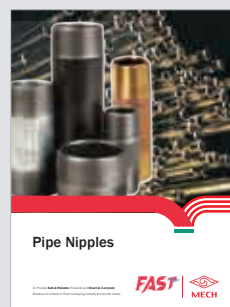
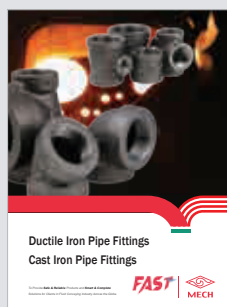
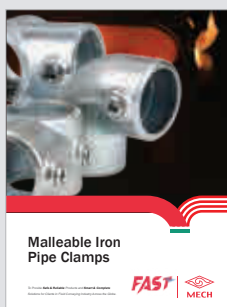
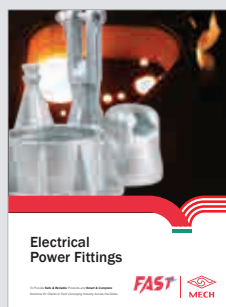
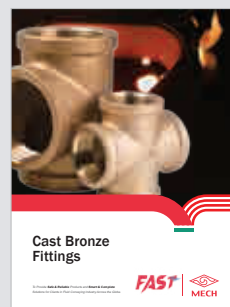
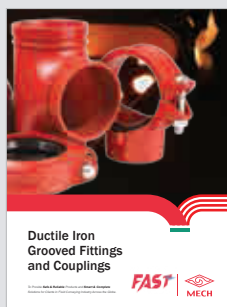
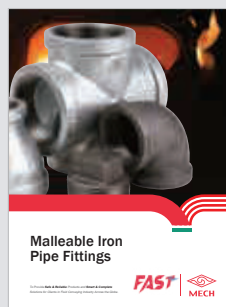


## MECH FLOW SUPPLIES



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# Malleable Iron Pipe Fittings

BS Standard

To Provide **Safe & Reliable** Products and **Smart & Complete** Solutions for Clients in Fluid Conveying Industry Across the Globe.



# More than 50 years of Foundry Experience

## Company Profile

Jinan Meide Casting Co. Ltd. was established in 1961. In the past decades, Jinan Meide has seized each opportunity to consolidate its strength, and has finally developed into what it is today, a large-scale enterprise group with advanced technology, equipment and strong comprehensive strength, known for its complete range of products, large producing capacity, high quality and strong R&D strength. The company owns altogether one main factory, three branch factories, two independent accounting steel pipe companys, and a science & technology park.

The company is the well-known manufacturer in the fitting industry with the most complete range of products, supplying malleable iron fittings, grooved fittings, grooved couplings, valves, cast iron fittings, ductile iron fittings, steel pipe nipples and couplings, stainless steel nipples, brass pipe nipples, cast bronze fittings, steel pipes, pipe hangers and supports, electric fittings, etc.

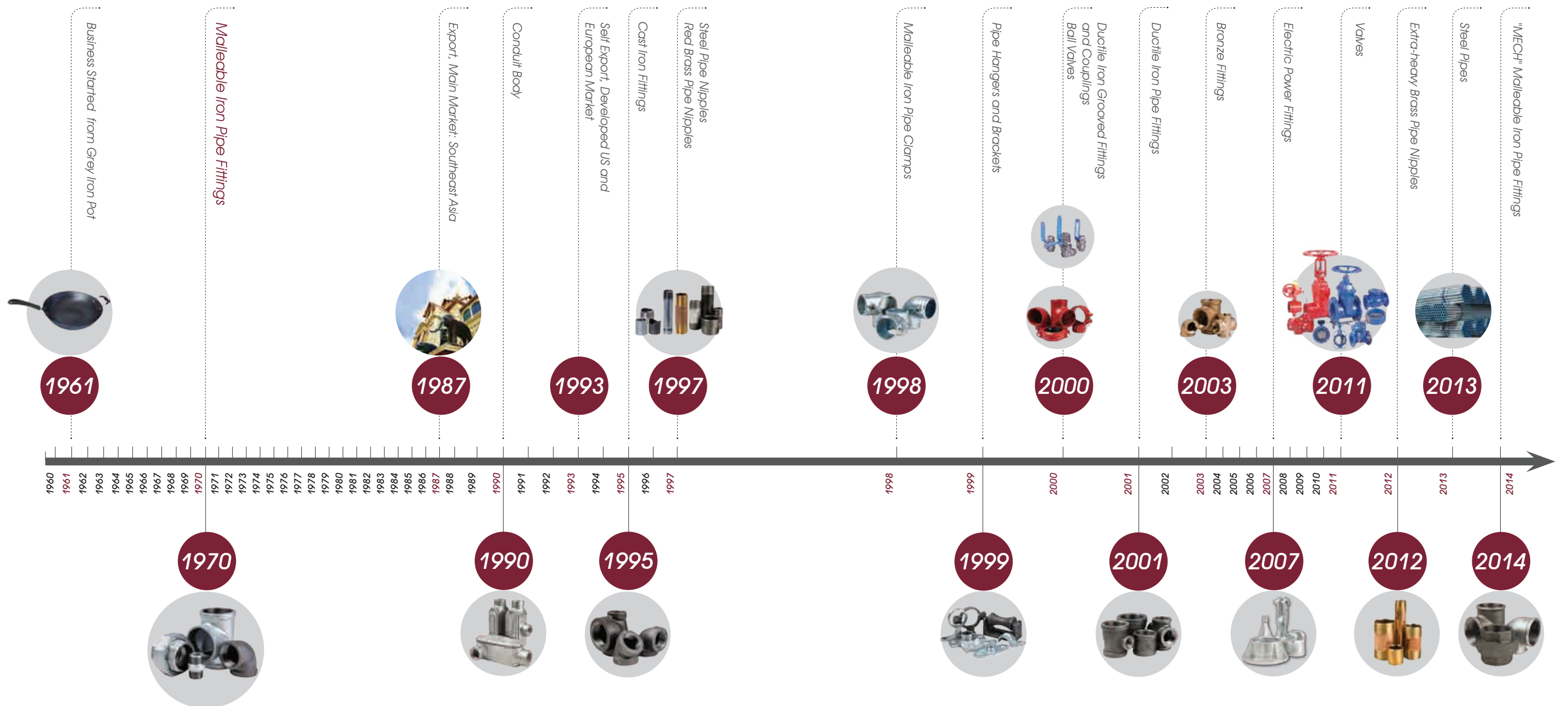
Over 50 years, Jinan Meide has been a trusted name in piping solutions by offering high-quality products, service and support to the PVF industry continuously. We provide expertise and product solutions for a wide range of applications, plumbing, mechanical, industrial, air-conditioning and refrigeration, mining, oil, gas, fire protection, equipment and power system. Many of the company's application technology are advanced in the world, with more than 20 patents registered each year, and the company has presided over and participated in the drafting of many important national standards of the industry.

We organize the whole production process in accordance with ISO 9001 and ISO 14001. It has also the most complete certificates in the PVF industry, including UL/FM/NSF of US, CRN/cUL of Canada, DVGW/TUV/CE/VdS of Germany, BSI/LPCB of UK, SII of Israel, JIS of Japan, ABNT of Brazil, GOST-R of Russia, CNBOP of Poland, KS of South Korea, TSE of Turkey, PSB of Singapore, SIRIM of Malaysia, SABS of South Africa etc. The products are well distributed in more than 130 countries and regions.

As an industry leader and key high-tech enterprise of the national torch plan, the company attaches great importance to environmental protection, energy-saving and emission-reduction. US-EEC recognizes MECH brand malleable iron pipe fittings as "the product to promote for the technology exchange of environmental protection". Protecting the environment is the duty of the company.

Customer satisfaction has always been the company's top objective, and we constantly stick to the principle: to provide customers with a value-added solution rather than simply delivering products.

## Company History



## State of the Art Equipment

High precision equipment is quality assurance.

Jinan Meide's 8 factories are all equipped with the most advanced facilities and equipment in the industry. The main production facilities include Sinto automatic molding line, Tokyu automatic molding line, Chinese 416 automatic vertical molding line, automatic molding sand mixers, cupola furnaces, electric furnaces, water-cooled longevous cupola furnaces, CNC vertical machining centers, CNC machines, NC vertical lathes, radial drills, Jinan Meide proprietary automatic machines, hot-dipped galvanization line, automatic box sealing line, stereoscopic warehouse and so on.



Pattern



Core Making



Sand Mulling



Tokyu AMF-111055



DISA



Sinto FCMX



Melting



Pouring



Annealing



End Grinding Line



Warehouse



Threading, Air Pressure Test, and Anti-rust Treatment

## Reliable Quality Assurance

Jinan Meide is honored as the National enterprise technical center and is capable and qualified to conduct full series of tests and inspections including chemical checking, etc.

Inspection facilities include: spectrometer, carbon sulfur analyzer, metallurgical microscope, tensile strength testing equipment, pressure testing equipment, adhesive force testing equipment, CMM, hardness tester, etc.

From incoming inspection to finished product, quality is checked and monitored in the whole process. Each step of the manufacturing process is carefully documented, regularly reviewed for revision control and updating standard. Quality procedures are constantly monitored and updated to assure that only the highest and most consistent quality products are supplied to our valued customers.



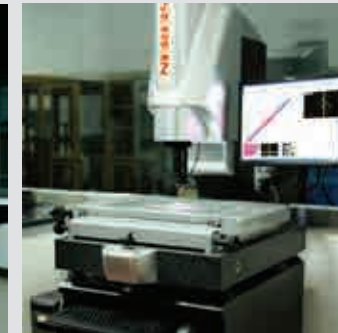
Metallurgical Microscope



Spectrometer



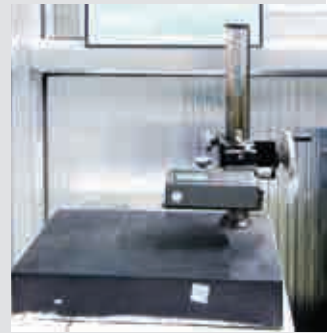
CMM



Projector



The Length of The Test Instrument



Roughness Tester



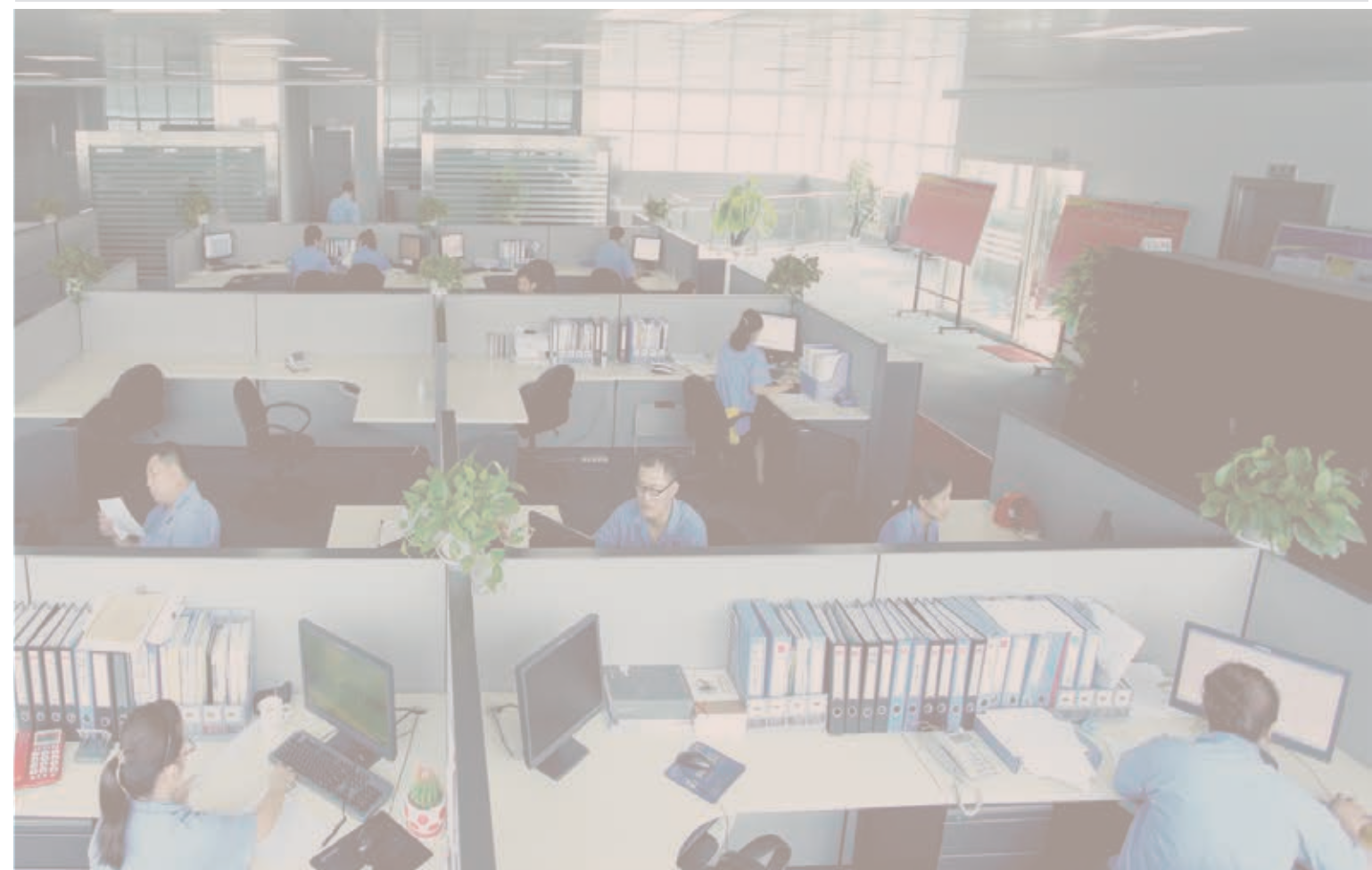
Carbon Sulfur Analyzer



Tensile Strength Testing Equipment



Sand Testing Instrument



# Certificates

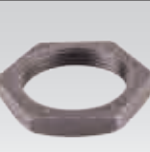
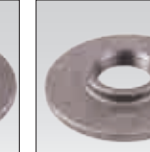




Malleable Iron Pipe Fittings  
BS Standard

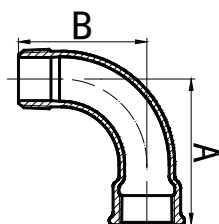
Material: BS EN 1562  
Dimensions: BS EN 10242  
Threads: ISO 7-1  
Size Available: 1/8"- 6"

|                                                                                                                 |                                                                                                                         |                                                                                                                |                                                                                                                     |                                                                                                                      |                                                                                                                         |                                                                                                                      |
|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| <br>1#<br>Bend 90°, M/F        | <br>1#F<br>Bend 90°, M/F               | <br>1A<br>Short Bend 90°, M/F | <br>1AF<br>Short Bend 90°, M/F     | <br>2#<br>Bend 90°, female          | <br>2A<br>Short Bend 90°, female     | <br>2AF<br>Short Bend 90°, female |
| <br>3#<br>Bend 90°, male       | <br>40<br>Bend 45°, M/F                | <br>40F<br>Bend 45°, M/F      | <br>41<br>Bend 45°, female         | <br>85<br>Crossover                 | <br>90<br>Elbow, 90°                 | <br>90R<br>Reducing Elbow, 90°    |
| <br>92<br>Street Elbow, 90°   | <br>92R<br>Reducing Street Elbow, 90° | <br>95<br>Union Elbow F/F    | <br>96<br>Union Elbow F/F         | <br>97<br>Union Elbow M/F          | <br>98<br>Union Elbow M/F           | <br>120<br>Elbow, 45°            |
| <br>121<br>Street Elbow, 45° | <br>130<br>Tee                       | <br>130R<br>Reducing Tee    | <br>130R<br>Reducing Tee         | <br>130R<br>Reducing Tee          | <br>130R<br>Reducing Tee           | <br>130R<br>Reducing Tee        |
| <br>131<br>Pitcher Tee       | <br>131R<br>Reducing Pitcher Tee     | <br>134<br>Service Tee      | <br>134R<br>Reducing Service Tee | <br>165<br>Lateral Y Branche, 45° | <br>180<br>Cross                   | <br>180R<br>Reducing Cross      |
| <br>220<br>Socket            | <br>220S<br>Socket R/L               | <br>240<br>Reducing Socket  | <br>241<br>Bushing               | <br>241D<br>Bushing               | <br>245<br>Reducing Hexagon Nipple | <br>246<br>Reducing Socket M/F  |

|                                                                                                                      |                                                                                                                           |                                                                                                                   |                                                                                                                           |                                                                                                                            |                                                                                                                    |                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| <br>270<br>Parallel Thread Socket | <br>280<br>Hexagon Nipple              | <br>291<br>Plain Plug          | <br>291LM<br>Plain Plug                | <br>291N<br>Countersunk Plug            | <br>291S<br>Solid Plug          | <br>300<br>Cap                      |
| <br>310<br>Locknut                | <br>312<br>Backnut                     | <br>321-4<br>Flange Bs4504     | <br>321-6<br>Flange 1600/4             | <br>321-H<br>Flange                     | <br>321P<br>Flange              | <br>321PW<br>Flange                 |
| <br>321TD<br>Flange              | <br>330<br>Flat Seat Union            | <br>330D<br>Flat Seat Union   | <br>331<br>Flat Seat Union M/F        | <br>340<br>Conical Joint Union         | <br>340Q<br>Deflection Union   | <br>341<br>Conical Joint Union M/F |
| <br>342<br>Conical Joint Union  | <br>342A<br>Double Bronze Navy Union | <br>526<br>Long Adapter M/F  | <br>529A<br>Long Extension Piece     | <br>529X<br>Short Extension Piece     | <br>1221<br>Side Outlet Elbow | <br>1223<br>Side Outlet Tee       |
| <br>1224<br>Side Outlet Cross   | <br>LAA<br>Coupling Luck F/F         | <br>LAF<br>Coupling Luck M/F | <br>LCC<br>Long Compression Coupling | <br>SCC<br>Short Compression Coupling | <br>TCC<br>Compression Tee    |                                                                                                                        |

1#

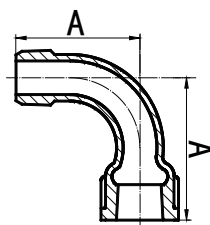
Bend 90°, M/F



| Size      | Inch | 1/8   | 1/4 | 3/8   | 1/2 | 3/4 | 1   | 1 1/4 |
|-----------|------|-------|-----|-------|-----|-----|-----|-------|
|           | mm   | 6     | 8   | 10    | 15  | 20  | 25  | 32    |
| Dim. (mm) | A    | 35    | 40  | 48    | 55  | 69  | 85  | 105   |
|           | B    | 32    | 36  | 42    | 48  | 60  | 75  | 95    |
| Size      | Inch | 1 1/2 | 2   | 2 1/2 | 3   | 4   | 6   |       |
|           | mm   | 40    | 50  | 65    | 80  | 100 | 150 |       |
| Dim. (mm) | A    | 116   | 140 | 176   | 205 | 260 | 365 |       |
|           | B    | 105   | 130 | 165   | 190 | 245 | 345 |       |

