

## BLUE BRUTE® PIPING SYSTEMS

Blue Brute is one of the most well known names in municipal water supply, as it has built up an enviable reputation for performance and reliability over the years. Blue Brute pipe and fittings eliminate the threat of corrosion, while providing reliable long-term service. While Blue Brute pipe is compatible with iron fittings, IPEX recommends the use of Blue Brute fittings as they are made to match the pipe, and eliminate the “Achilles heel” of many systems – corroding iron fittings.

It is advisable to specify pipe and fittings from the same manufacturer in order to ensure a completely matched system. Only by specifying Blue Brute fittings can you ensure that the fittings have the same long term strength as the pipe itself.



### Applications:

Municipal water distribution systems and fire lines.

Irrigation, sewage forcemains, industrial lines.

### Gasket Options For Contaminated Soils

Blue Brute pipe and fittings have removable gaskets. This allows oil resistant (nitrile) gaskets to be easily substituted when installing piping systems in contaminated soils. Please refer to Section 2 – Chemical Permeation and Resistance for more information on this topic.

### Standards:

Blue Brute Pipe:

AWWA C900, CSA B137.3 certified, FM 1612 approved, UL 1285 listed, NSF 61 certified, Certified to NQ 36240-250



Blue Brute Fittings:

AWWA C907, CSA B137.2 (100mm – 300mm) certified, AWWA C900, CSA B137.3 (250mm – 300mm) certified, FM 1612 listed, UL 1285 listed



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### Short Form Specifications

#### General

Blue Brute pipe shall be certified to CSA B137.3 "Rigid Polyvinyl Chloride PVC Pipe for Pressure Applications" and shall conform to AWWA C900 "Polyvinyl Chloride (PVC) Pressure Pipe, 4" – 12" for Water Transmission and Distribution." Blue Brute DR25 pipe shall have a pressure class/rating of 1120 kPa (165 psi). DR18 pipe shall have a pressure class/rating of 1620 kPa (235 psi). DR14 pipe shall have a pressure class/rating of 2100 kPa (305 psi).

#### Material

Blue Brute pipe shall be made from PVC compound conforming to ASTM D1784 cell class 12454.

#### Product

Pipe shall be suitable for use at maximum hydrostatic working pressure equal to the pressure class/rating at 23°C (73°F). Laying lengths shall be 6.1 metres (20 feet). Pipe shall have cast-iron outside diameters. Each length of pipe must be proof-tested at two times the pressure class.

#### Joining

The gasket shall be carefully fitted to the bell groove if not already factory installed. Both bell and spigot shall be clean and free of debris before approved lubricant is applied. The pipe and/or fittings shall be joined by pushing the spigot into the bell to the depth line marked on the spigot. When pipe has

been cut in the field, the end shall be made square and beveled to a 15° chamfer. All insertion lines should be re-drawn, according to the IPEX Pressure Pipe Installation Guide.

#### Molded Fittings

Blue Brute fittings shall conform to AWWA C907 "Polyvinyl Chloride (PVC) Pressure Fittings for Water (4" through 12")" and be certified to CSA B137.2 "PVC Injection Molded Gasketed Fittings for Pressure Applications." They shall also be UL Listed and FM approved.

#### Fabricated Fittings

Fabricated fittings shall be made from segments of AWWA C900 PVC pipe. Segments are bonded together and may be over-wrapped with fibreglass-reinforced polyester. The pressure class must match the pipe. The fittings must meet the requirements of CSA B137.3.

#### Lubricant

Pipe must be assembled with IPEX non-toxic, water soluble lubricant listed by the National Sanitation Foundation.

#### Color Coding

Water pipe and fittings shall be color coded blue.

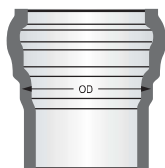
### Dimensions:

Blue Brute pipes and fittings are manufactured with cast-iron outside diameters (CIOD), which means that they are compatible with much of the existing infrastructure of older

iron pipes. This means that no special transition fittings are needed with Blue Brute.

