125 | 500 | 4.9 |
| 108900 | 125 | 750 | 7.1 |
| 108901 | 125 | 1000 | 9.2 |
| 108902 | 125 | 1500 | 13.2 |
| 108903 | 125 | 2000 | 17.4 |
| 108904 | 125 | 2500 | 21.8 |
| 108905 | 125 | 3000 | 25.3 |

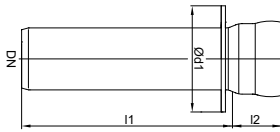
Straight pipe 150mm

| Part No | Outlet diameter øD [mm] | Active length L [mm] | Weight [kg] |
|---------|----------------------------|-------------------------|----------------|
| 108906 | 150 | 250 | 3.4 |
| 108907 | 150 | 500 | 5.9 |
| 108908 | 150 | 750 | 8.5 |
| 108909 | 150 | 1000 | 11.0 |
| 108910 | 150 | 1500 | 16.0 |
| 108911 | 150 | 2000 | 21.2 |
| 108912 | 150 | 2500 | 26.9 |
| 108913 | 150 | 3000 | 31.4 |

Straight pipe 200mm

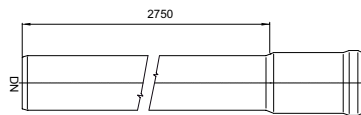
| Part No | Outlet diameter øD [mm] | Active length L [mm] | Weight [kg] |
|---------|----------------------------|-------------------------|----------------|
| 108914 | 200 | 250 | 6.4 |
| 108915 | 200 | 500 | 10.3 |
| 108916 | 200 | 750 | 14.7 |
| 108917 | 200 | 1000 | 19.1 |
| 108918 | 200 | 1500 | 27.4 |
| 108919 | 200 | 2000 | 44.2 |
| 108920 | 200 | 2500 | 43.2 |
| 108921 | 200 | 3000 | 53.8 |

Straight pipe single socket with flange



| Part No | Outlet diameter øD [mm] | | Length | | Weight [kg] |
|---------|----------------------------|-----|---------|---------|----------------|
| | DN | d1 | l1 [mm] | l2 [mm] | |
| 108929 | 40 | 94 | 250 | 30 | 0.7 |
| 108930 | 50 | 103 | 250 | 38 | 0.8 |
| 108931 | 70 | 125 | 250 | 55 | 1.2 |
| 108932 | 80 | 136 | 250 | 60 | 1.7 |
| 108933 | 100 | 150 | 250 | 70 | 2.0 |
| 108934 | 125 | 180 | 250 | 75 | 3.3 |
| 108935 | 150 | 205 | 250 | 80 | 4.0 |
| 108936 | 200 | 265 | 250 | 120 | 7.0 |

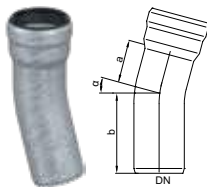
Straight pipe with extended socket



| Part No | Outlet diameter øD [mm] | Active length L [mm] | Weight [kg] |
|---------|----------------------------|-------------------------|----------------|
| 108922 | 50 | 2750 | 6.1 |
| 108923 | 70 | 2750 | 8.6 |
| 108924 | 100 | 2750 | 15.1 |

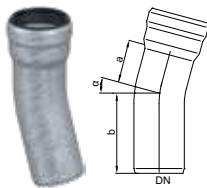
ACO GM-X Bends

bend 15°



| Part No | Outlet diameter øD [mm] | Dimensions | | Weight [kg] |
|---------|----------------------------|------------|--------|----------------|
| | | a [mm] | b [mm] | |
| 108939 | 32 | 27 | 58 | 0.2 |
| 108940 | 40 | 37 | 67 | 0.2 |
| 108941 | 50 | 53 | 81 | 0.4 |
| 108942 | 70 | 50 | 89 | 0.6 |
| 108943 | 80 | 25 | 85 | 0.7 |
| 108944 | 100 | 34 | 104 | 1.0 |
| 108945 | 125 | 37 | 112 | 1.9 |
| 108946 | 150 | 40 | 120 | 2.6 |
| 108947 | 200 | 45 | 165 | 5.7 |

bend 30°



| Part No | Outlet diameter øD [mm] | Dimensions | | Weight [kg] |
|---------|----------------------------|------------|--------|----------------|
| | | a [mm] | b [mm] | |
| 108948 | 32 | 30 | 65 | 0.1 |
| 108949 | 40 | 46 | 76 | 0.3 |
| 108950 | 50 | 64 | 92 | 0.4 |
| 108951 | 70 | 66 | 105 | 0.7 |
| 108952 | 80 | 56 | 116 | 1.2 |
| 108953 | 100 | 44 | 114 | 1.1 |
| 108954 | 125 | 45 | 118 | 2.1 |
| 108955 | 150 | 61 | 148 | 2.9 |
| 108956 | 200 | 45 | 165 | 10.8 |

bend 45°



| Part No | Outlet diameter øD [mm] | Dimensions | | Weight [kg] |
|---------|----------------------------|------------|--------|----------------|
| | | a [mm] | b [mm] | |
| 108957 | 32 | 40 | 75 | 0.1 |
| 108958 | 40 | 56 | 86 | 0.3 |
| 108959 | 50 | 76 | 104 | 0.5 |
| 108960 | 70 | 83 | 122 | 0.8 |
| 108961 | 80 | 72.5 | 132 | 1.4 |
| 108962 | 100 | 54 | 124 | 1.2 |
| 108963 | 125 | 58 | 131 | 2.3 |
| 108964 | 150 | 83 | 162 | 3.1 |
| 108965 | 200 | 166 | 270 | 13.1 |

bend 70°



| Part No | Outlet diameter øD [mm] | Dimensions | | Weight [kg] |
|---------|----------------------------|------------|--------|----------------|
| | | a [mm] | b [mm] | |
| 108966 | 40 | 75 | 105 | 0.3 |
| 108967 | 50 | 100 | 128 | 0.5 |
| 108968 | 70 | 118 | 157 | 0.9 |
| 108969 | 80 | 105 | 165 | 1.7 |
| 108970 | 100 | 74 | 144 | 1.4 |
| 108971 | 125 | 75 | 157 | 2.6 |
| 108972 | 150 | 125 | 205 | 3.7 |
| 108973 | 200 | 254 | 360 | 17.6 |

