

Catalog

**PROTERIAL**

GOURD  BRAND

# **MALLEABLE IRON PIPE FITTINGS**

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**Proterial, Ltd.**

## Technical Information

### 1) Material

Gourd Brand pipe fittings made of black heart malleable cast iron to ASTM A197

### 2) Spec

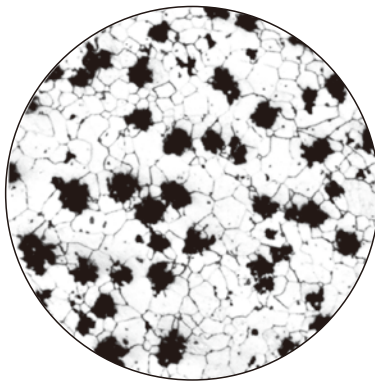
ANSI/ASME B16.3, B16.14, B16.39

### 3) Thread

ANSI/ASME B1.20.1(NPT), ISO7-1:1994(BS/DIN), BS21, DIN2999

### 4) Galvanized

ANSI/ASTM A153 / A153M - 09, BS EN ISO 1461: 2009



Microstructure of the Gourd Brand Black Heart Malleable Iron after Annealing (x100)

### 5) Pressure - Temperature Ratings

Maximum Working Pressure for Class 150lbs	
Temperature(°C)	Bar
-29 to 66	20.7
100	17.5
125	15.2
150	12.8
175	10.5*1

\*1 Permissible for service temperature up to 186°C, reflecting the temperature of saturated steam at 10.3 bar.

General Notes;

(a) 1bar = 14.5psi = 100kPa

(b)  $^{\circ}\text{C} = \frac{^{\circ}\text{F} - 32}{1.8}$

### 6) Tolerances

Size	Tolerance(mm)	Size	Tolerance(mm)
1/8	±0.8	1 1/2,2	±2.0
1/4	±1.0	2 1/2,3	±2.5
3/8	±1.3	4,5	±3.0
1/2,3/4	±1.5	6	±3.6
1, 1 1/4	±1.8		

## Ordering Information

1) When ordering the Gourd Brand Pipe Fittings, please specify the requirements:

- Type of thread.
- Black or Galvanized.
- Fig. No.
- Name, size and quantity.

2) To minimize handling costs, Gourd Brand Pipe Fittings shall require quantities suitable for exports.

3) To avoid confusion, Gourd Brand Pipe Fittings with different diameters should be described as follows:

#### **A** Two Ways Fittings

Larger diameter comes first, and smaller second.

**(Example)**  
1 X 3/4

1 — 3/4

#### **B** Three Ways Fittings

Larger diameter of the two on the same line comes first and smaller second, and the remaining third.

**(Example)**

1 X 2 X 3  
Large Small

1 X 1 X 3/4 or  
1 X 3/4

1 X 1 X 1 1/4

1 1/4 X 1 X 3/4

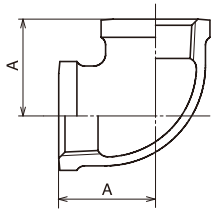
1 1/4 X 1 X 1

# Available Items and Sizes, Standard Class 150.

## Elbows 90° Banded Equal

Fig.002

BL

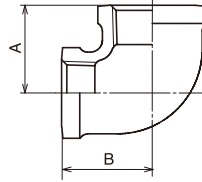


Size (Inch)	Dimension A
1/8	17.5
1/4	20.6
3/8	24.1
1/2	28.5
3/4	33.3
1	38.1
1 1/4	44.5
1 1/2	49.3
2	57.2
2 1/2	68.6
3	78.2
4	96.3
5	114.3
6	130.3

## Elbows 90° Banded Reducing

Fig.002

BRL

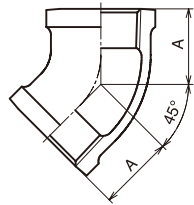


Size (Inch)	Dimensions	
	A	B
1/4X1/8	18.8	19.3
3/8X1/8	20.5	21.6
3/8X1/4	22.4	22.9
1/2X1/4	24.6	24.9
1/2X3/8	26.4	26.2
3/4X1/2	30.5	31.0
1X1/2	32.0	35.5
1X3/4	34.8	36.8
1 1/4X1/2	34.0	35.9
1 1/4X1	40.1	42.4
1 1/2X1/2 *	37.9	45.2
1 1/2X3/4	38.6	44.5
1 1/2X1	41.9	45.7
1 1/2X1 1/4	46.0	48.0
2X3/4	40.6	50.0
2X1	43.9	51.3
2X1 1/4	48.0	53.0
2X1 1/2	52.0	55.0
2 1/2X2	61.0	66.0
3X1 *	57.6	69.8
3X2	64.0	73.4