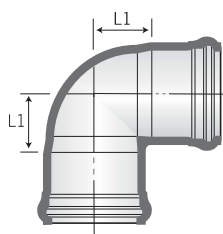
|      |     | DR 25 Class 165<br>AWWA pressure class 165 psi<br>CSA pressure rating 1 130 kPa |     |                     |       |         |     | DR 18 Class 235<br>AWWA pressure class 235 psi<br>CSA pressure rating 1 620 kPa |     |                     |       |         |     | DR 14 Class 305<br>AWWA pressure class 305 psi<br>CSA pressure rating 2 130 kPa |     |                     |       |         |     |
|------|-----|---|-----|---------------------|-------|---------|-----|---|-----|---------------------|-------|---------|-----|---|-----|---------------------|-------|---------|-----|
| Size |     | Avg. ID   |     | Min. Wall Thickness |       | Avg. OD |     | Avg. ID   |     | Min. Wall Thickness |       | Avg. OD |     | Avg. ID   |     | Min. Wall Thickness |       | Avg. OD |     |
| in   | mm  | in  | mm  | in                  | mm    | in      | mm  | in  | mm  | in                  | mm    | in      | mm  | in  | mm  | in                  | mm    | in      | mm  |
| 4    | 100 | 4.42  | 112 | 0.192               | 4.88  | 4.80    | 122 | 4.27  | 108 | 0.267               | 6.78  | 4.80    | 122 | 4.11  | 104 | 0.343               | 8.71  | 4.80    | 122 |
| 6    | 150 | 6.35  | 161 | 0.276               | 7.01  | 6.90    | 175 | 6.13  | 155 | 0.383               | 9.73  | 6.90    | 175 | 5.91  | 149 | 0.493               | 12.52 | 6.90    | 175 |
| 8    | 200 | 8.33  | 212 | 0.362               | 9.20  | 9.05    | 230 | 8.05  | 204 | 0.502               | 12.80 | 9.05    | 230 | 7.76  | 198 | 0.646               | 16.42 | 9.05    | 230 |
| 10   | 250 | 10.21   | 260 | 0.444               | 11.30 | 11.10   | 282 | 9.87  | 250 | 0.616               | 15.70 | 11.10   | 282 | 9.51  | 242 | 0.793               | 20.14 | 11.10   | 282 |
| 12   | 300 | 12.15   | 309 | 0.527               | 13.41 | 13.20   | 335 | 11.73   | 297 | 0.733               | 18.62 | 13.20   | 335 | 11.31   | 287 | 0.943               | 23.95 | 13.20   | 335 |

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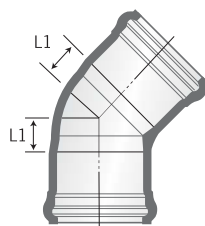
### Bell OD for Joint Restraint Selection

| Size |     | Minimum |     | Maximum |     |
|------|-----|---------|-----|---------|-----|
| in   | mm  | in      | mm  | in      | mm  |
| 4    | 100 | 5.44    | 138 | 5.61    | 142 |
| 6    | 150 | 7.84    | 199 | 8.03    | 204 |
| 8    | 200 | 10.29   | 261 | 10.55   | 268 |
| 10   | 250 | 12.63   | 322 | 12.96   | 329 |
| 12   | 300 | 15.07   | 383 | 15.46   | 393 |
| 14   | 350 | 17.28   | 439 | 17.73   | 450 |
| 16   | 400 | 19.64   | 448 | 20.17   | 512 |



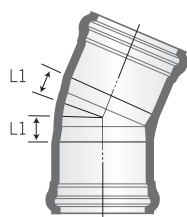
### 90° Elbow

| Size |     | L1  |     |
|------|-----|-----|-----|
| in   | mm  | in  | mm  |
| 4    | 100 | 2.6 | 67  |
| 6    | 150 | 4.3 | 108 |
| 8    | 200 | 5.5 | 140 |



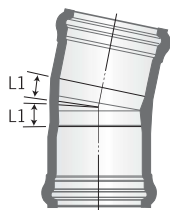
### 45° Elbow

| Size |     | L1  |    |
|------|-----|-----|----|
| in   | mm  | in  | mm |
| 4    | 100 | 1.3 | 33 |
| 6    | 150 | 1.8 | 46 |
| 8    | 200 | 2.2 | 56 |
| 10   | 250 | 2.7 | 70 |
| 12   | 300 | 3.2 | 82 |