bend 87°



| Part No | Outlet diameter øD [mm] | Dimensions | | Weight [kg] |
|---------|----------------------------|------------|--------|----------------|
| | | a [mm] | b [mm] | |
| 108974 | 32 | 69 | 100 | 0.2 |
| 108975 | 40 | 92 | 122 | 0.4 |
| 108976 | 50 | 120 | 148 | 0.6 |
| 108977 | 70 | 146 | 185 | 1.0 |
| 108978 | 80 | 134 | 194 | 2.0 |
| 108979 | 100 | 91 | 161 | 1.5 |
| 108980 | 125 | 97 | 179 | 4.5 |
| 108981 | 150 | 170 | 250 | 4.1 |
| 108982 | 200 | 330 | 435 | 22.9 |

Please note that seals for GM-X Pipes are to be ordered separately, please see page 24.

45° bend



| Part No | Outlet diameter øD [mm] | Dimensions | | Weight [kg] |
|---------|----------------------------|------------|--------|----------------|
| | | a [mm] | b [mm] | |
| 108983 | 40 | 20 | 65 | 0.2 |
| 108984 | 50 | 24 | 79 | 0.3 |
| 108985 | 70 | 32 | 91 | 0.6 |
| 108986 | 80 | 40 | 105 | 1.6 |

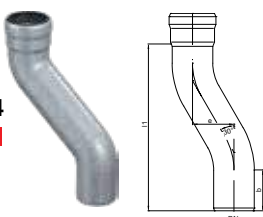
87° bend



| Part No | Outlet diameter øD [mm] | Dimensions | | Weight [kg] |
|---------|----------------------------|------------|--------|----------------|
| | | a [mm] | b [mm] | |
| 108987 | 40 | 33 | 78 | 0.2 |
| 108988 | 50 | 44 | 98 | 0.3 |
| 108989 | 70 | 59 | 117 | 0.7 |
| 108990 | 80 | 72 | 137 | 1.6 |

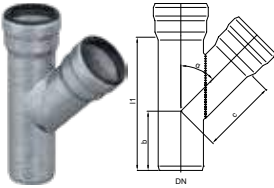
Offset

14
■ ■ ■

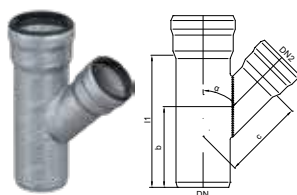


| Part No | Outlet diameter øD [mm] | Dimensions | | | Weight [kg] |
|---------|----------------------------|------------|--------|---------|----------------|
| | | b [mm] | e [mm] | l1 [mm] | |
| 109001 | 100 | 95 | 75 | 250 | 1.8 |
| 109002 | 100 | 95 | 130 | 300 | 2.2 |
| 109003 | 100 | 95 | 200 | 370 | 2.7 |

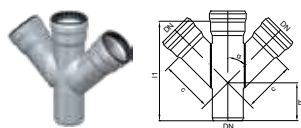
Single branches



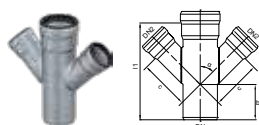
| Part No | Outlet diameter øD [mm] | b [mm] | Dimensions c [mm] | l1 [mm] | Weight [kg] |
|--------------------------|----------------------------|--------|----------------------|---------|----------------|
| 45° single branch | | | | | |
| 109004 | 32 | 55 | 70 | 125 | 0.2 |
| 109005 | 40 | 55 | 70 | 125 | 0.4 |
| 109006 | 50 | 65 | 90 | 150 | 0.6 |
| 109007 | 70 | 85 | 115 | 200 | 1.0 |
| 109008 | 80 | 97 | 138 | 235 | 1.8 |
| 109009 | 100 | 110 | 155 | 265 | 2.3 |
| 109010 | 125 | 130 | 210 | 340 | 5.1 |
| 109011 | 150 | 140 | 240 | 380 | 6.7 |
| 109012 | 200 | 190 | 320 | 500 | 16.8 |
| 87° single branch | | | | | |
| 109013 | 32 | 70 | 40 | 110 | 0.2 |
| 109014 | 40 | 70 | 40 | 110 | 0.3 |
| 109015 | 50 | 80 | 50 | 130 | 0.5 |
| 109016 | 70 | 110 | 65 | 175 | 0.9 |
| 109017 | 80 | 126 | 75 | 200 | 1.5 |
| 109018 | 100 | 140 | 90 | 230 | 2.0 |
| 109019 | 125 | 170 | 120 | 285 | 4.3 |
| 109020 | 150 | 190 | 135 | 320 | 5.4 |
| 109021 | 200 | 260 | 170 | 420 | 13.5 |