1#F

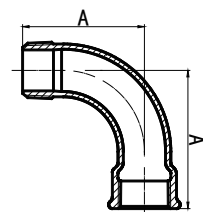
Bend 90°, M/F



| Size      | Inch | 1/2   | 3/4 | 1   | 1 1/4 | 1 1/2 | 2   |
|-----------|------|-------|-----|-----|-------|-------|-----|
|           | mm   | 15    | 20  | 25  | 32    | 40    | 50  |
| Dim. (mm) | A    | 52    | 65  | 82  | 100   | 115   | 140 |
| Size      | Inch | 2 1/2 | 3   | 4   |       |       |     |
|           | mm   | 65    | 80  | 100 |       |       |     |
| Dim. (mm) | A    | 175   | 205 | 260 |       |       |     |

1A

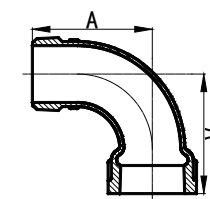
Short Bend 90°, M/F



| Size      | Inch | 1/4   | 3/8 | 1/2   | 3/4 | 1   | 1 1/4 |
|-----------|------|-------|-----|-------|-----|-----|-------|
|           | mm   | 8     | 10  | 15    | 20  | 25  | 32    |
| Dim. (mm) | A    | 30    | 36  | 45    | 50  | 63  | 76    |
| Size      | Inch | 1 1/2 | 2   | 2 1/2 | 3   | 4   |       |
|           | mm   | 40    | 50  | 65    | 80  | 100 |       |
| Dim. (mm) | A    | 85    | 102 | 115   | 138 | 167 |       |

1AF

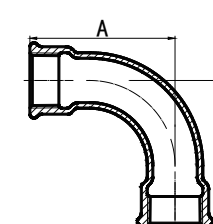
Short Bend 90°, M/F



| Size      | Inch | 1/4   | 3/8 | 1/2   | 3/4 | 1  | 1 1/4 |
|-----------|------|-------|-----|-------|-----|----|-------|
|           | mm   | 8     | 10  | 15    | 20  | 25 | 32    |
| Dim. (mm) | A    | 30    | 36  | 45    | 50  | 63 | 76    |
| Size      | Inch | 1 1/2 | 2   | 2 1/2 |     |    |       |
|           | mm   | 40    | 50  | 65    |     |    |       |
| Dim. (mm) | A    | 85    | 102 | 115   |     |    |       |

2#

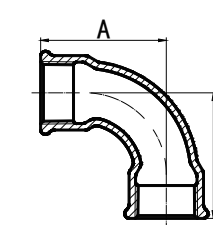
Bend 90°, female



| Size      | Inch | 1/4   | 3/8 | 1/2   | 3/4 | 1   | 1 1/4 |
|-----------|------|-------|-----|-------|-----|-----|-------|
|           | mm   | 8     | 10  | 15    | 20  | 25  | 32    |
| Dim. (mm) | A    | 40    | 48  | 55    | 69  | 85  | 105   |
| Size      | Inch | 1 1/2 | 2   | 2 1/2 | 3   | 4   |       |
|           | mm   | 40    | 50  | 65    | 80  | 100 |       |
| Dim. (mm) | A    | 116   | 140 | 176   | 205 | 260 |       |

2A

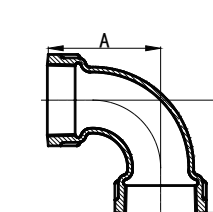
Short bend 90°, female



| Size      | Inch | 1/2   | 3/4 | 1   | 1 1/4 | 1 1/2 | 2   |
|-----------|------|-------|-----|-----|-------|-------|-----|
|           | mm   | 15    | 20  | 25  | 32    | 40    | 50  |
| Dim. (mm) | A    | 45    | 50  | 63  | 76    | 85    | 102 |
| Size      | Inch | 2 1/2 | 3   | 4   |       |       |     |
|           | mm   | 65    | 80  | 100 |       |       |     |
| Dim. (mm) | A    | 115   | 138 | 167 |       |       |     |

2AF

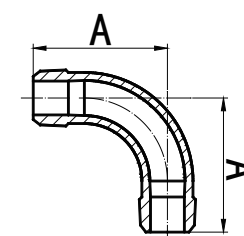
Short bend 90°, female



| Size      | Inch | 1/4   | 3/8 | 1/2   | 3/4 | 1  | 1 1/4 |
|-----------|------|-------|-----|-------|-----|----|-------|
|           | mm   | 8     | 10  | 15    | 20  | 25 | 32    |
| Dim. (mm) | A    | 30    | 36  | 45    | 50  | 63 | 76    |
| Size      | Inch | 1 1/2 | 2   | 2 1/2 | 3   |    |       |
|           | mm   | 40    | 50  | 65    | 80  |    |       |
| Dim. (mm) | A    | 85    | 102 | 113   | 138 |    |       |

3#

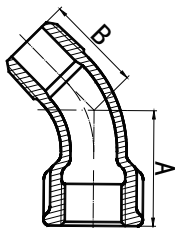
Bend 90°, male



| Size      | Inch | 3/8 | 1/2   | 3/4 | 1   | 1 1/4 | 1 1/2 |
|-----------|------|-----|-------|-----|-----|-------|-------|
|           | mm   | 10  | 15    | 20  | 25  | 32    | 40    |
| Dim. (mm) | A    | 42  | 48    | 60  | 75  | 95    | 105   |
| Size      | Inch | 2   | 2 1/2 | 3   | 4   |       |       |
|           | mm   | 50  | 65    | 80  | 100 |       |       |
| Dim. (mm) | A    | 130 | 165   | 190 | 245 |       |       |

40

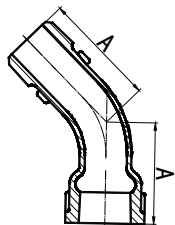
Bend 45°, M/F



| Size      | Inch | 1/4   | 3/8 | 1/2   | 3/4 | 1   | 1 1/4 |
|-----------|------|-------|-----|-------|-----|-----|-------|
|           | mm   | 8     | 10  | 15    | 20  | 25  | 32    |
| Dim. (mm) | A    | 26    | 30  | 36    | 43  | 51  | 64    |
|           | B    | 21    | 24  | 30    | 36  | 42  | 54    |
| Size      | Inch | 1 1/2 | 2   | 2 1/2 | 3   | 4   | 6     |
|           | mm   | 40    | 50  | 65    | 80  | 100 | 150   |
| Dim. (mm) | A    | 68    | 81  | 99    | 113 | 142 | 197   |
|           | B    | 58    | 70  | 86    | 100 | 126 | 176   |

40F

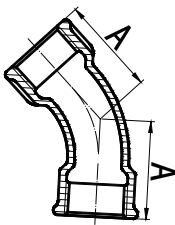
Bend 45°, M/F



| Size      | Inch | 3/4 | 1   | 1 1/4 | 1 1/2 | 2  | 2 1/2 |
|-----------|------|-----|-----|-------|-------|----|-------|
|           | mm   | 20  | 25  | 32    | 40    | 50 | 65    |
| Dim. (mm) | A    | 45  | 55  | 68    | 70    | 85 | 100   |
|           | B    |     |     |       |       |    |       |
| Size      | Inch | 3   | 4   |       |       |    |       |
|           | mm   | 80  | 100 |       |       |    |       |
| Dim. (mm) | A    | 115 | 145 |       |       |    |       |
|           | B    |     |     |       |       |    |       |

41

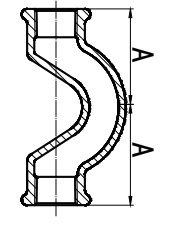
Bend 45°, female



| Size      | Inch | 1/4   | 3/8 | 1/2   | 3/4 | 1   | 1 1/4 |
|-----------|------|-------|-----|-------|-----|-----|-------|
|           | mm   | 8     | 10  | 15    | 20  | 25  | 32    |
| Dim. (mm) | A    | 26    | 30  | 36    | 43  | 51  | 64    |
|           | B    |       |     |       |     |     |       |
| Size      | Inch | 1 1/2 | 2   | 2 1/2 | 3   | 4   | 6     |
|           | mm   | 40    | 50  | 65    | 80  | 100 | 150   |
| Dim. (mm) | A    | 68    | 81  | 99    | 113 | 142 | 197   |
|           | B    |       |     |       |     |     |       |

85

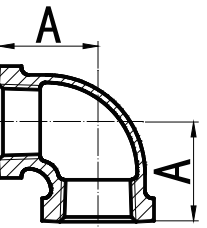
Crossover



| Size      | Inch | 1/2 | 3/4 | 1  | 1 1/4 | 1 1/2 | 2   |
|-----------|------|-----|-----|----|-------|-------|-----|
|           | mm   | 15  | 20  | 25 | 32    | 40    | 50  |
| Dim. (mm) | A    | 45  | 54  | 70 | 91    | 100.5 | 115 |
|           | B    |     |     |    |       |       |     |
| Size      | Inch |     |     |    |       |       |     |
|           | mm   |     |     |    |       |       |     |
| Dim. (mm) | A    |     |     |    |       |       |     |
|           | B    |     |     |    |       |       |     |

90

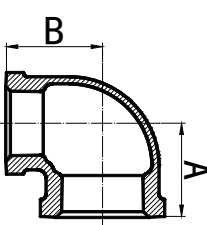
Elbow, 90°



| Size      | Inch | 1/8   | 1/4 | 3/8   | 1/2 | 3/4 | 1   | 1 1/4 |
|-----------|------|-------|-----|-------|-----|-----|-----|-------|
|           | mm   | 6     | 8   | 10    | 15  | 20  | 25  | 32    |
| Dim. (mm) | A    | 19    | 21  | 25    | 28  | 33  | 38  | 45    |
|           | B    |       |     |       |     |     |     |       |
| Size      | Inch | 1 1/2 | 2   | 2 1/2 | 3   | 4   | 5   | 6     |
|           | mm   | 40    | 50  | 65    | 80  | 100 | 125 | 150   |
| Dim. (mm) | A    | 50    | 58  | 69    | 78  | 96  | 115 | 131   |
|           | B    |       |     |       |     |     |     |       |

90R

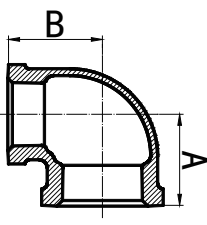
Reducing Elbow, 90°



| Size      | Inch | 4X1 1/4 | 4X1 1/2 | 4X2    | 4X2 1/2 | 4X3    |
|-----------|------|---------|---------|--------|---------|--------|
|           | mm   | 100X32  | 100X40  | 100X50 | 100X65  | 100X80 |
| Dim. (mm) | A    | 60      | 62      | 68     | 77      | 82     |
|           | B    | 85      | 85      | 86     | 89      | 90     |
| Size      | Inch | 3/4X1/2 | 1X1/4   | 1X3/8  | 1X1/2   | 1X3/4  |
|           | mm   | 20X15   | 25X8    | 25X10  | 25X15   | 25X20  |
| Dim. (mm) | A    | 30      | 27      | 30     | 32      | 35     |
|           | B    | 31      | 31      | 32     | 34      | 36     |

90R

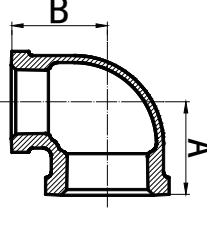
Reducing Elbow, 90°



| Size      | Inch | 3/8X1/8   | 3/8X1/4   | 6X4       | 1/2X1/4 | 1/2X3/8   |
|-----------|------|-----------|-----------|-----------|---------|-----------|
|           | mm   | 10X6      | 10X8      | 150X100   | 15X8    | 15X10     |
| Dim. (mm) | A    | 20.5      | 23        | 102       | 24      | 26        |
|           | B    | 21.5      | 23        | 125       | 24      | 26        |
| Size      | Inch | 1 1/4X3/8 | 1 1/4X1/2 | 1 1/4X3/4 | 1 1/4X1 | 1 1/2X1/2 |
|           | mm   | 32X10     | 32X15     | 32X20     | 32X25   | 40X15     |
| Dim. (mm) | A    | 32        | 32        | 36        | 40      | 34        |
|           | B    | 36.5      | 37        | 41        | 42      | 41        |

90R

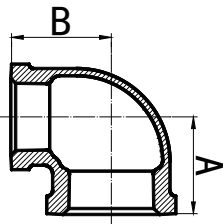
Reducing Elbow, 90°



| Size      | Inch | 3/4X1/4   | 3/4X3/8 | 1 1/2X1 1/4 | 2X1/2   | 2X3/4   |
|-----------|------|-----------|---------|-------------|---------|---------|
|           | mm   | 20X8      | 20X10   | 40X32       | 50X15   | 50X20   |
| Dim. (mm) | A    | 26        | 28      | 46          | 35      | 40      |
|           | B    | 27        | 28      | 48          | 47      | 48      |
| Size      | Inch | 1 1/2X3/4 | 1 1/2X1 | 3X1         | 3X1 1/4 | 3X1 1/2 |
|           | mm   | 40X20     | 40X25   | 80X25       | 80X32   | 80X40   |
| Dim. (mm) | A    | 37        | 42      | 50          | 53.5    | 56      |
|           | B    | 42        | 46      | 68          | 68      | 69      |

90R

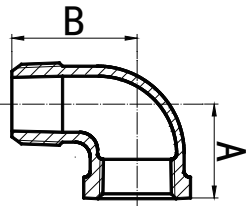
Reducing Elbow, 90°



|           |      |       |         |             |             |             |         |
|-----------|------|-------|---------|-------------|-------------|-------------|---------|
| Size      | Inch | 2X1   | 2X1 1/4 | 2X1 1/2     | 2 1/2X3/4   | 2 1/2X1     | 2 1/2X2 |
|           | mm   | 50X25 | 50X32   | 50X40       | 65X20       | 65X25       | 65X50   |
| Dim. (mm) | A    | 43    | 47      | 52          | 42.5        | 46.5        | 61      |
|           | B    | 50    | 53      | 56          | 57          | 58.5        | 66      |
| Size      | Inch | 3X2   | 3X2 1/2 | 1 1/4X1 1/8 | 2 1/2X1 1/4 | 2 1/2X1 1/2 | 3X3/4   |
|           | mm   | 80X50 | 80X65   | 8X6         | 65X32       | 65X40       | 80X20   |
| Dim. (mm) | A    | 60.5  | 71      | 18.5        | 50.5        | 53.5        | 45      |
|           | B    | 71    | 74      | 19          | 60          | 61          | 65      |

92

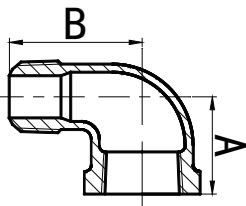
Street Elbow, 90°



|           |      |       |     |       |     |     |       |       |
|-----------|------|-------|-----|-------|-----|-----|-------|-------|
| Size      | Inch | 1/8   | 1/4 | 3/8   | 1/2 | 3/4 | 1     | 1 1/4 |
|           | mm   | 6     | 8   | 10    | 15  | 20  | 25    | 32    |
| Dim. (mm) | A    | 19    | 21  | 25    | 28  | 33  | 38    | 45    |
|           | B    | 25    | 28  | 32    | 37  | 43  | 52    | 60    |
| Size      | Inch | 1 1/2 | 2   | 2 1/2 | 3   | 4   | 6     |       |
|           | mm   | 40    | 50  | 65    | 80  | 100 | 150   |       |
| Dim. (mm) | A    | 50    | 58  | 69    | 78  | 96  | 127.5 |       |
|           | B    | 65    | 74  | 88    | 98  | 118 | 202   |       |

92R

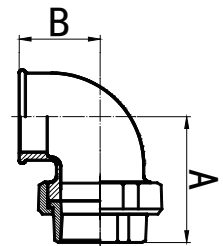
Reducing Street Elbow, 90°



|           |      |         |       |  |  |  |  |
|-----------|------|---------|-------|--|--|--|--|
| Size      | Inch | 3/4X1/2 | 1X3/4 |  |  |  |  |
|           | mm   | 20X15   | 25X20 |  |  |  |  |
| Dim. (mm) | A    | 30      | 35    |  |  |  |  |
|           | B    | 65.4    | 46    |  |  |  |  |
| Size      | Inch |         |       |  |  |  |  |
|           | mm   |         |       |  |  |  |  |
| Dim. (mm) | A    |         |       |  |  |  |  |
|           | B    |         |       |  |  |  |  |

95

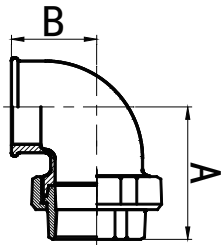
Union Elbow F/F



|           |      |     |     |    |       |       |     |
|-----------|------|-----|-----|----|-------|-------|-----|
| Size      | Inch | 1/2 | 3/4 | 1  | 1 1/4 | 1 1/2 | 2   |
|           | mm   | 15  | 20  | 25 | 32    | 40    | 50  |
| Dim. (mm) | A    | 28  | 33  | 38 | 45    | 50    | 58  |
|           | B    | 58  | 62  | 72 | 82    | 90    | 100 |
| Size      | Inch |     |     |    |       |       |     |
|           | mm   |     |     |    |       |       |     |
| Dim. (mm) | A    |     |     |    |       |       |     |
|           | B    |     |     |    |       |       |     |

96

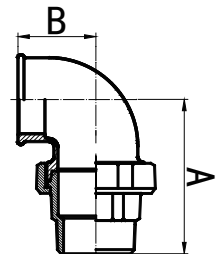
Union Elbow F/F



|           |      |     |     |    |       |       |     |
|-----------|------|-----|-----|----|-------|-------|-----|
| Size      | Inch | 1/2 | 3/4 | 1  | 1 1/4 | 1 1/2 | 2   |
|           | mm   | 15  | 20  | 25 | 32    | 40    | 50  |
| Dim. (mm) | A    | 58  | 62  | 72 | 82    | 90    | 100 |
|           | B    | 28  | 33  | 38 | 45    | 50    | 58  |
| Size      | Inch |     |     |    |       |       |     |
|           | mm   |     |     |    |       |       |     |
| Dim. (mm) | A    |     |     |    |       |       |     |
|           | B    |     |     |    |       |       |     |

97

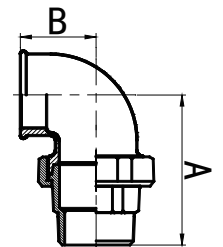
Union Elbow M/F



|           |      |       |  |  |  |  |  |
|-----------|------|-------|--|--|--|--|--|
| Size      | Inch | 1 1/2 |  |  |  |  |  |
|           | mm   | 40    |  |  |  |  |  |
| Dim. (mm) | A    | 128   |  |  |  |  |  |
|           | B    | 58    |  |  |  |  |  |
| Size      | Inch |       |  |  |  |  |  |
|           | mm   |       |  |  |  |  |  |
| Dim. (mm) | A    |       |  |  |  |  |  |
|           | B    |       |  |  |  |  |  |

98

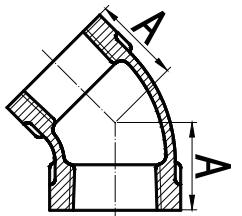
Union Elbow M/F



|           |      |     |     |    |       |       |  |
|-----------|------|-----|-----|----|-------|-------|--|
| Size      | Inch | 1/2 | 3/4 | 1  | 1 1/4 | 1 1/2 |  |
|           | mm   | 15  | 20  | 25 | 32    | 40    |  |
| Dim. (mm) | A    | 76  | 82  | 94 | 107   | 115   |  |
|           | B    | 28  | 33  | 38 | 45    | 50    |  |
| Size      | Inch |     |     |    |       |       |  |
|           | mm   |     |     |    |       |       |  |
| Dim. (mm) | A    |     |     |    |       |       |  |
|           | B    |     |     |    |       |       |  |