## Elbows 45° Banded Equal

Fig.004

BL45

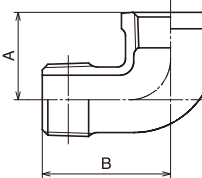


Size (Inch)	Dimensions A
1/2	22.4
3/4	24.9
1	28.5
1 1/4	32.8
1 1/2	36.3
2	42.7
2 1/2	49.5
3	55.1
4	66.3
6	87.9

## Street Elbows 90° Banded Equal

Fig.006

SL

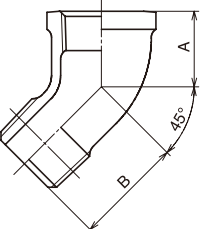


Size (Inch)	Dimensions	
	A	B
1/8	17.5	25.4
1/4	20.6	30.2
3/8	24.1	36.6
1/2	28.5	41.2
3/4	33.3	48.0
1	38.1	54.4
1 1/4	44.5	62.2
1 1/2	49.3	68.3
2	57.2	82.8
2 1/2	68.6	98.0
3	78.1	114.6
4	96.3	144.5

## Street Elbows 45° Banded Equal

Fig.007

SL45

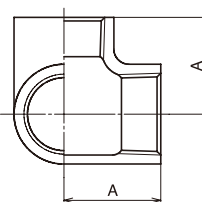


Size (Inch)	Dimensions	
	A	B
1/2	22.4	29.2
3/4	24.9	32.8
1	28.5	37.3
1 1/4	32.8	43.4
1 1/2	36.3	47.8
2	42.7	65.3

## Side Outlet Elbows Banded \*

Fig.009

SOL

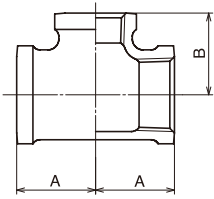


Size (Inch)	Dimensions A
1/2	29.3
3/4	34.1
1	39.3
1 1/4	45.3
1 1/2	50.6
2	58.5

**Tees Banded Reducing**

**Fig.011**

**BRT**

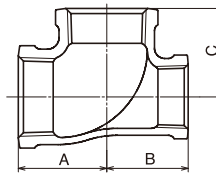


Size (Inch)	Dimensions	
	A	B
3/8X1/4	22.4	22.9
1/2X1/8 *	22.6	23.5
1/2X1/4	24.6	24.9
1/2X3/8	26.4	26.2
3/4X3/8	28.5	28.7
3/4X1/2	30.5	31.0
1X1/4	28.2	31.0
1X3/8	30.0	32.3
1X1/2	32.0	35.5
1X3/4	34.8	36.8
1 1/4X1/2	34.0	38.9
1 1/4X3/4	36.8	41.2
1 1/4X1	40.1	42.4
1 1/2X1/2	35.8	42.2
1 1/2X3/4	38.6	44.5
1 1/2X1	41.9	45.7
1 1/2X1 1/4	46.2	47.8
2X1/2	37.9	47.8
2X3/4	40.6	50.0
2X1	43.9	51.3
2X1 1/4	48.3	55.3
2X1 1/2	51.3	54.9
2 1/2X1/2 *	42.5	57.9
2 1/2X3/4	44.2	58.9
2 1/2X1	47.5	60.2
2 1/2X1 1/4	51.8	62.2
2 1/2X1 1/2	54.9	62.8
2 1/2X2	60.7	66.0
3X1/2	44.2	66.5
3X3/4	47.5	66.3
3X1	50.8	67.6
3X1 1/4	55.1	69.6
3X1 1/2	58.2	71.1
3X2	64.6	73.4
3X2 1/2	71.9	76.0
4X1 *	58.4	83.8
4X1 1/4*	62.3	87.4
4X1 1/2	63.4	84.3
4X2	69.6	86.6
4X2 1/2	77.5	88.2
4X3	83.8	91.4
6X4	104.9	125.5