| Part No | Outlet diameter øD [mm] | | b [mm] | Dimensions | | Weight [kg] |
|-----------------------------|----------------------------|-----|--------|------------|---------|----------------|
| | DN | DN2 | | c [mm] | l1 [mm] | |
| 45° single branch reduction | | | | | | |
| 109024 | 40 | 32 | 68 | 87 | 105 | 0.2 |
| 109025 | 50 | 32 | 72 | 95 | 110 | 0.4 |
| 109026 | 50 | 40 | 50 | 79 | 130 | 0.5 |
| 109027 | 70 | 40 | 60 | 95 | 150 | 0.7 |
| 109028 | 70 | 50 | 75 | 106 | 175 | 0.8 |
| 109029 | 80 | 50 | 71 | 117 | 185 | 1.2 |
| 109030 | 80 | 70 | 135 | 127 | 215 | 1.5 |
| 109031 | 100 | 40 | 65 | 116 | 180 | 2.7 |
| 109032 | 100 | 50 | 75 | 127 | 200 | 3.1 |
| 109033 | 100 | 70 | 90 | 136 | 230 | 3.7 |
| 109034 | 100 | 80 | 110 | 147 | 265 | 1.4 |
| 109035 | 125 | 50 | 75 | 148 | 225 | 1.5 |
| 109036 | 125 | 70 | 90 | 157 | 255 | 3.0 |
| 109037 | 125 | 80 | 185 | 169 | 290 | 3.3 |
| 109038 | 125 | 100 | 105 | 176 | 290 | 4.3 |
| 109039 | 150 | 40 | 129 | 156 | 200 | 1.8 |
| 109040 | 150 | 50 | 149 | 168 | 225 | 2.2 |
| 109041 | 150 | 70 | 80 | 177 | 255 | 6.7 |
| 109042 | 150 | 80 | 179 | 188 | 290 | 8.2 |
| 109043 | 150 | 100 | 95 | 195 | 290 | 7.9 |
| 109044 | 150 | 125 | 120 | 230 | 340 | 3.8 |
| 109045 | 200 | 50 | 185 | 212 | 265 | 3.7 |
| 109046 | 200 | 70 | 200 | 221 | 286 | 4.4 |
| 109047 | 200 | 80 | 215 | 232 | 325 | 5.9 |
| 109048 | 200 | 100 | 100 | 240 | 325 | 9.2 |
| 109049 | 200 | 125 | 130 | 274 | 380 | 10.0 |
| 109050 | 200 | 150 | 150 | 284 | 420 | 11.5 |
| 45° single branch reduction | | | | | | |
| 109051 | 50 | 40 | 75 | 46 | 120 | 0.4 |
| 109052 | 70 | 40 | 95 | 57 | 140 | 0.7 |
| 109053 | 70 | 50 | 100 | 61 | 150 | 0.7 |
| 109054 | 80 | 50 | 109 | 69 | 155 | 1.1 |
| 109055 | 100 | 40 | 115 | 72 | 175 | 1.3 |
| 109056 | 100 | 50 | 115 | 76 | 180 | 1.4 |
| 109057 | 100 | 70 | 125 | 80 | 200 | 1.6 |
| 109058 | 100 | 80 | 135 | 81 | 230 | 1.8 |
| 109055 | 125 | 50 | 125 | 91 | 200 | 2.6 |
| 109056 | 125 | 70 | 140 | 95 | 225 | 2.9 |
| 109060 | 125 | 100 | 155 | 105 | 255 | 3.4 |
| 109059 | 150 | 70 | 140 | 109 | 255 | 3.4 |
| 109061 | 150 | 100 | 155 | 119 | 255 | 3.9 |
| 109062 | 150 | 125 | 175 | 134 | 290 | 4.9 |



| Part No | Outlet diameter øD [mm] | b [mm] | Dimensions c [mm] | l1 [mm] | Weight [kg] |
|-------------------|----------------------------|--------|----------------------|---------|----------------|
| 45° double branch | | | | | |
| 109071 | 50 | 65 | 90 | 150 | 0.8 |
| 109072 | 70 | 85 | 115 | 200 | 1.4 |
| 109073 | 100 | 100 | 155 | 265 | 3.1 |
| 87° double branch | | | | | |
| 109074 | 50 | 80 | 50 | 130 | 0.6 |
| 109075 | 70 | 110 | 65 | 175 | 1.2 |
| 109076 | 100 | 140 | 90 | 230 | 1.2 |



| Part No | Outlet diameter øD [mm] | | b [mm] | Dimensions c [mm] | l1 [mm] | Weight [kg] |
|------------------------------------|----------------------------|-----|--------|----------------------|---------|----------------|
| | DN | DN2 | | | | |
| 45° double branch reduction | | | | | | |
| 109077 | 70 | 50 | 75 | 106 | 175 | 1.2 |
| 109078 | 100 | 70 | 90 | 136 | 230 | |
| 109079 | 125 | 100 | 105 | 176 | 290 | 4.5 |
| 109080 | 150 | 100 | 95 | 195 | 290 | 5.1 |
| 87° double branch reduction | | | | | | |
| 109081 | 70 | 50 | 100 | 61 | 150 | 0.9 |
| 109082 | 100 | 70 | 125 | 80 | 200 | 1.9 |
| 109083 | 125 | 100 | 155 | 105 | 255 | 3.8 |

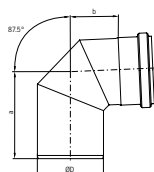


| Part No | Outlet diameter DN [mm] | b [mm] | Dimensions c [mm] | l1 [mm] | Weight [kg] |
|--------------------------|----------------------------|--------|----------------------|---------|----------------|
| 45° corner branch | | | | | |
| 109084 | 50 | 65 | 90 | 172 | 0.8 |
| 70° corner branch | | | | | |
| 109085 | 50 | 70 | 60 | 130 | 0.6 |
| 87° corner branch | | | | | |
| 109086 | 50 | 80 | 50 | 130 | 0.7 |
| 109087 | 70 | 110 | 65 | 175 | 1.2 |
| 109088 | 100 | 140 | 90 | 230 | 2.7 |

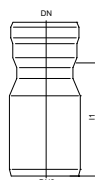


| Part No | Outlet diameter øD [mm] | | b [mm] | Dimensions c [mm] | l1 [mm] | Weight [kg] |
|------------------------------------|----------------------------|-----|--------|----------------------|---------|----------------|
| | DN | DN2 | | | | |
| 87° corner branch reduction | | | | | | |
| 109089 | 70 | 50 | 100 | 61 | 150 | 1.0 |
| 109090 | 100 | 70 | 125 | 80 | 200 | 1.8 |

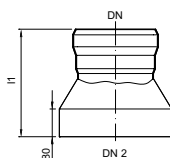
Please note that seals for GM-X Pipes are to be ordered separately, please see page 24.