120

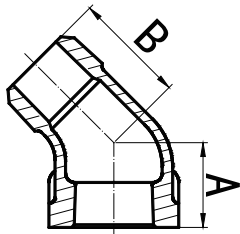
Elbow, 45°



|           |      |       |      |       |     |     |      |       |
|-----------|------|-------|------|-------|-----|-----|------|-------|
| Size      | Inch | 1/8   | 1/4  | 3/8   | 1/2 | 3/4 | 1    | 1 1/4 |
|           | mm   | 6     | 8    | 10    | 15  | 20  | 25   | 32    |
| Dim. (mm) | A    | 16    | 18.5 | 20    | 22  | 25  | 28   | 33    |
|           | B    |       |      |       |     |     |      |       |
| Size      | Inch | 1 1/2 | 2    | 2 1/2 | 3   | 4   | 5    | 6     |
|           | mm   | 40    | 50   | 65    | 80  | 100 | 125  | 150   |
| Dim. (mm) | A    | 50    | 58   | 69    | 78  | 96  | 77.5 | 86    |
|           | B    |       |      |       |     |     |      |       |

121

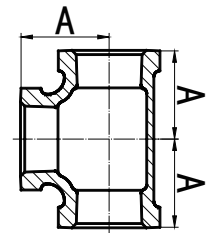
Street Elbow, 45°



|           |      |       |       |     |       |     |     |
|-----------|------|-------|-------|-----|-------|-----|-----|
| Size      | Inch | 1/8   | 1/4   | 3/8 | 1/2   | 3/4 | 1   |
|           | mm   | 6     | 8     | 10  | 15    | 20  | 25  |
| Dim. (mm) | A    | 16    | 18.5  | 20  | 22    | 25  | 28  |
|           | B    | 21    | 24    | 25  | 28    | 32  | 37  |
| Size      | Inch | 1 1/4 | 1 1/2 | 2   | 2 1/2 | 3   | 4   |
|           | mm   | 32    | 40    | 50  | 65    | 80  | 100 |
| Dim. (mm) | A    | 33    | 36    | 43  | 49.5  | 55  | 66  |
|           | B    | 43    | 46    | 55  | 65    | 76  | 94  |

130

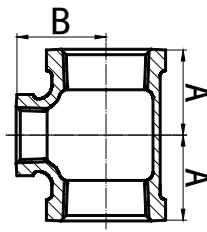
Tee



|           |      |       |     |       |     |     |     |       |
|-----------|------|-------|-----|-------|-----|-----|-----|-------|
| Size      | Inch | 1/8   | 1/4 | 3/8   | 1/2 | 3/4 | 1   | 1 1/4 |
|           | mm   | 6     | 8   | 10    | 15  | 20  | 25  | 32    |
| Dim. (mm) | A    | 19    | 21  | 25    | 28  | 33  | 38  | 45    |
|           |      |       |     |       |     |     |     |       |
| Size      | Inch | 1 1/2 | 2   | 2 1/2 | 3   | 4   | 5   | 6     |
|           | mm   | 40    | 50  | 65    | 80  | 100 | 125 | 150   |
| Dim. (mm) | A    | 50    | 58  | 69    | 78  | 96  | 115 | 131   |
|           |      |       |     |       |     |     |     |       |

130R

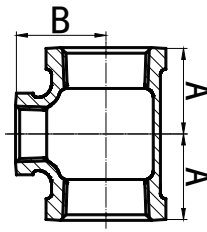
Reducing Tee



|           |      |         |         |         |         |         |
|-----------|------|---------|---------|---------|---------|---------|
| Size      | Inch | 4X1/2   | 4X3/4   | 4X1     | 4X1 1/4 | 4X1 1/2 |
|           | mm   | 100X15  | 100X20  | 100X25  | 100X32  | 100X40  |
| Dim. (mm) | A    | 50      | 53      | 56      | 60      | 61      |
|           | B    | 79      | 79      | 81      | 84      | 84      |
| Size      | Inch | 1/2X1/8 | 1/2X1/4 | 1/2X3/8 | 3/4X1/4 | 3/4X3/8 |
|           | mm   | 15X6    | 15X8    | 15X10   | 20X8    | 20X10   |
| Dim. (mm) | A    | 22      | 24      | 26      | 26      | 28      |
|           | B    | 23      | 24      | 26      | 27      | 28      |

130R

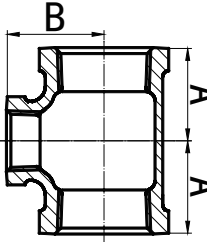
Reducing Tee



|           |      |         |         |        |           |         |
|-----------|------|---------|---------|--------|-----------|---------|
| Size      | Inch | 4X2     | 4X2 1/2 | 4X3    | 3/8X1 1/4 | 6X4     |
|           | mm   | 100X50  | 100X65  | 100X80 | 10X8      | 150X100 |
| Dim. (mm) | A    | 70      | 84      | 82     | 22        | 105     |
|           | B    | 86      | 92      | 90     | 22.5      | 125.5   |
| Size      | Inch | 3/4X1/2 | 1X1/4   | 1X3/8  | 1X1/2     | 1X3/4   |
|           | mm   | 20X15   | 25X8    | 25X10  | 25X15     | 25X20   |
| Dim. (mm) | A    | 30      | 28      | 30     | 32        | 35      |
|           | B    | 31      | 31      | 32     | 34        | 36      |

130R

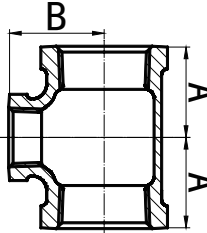
Reducing Tee



|           |      |           |           |           |           |           |
|-----------|------|-----------|-----------|-----------|-----------|-----------|
| Size      | Inch | 6X2       | 6X3       | 1 1/4X3/4 | 1 1/4X1   | 1 1/2X3/8 |
|           | mm   | 150X50    | 150X80    | 32X20     | 32X25     | 40X10     |
| Dim. (mm) | A    | 75        | 92.5      | 36        | 40        | 34        |
|           | B    | 115       | 120.5     | 41        | 42        | 39        |
| Size      | Inch | 1 1/4X3/8 | 1 1/4X1/2 | 2X1 1/2   | 2 1/2X1/2 | 2 1/2X3/4 |
|           | mm   | 32X10     | 32X15     | 50X40     | 65X15     | 65X20     |
| Dim. (mm) | A    | 32        | 34        | 52        | 40        | 43        |
|           | B    | 36        | 38        | 55        | 56        | 57        |

130R

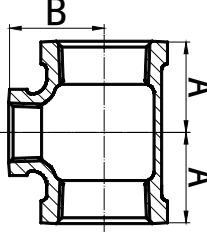
Reducing Tee



|           |      |           |             |             |             |       |
|-----------|------|-----------|-------------|-------------|-------------|-------|
| Size      | Inch | 1 1/2X1/2 | 1 1/2X3/4   | 1 1/2X1     | 1 1/2X1 1/4 | 2X3/8 |
|           | mm   | 40X15     | 40X20       | 40X25       | 40X32       | 50X10 |
| Dim. (mm) | A    | 36        | 38          | 42          | 46          | 36    |
|           | B    | 42        | 44          | 46          | 48          | 46    |
| Size      | Inch | 2 1/2X1   | 2 1/2X1 1/4 | 2 1/2X1 1/2 | 2 1/2X2     | 3X1/2 |
|           | mm   | 65X25     | 65X32       | 65X40       | 65X50       | 80X15 |
| Dim. (mm) | A    | 47        | 52          | 55          | 61          | 42    |
|           | B    | 60        | 62          | 63          | 66          | 64    |

130R

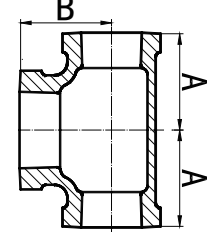
Reducing Tee



|           |      |       |         |         |         |         |       |
|-----------|------|-------|---------|---------|---------|---------|-------|
| Size      | Inch | 2X1/2 | 2X3/4   | 2X1     | 2X1 1/4 | 3X2     | 3X3/4 |
|           | mm   | 50X15 | 50X20   | 50X25   | 50X32   | 80X50   | 80X20 |
| Dim. (mm) | A    | 38    | 40      | 44      | 48      | 64      | 45    |
|           | B    | 48    | 50      | 52      | 54      | 73      | 65    |
| Size      | Inch | 3X1   | 3X1 1/4 | 3X1 1/2 | 3X2 1/2 | 1/4X1/8 |       |
|           | mm   | 80X25 | 80X32   | 80X40   | 80X65   | 8X6     |       |
| Dim. (mm) | A    | 51    | 55      | 58      | 72      | 18.5    |       |
|           | B    | 67    | 70      | 71      | 76      | 19      |       |

130R

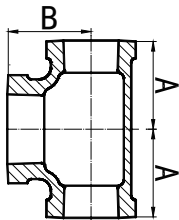
Reducing Tee



|           |      |             |           |                   |               |
|-----------|------|-------------|-----------|-------------------|---------------|
| Size      | Inch | 1/2X1/2X3/4 | 1/2X1/2X1 | 3/4X3/4X1         | 3/4X3/4X1 1/4 |
|           | mm   | 15X15X20    | 15X15X25  | 20X20X25          | 20X20X32      |
| Dim. (mm) | A    | 31          | 34        | 36                | 41            |
|           | B    | 30          | 32        | 35                | 36            |
| Size      | Inch | 1X1X2       | 1X1X2 1/2 | 1 1/4X1 1/4X1 1/2 | 1 1/4X1 1/4X2 |
|           | mm   | 25X25X50    | 25X25X65  | 32X32X40          | 32X32X50      |
| Dim. (mm) | A    | 51          | 60        | 48                | 54            |
|           | B    | 48.5        | 48        | 46                | 48            |

130R

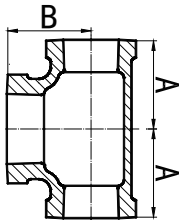
Reducing Tee



| Size      | Inch | 1/2X1/2X3/4 | 1/2X1/2X1 | 3/4X3/4X1         | 3/4X3/4X1 1/4 |
|-----------|------|-------------|-----------|-------------------|---------------|
|           | mm   | 15X15X20    | 15X15X25  | 20X20X25          | 20X20X32      |
| Dim. (mm) | A    | 31          | 34        | 36                | 41            |
|           | B    | 30          | 32        | 35                | 36            |
|           | C    | 31          | 30        | 34                | 42            |
| Size      | Inch | 1X1X2       | 1X1X2 1/2 | 1 1/4X1 1/4X1 1/2 | 1 1/4X1 1/4X2 |
|           | mm   | 25X25X50    | 25X25X65  | 32X32X40          | 32X32X50      |
| Dim. (mm) | A    | 51          | 60        | 48                | 54            |
|           | B    | 48.5        | 48        | 46                | 48            |

130R

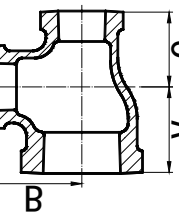
Reducing Tee



| Size      | Inch | 1X1X1 1/4     | 1X1X1 1/2         | 2X2X2 1/2     | 2 1/2X2 1/2X3 |
|-----------|------|---------------|-------------------|---------------|---------------|
|           | mm   | 25X25X32      | 25X25X40          | 50X50X65      | 65X65X80      |
| Dim. (mm) | A    | 42            | 46                | 64            | 75            |
|           | B    | 40            | 42                | 59            | 72            |
|           | C    | 42            | 40                | 57            | 67            |
| Size      | Inch | 1 1/2X1 1/2X2 | 1 1/2X1 1/2X2 1/2 | 2 1/2X2 1/2X4 |               |
|           | mm   | 40X40X50      | 40X40X65          | 65X65X100     |               |
| Dim. (mm) | A    | 55            | 65                | 90            |               |
|           | B    | 52            | 55                | 78            |               |

130R

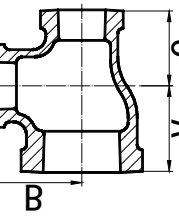
Reducing Tee



| Size      | Inch | 3/4X1/2X1 1/2 | 1X1/2X1 1/2 | 1X3/4X3/4         |
|-----------|------|---------------|-------------|-------------------|
|           | mm   | 20X15X15      | 25X15X15    | 25X20X20          |
| Dim. (mm) | A    | 30            | 32          | 35                |
|           | B    | 31            | 34          | 36                |
|           | C    | 28            | 28          | 33                |
| Size      | Inch | 1 1/2X3/4X3/4 | 1 1/2X1X1   | 1 1/2X1 1/4X1 1/4 |
|           | mm   | 40X20X20      | 40X25X25    | 40X32X32          |
| Dim. (mm) | A    | 38            | 42          | 46                |
|           | B    | 43            | 46          | 48                |
|           | C    | 32            | 38          | 45                |

130R

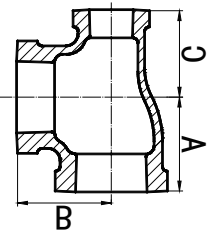
Reducing Tee



| Size      | Inch | 1 1/4X1/2X1 1/2 | 1 1/4X3/4X3/4 | 1 1/4X1X1 | 2X1X1    |
|-----------|------|-----------------|---------------|-----------|----------|
|           | mm   | 32X15X15        | 32X20X20      | 32X25X25  | 50X25X25 |
| Dim. (mm) | A    | 34              | 36            | 40        | 44       |
|           | B    | 38              | 41            | 42        | 51       |
|           | C    | 27              | 33            | 38        | 38       |
| Size      | Inch | 2X1 1/4X1 1/4   | 2X1 1/2X1 1/2 | 2 1/2X2X2 | 3X2X2    |
|           | mm   | 50X32X32        | 50X40X40      | 65X50X50  | 80X50X50 |
| Dim. (mm) | A    | 48              | 52            | 60.5      | 64       |
|           | B    | 54              | 55            | 66        | 73       |
|           | C    | 45              | 50            | 57        | 57       |

130R

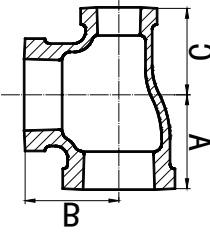
Reducing Tee



| Size      | Inch | 3/4X1/2X3/4     | 1X1/4X1  | 1X1/2X1         | 1 1/4X1X1 1/4   | 1 1/2X1X1 1/2 |
|-----------|------|-----------------|----------|-----------------|-----------------|---------------|
|           | mm   | 20X15X20        | 25X8X25  | 25X15X25        | 32X25X32        | 40X15X40      |
| Dim. (mm) | A    | 33              | 38       | 38              | 45              | 50            |
|           | B    | 33              | 38       | 38              | 45              | 50            |
|           | C    | 31              | 30       | 34              | 42              | 42            |
| Size      | Inch | 1 1/2X3/4X1 1/2 | 1X3/4X1  | 1 1/4X1/2X1 1/4 | 1 1/4X3/4X1 1/4 | 1 1/2X1X1 1/2 |
|           | mm   | 40X20X40        | 25X20X25 | 32X15X32        | 32X20X32        | 40X25X40      |
| Dim. (mm) | A    | 50              | 38       | 45              | 45              | 50            |
|           | B    | 50              | 38       | 45              | 45              | 50            |
|           | C    | 44              | 36       | 38              | 41              | 46            |

130R

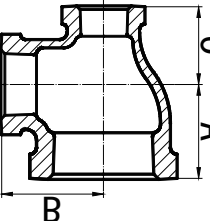
Reducing Tee



| Size      | Inch | 1 1/2X1 1/4X1 1/2 | 2X1/2X2   | 2X3/4X2           | 2X1X2         |
|-----------|------|-------------------|-----------|-------------------|---------------|
|           | mm   | 40X32X40          | 50X15X50  | 50X20X50          | 50X25X50      |
| Dim. (mm) | A    | 50                | 57        | 58                | 58            |
|           | B    | 50                | 57        | 58                | 58            |
|           | C    | 48                | 47.5      | 50                | 52            |
| Size      | Inch | 2X1 1/4X2         | 2X1 1/2X2 | 2 1/2X1 1/2X2 1/2 | 2 1/2X2X2 1/2 |
|           | mm   | 50X32X50          | 50X40X50  | 65X40X65          | 65X50X65      |
| Dim. (mm) | A    | 58                | 58        | 68.5              | 67            |
|           | B    | 58                | 58        | 68.5              | 67            |
|           | C    | 54                | 55        | 63.5              | 65            |

130R

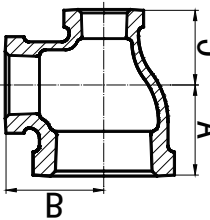
Reducing Tee



| Size      | Inch | 4X3X2         | 3/4X1/2X1   | 1X1/2X3/4     | 1 1/4X3/4X1     |
|-----------|------|---------------|-------------|---------------|-----------------|
|           | mm   | 100X80X50     | 20X15X25    | 25X15X20      | 32X20X25        |
| Dim. (mm) | A    | 67            | 38          | 35            | 40              |
|           | B    | 83.5          | 34          | 36            | 42              |
|           | C    | 60            | 33          | 31            | 36              |
| Size      | Inch | 1 1/4X1X1 1/2 | 1 1/4X1X3/4 | 1 1/4X1/2X3/4 | 1 1/4X1/2X1 1/4 |
|           | mm   | 32X25X15      | 32X25X20    | 32X15X20      | 32X15X25        |
| Dim. (mm) | A    | 34            | 36          | 35            | 39              |
|           | B    | 38            | 41          | 38            | 41.5            |
|           | C    | 32            | 35          | 29            | 34              |

130R

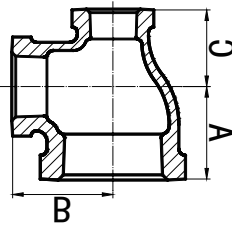
Reducing Tee



| Size      | Inch | 1 1/4X3/4X1 1/2 | 1 1/2X1/2X1     | 1 1/2X3/4X1       | 1 1/2X3/4X1 1/4 |
|-----------|------|-----------------|-----------------|-------------------|-----------------|
|           | mm   | 32X20X15        | 40X15X25        | 40X20X25          | 40X20X32        |
| Dim. (mm) | A    | 40              | 44              | 44                | 46              |
|           | B    | 42.5            | 46              | 46                | 48              |
|           | C    | 37              | 34              | 35                | 41              |
| Size      | Inch | 1 1/2X1X1 1/2   | 1 1/2X3/4X1 1/4 | 1 1/2X1 1/4X1 1/2 | 2X1X1 1/2       |
|           | mm   | 40X25X15        | 40X32X32        | 40X32X15          | 50X25X40        |
| Dim. (mm) | A    | 37              | 45              | 36                | 51              |
|           | B    | 41              | 47              | 42                | 55              |
|           | C    | 32              | 41.5            | 34                | 45.5            |