### 22-1/2° Elbow

| Size |     | L1  |    |
|------|-----|-----|----|
| in   | mm  | in  | mm |
| 6    | 150 | 1.0 | 25 |
| 8    | 200 | 1.1 | 28 |
| 10   | 250 | 1.7 | 43 |
| 12   | 300 | 1.9 | 48 |



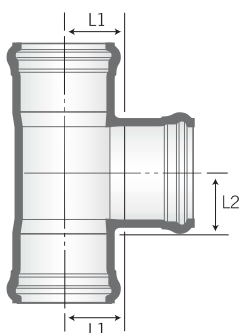
### 11-1/4° Elbow

| Size |     | L1  |    |
|------|-----|-----|----|
| in   | mm  | in  | mm |
| 4    | 100 | 3.0 | 75 |
| 6    | 150 | 0.8 | 20 |
| 8    | 200 | 0.9 | 23 |

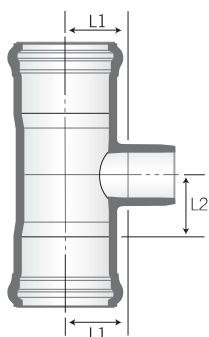
Note: Other DR's and sizes up to 48" (1200mm) are available on request.

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### Tee

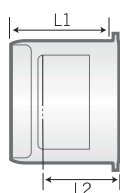


| Size         |                 | L1  |     | L2  |     |
|--------------|-----------------|-----|-----|-----|-----|
| in           | mm              | in  | mm  | in  | mm  |
| 4 x 4 x 4    | 100 x 100 x 100 | 2.6 | 67  | 2.6 | 67  |
| 6 x 6 x 4    | 150 x 150 x 100 | 4.0 | 102 | 3.3 | 87  |
| 6 x 6 x 6    | 150 x 150 x 150 | 4.3 | 108 | 4.3 | 108 |
| 8 x 8 x 4    | 200 x 200 x 100 | 5.1 | 130 | 3.6 | 91  |
| 8 x 8 x 6    | 200 x 200 x 150 | 5.3 | 136 | 4.7 | 120 |
| 8 x 8 x 8    | 200 x 200 x 200 | 5.6 | 143 | 5.8 | 148 |
| 10 x 10 x 4  | 250 x 250 x 100 | 6.7 | 171 | 6.7 | 171 |
| 10 x 10 x 6  | 250 x 250 x 150 | 6.7 | 171 | 6.7 | 171 |
| 10 x 10 x 8  | 250 x 250 x 200 | 6.7 | 171 | 6.7 | 171 |
| 10 x 10 x 10 | 250 x 250 x 250 | 6.7 | 171 | 6.7 | 171 |
| 12 x 12 x 4  | 300 x 300 x 100 | 7.7 | 195 | 7.7 | 195 |
| 12 x 12 x 6  | 300 x 300 x 150 | 7.7 | 195 | 7.7 | 195 |
| 12 x 12 x 8  | 300 x 300 x 200 | 7.7 | 195 | 7.7 | 195 |
| 12 x 12 x 10 | 300 x 300 x 250 | 7.7 | 195 | 7.7 | 195 |
| 12 x 12 x 12 | 300 x 300 x 300 | 7.7 | 195 | 7.7 | 195 |



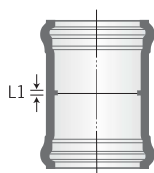
### Hydrant Tee

| Size        |                 | L1  |     | L2  |     |
|-------------|-----------------|-----|-----|-----|-----|
| in          | mm              | in  | mm  | in  | mm  |
| 10 x 10 x 6 | 250 x 250 x 150 | 7.0 | 178 | 6.7 | 171 |
| 12 x 12 x 6 | 300 x 300 x 150 | 8.1 | 206 | 7.7 | 195 |



### Reducing Adapter Spigot x Bell

| Size    |           | L1  |     | L2  |     |
|---------|-----------|-----|-----|-----|-----|
| in      | mm        | in  | mm  | in  | mm  |
| 6 x 4   | 150 x 100 | 5.6 | 141 | 4.3 | 108 |
| 8 x 6   | 200 x 150 | 6.5 | 165 | 5.7 | 145 |
| 10 x 8  | 250 x 200 | 7.0 | 178 | 5.8 | 147 |
| 12 x 10 | 300 x 250 | 7.9 | 202 | 6.6 | 167 |