87.5° bend

| Part No | Outlet diameter øD [mm] | Dimensions | | Weight [kg] |
|---------|----------------------------|------------|--------|----------------|
| | | a [mm] | b [mm] | |
| 109091 | 40 | 35 | 80 | 0.2 |
| 109092 | 50 | 45 | 100 | 0.4 |
| 109093 | 70 | 60 | 120 | 0.7 |
| 109094 | 80 | 70 | 130 | 1.8 |
| 109095 | 100 | 91 | 161 | 1.5 |

Increaser coupling concentric

| Part No | Outlet diameter øD [mm] | | l1 [mm] | Weight [kg] |
|---------|----------------------------|-----|---------|----------------|
| | DN | DN2 | | |
| 109098 | 40 | 50 | 85 | 0.3 |
| 109099 | 40 | 70 | 120 | 0.4 |
| 109100 | 50 | 70 | 110 | 0.4 |
| 109101 | 50 | 100 | 160 | 0.8 |
| 109102 | 70 | 80 | 110 | 0.6 |
| 109103 | 70 | 100 | 140 | 0.9 |
| 109104 | 70 | 125 | 160 | 1.3 |
| 109105 | 80 | 100 | 140 | 0.8 |
| 109106 | 100 | 125 | 160 | 1.6 |
| 109107 | 100 | 150 | 170 | 1.9 |
| 109108 | 100 | 200 | 250 | 3.6 |
| 109109 | 125 | 150 | 150 | 2.3 |
| 109110 | 125 | 200 | 255 | 4.7 |
| 109111 | 150 | 200 | 235 | 4.6 |
| 109112 | 200 | 250 | 280 | 8.2 |

Increaser coupling concentric, without socket

| Part No | Outlet diameter øD [mm] | | l1 [mm] | Weight [kg] |
|---------|----------------------------|-----|---------|----------------|
| | DN | DN2 | | |
| 109113 | 150 | 250 | 280 | 5.2 |
| 109114 | 150 | 300 | 320 | 6.1 |
| 109115 | 200 | 250 | 280 | 6.1 |
| 109116 | 200 | 300 | 310 | 8.2 |

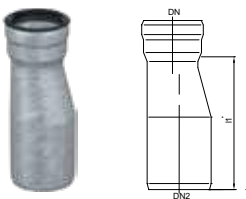
Please note that seals for GM-X Pipes are to be ordered separately, please see page 24.

Increaser coupling concentric long



| Part No | Outlet diameter øD [mm] | | l [mm] | Weight [kg] |
|---------|----------------------------|-----|--------|----------------|
| | DN | DN2 | | |
| 109117 | 32 | 40 | 98 | 0.3 |
| 109118 | 32 | 50 | 125 | 0.3 |
| 109119 | 40 | 50 | 100 | 0.3 |
| 109120 | 40 | 70 | 140 | 0.4 |
| 109121 | 50 | 70 | 130 | 0.5 |
| 109122 | 70 | 80 | 135 | 0.8 |
| 109123 | 70 | 100 | 155 | 0.9 |
| 109124 | 80 | 100 | 155 | 1.0 |
| 109125 | 100 | 125 | 190 | 1.8 |
| 109126 | 125 | 150 | 170 | 2.4 |
| 109127 | 150 | 200 | 255 | 4.8 |

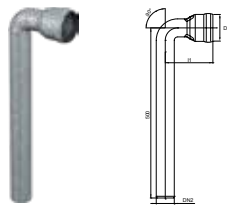
increaser coupling eccentric



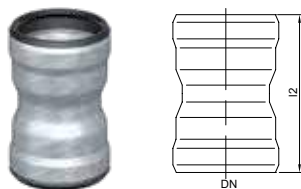
| Part No | Outlet diameter øD [mm] | | l [mm] | Weight [kg] |
|---------|----------------------------|-----|--------|----------------|
| | DN | DN2 | | |
| 109128 | 40 | 50 | 110 | 0.3 |
| 109129 | 40 | 70 | 115 | 0.4 |
| 109130 | 50 | 70 | 140 | 0.5 |
| 109131 | 50 | 100 | 157 | 0.8 |
| 109132 | 70 | 80 | 135 | 0.7 |
| 109133 | 70 | 100 | 160 | 0.9 |
| 109134 | 80 | 100 | 165 | 1.1 |
| 109135 | 100 | 125 | 182 | 1.8 |
| 109136 | 100 | 150 | 194 | 2.2 |
| 109137 | 125 | 150 | 210 | 2.8 |
| 109138 | 150 | 200 | 272 | 5.2 |

reducer coupling concentric

| Part No | Outlet diameter øD [mm] | | l1 [mm] | Weight [kg] |
|---------|----------------------------|-----|---------|----------------|
| | DN | DN2 | | |
| 109139 | 40 | 32 | 65 | 0.2 |
| 109140 | 50 | 40 | 72 | 0.2 |
| 109141 | 70 | 40 | 95 | 0.4 |
| 109142 | 70 | 50 | 105 | 0.4 |
| 109143 | 80 | 50 | 125 | 0.9 |
| 109144 | 80 | 70 | 120 | 0.7 |
| 109145 | 100 | 70 | 130 | 0.8 |
| 109146 | 100 | 80 | 130 | 0.9 |
| 109147 | 125 | 100 | 160 | 1.6 |
| 109148 | 150 | 125 | 220 | 2.8 |
| 109149 | 200 | 150 | 215 | 4.7 |

90° long bend

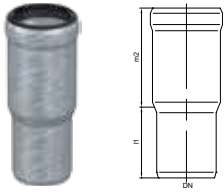
| Part No | Outlet diameter øD [mm] | | l1 [mm] | Weight [kg] |
|---------|----------------------------|-----|---------|----------------|
| | DN | DN2 | | |
| 109150 | 70 | 32 | 140 | 0.7 |
| 109151 | 70 | 40 | 140 | 1.3 |
| 109152 | 70 | 50 | 140 | 1.5 |
| 109153 | 70 | 70 | 140 | 2.1 |
| 109154 | 100 | 70 | 165 | 2.2 |
| 109155 | 100 | 80 | 159 | 2.5 |
| 109156 | 100 | 100 | 150 | 3.5 |

Double socket coupling

| Part No | Outlet diameter øD [mm] | | l2 [mm] | Weight [kg] |
|---------|----------------------------|-----|---------|----------------|
| | DN | DN | | |
| 109157 | 40 | 40 | 76 | 0.2 |
| 109158 | 50 | 50 | 94 | 0.2 |
| 109159 | 70 | 70 | 135 | 0.5 |
| 109160 | 80 | 80 | 150 | 0.7 |
| 109161 | 100 | 100 | 180 | 1.0 |
| 109162 | 125 | 125 | 190 | 1.8 |
| 109163 | 150 | 150 | 200 | 2.1 |
| 109164 | 200 | 200 | 290 | 5.2 |

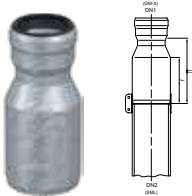
Please note that seals for GM-X Pipes are to be ordered separately, please see page 24.