130R

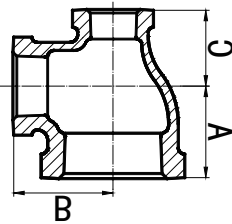
Reducing Tee



| Size      | Inch | 2X11/4X1    | 2X11/4X11/2 | 11/2X11/4X3/4 | 11/2X11/4X1 |
|-----------|------|-------------|-------------|---------------|-------------|
|           | mm   | 50X32X25    | 50X32X40    | 40X32X20      | 40X32X25    |
| Dim. (mm) | A    | 40          | 52          | 38            | 42          |
|           | B    | 51          | 55          | 44            | 46          |
|           | C    | 44          | 48          | 36            | 40          |
| Size      | Inch | 11/2X11/4X2 | 2X11/2X1/2  | 2X11/2X3/4    | 2X11/2X1    |
|           | mm   | 40X32X50    | 50X40X15    | 50X40X20      | 50X40X25    |
| Dim. (mm) | A    | 55          | 38          | 40            | 44          |
|           | B    | 51.5        | 48          | 50            | 52          |
|           | C    | 53.5        | 36          | 39            | 42          |

130R

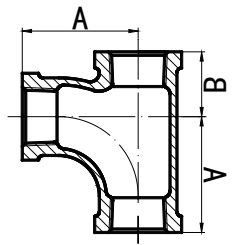
Reducing Tee



| Size      | Inch | 2X11/2X11/4 | 21/2X2X1/2 | 21/2X2X1 |
|-----------|------|-------------|------------|----------|
|           | mm   | 50X40X32    | 65X50X15   | 65X50X25 |
| Dim. (mm) | A    | 48          | 57         | 53       |
|           | B    | 54          | 64         | 60       |
|           | C    | 46          | 52         | 53       |
| Size      | Inch | 21/2X2X11/4 | 3X21/2X2   |          |
|           | mm   | 65X50X32    | 80X65X50   |          |
| Dim. (mm) | A    | 57          | 67         |          |
|           | B    | 64          | 74.5       |          |
|           | C    | 52          | 64         |          |

131

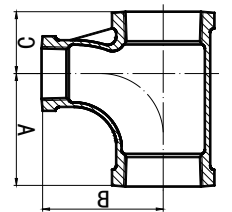
Pitcher Tee



| Size      | Inch | 1/2 | 3/4 | 1  | 11/4 | 11/2 | 2   |
|-----------|------|-----|-----|----|------|------|-----|
|           | mm   | 15  | 20  | 25 | 32   | 40   | 50  |
| Dim. (mm) | A    | 45  | 50  | 63 | 76   | 85   | 102 |
|           | B    | 24  | 28  | 33 | 40   | 43   | 53  |
| Size      | Inch |     |     |    |      |      |     |
|           | mm   |     |     |    |      |      |     |
| Dim. (mm) | A    |     |     |    |      |      |     |
|           | B    |     |     |    |      |      |     |

131R

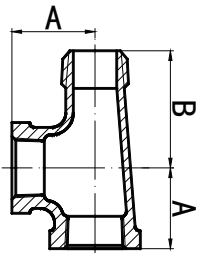
Reducing Pitcher Tee



| Size      | Inch | 3/4X1/2  | 1X1/2    | 1X3/4    | 1X3/4X3/4 |
|-----------|------|----------|----------|----------|-----------|
|           | mm   | 20X15    | 25X15    | 25X20    | 25X20X20  |
| Dim. (mm) | A    | 47       | 49       | 53       | 53        |
|           | B    | 48       | 51       | 54       | 54        |
|           | C    | 25       | 28       | 30       | 28        |
| Size      | Inch | 11/4X1/2 | 11/4X3/4 | 11/2X3/4 | 11/2X1    |
|           | mm   | 32X15    | 32X20    | 40X20    | 40X25     |
| Dim. (mm) | A    | 51       | 55       | 55       | 66        |
|           | B    | 56       | 58       | 61       | 71        |
|           | C    | 30       | 33       | 33       | 36        |

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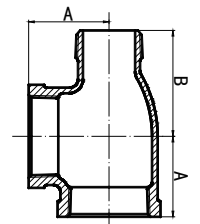
Service Tee



| Size      | Inch | 1/2  | 3/4  | 1    | 11/4 | 11/2 | 2  |
|-----------|------|------|------|------|------|------|----|
|           | mm   | 15   | 20   | 25   | 32   | 40   | 50 |
| Dim. (mm) | A    | 28.5 | 33.5 | 38   | 44.5 | 49.5 | 57 |
|           | B    | 41.5 | 48   | 54.5 | 62   | 68.5 | 83 |
| Size      | Inch |      |      |      |      |      |    |
|           | mm   |      |      |      |      |      |    |
| Dim. (mm) | A    |      |      |      |      |      |    |
|           | B    |      |      |      |      |      |    |

134R

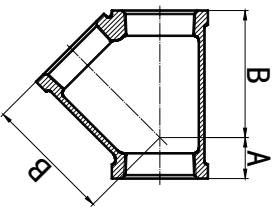
Reducing Service Tee



| Size      | Inch | 2X11/4 | 21/2X2 | 3X21/2 |  |  |  |
|-----------|------|--------|--------|--------|--|--|--|
|           | mm   | 50X40  | 65X50  | 80X65  |  |  |  |
| Dim. (mm) | A    | 57     | 69     | 78     |  |  |  |
|           | B    | 75     | 88     | 106    |  |  |  |
| Size      | Inch |        |        |        |  |  |  |
|           | mm   |        |        |        |  |  |  |
| Dim. (mm) | A    |        |        |        |  |  |  |
|           | B    |        |        |        |  |  |  |

165

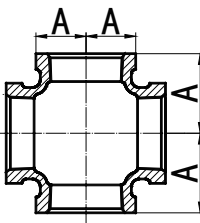
Lateral Y Branche, 45°



| Size      | Inch | 1/2  | 3/4  | 1    | 11/4 | 11/2 | 2    |
|-----------|------|------|------|------|------|------|------|
|           | mm   | 15   | 20   | 25   | 32   | 40   | 50   |
| Dim. (mm) | A    | 15.5 | 18.3 | 21.6 | 26   | 27.9 | 31.5 |
|           | B    | 43.4 | 52   | 61.7 | 74.2 | 83.3 | 99.8 |
| Size      | Inch | 21/2 | 3    | 4    |      |      |      |
|           | mm   | 65   | 80   | 100  |      |      |      |
| Dim. (mm) | A    | 38.6 | 43.4 | 51   |      |      |      |
|           | B    | 120  | 141  | 177  |      |      |      |

180

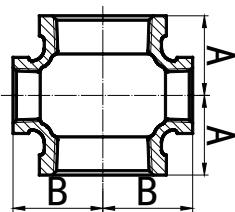
Cross



| Size      | Inch | 1/8  | 1/4  | 3/8 | 1/2  | 3/4 | 1   |
|-----------|------|------|------|-----|------|-----|-----|
|           | mm   | 6    | 8    | 10  | 15   | 20  | 25  |
| Dim. (mm) | A    | 19   | 21   | 25  | 28   | 33  | 38  |
|           | B    |      |      |     |      |     |     |
|           | C    |      |      |     |      |     |     |
| Size      | Inch | 11/4 | 11/2 | 2   | 21/2 | 3   | 4   |
|           | mm   | 32   | 40   | 50  | 65   | 80  | 100 |
| Dim. (mm) | A    | 45   | 50   | 58  | 69   | 78  | 96  |
|           | B    |      |      |     |      |     |     |

180R

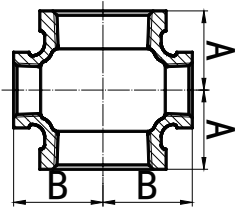
Reducing Cross



|           |      |             |           |         |             |         |
|-----------|------|-------------|-----------|---------|-------------|---------|
| Size      | Inch | 4X1         | 4X1 1/4   | 4X1 1/2 | 4X2         | 4X2 1/2 |
|           | mm   | 100X25      | 100X32    | 100X40  | 100X50      | 100X65  |
| Dim. (mm) | A    | 56          | 60        | 61      | 70          | 84      |
|           | B    | 81          | 84        | 84      | 86          | 92      |
| Size      | Inch | 1 1/2X1 1/2 | 1 1/2X3/4 | 1 1/2X1 | 1 1/2X1 1/4 | 2X3/4   |
|           | mm   | 40X15       | 40X20     | 40X25   | 40X32       | 50X20   |
| Dim. (mm) | A    | 36          | 38        | 42      | 46          | 40      |
|           | B    | 42          | 44        | 46      | 48          | 50      |

180R

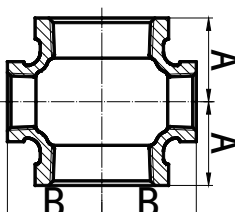
Reducing Cross



|           |      |        |           |         |           |           |
|-----------|------|--------|-----------|---------|-----------|-----------|
| Size      | Inch | 4X3    | 3/4X1 1/2 | 1X1/2   | 1X3/4     | 1 1/4X1/2 |
|           | mm   | 100X80 | 20X15     | 25X15   | 25X20     | 32X15     |
| Dim. (mm) | A    | 82     | 30        | 32      | 35        | 34        |
|           | B    | 90     | 31        | 34      | 36        | 38        |
| Size      | Inch | 2X1    | 2X1 1/4   | 2X1 1/2 | 2 1/2X3/4 | 2 1/2X1   |
|           | mm   | 50X25  | 50X32     | 50X40   | 65X20     | 65X25     |
| Dim. (mm) | A    | 44     | 48        | 52      | 43        | 47        |
|           | B    | 52     | 54        | 55      | 57        | 60        |

180R

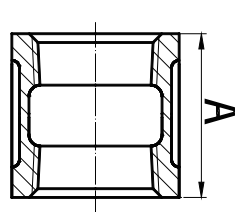
Reducing Cross



|           |      |             |         |         |       |         |             |
|-----------|------|-------------|---------|---------|-------|---------|-------------|
| Size      | Inch | 1 1/4X3/4   | 1 1/4X1 | 2 1/2X2 | 3X3/4 | 3X1     | 2 1/2X1 1/4 |
|           | mm   | 32X20       | 32X25   | 65X50   | 80X20 | 80X25   | 65X32       |
| Dim. (mm) | A    | 36          | 40      | 61      | 45    | 51      | 52          |
|           | B    | 41          | 42      | 66      | 65    | 67      | 62          |
| Size      | Inch | 2 1/2X1 1/2 | 3X1 1/4 | 3X1 1/2 | 3X2   | 3X2 1/2 |             |
|           | mm   | 65X40       | 80X32   | 80X40   | 80X50 | 80X65   |             |
| Dim. (mm) | A    | 55          | 55      | 58      | 64    | 72      |             |
|           | B    | 63          | 70      | 71      | 73    | 76      |             |

220

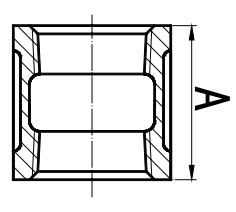
Socket



|           |      |       |     |       |     |     |     |       |
|-----------|------|-------|-----|-------|-----|-----|-----|-------|
| Size      | Inch | 1/8   | 1/4 | 3/8   | 1/2 | 3/4 | 1   | 1 1/4 |
|           | mm   | 6     | 8   | 10    | 15  | 20  | 25  | 32    |
| Dim. (mm) | A    | 25    | 27  | 30    | 36  | 39  | 45  | 50    |
|           |      |       |     |       |     |     |     |       |
| Size      | Inch | 1 1/2 | 2   | 2 1/2 | 3   | 4   | 5   | 6     |
|           | mm   | 40    | 50  | 65    | 80  | 100 | 125 | 150   |
| Dim. (mm) | A    | 55    | 65  | 74    | 80  | 94  | 95  | 105   |
|           |      |       |     |       |     |     |     |       |

220S

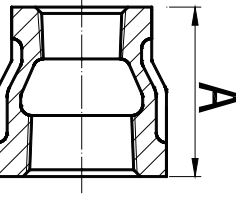
Socket R/L



|           |      |     |     |    |       |       |    |
|-----------|------|-----|-----|----|-------|-------|----|
| Size      | Inch | 1/2 | 3/4 | 1  | 1 1/4 | 1 1/2 | 2  |
|           | mm   | 15  | 20  | 25 | 32    | 40    | 50 |
| Dim. (mm) | A    | 36  | 39  | 45 | 50    | 55    | 65 |
|           |      |     |     |    |       |       |    |
| Size      | Inch |     |     |    |       |       |    |
|           | mm   |     |     |    |       |       |    |
| Dim. (mm) | A    |     |     |    |       |       |    |
|           |      |     |     |    |       |       |    |

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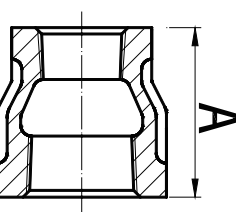
Reducing Socket



|           |      |           |           |           |         |         |
|-----------|------|-----------|-----------|-----------|---------|---------|
| Size      | Inch | 4X1       | 4X1 1/4   | 4X1 1/2   | 4X2     | 4X2 1/2 |
|           | mm   | 100X25    | 100X32    | 100X40    | 100X50  | 100X65  |
| Dim. (mm) | A    | 94        | 94        | 94        | 94      | 94      |
|           |      |           |           |           |         |         |
| Size      | Inch | 1 1/2X1/8 | 1 1/2X1/4 | 1 1/2X3/8 | 3/4X1/8 | 3/4X1/4 |
|           | mm   | 15X6      | 15X8      | 15X10     | 20X6    | 20X8    |
| Dim. (mm) | A    | 36        | 36        | 36        | 39      | 39      |
|           |      |           |           |           |         |         |

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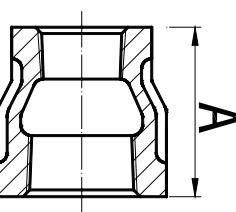
Reducing Socket



|           |      |         |         |         |         |         |
|-----------|------|---------|---------|---------|---------|---------|
| Size      | Inch | 4X3     | 3/8X1/8 | 3/8X1/4 | 5X4     | 6X4     |
|           | mm   | 100X80  | 10X6    | 10X8    | 125X100 | 150X100 |
| Dim. (mm) | A    | 94      | 30      | 30      | 122     | 105     |
|           |      |         |         |         |         |         |
| Size      | Inch | 3/4X3/8 | 3/4X1/2 | 1X1/4   | 1X3/8   | 1X1/2   |
|           | mm   | 20X10   | 20X15   | 25X8    | 25X10   | 25X15   |
| Dim. (mm) | A    | 39      | 39      | 45      | 45      | 45      |
|           |      |         |         |         |         |         |

240

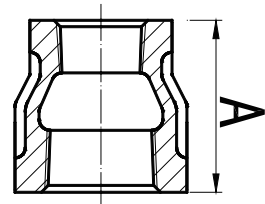
Reducing Socket



|           |      |        |           |           |           |           |
|-----------|------|--------|-----------|-----------|-----------|-----------|
| Size      | Inch | 6X2    | 6X3       | 1 1/4X3/8 | 1 1/4X1/2 | 1 1/4X3/4 |
|           | mm   | 150X50 | 150X80    | 32X10     | 32X15     | 32X20     |
| Dim. (mm) | A    | 105    | 105       | 50        | 50        | 50        |
|           |      |        |           |           |           |           |
| Size      | Inch | 1X3/4  | 1 1/4X1/4 | 2X1       | 2X1 1/4   | 2X1 1/2   |
|           | mm   | 25X20  | 32X8      | 50X25     | 50X32     | 50X40     |
| Dim. (mm) | A    | 45     | 50        | 65        | 65        | 74        |
|           |      |        |           |           |           |           |

240

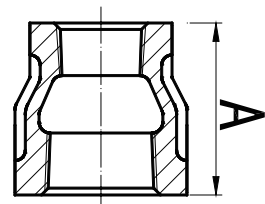
Reducing Socket



| Size      | Inch | 6X2      | 6X3    | 11/4X3/8 | 11/4X1/2 | 11/4X3/4 | 1X3/4    |
|-----------|------|----------|--------|----------|----------|----------|----------|
|           | mm   | 150X50   | 150X80 | 32X10    | 32X15    | 32X20    | 25X20    |
| Dim. (mm) | A    | 105      | 105    | 50       | 50       | 50       | 45       |
| Size      | Inch | 11/4X1/4 | 2X1    | 2X11/4   | 2X11/2   | 11/4X1   | 11/2X1/4 |
|           | mm   | 32X8     | 50X25  | 50X32    | 50X40    | 32X25    | 40X8     |
| Dim. (mm) | A    | 50       | 65     | 65       | 74       | 50       | 55       |

240

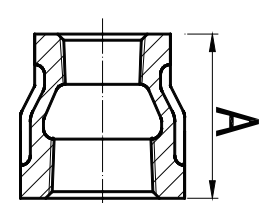
Reducing Socket



| Size      | Inch | 11/2X3/8  | 11/2X1/2  | 11/2X3/4 | 21/2X1/2  | 21/2X3/4 | 21/2X1 |
|-----------|------|-----------|-----------|----------|-----------|----------|--------|
|           | mm   | 40X10     | 40X15     | 40X20    | 65X15     | 65X20    | 65X25  |
| Dim. (mm) | A    | 55        | 55        | 55       | 74        | 74       | 74     |
| Size      | Inch | 21/2X11/4 | 21/2X11/2 | 11/2X1   | 11/2X11/4 | 2X1/2    | 2X3/4  |
|           | mm   | 65X32     | 65X40     | 40X25    | 40X32     | 50X15    | 50X20  |
| Dim. (mm) | A    | 74        | 74        | 55       | 55        | 65       | 65     |

240

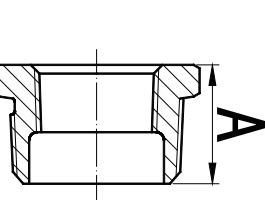
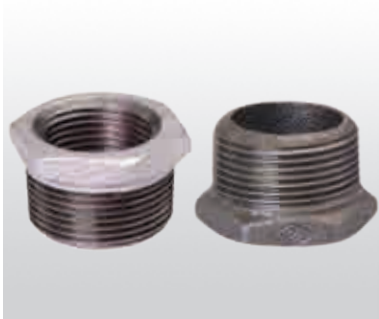
Reducing Socket



| Size      | Inch | 3X11/4 | 21/2X2 | 3X1/2    | 3X3/4 | 3X1   | 3X11/2 |
|-----------|------|--------|--------|----------|-------|-------|--------|
|           | mm   | 80X32  | 65X50  | 80X15    | 80X20 | 80X25 | 80X40  |
| Dim. (mm) | A    | 80     | 74     | 80       | 80    | 80    | 80     |
| Size      | Inch | 3X2    | 3X21/2 | 11/4X1/8 |       |       |        |
|           | mm   | 80X50  | 80X65  | 8X6      |       |       |        |
| Dim. (mm) | A    | 80     | 80     | 27       |       |       |        |

241

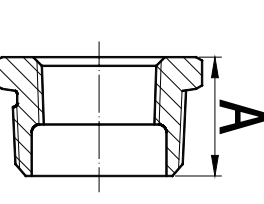
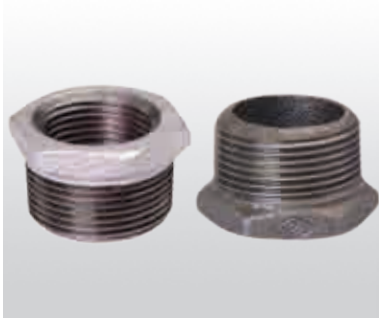
Bushing



| Size      | Inch | 4X3/4   | 4X1     | 4X11/4  | 4X11/2  | 4X3     |
|-----------|------|---------|---------|---------|---------|---------|
|           | mm   | 100X20  | 100X25  | 100X32  | 100X40  | 100X80  |
| Dim. (mm) | A    | 51      | 51      | 51      | 51      | 51      |
| Size      | Inch | 1/2X3/8 | 3/4X1/8 | 3/4X1/4 | 3/4X3/8 | 3/4X1/2 |
|           | mm   | 15X10   | 20X6    | 20X8    | 20X10   | 20X15   |
| Dim. (mm) | A    | 24      | 26      | 26      | 26      | 26      |