### Coupling

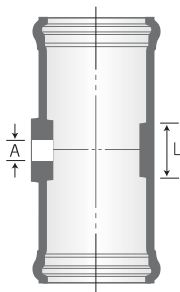
(available w/o center stop as a Repair Coupling)

| Size |     | L1  |    |
|------|-----|-----|----|
| in   | mm  | in  | mm |
| 4    | 100 | 0.2 | 5  |
| 6    | 150 | 0.3 | 8  |
| 8    | 200 | 0.3 | 7  |
| 10*  | 250 | 0.5 | 13 |
| 12*  | 300 | 0.5 | 13 |

\* One-piece machined coupling.

Note: 3/4" (20mm) Taps to 2" (50mm). Taps: AWWA Thread

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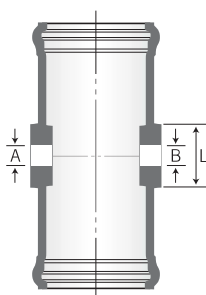
### Single Tapped Coupling

| Size           |                | A     |    | L1  |    |
|----------------|----------------|-------|----|-----|----|
| in             | mm             | in    | mm | in  | mm |
| 4 x 4 x 3/4    | 100 x 100 x 20 | 3/4   | 20 | 2.0 | 50 |
| 4 x 4 x 1      | 100 x 100 x 25 | 1     | 25 | 2.0 | 50 |
| 6 x 6 x 3/4    | 150 x 150 x 20 | 3/4   | 20 | 3.0 | 76 |
| 6 x 6 x 1      | 150 x 150 x 25 | 1     | 25 | 3.0 | 76 |
| 6 x 6 x 1-1/4  | 150 x 150 x 32 | 1-1/4 | 32 | 3.0 | 76 |
| 6 x 6 x 1-1/2  | 150 x 150 x 40 | 1-1/2 | 40 | 3.0 | 76 |
| 8 x 8 x 3/4    | 200 x 200 x 20 | 3/4   | 20 | 3.0 | 76 |
| 8 x 8 x 1      | 200 x 200 x 25 | 1     | 25 | 3.0 | 76 |
| 8 x 8 x 1-1/4  | 200 x 200 x 32 | 1-1/4 | 32 | 3.0 | 76 |
| 8 x 8 x 1-1/2  | 200 x 200 x 40 | 1-1/2 | 40 | 3.0 | 76 |
| 8 x 8 x 2      | 200 x 200 x 50 | 2     | 50 | 3.0 | 76 |
| 10 x 10 x 3/4* | 250 x 250 x 20 | 3/4   | 20 | 3.0 | 76 |
| 10 x 10 x 1*   | 250 x 250 x 25 | 1     | 25 | 3.0 | 76 |
| 12 x 12 x 3/4* | 300 x 300 x 20 | 3/4   | 20 | 3.0 | 76 |
| 12 x 12 x 1*   | 300 x 300 x 25 | 1     | 25 | 3.0 | 76 |

\* One-piece machined coupling.