Expansion socket



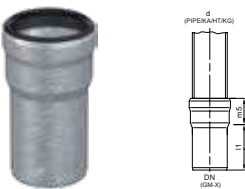
| Part No | Outlet diameter øD [mm] DN | l1 [mm] | m2 [mm] | Weight [kg] |
|---------|----------------------------------|---------|---------|----------------|
| 109165 | 40 | 50 | 70 | 0.2 |
| 109166 | 50 | 60 | 90 | 0.3 |
| 109167 | 70 | 70 | 120 | 0.6 |
| 109168 | 80 | 75 | 135 | 0.9 |
| 109169 | 100 | 90 | 150 | 1.3 |
| 109170 | 125 | 100 | 160 | 2.3 |

Connector cast iron pipe



| Part No | Outlet diameter øD [mm] | | f [mm] | l1 [mm] | Weight [kg] |
|---------|----------------------------|-----|--------|---------|----------------|
| | DN1 | DN2 | | | |
| 109175 | 50 | 50 | 70 | 95 | 0.3 |
| 109176 | 70 | 70 | 75 | 105 | 0.5 |
| 109177 | 70 | 80 | 75 | 105 | 0.5 |
| 109178 | 70 | 100 | 80 | 120 | 0.8 |
| 109179 | 80 | 80 | 57 | 74 | 0.6 |
| 109180 | 100 | 100 | 80 | 110 | 1.0 |
| 109181 | 200 | 200 | 140 | 170 | 3.8 |

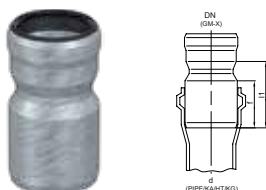
Connector plastic pipe



| Part No | Outlet diameter øD [mm] | | l1 [mm] | m5 [mm] | Weight [kg] |
|---------|----------------------------|-------|------------|------------|----------------|
| | DN | d | | | |
| 109182 | 50 | 50mm | 52 | 38 | 0.2 |
| 109183 | 70 | 75mm | 95 | 50 | 0.5 |
| 109184 | 100 | 110mm | 110 | 57 | 1.0 |
| 109185 | 125 | 125mm | 130 | 63 | 1.3 |
| 109186 | 150 | 160mm | 150 | 70 | 1.6 |
| 109187 | 200 | 200mm | 180 | 80 | 1.9 |

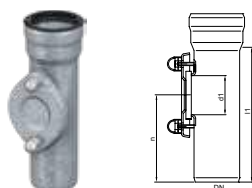
Please note that seals for GM-X Pipes are to be ordered separately, please see page 24.

connector plastic socket pipe



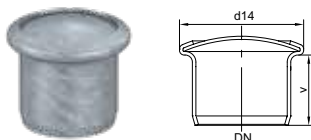
| Part No | Outlet diameter øD [mm] | | f [mm] | l1 [mm] | Weight [kg] |
|---------|----------------------------|-----|-----------|------------|----------------|
| | DN | d | | | |
| 109190 | 40 | 50 | 45 | 60 | |
| 109191 | 50 | 50 | 45 | 60 | 0.2 |
| 109192 | 70 | 75 | 60 | 95 | 0.4 |
| 109193 | 70 | 110 | 80 | 120 | 0.8 |
| 109194 | 80 | 110 | 80 | 115 | 0.9 |
| 109195 | 100 | 110 | 80 | 110 | 1.0 |
| 109196 | 100 | 125 | 80 | 130 | 1.1 |
| 109197 | 125 | 125 | 85 | 130 | 1.7 |
| 109198 | 150 | 160 | 90 | 150 | |
| 109199 | 200 | 200 | 110 | 150 | 4.1 |

Access unit



| Part No | Outlet diameter øD [mm] | | Dimensions | | Weight [kg] |
|---------|----------------------------|--------|------------|-----------|----------------|
| | DN | d1[mm] | l1 [mm] | n [mm] | |
| 109200 | 40 | 36 | 125 | 80 | 0.3 |
| 109201 | 50 | 45 | 150 | 95 | 0.5 |
| 109202 | 70 | 61 | 200 | 125 | 0.9 |
| 109203 | 80 | 75 | 210 | 135 | 1.3 |
| 109204 | 100 | 95 | 265 | 165 | 2.0 |
| 109205 | 125 | 128 | 290 | 180 | 3.7 |
| 109206 | 150 | 128 | 320 | 190 | 4.6 |
| 109207 | 200 | 128 | 420 | 260 | 9.6 |

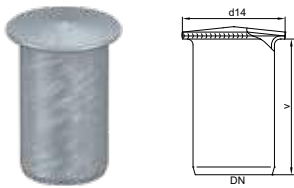
Socket plug



| Part No | Outlet diameter DN [mm] | | d14 [mm] | v [mm] | Weight [kg] |
|---------|----------------------------|--|-------------|-----------|----------------|
| | DN | | | | |
| 109210 | 40 | | 53 | 30 | 0.1 |
| 109211 | 50 | | 68 | 38 | 0.2 |
| 109212 | 70 | | 90 | 55 | 0.3 |
| 109213 | 80 | | 110 | 60 | 0.4 |
| 109214 | 100 | | 117 | 65 | 0.6 |
| 109215 | 125 | | 157 | 75 | 1.1 |
| 109216 | 150 | | 190 | 75 | 1.4 |

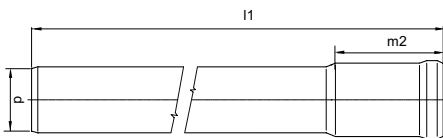
Please note that seals for GM-X Pipes are to be ordered separately, please see page 24.