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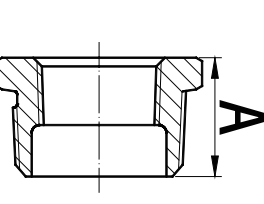
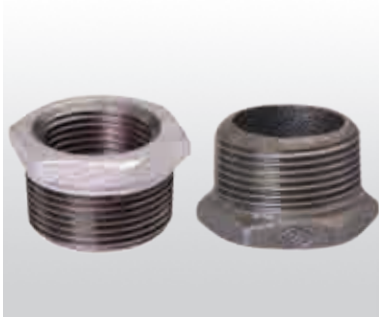
Bushing



| Size      | Inch | 3/8X1/8 | 3/8X1/4 | 5X4     | 6X5     | 6X21/2   |
|-----------|------|---------|---------|---------|---------|----------|
|           | mm   | 10X6    | 10X8    | 125X100 | 150X125 | 150X65   |
| Dim. (mm) | A    | 20      | 20      | 47      | 69      | 69       |
| Size      | Inch | 1X1/4   | 1X3/8   | 1X1/2   | 1X3/4   | 11/4X3/8 |
|           | mm   | 25X8    | 25X10   | 25X15   | 25X20   | 32X10    |
| Dim. (mm) | A    | 29      | 29      | 29      | 29      | 31       |

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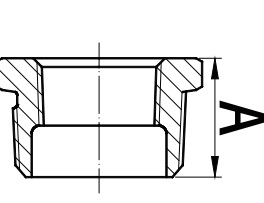
Bushing



| Size      | Inch | 1/2X1/8  | 1/2X1/4  | 11/4X1    | 11/2X1/4 | 11/2X3/8 |
|-----------|------|----------|----------|-----------|----------|----------|
|           | mm   | 15X6     | 15X8     | 32X25     | 40X8     | 40X10    |
| Dim. (mm) | A    | 24       | 24       | 31        | 31       | 31       |
| Size      | Inch | 11/4X1/2 | 11/4X3/4 | 21/2X11/2 | 21/2X2   | 3X2      |
|           | mm   | 32X15    | 32X20    | 65X40     | 65X50    | 80X50    |
| Dim. (mm) | A    | 31       | 31       | 40        | 40       | 44       |

241

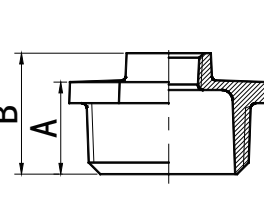
Bushing



| Size      | Inch | 11/2X1/2 | 11/2X3/4 | 11/2X1 | 11/2X11/4 | 2X1      | 3X21/2 |
|-----------|------|----------|----------|--------|-----------|----------|--------|
|           | mm   | 40X15    | 40X20    | 40X25  | 40X32     | 50X25    | 80X65  |
| Dim. (mm) | A    | 31       | 31       | 31     | 31        | 35       | 44     |
| Size      | Inch | 1/4X1/8  | 2X11/4   | 2X11/2 | 21/2X1/2  | 21/2X3/4 |        |
|           | mm   | 8X6      | 50X32    | 50X40  | 65X15     | 65X20    |        |
| Dim. (mm) | A    | 20       | 35       | 35     | 40        | 40       |        |

241D

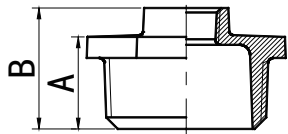
Bushing



| Size      | Inch | 2X1/2   | 2X3/4 | 21/2X1 | 21/2X11/4 | 3X1/2  |
|-----------|------|---------|-------|--------|-----------|--------|
|           | mm   | 50X15   | 50X20 | 65X25  | 65X32     | 80X15  |
| Dim. (mm) | A    | 35      | 35    | 40     | 40        | 44     |
|           | B    | 48      | 48    | 54     | 54        | 59     |
| Size      | Inch | 6X4     | 3X3/4 | 3X1    | 3X11/4    | 3X11/2 |
|           | mm   | 150X100 | 80X20 | 80X25  | 80X32     | 80X40  |
| Dim. (mm) | A    | 63      | 44    | 44     | 44        | 44     |
|           | B    | 86      | 59    | 59     | 59        | 59     |

241D

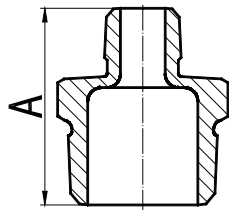
Bushing



| Size      | Inch | 4X2    | 4X2 1/2 | 6X3    |  |  |
|-----------|------|--------|---------|--------|--|--|
|           | mm   | 100X50 | 100X65  | 150X80 |  |  |
| Dim. (mm) | A    | 51     | 51      | 63     |  |  |
|           | B    | 69     | 69      | 86     |  |  |
| Size      | Inch |        |         |        |  |  |
|           | mm   |        |         |        |  |  |
| Dim. (mm) | A    |        |         |        |  |  |
|           | B    |        |         |        |  |  |

245

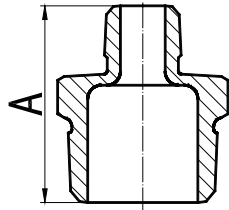
Reducing Hexagon Nipple



| Size      | Inch | 4X2       | 4X2 1/2 | 4X3       | 3/8X1/4   | 1/2X1/4 |
|-----------|------|-----------|---------|-----------|-----------|---------|
|           | mm   | 100X50    | 100X65  | 100X80    | 10X8      | 15X8    |
| Dim. (mm) | A    | 87        | 87      | 87        | 38        | 44      |
|           | B    |           |         |           |           |         |
| Size      | Inch | 1 1/4X3/4 | 1 1/4X1 | 1 1/2X1/2 | 1 1/2X3/4 | 1 1/2X1 |
|           | mm   | 32X20     | 32X25   | 40X15     | 40X20     | 40X25   |
| Dim. (mm) | A    | 57        | 57      | 59        | 59        | 59      |
|           | B    |           |         |           |           |         |

245

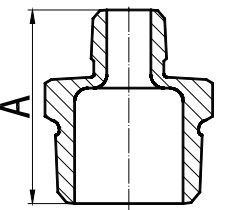
Reducing Hexagon Nipple



| Size      | Inch | 1/2X3/8     | 3/4X1/4 | 3/4X3/8 | 3/4X1/2 | 1X1/2   |
|-----------|------|-------------|---------|---------|---------|---------|
|           | mm   | 15X10       | 20X8    | 20X10   | 20X15   | 25X15   |
| Dim. (mm) | A    | 44          | 47      | 47      | 47      | 53      |
|           | B    |             |         |         |         |         |
| Size      | Inch | 1 1/2X1 1/4 | 2X1/2   | 2X3/4   | 2X1     | 2X1 1/4 |
|           | mm   | 40X32       | 50X15   | 50X20   | 50X25   | 50X32   |
| Dim. (mm) | A    | 59          | 68      | 68      | 68      | 68      |
|           | B    |             |         |         |         |         |

245

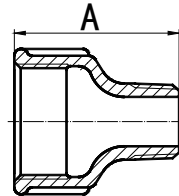
Reducing Hexagon Nipple



| Size      | Inch | 1X3/4     | 1 1/4X1/2 | 2 1/2X1 1/4 | 2 1/2X1 1/2 | 2 1/2X2 | 2X1 1/2 |
|-----------|------|-----------|-----------|-------------|-------------|---------|---------|
|           | mm   | 25X20     | 32X15     | 65X32       | 65X40       | 65X50   | 50X40   |
| Dim. (mm) | A    | 53        | 57        | 75          | 75          | 75      | 68      |
|           | B    |           |           |             |             |         |         |
| Size      | Inch | 1 1/4X1/8 | 2 1/2X1   | 3X1 1/2     | 3X2         | 3X2 1/2 |         |
|           | mm   | 8X6       | 65X25     | 80X40       | 80X50       | 80X65   |         |
| Dim. (mm) | A    | 31        | 75        | 83          | 83          | 83      |         |
|           | B    |           |           |             |             |         |         |

246

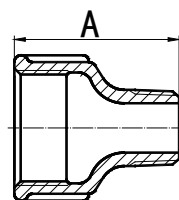
Reducing Socket M/F



| Size      | Inch | 3/8X1/4     | 1/2X1/4 | 1/2X3/8 | 3/4X3/8 | 3/4X1/2 |
|-----------|------|-------------|---------|---------|---------|---------|
|           | mm   | 10X8        | 15X8    | 15X10   | 20X10   | 20X15   |
| Dim. (mm) | A    | 35          | 43      | 43      | 48      | 48      |
|           | B    |             |         |         |         |         |
| Size      | Inch | 1 1/2X1 1/4 | 2X1     | 2X1 1/4 | 2X1 1/2 | 1X1/2   |
|           | mm   | 40X32       | 50X25   | 50X32   | 50X40   | 25X15   |
| Dim. (mm) | A    | 63          | 70      | 70      | 70      | 55      |
|           | B    |             |         |         |         |         |

246

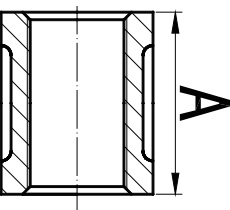
Reducing Socket M/F



| Size      | Inch | 1X3/4   | 1 1/4X1/2 | 1 1/4X3/4 | 1 1/4X1 | 1 1/2X3/4 |
|-----------|------|---------|-----------|-----------|---------|-----------|
|           | mm   | 25X20   | 32X15     | 32X20     | 32X25   | 40X20     |
| Dim. (mm) | A    | 55      | 60        | 60        | 60      | 63        |
|           | B    |         |           |           |         |           |
| Size      | Inch | 1 1/2X1 |           |           |         |           |
|           | mm   | 40X25   |           |           |         |           |
| Dim. (mm) | A    | 63      |           |           |         |           |
|           | B    |         |           |           |         |           |

270

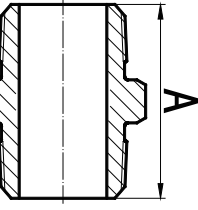
Parallel Thread Socket



| Size      | Inch | 1/8 | 1/4   | 3/8 | 1/2   | 3/4 | 1   | 1 1/4 |
|-----------|------|-----|-------|-----|-------|-----|-----|-------|
|           | mm   | 6   | 8     | 10  | 15    | 20  | 25  | 32    |
| Dim. (mm) | A    | 25  | 27    | 30  | 36    | 39  | 45  | 50    |
|           | B    |     |       |     |       |     |     |       |
| Size      | Inch | 6   | 1 1/2 | 2   | 2 1/2 | 3   | 4   |       |
|           | mm   | 150 | 40    | 50  | 65    | 80  | 100 |       |
| Dim. (mm) | A    | 120 | 55    | 65  | 74    | 80  | 94  |       |
|           | B    |     |       |     |       |     |     |       |

280

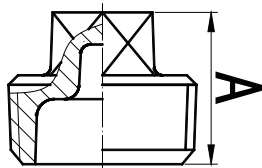
Hexagon Nipple



| Size      | Inch | 1/8 | 1/4 | 3/8   | 1/2 | 3/4   | 1  | 1 1/4 |
|-----------|------|-----|-----|-------|-----|-------|----|-------|
|           | mm   | 6   | 8   | 10    | 15  | 20    | 25 | 32    |
| Dim. (mm) | A    | 29  | 36  | 38    | 44  | 47    | 53 | 57    |
|           | B    |     |     |       |     |       |    |       |
| Size      | Inch | 5   | 6   | 1 1/2 | 2   | 2 1/2 | 3  | 4     |
|           | mm   | 125 | 150 | 40    | 50  | 65    | 80 | 100   |
| Dim. (mm) | A    | 103 | 110 | 59    | 68  | 75    | 83 | 95    |
|           | B    |     |     |       |     |       |    |       |

291

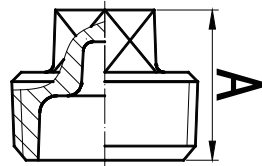
Plain Plug



|           |       |       |     |       |     |     |      |       |
|-----------|-------|-------|-----|-------|-----|-----|------|-------|
| Size      | Inch  | 1/8   | 1/4 | 3/8   | 1/2 | 3/4 | 1    | 1 1/4 |
|           | mm    | 6     | 8   | 10    | 15  | 20  | 25   | 32    |
| Dim. (mm) | A Min | 11    | 14  | 15    | 18  | 20  | 23   | 29    |
|           |       |       |     |       |     |     |      |       |
| Size      | Inch  | 1 1/2 | 2   | 2 1/2 | 3   | 4   | 6    |       |
|           | mm    | 40    | 50  | 65    | 80  | 100 | 150  |       |
| Dim. (mm) | A Min | 30    | 36  | 39    | 44  | 58  | 71.5 |       |
|           |       |       |     |       |     |     |      |       |

291LM

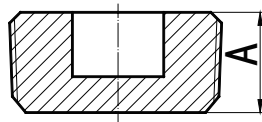
Plain Plug



|           |      |       |      |      |       |       |      |
|-----------|------|-------|------|------|-------|-------|------|
| Size      | Inch | 1/2   | 3/4  | 1    | 1 1/4 | 1 1/2 | 2    |
|           | mm   | 15    | 20   | 25   | 32    | 40    | 50   |
| Dim. (mm) | A    | 25    | 28.5 | 32.5 | 35.1  | 37.6  | 40.1 |
|           |      |       |      |      |       |       |      |
| Size      | Inch | 2 1/2 | 3    | 4    |       |       |      |
|           | mm   | 65    | 80   | 100  |       |       |      |
| Dim. (mm) | A    | 46    | 50   | 64.5 |       |       |      |
|           |      |       |      |      |       |       |      |

291N

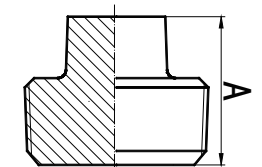
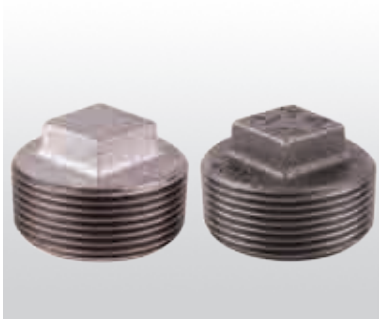
Countersunk Plug



|           |       |       |      |    |       |       |      |
|-----------|-------|-------|------|----|-------|-------|------|
| Size      | Inch  | 1/2   | 3/4  | 1  | 1 1/4 | 1 1/2 | 2    |
|           | mm    | 15    | 20   | 25 | 32    | 40    | 50   |
| Dim. (mm) | A Min | 14.2  | 16   | 19 | 20.3  | 21.1  | 22.4 |
|           |       |       |      |    |       |       |      |
| Size      | Inch  | 2 1/2 | 3    |    |       |       |      |
|           | mm    | 65    | 80   |    |       |       |      |
| Dim. (mm) | A Min | 27.2  | 38.7 |    |       |       |      |
|           |       |       |      |    |       |       |      |

291S

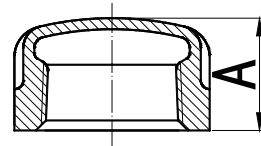
Solid Plug



|           |       |       |     |       |     |    |       |
|-----------|-------|-------|-----|-------|-----|----|-------|
| Size      | Inch  | 1/4   | 3/8 | 1/2   | 3/4 | 1  | 1 1/4 |
|           | mm    | 8     | 10  | 15    | 20  | 25 | 32    |
| Dim. (mm) | A Min | 14    | 15  | 18    | 20  | 23 | 29    |
|           |       |       |     |       |     |    |       |
| Size      | Inch  | 1 1/2 | 2   | 2 1/2 | 3   |    |       |
|           | mm    | 40    | 50  | 65    | 80  |    |       |
| Dim. (mm) | A Min | 30    | 36  | 39    | 44  |    |       |
|           |       |       |     |       |     |    |       |

300

Cap



|           |       |       |     |       |     |     |     |       |
|-----------|-------|-------|-----|-------|-----|-----|-----|-------|
| Size      | Inch  | 1/8   | 1/4 | 3/8   | 1/2 | 3/4 | 1   | 1 1/4 |
|           | mm    | 6     | 8   | 10    | 15  | 20  | 25  | 32    |
| Dim. (mm) | A Min | 13    | 15  | 17    | 19  | 22  | 24  | 27    |
|           |       |       |     |       |     |     |     |       |
| Size      | Inch  | 1 1/2 | 2   | 2 1/2 | 3   | 4   | 5   | 6     |
|           | mm    | 40    | 50  | 65    | 80  | 100 | 125 | 150   |
| Dim. (mm) | A Min | 27    | 32  | 35    | 38  | 45  | 54  | 61    |
|           |       |       |     |       |     |     |     |       |

310

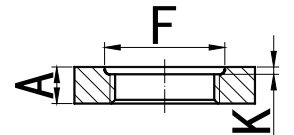
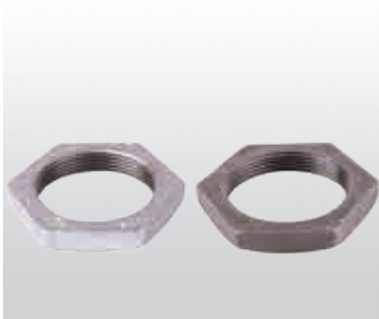
Locknut



|           |      |       |     |       |     |     |       |
|-----------|------|-------|-----|-------|-----|-----|-------|
| Size      | Inch | 1/4   | 3/8 | 1/2   | 3/4 | 1   | 1 1/4 |
|           | mm   | 8     | 10  | 15    | 20  | 25  | 32    |
| Dim. (mm) | A    | 6     | 7   | 8     | 9   | 10  | 11    |
|           |      |       |     |       |     |     |       |
| Size      | Inch | 1 1/2 | 2   | 2 1/2 | 3   | 4   |       |
|           | mm   | 40    | 50  | 65    | 80  | 100 |       |
| Dim. (mm) | A    | 12    | 13  | 16    | 19  | 23  |       |
|           |      |       |     |       |     |     |       |

312

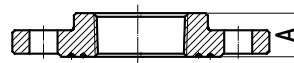
Backnut



|           |       |      |      |      |       |       |      |      |
|-----------|-------|------|------|------|-------|-------|------|------|
| Size      | Inch  | 1/2  | 3/4  | 1    | 1 1/4 | 1 1/2 | 2    | 4    |
|           | mm    | 15   | 20   | 25   | 32    | 40    | 50   | 100  |
| Dim. (mm) | A Min | 7.9  | 8.6  | 9.7  | 10.7  | 11.9  | 13.5 | 20.3 |
|           | F Min | 24.6 | 31.2 | 38.1 | 47.2  | 53.9  | 66.8 | 127  |
|           | K     | 1.5  | 1.5  | 1.5  | 1.5   | 1.5   | 2.3  | 3.3  |
|           |       |      |      |      |       |       |      |      |