Note: 3/4" (20mm) Taps to 2" (50mm). Taps: AWWA Thread

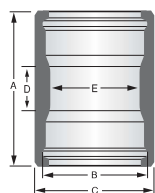
### Double Tapped Coupling



| Size            |               | A   |    | B     |    | L   |    |
|-----------------|---------------|-----|----|-------|----|-----|----|
| in              | mm            | in  | mm | in    | mm | in  | mm |
| 6 x 3/4 x 3/4   | 150 x 20 x 20 | 3/4 | 20 | 3/4   | 20 | 3.0 | 76 |
| 6 x 1 x 3/4     | 150 x 25 x 20 | 3/4 | 20 | 1     | 25 | 3.0 | 76 |
| 6 x 1 x 1       | 150 x 25 x 25 | 1   | 25 | 1     | 25 | 3.0 | 76 |
| 6 x 1-1/4 x 3/4 | 150 x 32 x 20 | 3/4 | 20 | 1-1/4 | 32 | 3.0 | 76 |
| 6 x 1-1/4 x 1   | 150 x 32 x 25 | 1   | 25 | 1-1/4 | 32 | 3.0 | 76 |
| 6 x 1-1/2 x 3/4 | 150 x 40 x 20 | 3/4 | 20 | 1-1/2 | 40 | 3.0 | 76 |
| 6 x 1-1/2 x 1   | 150 x 40 x 25 | 1   | 25 | 1-1/2 | 40 | 3.0 | 76 |
| 6 x 2 x 3/4     | 150 x 50 x 20 | 3/4 | 20 | 2     | 50 | 3.0 | 76 |
| 6 x 2 x 1       | 150 x 50 x 25 | 1   | 25 | 2     | 50 | 3.0 | 76 |
| 8 x 3/4 x 3/4   | 200 x 20 x 20 | 3/4 | 20 | 3/4   | 20 | 3.0 | 76 |
| 8 x 1 x 3/4     | 200 x 25 x 20 | 3/4 | 20 | 1     | 25 | 3.0 | 76 |
| 8 x 1 x 1       | 200 x 25 x 25 | 1   | 25 | 1     | 25 | 3.0 | 76 |
| 8 x 1-1/4 x 3/4 | 200 x 32 x 20 | 3/4 | 20 | 1-1/4 | 32 | 3.0 | 76 |
| 8 x 1-1/4 x 1   | 200 x 32 x 25 | 1   | 25 | 1-1/4 | 32 | 3.0 | 76 |
| 8 x 1-1/2 x 3/4 | 200 x 40 x 20 | 3/4 | 20 | 1-1/2 | 40 | 3.0 | 76 |
| 8 x 1-1/2 x 1   | 200 x 40 x 25 | 1   | 25 | 1-1/2 | 40 | 3.0 | 76 |
| 8 x 2 x 3/4     | 200 x 50 x 20 | 3/4 | 20 | 2     | 50 | 3.0 | 76 |
| 8 x 2 x 1       | 200 x 50 x 25 | 1   | 25 | 2     | 50 | 3.0 | 76 |

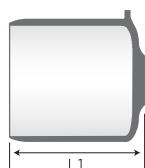
Note: 3/4" (20mm) Taps to 2" (50mm). Taps: AWWA Thread

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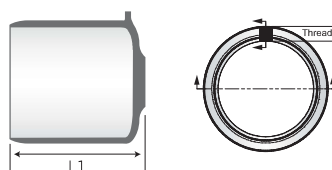
### High Deflection Coupling

| Size |     | L1  |    |
|------|-----|-----|----|
| in   | mm  | in  | mm |
| 10   | 250 | 3.5 | 89 |
| 12   | 300 | 3.5 | 89 |



### Plug

| Size |     | L1   |     |
|------|-----|------|-----|
| in   | mm  | in   | mm  |
| 4    | 100 | 6.5  | 164 |
| 6    | 150 | 7.8  | 198 |
| 8    | 200 | 9.1  | 231 |
| 10   | 250 | 10.2 | 258 |
| 12   | 300 | 9.8  | 249 |



### Tapped Plug (IPS Threads)

| Size      |          | L1  |     |
|-----------|----------|-----|-----|
| in        | mm       | in  | mm  |
| 4 x 3/4   | 100 x 20 | 6.5 | 164 |
| 4 x 1     | 100 x 25 | 6.5 | 164 |
| 4 x 1-1/2 | 100 x 40 | 6.5 | 164 |
| 4 x 2     | 100 x 50 | 6.5 | 164 |
| 6 x 3/4   | 150 x 20 | 7.8 | 198 |
| 6 x 1     | 150 x 25 | 7.8 | 198 |
| 6 x 1-1/2 | 150 x 40 | 7.8 | 198 |
| 6 x 2     | 150 x 50 | 7.8 | 198 |
| 8 x 3/4   | 200 x 20 | 9.1 | 231 |
| 8 x 1     | 200 x 25 | 9.1 | 231 |
| 8 x 1-1/2 | 200 x 40 | 9.1 | 231 |
| 8 x 2     | 200 x 50 | 9.1 | 231 |