Extended socket plug



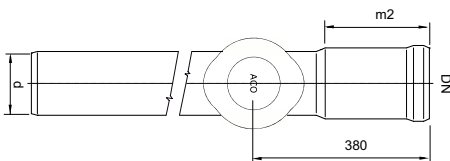
| Part No | Outlet diameter [mm] DN | d14 [mm] | v [mm] | Weight [kg] |
|---------|-------------------------------|-------------|-----------|----------------|
| 109217 | 40 | 53 | 70 | 0.2 |
| 109218 | 50 | 68 | 85 | 0.6 |
| 109219 | 70 | 90 | 100 | 0.5 |
| 109220 | 80 | 110 | 105 | 0.6 |
| 109221 | 100 | 117 | 120 | 0.8 |
| 109222 | 125 | 157 | 125 | 1.5 |
| 109223 | 150 | 190 | 125 | 1.8 |

Rain pipe

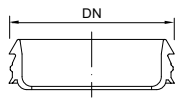


| Part No | Outlet diameter øD [mm] d | Length | | Weight [kg] |
|---------|---------------------------------|---------|---------|----------------|
| | | l1 [mm] | m2 [mm] | |
| 109224 | 50 | 1000 | 120 | 3.51 |
| 109225 | 70 | 1000 | 130 | 4.20 |
| 109226 | 80 | 1000 | 150 | 4.80 |
| 109227 | 100 | 1000 | 160 | 9.30 |
| 109228 | 125 | 1000 | 170 | 9.80 |

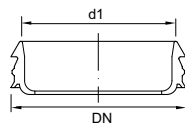
Rain pipe, with access



| Part No | Outlet diameter øD [mm] d | Length | | Weight [kg] |
|---------|---------------------------------|---------|---------|----------------|
| | | l1 [mm] | m2 [mm] | |
| 109229 | 50 | 1000 | 120 | 3.24 |
| 109230 | 70 | 1000 | 130 | 4.54 |
| 109231 | 80 | 1000 | 150 | 5.18 |
| 109232 | 100 | 1000 | 160 | 9.65 |
| 109233 | 125 | 1000 | 170 | 10.62 |

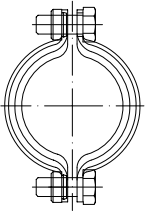
Seals

| Part No | Outlet diameter DN [mm] | Weight [kg] |
|---------|----------------------------|----------------|
| 109234 | 40 | 0.0 |
| 109235 | 50 | 0.0 |
| 109236 | 50 | 0.0 |
| 109237 | 70 | 0.0 |
| 109238 | 80 | 0.0 |
| 109239 | 100 | 0.0 |
| 109240 | 125 | 0.1 |
| 109241 | 150 | 0.1 |
| 109242 | 200 | 0.3 |

Transition seal

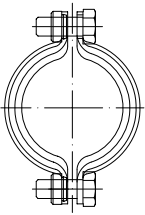
| Part No | Outlet diameter øD [mm] | | Weight [kg] |
|---------|----------------------------|-----|----------------|
| | DN | d1 | |
| 109243 | 40 | 32 | 0.0 |
| 109244 | 50 | 32 | 0.0 |
| 109245 | 40 | 38 | 0.1 |
| 109246 | 50 | 38 | 0.1 |
| 109247 | 50 | 48 | 0.0 |
| 109248 | 100 | | 0.0 |
| 109249 | 80 | | 0.0 |
| 109250 | 100 | 110 | 0.0 |
| 109251 | 125 | 125 | 0.0 |

Safety clamp



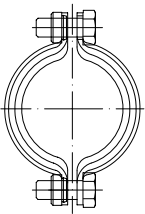
| Part No | For pipe diameter øD [mm] | Weight [kg] |
|---------|------------------------------|----------------|
| 109252 | 32 | 0.15 |
| 109253 | 40 | 0.19 |
| 109254 | 50 | 0.60 |
| 109255 | 70 | 0.46 |
| 109256 | 80 | 0.55 |
| 109257 | 100 | 0.97 |
| 109258 | 125 | 1.3 |

Safety clamp with release catch

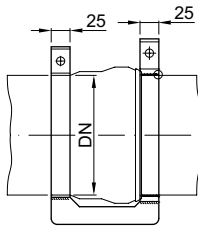


| Part No | For pipe diameter øD [mm] | Weight [kg] |
|---------|------------------------------|----------------|
| 109259 | 32 | 0.19 |
| 109260 | 40 | 0.24 |
| 109261 | 50 | 0.30 |
| 109262 | 70 | 0.43 |
| 109263 | 80 | 0.53 |
| 109264 | 100 | 0.93 |
| 109265 | 125 | 1.22 |

Pipe clamp with 120mm long pin



| Part No | For pipe diameter øD [mm] | Weight [kg] |
|---------|------------------------------|----------------|
| 109266 | 40 | 0.7 |
| 109267 | 50 | 0.11 |
| 109268 | 70 | 0.18 |
| 109269 | 80 | 0.19 |
| 109270 | 100 | 0.21 |
| 109271 | 125 | 0.27 |
| 109272 | 150 | 0.35 |

Safety bracket

| Part No | For pipe diameter $\varnothing D$ [mm] | Weight [kg] |
|---------|---|----------------|
| 109273 | 150 | 1.84 |
| 109274 | 200 | 2.50 |

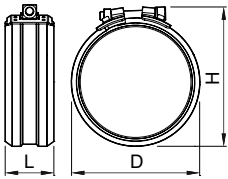
Pipe clamp with threaded hanger bolt

| Part No | For pipe diameter $\varnothing D$ [mm] | Thread | Weight [kg] |
|---------|---|--------|----------------|
| 109275 | 40 | M8 | 0.12 |
| 109276 | 50 | M8 | 0.09 |
| 109277 | 70 | M8 | 0.15 |
| 109278 | 80 | M10 | 0.15 |
| 109279 | 100 | M10 | 0.18 |
| 109280 | 125 | M12 | 0.69 |
| 109281 | 150 | M12 | 0.54 |
| 109282 | 200 | M12 | 0.67 |