321-4

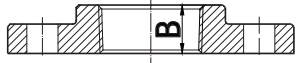
Flange Bs4504



|           |      |       |       |    |       |    |     |
|-----------|------|-------|-------|----|-------|----|-----|
| Size      | Inch | 1 1/4 | 1 1/2 | 2  | 2 1/2 | 3  | 4   |
|           | mm   | 32    | 40    | 50 | 65    | 80 | 100 |
| Dim. (mm) | A    | 23    | 23    | 28 | 35    | 38 | 38  |
|           |      |       |       |    |       |    |     |
| Size      | Inch | 6     |       |    |       |    |     |
|           | mm   | 150   |       |    |       |    |     |
| Dim. (mm) | A    | 46    |       |    |       |    |     |
|           |      |       |       |    |       |    |     |

321-6

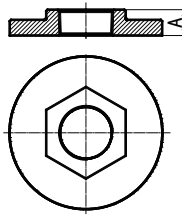
Flange 1600/4



| Size      | Inch | 11/4 | 11/2 | 2  | 2 1/2 | 3  | 4   |
|-----------|------|------|------|----|-------|----|-----|
|           | mm   | 32   | 40   | 50 | 65    | 80 | 100 |
| Dim. (mm) | B    | 20   | 20   | 22 | 26    | 28 | 34  |
| Size      | Inch | 6    |      |    |       |    |     |
|           | mm   | 150  |      |    |       |    |     |
| Dim. (mm) | B    | 40   |      |    |       |    |     |

321-H

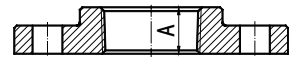
Flange



| Size      | Inch | 1/2   | 3/4 | 1   | 1 1/4 | 1 1/2 | 2  |
|-----------|------|-------|-----|-----|-------|-------|----|
|           | mm   | 15    | 20  | 25  | 32    | 40    | 50 |
| Dim. (mm) | A    | 15    | 16  | 19  | 21    | 21    | 26 |
| Size      | Inch | 2 1/2 | 3   | 4   |       |       |    |
|           | mm   | 65    | 80  | 100 |       |       |    |
| Dim. (mm) | A    | 30    | 33  | 39  |       |       |    |

321P

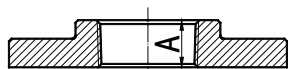
Flange



| Size      | Inch | 1/2   | 3/4 | 1   | 1 1/4 | 1 1/2 | 2  |
|-----------|------|-------|-----|-----|-------|-------|----|
|           | mm   | 15    | 20  | 25  | 32    | 40    | 50 |
| Dim. (mm) | A    | 15    | 16  | 19  | 21    | 21    | 26 |
| Size      | Inch | 2 1/2 | 3   | 4   | 5     | 6     |    |
|           | mm   | 65    | 80  | 100 | 125   | 150   |    |
| Dim. (mm) | A    | 30    | 33  | 39  | 40    | 40    |    |

321PW

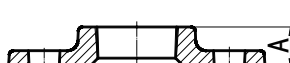
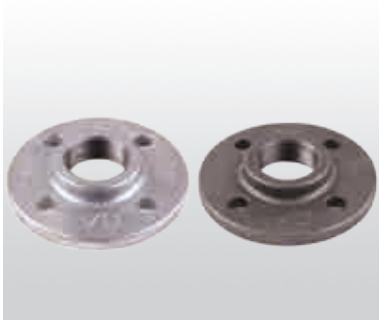
Flange



| Size      | Inch | 1/2   | 3/4 | 1   | 1 1/4 | 1 1/2 | 2  |
|-----------|------|-------|-----|-----|-------|-------|----|
|           | mm   | 15    | 20  | 25  | 32    | 40    | 50 |
| Dim. (mm) | A    | 15    | 16  | 19  | 21    | 21    | 26 |
| Size      | Inch | 2 1/2 | 3   | 4   | 5     | 6     |    |
|           | mm   | 65    | 80  | 100 | 125   | 150   |    |
| Dim. (mm) | A    | 30    | 33  | 39  | 40    | 40    |    |

321TD

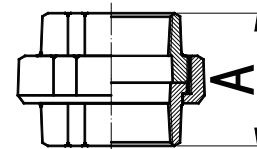
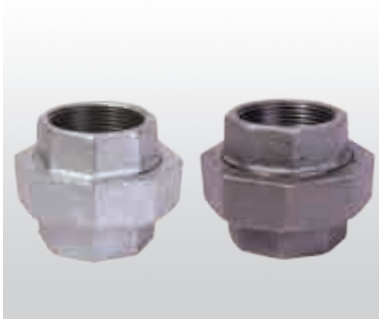
Flange



| Size      | Inch | 1    | 1 1/4 | 1 1/2 | 2  | 2 1/2 | 3    |
|-----------|------|------|-------|-------|----|-------|------|
|           | mm   | 25   | 32    | 40    | 50 | 65    | 80   |
| Dim. (mm) | A    | 16   | 17.4  | 23    | 25 | 25    | 26.8 |
| Size      | Inch | 4    | 6     |       |    |       |      |
|           | mm   | 100  | 150   |       |    |       |      |
| Dim. (mm) | A    | 31.5 | 35    |       |    |       |      |

330

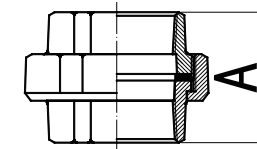
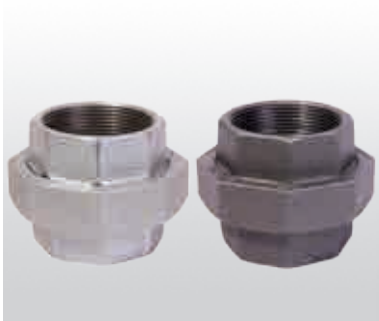
Flat Seat Union



| Size      | Inch | 1/8   | 1/4 | 3/8   | 1/2 | 3/4 | 1   | 1 1/4 |
|-----------|------|-------|-----|-------|-----|-----|-----|-------|
|           | mm   | 6     | 8   | 10    | 15  | 20  | 25  | 32    |
| Dim. (mm) | A    | 38    | 42  | 45    | 48  | 52  | 58  | 65    |
| Size      | Inch | 1 1/2 | 2   | 2 1/2 | 3   | 4   | 6   |       |
|           | mm   | 40    | 50  | 65    | 80  | 100 | 150 |       |
| Dim. (mm) | A    | 70    | 78  | 85    | 95  | 100 | 144 |       |

330D

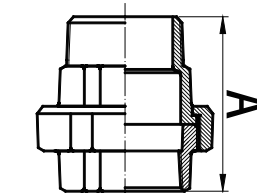
Flat Seat Union



| Size      | Inch | 1/8   | 1/4 | 3/8   | 1/2 | 3/4 | 1   | 1 1/4 |
|-----------|------|-------|-----|-------|-----|-----|-----|-------|
|           | mm   | 6     | 8   | 10    | 15  | 20  | 25  | 32    |
| Dim. (mm) | A    | 38    | 42  | 45    | 48  | 52  | 58  | 65    |
| Size      | Inch | 1 1/2 | 2   | 2 1/2 | 3   | 4   | 6   |       |
|           | mm   | 40    | 50  | 65    | 80  | 100 | 150 |       |
| Dim. (mm) | A    | 70    | 78  | 85    | 95  | 100 | 144 |       |

331

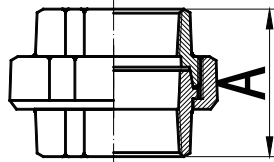
Flat Seat Union M/F



| Size      | Inch | 1/2   | 3/4 | 1   | 1 1/4 | 1 1/2 | 2   |
|-----------|------|-------|-----|-----|-------|-------|-----|
|           | mm   | 15    | 20  | 25  | 32    | 40    | 50  |
| Dim. (mm) | A    | 66    | 72  | 80  | 90    | 95    | 106 |
| Size      | Inch | 2 1/2 | 3   | 4   |       |       |     |
|           | mm   | 65    | 80  | 100 |       |       |     |
| Dim. (mm) | A    | 118   | 130 | 133 |       |       |     |

340

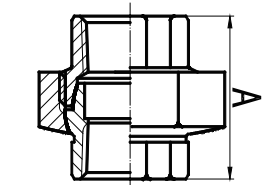
Conical Joint Union



|           |      |       |       |     |       |     |     |
|-----------|------|-------|-------|-----|-------|-----|-----|
| Size      | Inch | 1/8   | 1/4   | 3/8 | 1/2   | 3/4 | 1   |
|           | mm   | 6     | 8     | 10  | 15    | 20  | 25  |
| Dim. (mm) | A    | 38    | 42    | 45  | 48    | 52  | 58  |
|           |      |       |       |     |       |     |     |
| Size      | Inch | 1 1/4 | 1 1/2 | 2   | 2 1/2 | 3   | 4   |
|           | mm   | 32    | 40    | 50  | 65    | 80  | 100 |
| Dim. (mm) | A    | 65    | 70    | 78  | 85    | 95  | 110 |
|           |      |       |       |     |       |     |     |

340Q

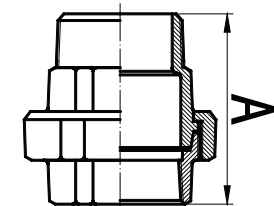
Deflection Union



|           |      |     |     |    |       |       |    |
|-----------|------|-----|-----|----|-------|-------|----|
| Size      | Inch | 1/2 | 3/4 | 1  | 1 1/4 | 1 1/2 | 2  |
|           | mm   | 15  | 20  | 25 | 32    | 40    | 50 |
| Dim. (mm) | A    | 46  | 49  | 55 | 64    | 74.5  | 83 |
|           |      |     |     |    |       |       |    |
| Size      | Inch |     |     |    |       |       |    |
|           | mm   |     |     |    |       |       |    |
| Dim. (mm) | A    |     |     |    |       |       |    |
|           |      |     |     |    |       |       |    |

341

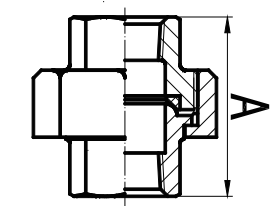
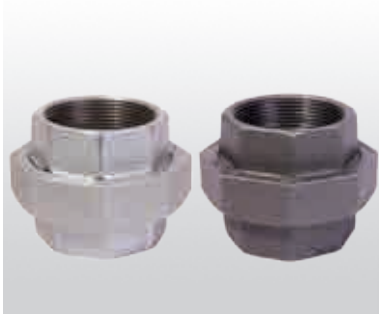
Conical Joint Union M/F



|           |      |       |     |       |     |     |       |
|-----------|------|-------|-----|-------|-----|-----|-------|
| Size      | Inch | 1/4   | 3/8 | 1/2   | 3/4 | 1   | 1 1/4 |
|           | mm   | 8     | 10  | 15    | 20  | 25  | 32    |
| Dim. (mm) | A    | 55    | 55  | 66    | 72  | 80  | 90    |
|           |      |       |     |       |     |     |       |
| Size      | Inch | 1 1/2 | 2   | 2 1/2 | 3   | 4   |       |
|           | mm   | 40    | 50  | 65    | 80  | 100 |       |
| Dim. (mm) | A    | 95    | 106 | 118   | 130 | 133 |       |
|           |      |       |     |       |     |     |       |

342

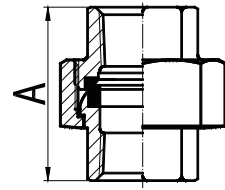
Conical Joint Union



|           |       |       |      |       |      |      |      |       |
|-----------|-------|-------|------|-------|------|------|------|-------|
| Size      | Inch  | 1/8   | 1/4  | 3/8   | 1/2  | 3/4  | 1    | 1 1/4 |
|           | mm    | 6     | 8    | 10    | 15   | 20   | 25   | 32    |
| Dim. (mm) | A Min | 32    | 36.5 | 41    | 43.5 | 49.5 | 52.5 | 57.5  |
|           |       |       |      |       |      |      |      |       |
| Size      | Inch  | 1 1/2 | 2    | 2 1/2 | 3    | 4    | 6    |       |
|           | mm    | 40    | 50   | 65    | 80   | 100  | 150  |       |
| Dim. (mm) | A Min | 61    | 70   | 82    | 89   | 98   | 147  |       |
|           |       |       |      |       |      |      |      |       |

342A

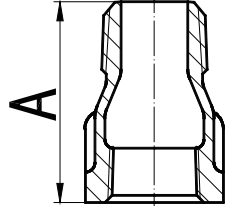
Double Bronze Navy Union



|           |      |     |     |    |       |       |    |
|-----------|------|-----|-----|----|-------|-------|----|
| Size      | Inch | 1/2 | 3/4 | 1  | 1 1/4 | 1 1/2 | 2  |
|           | mm   | 15  | 20  | 25 | 32    | 40    | 50 |
| Dim. (mm) | A    | 48  | 52  | 58 | 65    | 70    | 78 |
|           |      |     |     |    |       |       |    |
| Size      | Inch |     |     |    |       |       |    |
|           | mm   |     |     |    |       |       |    |
| Dim. (mm) | A    |     |     |    |       |       |    |
|           |      |     |     |    |       |       |    |

526

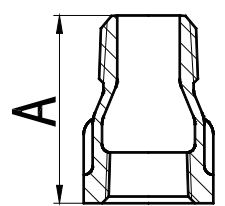
Long Adapter M/F



|           |      |        |        |        |        |         |
|-----------|------|--------|--------|--------|--------|---------|
| Size      | Inch | 1/2X30 | 1/2X40 | 1/2X50 | 1/2X60 | 1/2X100 |
|           | mm   | 15X30  | 15X40  | 15X50  | 15X60  | 15X100  |
| Dim. (mm) | A    | 30     | 40     | 50     | 60     | 100     |
|           |      |        |        |        |        |         |
| Size      | Inch | 1/2X30 | 1/2X40 | 1/2X50 | 1/2X60 | 1/2X100 |
|           | mm   | 15X30  | 15X40  | 15X50  | 15X60  | 15X100  |
| Dim. (mm) | A    | 30     | 40     | 50     | 60     | 100     |
|           |      |        |        |        |        |         |

529A

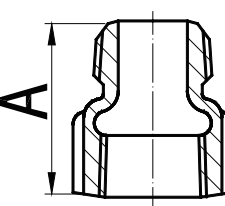
Long Extension Piece



|           |      |       |     |       |     |     |       |
|-----------|------|-------|-----|-------|-----|-----|-------|
| Size      | Inch | 1/4   | 3/8 | 1/2   | 3/4 | 1   | 1 1/4 |
|           | mm   | 8     | 10  | 15    | 20  | 25  | 32    |
| Dim. (mm) | A    | 33    | 35  | 43    | 48  | 55  | 60    |
|           |      |       |     |       |     |     |       |
| Size      | Inch | 1 1/2 | 2   | 2 1/2 | 3   | 4   |       |
|           | mm   | 40    | 50  | 65    | 80  | 100 |       |
| Dim. (mm) | A    | 61.5  | 68  | 76    | 83  | 97  |       |
|           |      |       |     |       |     |     |       |

529X

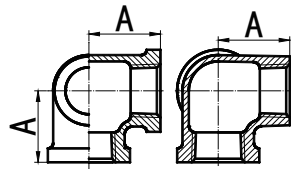
Short Extension Piece



|           |      |     |  |  |  |  |  |
|-----------|------|-----|--|--|--|--|--|
| Size      | Inch | 1/2 |  |  |  |  |  |
|           | mm   | 15  |  |  |  |  |  |
| Dim. (mm) | A    | 32  |  |  |  |  |  |
|           |      |     |  |  |  |  |  |
| Size      | Inch |     |  |  |  |  |  |
|           | mm   |     |  |  |  |  |  |
| Dim. (mm) | A    |     |  |  |  |  |  |
|           |      |     |  |  |  |  |  |

1221

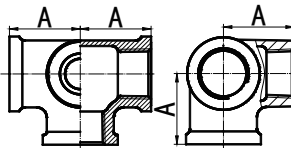
Side Outlet Elbow



|           |      |     |     |    |       |    |  |
|-----------|------|-----|-----|----|-------|----|--|
| Size      | Inch | 1/2 | 3/4 | 1  | 1 1/2 | 2  |  |
|           | mm   | 15  | 20  | 25 | 40    | 50 |  |
| Dim. (mm) | A    | 28  | 33  | 38 | 50    | 58 |  |
|           |      |     |     |    |       |    |  |
| Size      | Inch |     |     |    |       |    |  |
|           | mm   |     |     |    |       |    |  |
| Dim. (mm) | A    |     |     |    |       |    |  |
|           |      |     |     |    |       |    |  |

1223

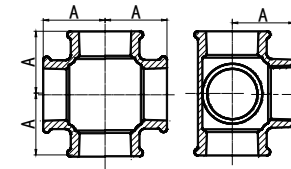
Side Outlet Tee



|           |      |     |     |    |       |  |  |
|-----------|------|-----|-----|----|-------|--|--|
| Size      | Inch | 1/2 | 3/4 | 1  | 1 1/4 |  |  |
|           | mm   | 15  | 20  | 25 | 32    |  |  |
| Dim. (mm) | A    | 28  | 33  | 38 | 45    |  |  |
|           |      |     |     |    |       |  |  |
| Size      | Inch |     |     |    |       |  |  |
|           | mm   |     |     |    |       |  |  |
| Dim. (mm) | A    |     |     |    |       |  |  |
|           |      |     |     |    |       |  |  |

1224

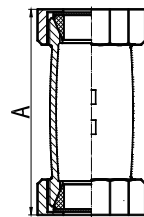
Side Outlet Cross



|           |      |       |       |  |  |  |  |
|-----------|------|-------|-------|--|--|--|--|
| Size      | Inch | 1 1/4 | 1 1/2 |  |  |  |  |
|           | mm   | 32    | 40    |  |  |  |  |
| Dim. (mm) | A    | 45    | 50    |  |  |  |  |
|           |      |       |       |  |  |  |  |
| Size      | Inch |       |       |  |  |  |  |
|           | mm   |       |       |  |  |  |  |
| Dim. (mm) | A    |       |       |  |  |  |  |
|           |      |       |       |  |  |  |  |

LAA

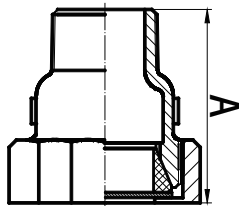
Coupling Luck F/F



|           |      |     |     |     |       |       |     |
|-----------|------|-----|-----|-----|-------|-------|-----|
| Size      | Inch | 1/2 | 3/4 | 1   | 1 1/4 | 1 1/2 | 2   |
|           | mm   | 15  | 20  | 25  | 32    | 40    | 50  |
| Dim. (mm) | A    | 95  | 104 | 110 | 114   | 122   | 129 |
|           |      |     |     |     |       |       |     |
| Size      | Inch |     |     |     |       |       |     |
|           | mm   |     |     |     |       |       |     |
| Dim. (mm) | A    |     |     |     |       |       |     |
|           |      |     |     |     |       |       |     |

LAF

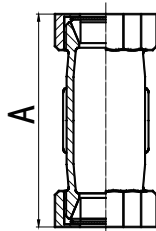
Coupling Luck M/F



|           |      |     |     |    |       |       |    |
|-----------|------|-----|-----|----|-------|-------|----|
| Size      | Inch | 1/2 | 3/4 | 1  | 1 1/4 | 1 1/2 | 2  |
|           | mm   | 15  | 20  | 25 | 32    | 40    | 50 |
| Dim. (mm) | A    | 59  | 63  | 65 | 69    | 71    | 79 |
|           |      |     |     |    |       |       |    |
| Size      | Inch |     |     |    |       |       |    |
|           | mm   |     |     |    |       |       |    |
| Dim. (mm) | A    |     |     |    |       |       |    |
|           |      |     |     |    |       |       |    |