Pipe clamp with threaded bolt isolated

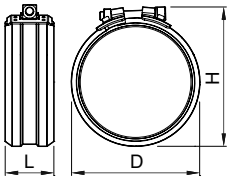
| Part No | For pipe diameter $\varnothing D$ [mm] | Thread | Weight [kg] |
|---------|---|--------|----------------|
| 109283 | 40 | M8 | 0.12 |
| 109284 | 50 | M8 | 0.09 |
| 109285 | 70 | M8 | 0.15 |
| 109286 | 80 | M10 | 0.15 |
| 109287 | 100 | M10 | 0.18 |
| 109288 | 125 | M12 | 0.69 |
| 109289 | 150 | M12 | 0.54 |
| 109290 | 200 | M12 | 0.67 |

ACO GM-X - universal clamp - stainless steel



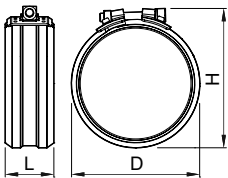
| Part No | For pipe diameter øD [mm] | Weight [kg] |
|---------|------------------------------|----------------|
| 109291 | 250 | 2.63 |
| 109292 | 300 | 2.98 |

ACO GM-X - rapid INOX connector - stainless steel



| Part No | For pipe diameter øD [mm] | Weight [kg] |
|---------|------------------------------|----------------|
| 109293 | 250 | 1.07 |
| 109294 | 300 | 1.10 |

ACO GM-X - lubricant (1kg)



| Part No |
|---------|
| 109295 |

Flow rates, care and maintenance

Discharge Rates

The discharge rates listed apply to gravity systems.

Pipes with a gradient from 1.0% to 10.0%

Q = discharge rate / V = flow velocity

| Rainwater (roughness coefficient KS = 0.6 mm) | | | | | | | | | | | | |
|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Gradient [%] | Ø 50 | | Ø 75 | | Ø 110 | | Ø 125 | | Ø 160 | | Ø 200 | |
| | Q [l/s] | v [m/s] | Q [l/s] | v [m/s] | Q [l/s] | v [m/s] | Q [l/s] | v [m/s] | Q [l/s] | v [m/s] | Q [l/s] | v [m/s] |
| 1.0 | 0.87 | 0.48 | 2.66 | 0.63 | 7.53 | 0.82 | 10.63 | 0.89 | 20.28 | 1.05 | 36.95 | 1.21 |
| 1.5 | 1.06 | 0.59 | 3.25 | 0.78 | 9.22 | 1.01 | 13.01 | 1.10 | 24.84 | 1.28 | 45.26 | 1.48 |
| 2.0 | 1.23 | 0.68 | 3.76 | 0.90 | 10.64 | 1.16 | 15.03 | 1.26 | 28.68 | 1.48 | 52.26 | 1.71 |
| 2.5 | 1.37 | 0.76 | 4.20 | 1.00 | 11.90 | 1.30 | 16.80 | 1.41 | 32.07 | 1.66 | 58.43 | 1.92 |
| 3.0 | 1.50 | 0.83 | 4.60 | 1.10 | 13.04 | 1.42 | 18.41 | 1.55 | 35.13 | 1.81 | 64.01 | 2.10 |
| 3.5 | 1.62 | 0.90 | 4.97 | 1.19 | 14.08 | 1.54 | 19.88 | 1.67 | 37.95 | 1.96 | 69.14 | 2.27 |
| 4.0 | 1.73 | 0.96 | 5.31 | 1.27 | 15.06 | 1.64 | 21.26 | 1.79 | 40.57 | 2.10 | 73.92 | 2.43 |
| 4.5 | 1.84 | 1.02 | 5.64 | 1.35 | 15.97 | 1.74 | 22.55 | 1.90 | 43.03 | 2.22 | 78.40 | 2.57 |
| 5.0 | 1.94 | 1.07 | 5.94 | 1.42 | 16.83 | 1.84 | 23.77 | 2.00 | 45.36 | 2.34 | 82.65 | 2.71 |
| 7.5 | 2.38 | 1.31 | 7.28 | 1.74 | 20.62 | 2.25 | 29.11 | 2.45 | 55.56 | 2.87 | 101.22 | 3.32 |
| 10.0 | 2.74 | 1.52 | 8.40 | 2.01 | 23.81 | 2.60 | 33.61 | 2.83 | 64.15 | 3.31 | 116.89 | 3.83 |

Material resistance chart

| | EPDM | Seals NBR | FPM (Viton) |
|--|-----------------|----------------|-----------------|
| Water | very suitable | very suitable | very suitable |
| Acids | suitable | less suitable | very suitable |
| Alkalis | suitable | suitable | suitable |
| Alcohol | suitable | suitable | suitable |
| Acetone | suitable | not suitable | not suitable |
| Benzene | not suitable | less suitable | suitable |
| Mineral oils | not suitable | suitable | very suitable |
| Vegetable oils | not suitable | very suitable | very suitable |
| Vegetable fats | not suitable | very suitable | very suitable |
| Animal fats | not suitable | very suitable | very suitable |
| Fuel resistance | not suitable | suitable | very suitable |
| Oxidation resistance | very suitable | not suitable | suitable |
| Weather resistance | suitable | not suitable | very suitable |
| Temperature resistance: continuous/short-term | 100 °C / 120 °C | 90 °C / 120 °C | 150 °C / 200 °C |
| Temperature resistance at low temperatures | -50 °C | -30 °C | -20 °C |
| Permeability of gas | low | low | very low |
| Physical strength | good | good | good |
| Resistant against stiffening | good | good | good |
| Wear | good | good | very good |

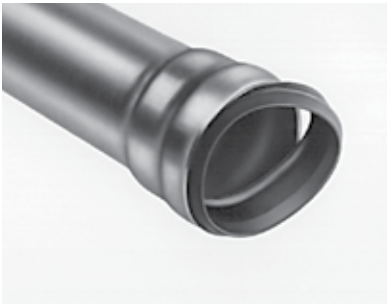
ACO GM-X Pipe material information

Corrosion proofing

All pipes and fittings are hot galvanized inside and out. The zinc coating is on average 400 g/m² or 56 µ. It is impact-resistant and shock-proof. The zinc coating produces a cathodic protection of the cut edges thus preventing bottom rust. In addition, the insides of the pipes and fittings are given an alkyd-melamine resin based plastic coating.