LCC

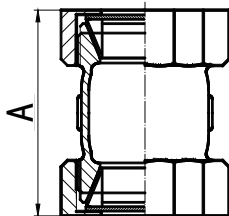
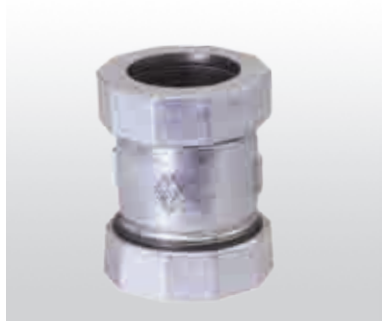
Long Compression Coupling



|           |      |       |     |     |       |       |     |
|-----------|------|-------|-----|-----|-------|-------|-----|
| Size      | Inch | 1/2   | 3/4 | 1   | 1 1/4 | 1 1/2 | 2   |
|           | mm   | 15    | 20  | 25  | 32    | 40    | 50  |
| Dim. (mm) | A    | 93    | 101 | 109 | 114   | 118   | 121 |
|           |      |       |     |     |       |       |     |
| Size      | Inch | 2 1/2 | 3   | 4   |       |       |     |
|           | mm   | 65    | 80  | 100 |       |       |     |
| Dim. (mm) | A    | 137   | 145 | 155 |       |       |     |
|           |      |       |     |     |       |       |     |

SCC

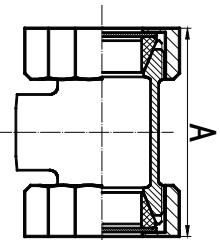
Short Compression Coupling



|           |      |       |     |    |       |       |    |
|-----------|------|-------|-----|----|-------|-------|----|
| Size      | Inch | 1/2   | 3/4 | 1  | 1 1/4 | 1 1/2 | 2  |
|           | mm   | 15    | 20  | 25 | 32    | 40    | 50 |
| Dim. (mm) | A    | 62    | 69  | 73 | 79    | 79    | 84 |
|           |      |       |     |    |       |       |    |
| Size      | Inch | 2 1/2 | 3   |    |       |       |    |
|           | mm   | 65    | 80  |    |       |       |    |
| Dim. (mm) | A    | 100   | 110 |    |       |       |    |
|           |      |       |     |    |       |       |    |

TCC

Compression Tee



|           |      |     |     |  |  |  |  |
|-----------|------|-----|-----|--|--|--|--|
| Size      | Inch | 1/2 | 3/4 |  |  |  |  |
|           | mm   | 15  | 20  |  |  |  |  |
| Dim. (mm) | A    | 80  | 88  |  |  |  |  |
|           |      |     |     |  |  |  |  |
| Size      | Inch |     |     |  |  |  |  |
|           | mm   |     |     |  |  |  |  |
| Dim. (mm) | A    |     |     |  |  |  |  |
|           |      |     |     |  |  |  |  |

Malleable Iron Collar Fittings  
BS Standard



90  
Elbow, 90°



90R  
Reducing Elbow, 90°



92  
Street Elbow, 90°



120  
Elbow, 45°



130  
Tee



130R  
Reducing Tee



180R  
Reducing Cross



220  
Socket



241  
Bushing



280  
Hexagon Nipple



291  
Plug



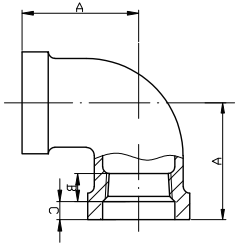
300  
Cap



529A  
Long Extension Piece

90

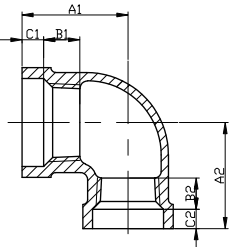
Elbow, 90°



| Size/ 规格      | Inch | 1/2  | 3/4  | 1   | 1 1/4 | 1 1/2 | 2  |
|---------------|------|------|------|-----|-------|-------|----|
|               | mm   | 15   | 20   | 25  | 32    | 40    | 50 |
| Dim./ 尺寸 (mm) | A    | 35.5 | 41   | 47  | 55    | 60    | 69 |
|               | B    | 11   | 13   | 15  | 17    | 18    | 20 |
|               | C    | 7    | 8    | 9   | 10    | 10    | 11 |
| Size/ 规格      | Inch | 3    | 4    | 6   |       |       |    |
|               | mm   | 80   | 100  | 150 |       |       |    |
| Dim./ 尺寸 (mm) | A    | 91   | 110  | 145 |       |       |    |
|               | B    | 25.5 | 28.5 | 33  |       |       |    |
|               | C    | 13   | 14   | 15  |       |       |    |

90R

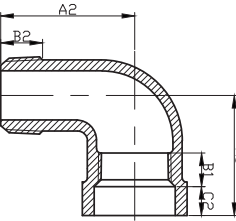
Reducing Elbow, 90°



| Size/ 规格      | Inch | 3/4X1 1/2 | 1X3/4 | 1 1/4X1 |  |
|---------------|------|-----------|-------|---------|--|
|               | mm   | 20X15     | 25X20 | 32X25   |  |
| Dim./ 尺寸 (mm) | A1   | 38        | 44    | 50      |  |
|               | B1   | 13        | 15    | 17      |  |
|               | C1   | 8         | 9     | 10      |  |
|               | A2   | 38        | 44    | 51      |  |
|               | B2   | 11        | 13    | 15      |  |
|               | C2   | 7         | 8     | 9       |  |

92

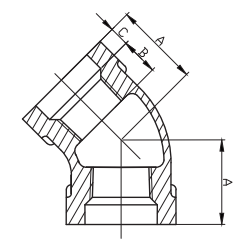
Street Elbow, 90°



| Size/ 规格      | Inch | 1/2 | 3/4 | 1  | 1 1/4 | 1 1/2 | 2    |
|---------------|------|-----|-----|----|-------|-------|------|
|               | mm   | 15  | 20  | 25 | 32    | 40    | 50   |
| Dim./ 尺寸 (mm) | A1   | 35  | 41  | 47 | 55    | 60    | 69   |
|               | B1   | 11  | 13  | 15 | 17    | 18    | 20   |
|               | C1   | 7   | 8   | 9  | 10    | 10    | 11   |
|               | A2   | 41  | 48  | 54 | 62    | 68    | 82.5 |
|               | B2   | 14  | 15  | 18 | 19    | 20    | 22   |

120

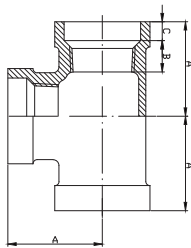
Elbow, 45°



| Size/ 规格      | Inch | 1/2  | 3/4  | 1   | 1 1/4 | 1 1/2 | 2  |
|---------------|------|------|------|-----|-------|-------|----|
|               | mm   | 15   | 20   | 25  | 32    | 40    | 50 |
| Dim./ 尺寸 (mm) | A    | 28   | 33   | 38  | 44    | 46    | 53 |
|               | B    | 11   | 13   | 15  | 17    | 18    | 20 |
|               | C    | 7    | 8    | 9   | 10    | 10    | 11 |
| Size/ 规格      | Inch | 3    | 4    | 6   |       |       |    |
|               | mm   | 80   | 100  | 150 |       |       |    |
| Dim./ 尺寸 (mm) | A    | 67   | 79   | 97  |       |       |    |
|               | B    | 25.5 | 28.5 | 33  |       |       |    |
|               | C    | 13   | 14   | 15  |       |       |    |

130

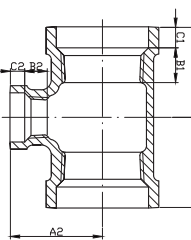
Tee



| Size/ 规格      | Inch | 1/2  | 3/4  | 1   | 1 1/4 | 1 1/2 | 2  |
|---------------|------|------|------|-----|-------|-------|----|
|               | mm   | 15   | 20   | 25  | 32    | 40    | 50 |
| Dim./ 尺寸 (mm) | A    | 35.5 | 41   | 47  | 55    | 60    | 69 |
|               | B    | 11   | 13   | 15  | 17    | 18    | 20 |
|               | C    | 7    | 8    | 9   | 10    | 10    | 11 |
| Size/ 规格      | Inch | 3    | 4    | 6   |       |       |    |
|               | mm   | 80   | 100  | 150 |       |       |    |
| Dim./ 尺寸 (mm) | A    | 91   | 110  | 145 |       |       |    |
|               | B    | 25.5 | 28.5 | 33  |       |       |    |
|               | C    | 13   | 14   | 15  |       |       |    |

130R

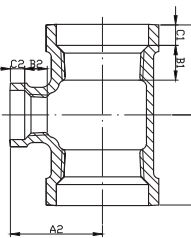
Reducing Tee



| Size/ 规格      | Inch | 3/4X1/2 | 1X1/2 | 1X3/4 | 1 1/4X1/2 | 1 1/4X3/4 |
|---------------|------|---------|-------|-------|-----------|-----------|
|               | mm   | 20X15   | 25X15 | 25X20 | 32X15     | 32X20     |
| Dim./ 尺寸 (mm) | A1   | 38      | 41    | 43.5  | 44        | 46        |
|               | B1   | 13      | 15    | 15    | 17        | 17        |
|               | C1   | 8       | 9     | 9     | 10        | 10        |
|               | A2   | 38      | 41    | 44.5  | 45        | 49        |
|               | B2   | 11      | 11    | 13    | 11        | 13        |
|               | C2   | 7       | 7     | 8     | 7         | 8         |

130R

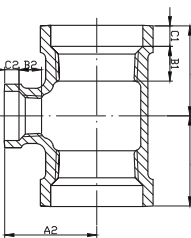
Reducing Tee



| Size/ 规格      | Inch | 1 1/4X1 | 1 1/2X1/2 | 1 1/2X3/4 | 1 1/2X1 | 1 1/2X1 1/4 |
|---------------|------|---------|-----------|-----------|---------|-------------|
|               | mm   | 32X25   | 40X15     | 40X20     | 40X25   | 40X32       |
| Dim./ 尺寸 (mm) | A1   | 50      | 46        | 48.5      | 52      | 56          |
|               | B1   | 17      | 18        | 18        | 18      | 18          |
|               | C1   | 10      | 10        | 10        | 10      | 10          |
|               | A2   | 51      | 49        | 52.5      | 54.5    | 57.5        |
|               | B2   | 15      | 11        | 13        | 15      | 17          |
|               | C2   | 9       | 7         | 8         | 9       | 10          |

130R

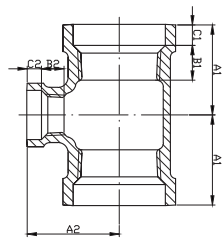
Reducing Tee



| Size/ 规格      | Inch | 2X1/2 | 2X3/4 | 2X1   | 2X1 1/4 | 2X1 1/2 |
|---------------|------|-------|-------|-------|---------|---------|
|               | mm   | 50X15 | 50X20 | 50X25 | 50X32   | 50X40   |
| Dim./ 尺寸 (mm) | A1   | 49    | 51.5  | 54.5  | 59      | 62      |
|               | B1   | 20    | 20    | 20    | 20      | 20      |
|               | C1   | 11    | 11    | 11    | 11      | 11      |
|               | A2   | 55    | 58    | 60    | 63      | 64.5    |
|               | B2   | 11    | 13    | 15    | 17      | 18      |
|               | C2   | 7     | 8     | 9     | 10      | 10      |

130R

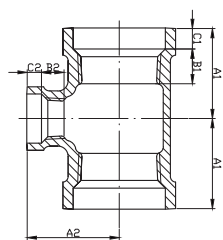
Reducing Tee



| Size/ 规格      | Inch | 3X3/4 | 3X1   | 3X1 1/4 | 3X2   | 4X3/4  |
|---------------|------|-------|-------|---------|-------|--------|
|               | mm   | 80X20 | 80X25 | 80X32   | 80X50 | 100X20 |
| Dim./ 尺寸 (mm) | A1   | 60    | 63    | 68      | 77    | 68     |
|               | B1   | 25.5  | 25.5  | 25.5    | 25.5  | 28.5   |
|               | C1   | 13    | 13    | 13      | 13    | 14     |
|               | A2   | 74    | 76    | 79      | 84    | 88     |
|               | B2   | 13    | 15    | 17      | 20    | 13     |
|               | C2   | 8     | 9     | 10      | 11    | 8      |

130R

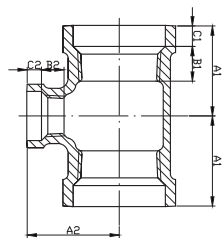
Reducing Tee



| Size/ 规格      | Inch | 4X1    | 4X1 1/4 | 4X2    | 4X3    | 6X3    |
|---------------|------|--------|---------|--------|--------|--------|
|               | mm   | 100X25 | 100X32  | 100X50 | 100X80 | 150X80 |
| Dim./ 尺寸 (mm) | A1   | 71     | 75      | 83.5   | 97     | 107.5  |
|               | B1   | 28.5   | 28.5    | 28.5   | 28.5   | 33     |
|               | C1   | 14     | 14      | 14     | 14     | 15     |
|               | A2   | 95     | 96      | 97.5   | 104    | 133.5  |
|               | B2   | 15     | 17      | 20     | 25.5   | 25.5   |
|               | C2   | 9      | 10      | 11     | 13     | 13     |

130R

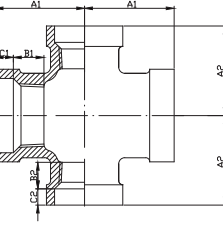
Reducing Tee



| Size/ 规格      | Inch | 6X4     | 3/4X1/2X1/2 |  |  |  |
|---------------|------|---------|-------------|--|--|--|
|               | mm   | 150X100 | 20X15X15    |  |  |  |
| Dim./ 尺寸 (mm) | A1   | 119.5   | 38.5        |  |  |  |
|               | B1   | 33      | 13          |  |  |  |
|               | C1   | 15      | 8           |  |  |  |
|               | A2   | 139.5   | 38          |  |  |  |
|               | B2   | 28.5    | 11          |  |  |  |
|               | C2   | 14      | 7           |  |  |  |
|               | A3   |         | 35.5        |  |  |  |

180R

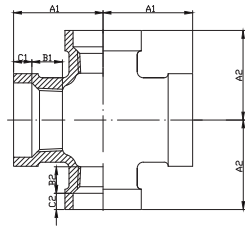
Reducing Cross



| Size/ 规格      | Inch | 1X1/2 | 1 1/4X3/4 | 1 1/4X1 | 1 1/2X1/2 | 1 1/2X3/4 |
|---------------|------|-------|-----------|---------|-----------|-----------|
|               | mm   | 25X15 | 32X20     | 32X25   | 40X15     | 40X20     |
| Dim./ 尺寸 (mm) | A1   | 41    | 46        | 50      | 46        | 48        |
|               | B1   | 15    | 17        | 17      | 18        | 18        |
|               | C1   | 9     | 10        | 10      | 10        | 10        |
|               | A2   | 41    | 49        | 51      | 49        | 52        |
|               | B2   | 11    | 13        | 15      | 11        | 13        |
|               | C2   | 7     | 8         | 9       | 7         | 8         |

## 180R

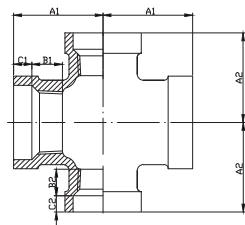
## Reducing Cross



| Size/ 规格      | Inch | 1 1/2X1 | 2X3/4 | 2X1   | 3X3/4 | 3X1   |
|---------------|------|---------|-------|-------|-------|-------|
|               | mm   | 40X25   | 50X20 | 50X25 | 80X20 | 80X25 |
| Dim./ 尺寸 (mm) | A1   | 52      | 51.5  | 54.5  | 60    | 63    |
|               | B1   | 18      | 20    | 20    | 25.5  | 25.5  |
|               | C1   | 10      | 11    | 11    | 13    | 13    |
|               | A2   | 54.5    | 58    | 60    | 74    | 76    |
|               | B2   | 15      | 13    | 15    | 13    | 15    |
|               | C2   | 9       | 8     | 9     | 8     | 9     |

## 180R

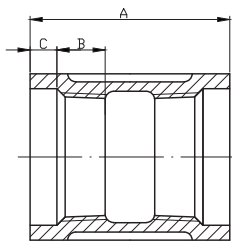
## Reducing Cross



| Size/ 规格      | Inch | 3X1 1/4 | 4X3/4  | 4X1    | 4X1 1/4 | 6X3    |
|---------------|------|---------|--------|--------|---------|--------|
|               | mm   | 80X32   | 100X20 | 100X25 | 100X32  | 150X80 |
| Dim./ 尺寸 (mm) | A1   | 68      | 68     | 71     | 75      | 107.5  |
|               | B1   | 25.5    | 28.5   | 28.5   | 28.5    | 33     |
|               | C1   | 13      | 14     | 14     | 14      | 15     |
|               | A2   | 79      | 88     | 90     | 96      | 133.5  |
|               | B2   | 17      | 13     | 15     | 17      | 25.5   |
|               | C2   | 10      | 8      | 9      | 10      | 13     |

## 220

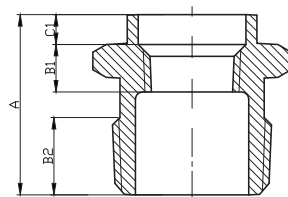
## Socket



| Size/ 规格      | Inch | 1/2 | 3/4   | 1     | 1 1/4 | 1 1/2 |
|---------------|------|-----|-------|-------|-------|-------|
|               | mm   | 15  | 20    | 25    | 32    | 40    |
| Dim./ 尺寸 (mm) | A    | 48  | 54    | 60    | 69    | 74.5  |
|               | B    | 11  | 13    | 15    | 17    | 18    |
|               | C    | 7   | 8     | 9     | 10    | 10    |
|               |      |     |       |       |       |       |
| Size/ 规格      | Inch | 2   | 3     | 4     | 6     |       |
|               | mm   | 50  | 80    | 100   | 150   |       |
| Dim./ 尺寸 (mm) | A    | 86  | 106.5 | 121.5 | 146.5 |       |
|               | B    | 20  | 25.5  | 28.5  | 33    |       |
|               | C    | 11  | 13    | 14    | 15    |       |
|               |      |     |       |       |       |       |

## 241

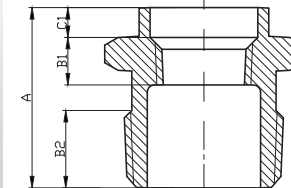
## Bushing



| Size/ 规格      | Inch | 3/4X1 1/2 | 1X1/2   | 1X3/4       | 1 1/4X3/4 | 1 1/4X1 |
|---------------|------|-----------|---------|-------------|-----------|---------|
|               | mm   | 20X15     | 25X15   | 25X20       | 32X20     | 32X25   |
| Dim./ 尺寸 (mm) | A    | 38        | 42      | 42          | 49        | 50      |
|               | B1   | 11        | 11      | 14.5        | 13        | 17      |
|               | C1   | 7         | 7       | 7           | 8         | 9       |
|               | B2   | 14.5      | 17      | 17          | 19        | 19      |
| Size/ 规格      | Inch | 1 1/2X3/4 | 1 1/2X1 | 1 1/2X1 1/4 | 2X3/4     | 2X1     |
|               | mm   | 40X20     | 40X25   | 40X32       | 50X20     | 50X25   |
| Dim./ 尺寸 (mm) | A    | 49        | 50      | 51          | 56        | 57      |
|               | B1   | 13        | 15      | 19          | 13        | 15      |
|               | C1   | 8         | 9       | 10          | 8         | 9       |
|               | B2   | 19        | 19      | 19          | 22        | 22      |