Due to this internal coating of the pipes, frictional resistance on the internal surfaces is reduced and incrustation largely prevented. Together with the zinc coating, optimum corrosion protection is achieved. Both the hot galvanizing and the additional internal coating meet the requirements of EN 1123 Part 1.

Socket joint for GM-X sockets



1. The seal is placed obliquely on the lower edge of the socket chamber.



2. Using your index finger to press the seal to one side, push it into the socket chamber.

The lubricant dries out in time. The socket joint can be loosened again by heating the socket area. A correct fit of the inserted pipe end into the socket is especially important for the installation of vacuum and pressurised piping systems. The use of a corresponding marking on the pipe end avoids installation mistakes.



3. On releasing, the seal should pop into the socket chamber.
(Adjust where necessary)

Note:

The outside seal edge collar must rest on the socket rim.

4. The seal is coated all-over inside with GM-X lubricant.

5. The pipe end is inserted into the socket by turning gently until it is located on the lower socket end.

Care and maintenance

Operation and Maintenance

With care taken during the fabrication and installation, cleaning before handing over to the client should present no special problems, although more attention than normal may be required if the installation period has been prolonged. Where surface contamination is suspected, immediate attention to cleaning after site fixing will encourage a trouble-free product.

Cleaning Galvanised Steel

Galvanised steel surfaces can be cleaned and rinsed with clean water. Stubborn stains are to be removed with a stiff bristled brush. Do not use a wire brush.

Galvanised Steel Maintenance

Heavy damage to the galvanised surface exposes the underlying metal to the atmosphere and corrosion will result if not treated. Any corrosion should be removed by light abrasion and the area treated with one of the many commercially available zinc sprays using the manufacturers' instructions.

Installation guide

Installation

A significant task falls upon the installer, who, in the final analysis, determines the practical value of a drainage installation. The superior quality of our pipe material and the first-class processing of our products help him in this task.

Drainage installations have to be able to be constructed without problems and work without malfunctions. Any connection problem can be quickly and economically resolved by the availability of an extensive range of fittings.

The fully technically developed socket joint enables rapid and simple plug-in assembly, just by turning the pipe and the fitting in the socket.

Steel pipes and fittings are easy to handle, impact-resistant and shock-proof, unaffected by rough treatment during processing.

The GM-X Drain pipe range can also be supplied with two sockets. When a pipe is cut to size, there is a piece left over with a

socket, which can be used as an extra fitting piece.

Steel drain pipes and fittings - together with the characteristic plug-in socket joint - give the installed drain pipe a practically self-supporting stability. The use of pipe clips and holding devices is only necessary at a few places in the installation.

Pipe fixing

For horizontally laid pipes, the dead weight of the pipe plus the possible water content and the number of fixing points are to be taken into account when choosing fixing materials.

The following GM-X fixing devices can be supplied:

- Securing clips for axial thrust and for suspending the pipes (perforated belt or steel hoop)
- Pipe clips with knock-in pin or rod for welding on without sound-proofing insert
- Pipe clips for threaded pin with or without sound-proofing insert

| DN | Weight |
|-----|---------|
| 40 | 2.9 kg |
| 50 | 4.0 kg |
| 70 | 7.0 kg |
| 80 | 9.4 kg |
| 100 | 12.8 kg |
| 125 | 22.0 kg |
| 150 | 29.0 kg |
| 200 | 58.0 kg |

Cutting to length

Cutting to length can be done with a pipe cutter, a cutting-off wheel or a saw.

Pipes cut to length with a wheel or saw must be de-burred before being inserted in the socket so as not to damage the seal.

Production monitoring

GM-X drain pipes and fittings are subject to production monitoring by the Bavarian Institute for Technical Building Equipment and Domestic Water Supplies, Würzburg branch.

GM-X seals are subject to third-party monitoring by the North Rhine-Westphalia State Materials Testing Office, Dortmund.



Quality management

GM-X drain pipes and fittings are subject to production monitoring in accordance to DIN EN ISO 9001.



Certification

GM-X pipes and special fittings are certified by renowned test registers. This underlines their high operational safety.

Associated ACO Building Drainage Product Ranges

ACO PIPE®

ACO PIPE® is manufactured from thin-wall austenitic stainless steel in grades 304 and 316 and is pickle passivated for optimum durability and corrosion resistance. ACO Pipe® is available in a wide range of socketed waste pipework products and accessories for above and below ground rainwater and industrial wastewater drainage applications. Used together with other ACO products it creates a perfect system and one stop sustainable drainage solution with unique advantages to the customer – lightweight, easy installation, low thermal expansion co-efficient, sustainable material, hygienic, near zero maintenance. When used with ACO stainless steel gullies and channel systems it provides a unique system for building drainage.



ACO DeckLine 125

ACO DeckLine 125 is a shallow invert hot-dipped galvanised steel linear drainage system for applications up to and including Load Class C 250. It is ideally suited for parking decks and areas such as structural slabs or where excavation depth is limited. Available off the shelf ACO DeckLine is durable, 100% watertight and easy to install. ACO DeckLine 125 is tested and certified to BS EN 1433.



ACO Stainless Steel Gully Systems

ACO Stainless Steel Gullies are manufactured as standard in both stainless steel grade 304 and 316, and are pickle passivated for optimum durability and corrosion resistance. All ACO gullies are designed for optimum hygiene performance and meet the stringent demands of modern hygienic installations. Available in various ranges to suit any application, each range offers a selection of products to meet all industrial and commercial drainage requirements. ACO stainless steel gullies can be used in either a standalone single point gully application or, with other ACO products, such as ACO Modular 125+, ACO PIPE® and ACO Engineered Solutions channel drainage, to provide a complete drainage solution.



ACO Technologies plc

- ACO Building Drainage
- ACO Water Management
Civils + Infrastructure
Building + Landscape
- ACO Sport
- ACO Wildlife
- ACO Technic



FM 13502



ID: 18601



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The ACO Group: A strong family you can depend on.

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