## 241

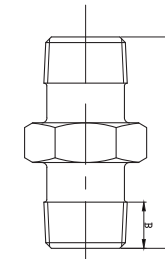
## Bushing



| Size/ 规格      | Inch | 2X1 1/4 | 2X1 1/2 | 3X1     | 3X1 1/2 | 3X2   |
|---------------|------|---------|---------|---------|---------|-------|
|               | mm   | 50X32   | 50X40   | 80X25   | 80X40   | 80X50 |
| Dim./ 尺寸 (mm) | A    | 58      | 58      | 66      | 67      | 68    |
|               | B1   | 17      | 18      | 15      | 18      | 20    |
|               | C1   | 10      | 10      | 9       | 10      | 11    |
|               | B2   | 22      | 22      | 31      | 31      | 31    |
| Size/ 规格      | Inch | 4X3     | 6X3     | 6X4     |         |       |
|               | mm   | 100X80  | 150X80  | 150X100 |         |       |
| Dim./ 尺寸 (mm) | A    | 78      | 93      | 94      |         |       |
|               | B1   | 25.5    | 25.5    | 28.5    |         |       |
|               | C1   | 13      | 13      | 14      |         |       |
|               | B2   | 36      | 41      | 41      |         |       |

## 280

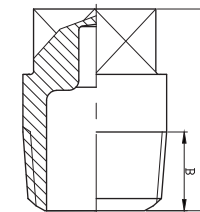
## Hexagon Nipple



| Size/ 规格      | Inch | 1/2 | 3/4 | 1   | 1 1/4 | 1 1/2 |
|---------------|------|-----|-----|-----|-------|-------|
|               | mm   | 15  | 20  | 25  | 32    | 40    |
| Dim./ 尺寸 (mm) | A    | 58  | 64  | 71  | 80    | 81    |
|               | B    | 13  | 14  | 16  | 19    | 19    |
| Size/ 规格      | Inch | 2   | 3   | 4   | 6     |       |
|               | mm   | 50  | 80  | 100 | 150   |       |
| Dim./ 尺寸 (mm) | A    | 94  | 110 | 130 | 146   |       |
|               | B    | 23  | 29  | 35  | 40    |       |

## 291

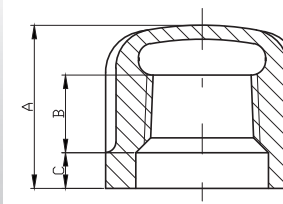
## Plug



| Size/ 规格      | Inch | 1/2  | 3/4  | 1   | 1 1/4 | 1 1/2 |
|---------------|------|------|------|-----|-------|-------|
|               | mm   | 15   | 20   | 25  | 32    | 40    |
| Dim./ 尺寸 (mm) | A    | 30   | 34.5 | 40  | 44.5  | 46.5  |
|               | B    | 15   | 16.5 | 19  | 21.5  | 21.5  |
|               |      |      |      |     |       |       |
| Size/ 规格      | Inch | 2    | 3    | 4   | 6     |       |
|               | mm   | 50   | 80   | 100 | 150   |       |
| Dim./ 尺寸 (mm) | A    | 51.5 | 65   | 76  | 87.5  |       |
|               | B    | 25.5 | 33   | 39  | 43.5  |       |

## 300

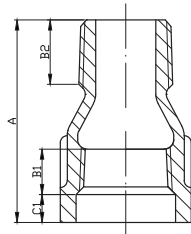
## Cap



| Size/ 规格      | Inch | 1/2 | 3/4  | 1    | 1 1/4 | 1 1/2 |
|---------------|------|-----|------|------|-------|-------|
|               | mm   | 15  | 20   | 25   | 32    | 40    |
| Dim./ 尺寸 (mm) | A    | 28  | 33   | 38   | 41    | 44    |
|               | B    | 11  | 13   | 15   | 17    | 18    |
|               | C    | 7   | 8    | 9    | 10    | 10    |
|               |      |     |      |      |       |       |
| Size/ 规格      | Inch | 2   | 3    | 4    |       |       |
|               | mm   | 50  | 80   | 100  |       |       |
| Dim./ 尺寸 (mm) | A    | 49  | 59   | 70   |       |       |
|               | B    | 20  | 25.5 | 28.5 |       |       |
|               | C    | 11  | 13   | 14   |       |       |
|               |      |     |      |      |       |       |

529A

Long Extension Piece



| Size/ 规格      | inch | 1/2  | 3/4 | 1  |  |  |  |
|---------------|------|------|-----|----|--|--|--|
|               | mm   | 15   | 20  | 25 |  |  |  |
| Dim./ 尺寸 (mm) | A    | 50.5 | 58  | 66 |  |  |  |
|               | B1   | 11   | 13  | 15 |  |  |  |
|               | C1   | 7    | 8   | 9  |  |  |  |
|               | B2   | 15   | 18  | 20 |  |  |  |

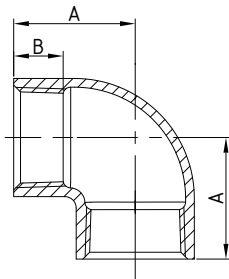
Malleable Iron Plain End Fittings

BS Standard



90

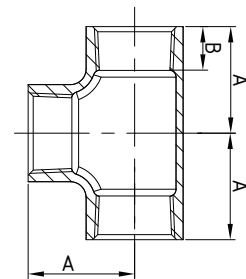
Elbow, 90°



| Size/ 规格      | Inch | 1/2 | 3/4 | 1  |  |  |
|---------------|------|-----|-----|----|--|--|
|               | mm   | 15  | 20  | 25 |  |  |
| Dim./ 尺寸 (mm) | A    | 27  | 32  | 38 |  |  |
|               | B    | 11  | 13  | 15 |  |  |
| Size/ 规格      | Inch |     |     |    |  |  |
|               | mm   |     |     |    |  |  |
| Dim./ 尺寸 (mm) | A    |     |     |    |  |  |
|               | B    |     |     |    |  |  |

130

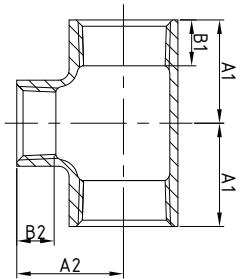
Tee



| Size/ 规格      | Inch | 1/2 | 3/4 | 1  |  |  |
|---------------|------|-----|-----|----|--|--|
|               | mm   | 15  | 20  | 25 |  |  |
| Dim./ 尺寸 (mm) | A    | 27  | 32  | 38 |  |  |
|               | B    | 11  | 13  | 15 |  |  |
| Size/ 规格      | Inch |     |     |    |  |  |
|               | mm   |     |     |    |  |  |
| Dim./ 尺寸 (mm) | A    |     |     |    |  |  |
|               | B    |     |     |    |  |  |

130R

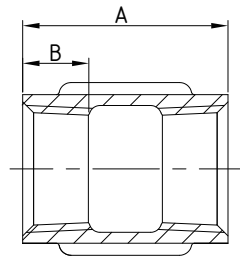
Reducing Tee



|               |      |         |       |  |  |  |
|---------------|------|---------|-------|--|--|--|
| Size/ 规格      | Inch | 3/4X1/2 | 1X3/4 |  |  |  |
|               | mm   | 20X15   | 25X20 |  |  |  |
| Dim./ 尺寸 (mm) | A1   | 29.5    | 31.5  |  |  |  |
|               | B1   | 13      | 15    |  |  |  |
|               | A2   | 30.5    | 33    |  |  |  |
|               | B2   | 11      | 13    |  |  |  |

220

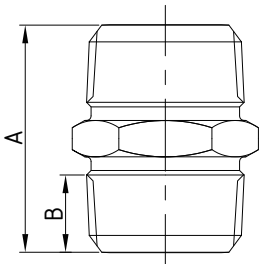
Socket



|               |      |     |     |    |       |  |
|---------------|------|-----|-----|----|-------|--|
| Size/ 规格      | Inch | 1/2 | 3/4 | 1  | 1 1/2 |  |
|               | mm   | 15  | 20  | 25 | 40    |  |
| Dim./ 尺寸 (mm) | A    | 34  | 37  | 40 | 44    |  |
|               | B    | 11  | 13  | 15 | 18    |  |
| Size/ 规格      | Inch |     |     |    |       |  |
|               | mm   |     |     |    |       |  |
| Dim./ 尺寸 (mm) | A    |     |     |    |       |  |
|               | B    |     |     |    |       |  |

280

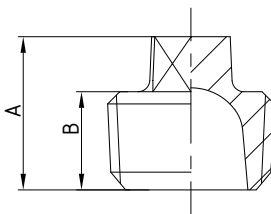
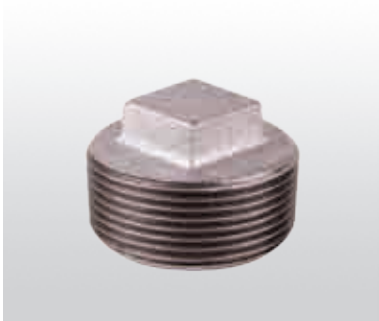
Hexagon Nipple



|               |      |     |    |  |  |  |
|---------------|------|-----|----|--|--|--|
| Size/ 规格      | Inch | 3/4 | 1  |  |  |  |
|               | mm   | 20  | 25 |  |  |  |
| Dim./ 尺寸 (mm) | A    | 44  | 50 |  |  |  |
|               | B    | 15  | 18 |  |  |  |
| Size/ 规格      | Inch |     |    |  |  |  |
|               | mm   |     |    |  |  |  |
| Dim./ 尺寸 (mm) | A    |     |    |  |  |  |
|               | B    |     |    |  |  |  |

291

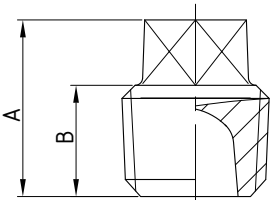
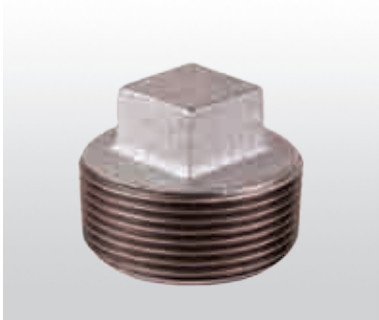
Plug



|               |      |      |     |      |  |  |
|---------------|------|------|-----|------|--|--|
| Size/ 规格      | Inch | 1/2  | 3/4 | 1    |  |  |
|               | mm   | 15   | 20  | 25   |  |  |
| Dim./ 尺寸 (mm) | A    | 19.5 | 21  | 24   |  |  |
|               | B    | 12.5 | 14  | 16.5 |  |  |
| Size/ 规格      | Inch |      |     |      |  |  |
|               | mm   |      |     |      |  |  |
| Dim./ 尺寸 (mm) | A    |      |     |      |  |  |
|               | B    |      |     |      |  |  |

291LM

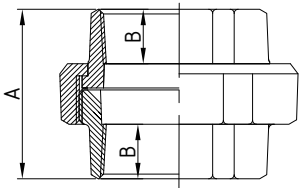
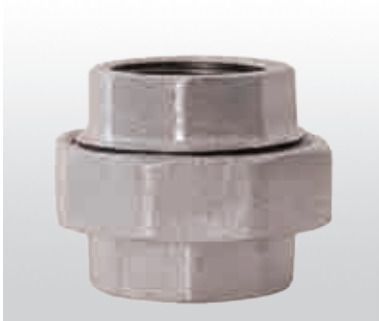
Plug



|               |      |     |  |  |  |  |
|---------------|------|-----|--|--|--|--|
| Size/ 规格      | Inch | 1/2 |  |  |  |  |
|               | mm   | 15  |  |  |  |  |
| Dim./ 尺寸 (mm) | A    | 25  |  |  |  |  |
|               | B    | 15  |  |  |  |  |
| Size/ 规格      | Inch |     |  |  |  |  |
|               | mm   |     |  |  |  |  |
| Dim./ 尺寸 (mm) | A    |     |  |  |  |  |
|               | B    |     |  |  |  |  |

330

Flat Seat Union



|               |      |     |      |  |  |  |
|---------------|------|-----|------|--|--|--|
| Size/ 规格      | Inch | 3/4 | 1    |  |  |  |
|               | mm   | 20  | 25   |  |  |  |
| Dim./ 尺寸 (mm) | A    | 43  | 45.5 |  |  |  |
|               | B    | 13  | 15   |  |  |  |
| Size/ 规格      | Inch |     |      |  |  |  |
|               | mm   |     |      |  |  |  |
| Dim./ 尺寸 (mm) | A    |     |      |  |  |  |
|               | B    |     |      |  |  |  |

Basic Dimension for British and Din Standard Pipe Threads

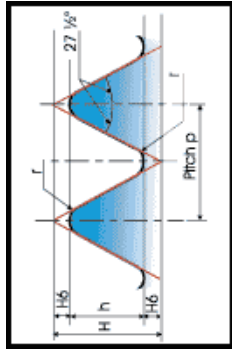
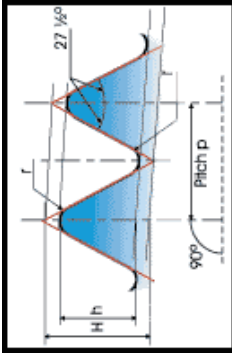
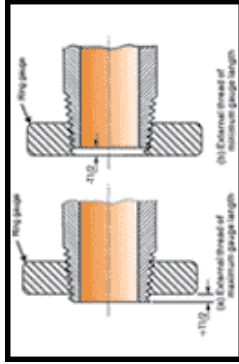


Fig 1 - Parallel thread  
H = 0.960491 p  
h = 0.640327 p  
r = 0.137329 p



Taper 2 - Taper thread  
H = 0.960237 p  
h = 0.640327 p  
r = 0.137278 p



(a) External thread of maximum gauge length  
(b) External thread of minimum gauge length

International Standard ISO7/1, Pipe Threads Dimensions

| 1                           | 2                            | 3       | 4                  | 5                        | 6        | 7        | 8                              | 9                | 10               | 11      | 12      | 13                             | 14               | 15                       | 16                       | 17                       |                           |  |  |
|-----------------------------|------------------------------|---------|--------------------|--------------------------|----------|----------|--------------------------------|------------------|------------------|---------|---------|--------------------------------|------------------|--------------------------|--------------------------|--------------------------|---------------------------|--|--|
| Designations of thread size | Number of threads in 25.4 mm | Pitch P | Height of thread h | Diameters at gauge plane |          |          | Gauge Length (external thread) |                  |                  |         |         |                                |                  |                          |                          |                          | Dimensions in millimeters |  |  |
|                             |                              |         |                    | Major (gauge diameter) d | Pitch d2 | Minor d1 | Nominal                        | Tolerance ±T/2   |                  | Maximum | Minimum | Tolerance on position of gauge |                  | For Nominal gauge length | For maximum gauge length | For minimum gauge length |                           |  |  |
|                             |                              |         |                    |                          |          |          |                                | Turns of threads | Turns of threads |         |         | Turns of threads               | Turns of threads |                          |                          |                          |                           |  |  |
| 1/8                         | 28                           | 0.907   | 0.581              | 9.728                    | 9.147    | 8.566    | 4                              | 0.9              | 1                | 4.9     | 3.1     | 1.1                            | 1 1/4            | 6.5                      | 7.4                      | 5.6                      |                           |  |  |
| 1/4                         | 19                           | 1.337   | 0.856              | 13.157                   | 12.301   | 11.445   | 6                              | 1.3              | 1                | 7.3     | 4.7     | 1.7                            | 1 1/4            | 9.7                      | 11                       | 8.4                      |                           |  |  |
| 3/8                         | 19                           | 1.337   | 0.856              | 16.662                   | 15.806   | 14.95    | 6.4                            | 1.3              | 1                | 7.7     | 5.1     | 1.7                            | 1 1/4            | 10.1                     | 11.4                     | 8.8                      |                           |  |  |
| 1/2                         | 14                           | 1.814   | 1.162              | 20.955                   | 19.793   | 18.631   | 8.2                            | 1.8              | 1                | 10      | 6.4     | 2.3                            | 1 1/4            | 13.2                     | 15                       | 11.4                     |                           |  |  |
| 3/4                         | 14                           | 1.814   | 1.162              | 26.441                   | 25.279   | 24.117   | 9.5                            | 1.8              | 1                | 10      | 7.7     | 2.3                            | 1 1/4            | 14.5                     | 16.3                     | 12.7                     |                           |  |  |
| 1                           | 11                           | 2.309   | 1.479              | 33.249                   | 31.77    | 30.291   | 10.4                           | 2.3              | 1                | 12.7    | 8.1     | 2.9                            | 1 1/4            | 16.8                     | 19.1                     | 14.5                     |                           |  |  |
| 1 1/4                       | 11                           | 2.309   | 1.479              | 41.91                    | 40.431   | 38.952   | 12.7                           | 2.3              | 1                | 15      | 10.4    | 2.9                            | 1 1/4            | 19.1                     | 21.4                     | 16.8                     |                           |  |  |
| 1 1/2                       | 11                           | 2.309   | 1.479              | 47.803                   | 46.324   | 44.845   | 12.7                           | 2.3              | 1                | 15      | 10.4    | 2.9                            | 1 1/4            | 19.1                     | 21.4                     | 16.8                     |                           |  |  |
| 2                           | 11                           | 2.309   | 1.479              | 59.614                   | 58.135   | 56.656   | 15.9                           | 2.3              | 1                | 18.2    | 13.6    | 2.9                            | 1 1/4            | 23                       | 25.7                     | 21.1                     |                           |  |  |
| 2 1/2                       | 11                           | 2.309   | 1.479              | 75.184                   | 73.705   | 72.226   | 17.5                           | 3.5              | 1 1/2            | 21      | 14      | 3.5                            | 1 1/2            | 26.7                     | 30.2                     | 23.2                     |                           |  |  |
| 3                           | 11                           | 2.309   | 1.479              | 87.884                   | 86.405   | 84.926   | 20.6                           | 3.5              | 1 1/2            | 24.1    | 17.1    | 3.5                            | 1 1/2            | 29.8                     | 33.3                     | 26.3                     |                           |  |  |
| 4                           | 11                           | 2.309   | 1.479              | 113.03                   | 111.551  | 110.072  | 25.4                           | 3.5              | 1 1/2            | 28.9    | 21.9    | 3.5                            | 1 1/2            | 35.8                     | 39.3                     | 32.3                     |                           |  |  |
| 5                           | 11                           | 2.309   | 1.479              | 138.43                   | 136.951  | 135.472  | 28.6                           | 3.5              | 1 1/2            | 32.1    | 25.1    | 3.5                            | 1 1/2            | 40.1                     | 43.6                     | 36.6                     |                           |  |  |
| 6                           | 11                           | 2.309   | 1.479              | 163.83                   | 162.351  | 160.872  | 28.6                           | 3.5              | 1 1/2            | 32.1    | 25.1    | 3.5                            | 1 1/2            | 40.1                     | 43.6                     | 36.6                     |                           |  |  |

Note: This information is selected from the International Standard ISO7/1:2000: Pipe threads where pressure - tight joints, Table Table 1