**Tees Banded Reducing**

**Fig.011**

**BRT**



Size (Inch)	Dimensions		
	A	B	C
1/2X1/2X3/4 *	30.8	30.8	31.1
1/2X1/2X1 *	33.7	33.7	33.2
3/4X1/2X1/2	30.5	28.5	31.0
3/4X1/2X3/4	32.3	31.0	33.2
3/4X3/4X1 *	35.7	35.7	35.3
3/4X3/4X1 1/4	41.2	41.2	36.8
3/4X3/4X1 1/2 *	-	-	-
1X1/2X1/2	32.0	38.5	35.5
1X1/2X3/4	34.8	31.0	36.8
1X1/2X1	38.1	35.5	38.1
1X3/4X1/2	32.0	30.5	35.5
1X3/4X3/4	34.8	33.3	36.8
1X3/4X1	38.1	36.8	38.1
1X1X1 1/4	42.4	42.4	40.1
1X1X1 1/2	45.7	45.7	41.9
1 1/4X1/2X3/4 *	37.8	31.1	41.4
1 1/4X1/2X1	40.1	34.5	42.4
1 1/4X1/2X1 1/4	44.5	38.9	44.5
1 1/4X3/4X1 1/4	44.5	41.2	44.5
1 1/4X1X1/2	34.0	32.0	38.9
1 1/4X1X3/4	36.8	34.8	41.2
1 1/4X1X1	40.1	38.1	42.4
1 1/4X1X1 1/4	44.5	42.4	44.5
1 1/4X1 1/4X1 1/2	47.8	47.8	46.2
1 1/2X1/2X1 1/2	49.3	42.2	49.3
1 1/2X1X1	41.9	38.1	45.7
1 1/2X1X1 1/4	46.2	42.4	47.8
1 1/2X1X1 1/2	49.3	45.7	49.3
1 1/2X1 1/4X1/2	35.8	34.0	42.2
1 1/2X1 1/4X3/4	38.6	36.3	44.5
1 1/2X1 1/4X1	41.9	40.1	45.7
1 1/2X1 1/4X1 1/4	46.2	44.5	47.8
1 1/2X1 1/4X1 1/2	49.3	47.8	49.3
1 1/2X1 1/2X2	54.9	54.9	51.3
2X1/2X2	57.2	47.8	57.2
2X3/4X2	57.2	50.0	57.2
2X1X2	57.2	51.3	57.2
2X1 1/4X1 *	45.2	42.0	53.1
2X1 1/4X1 1/4	48.3	44.5	53.3
2X1 1/2X3/4 *	42.3	38.9	51.7
2X1 1/2X1	43.9	41.9	51.3
2X1 1/2X1 1/4	48.3	46.2	53.3
2X1 1/2X1 1/2	51.3	49.3	54.9
2 1/2X2X1 1/2	56.4	53.4	63.0
2 1/2X2X2	60.7	57.2	66.0
3X2X2	65.5	57.9	74.6

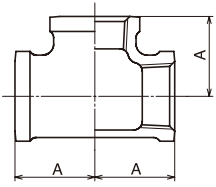
\*Item based on our own specification.

# Available Items and Sizes, Standard Class 150.

## Tees Banded Equal

Fig.011

BT

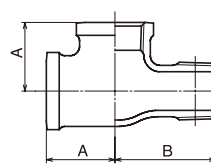


Size (Inch)	Dimension A
1/8	17.5
1/4	20.6
3/8	24.1
1/2	28.5
3/4	33.3
1	38.1
1 1/4	44.5
1 1/2	49.3
2	57.2
2 1/2	68.6
3	78.2
4	96.3
5	114.3
6	130.3

## Service Tees Banded Equal

Fig.012

ST

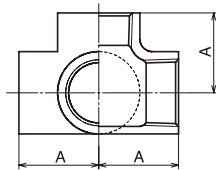


Size (Inch)	Dimension	
	A	B
1/2	28.5	41.4
3/4	33.3	48.0
1	38.1	54.4
1 1/4	44.5	62.2
1 1/2	49.3	68.3
2	57.2	82.8

## Side Outlet Tees Plain \*

Fig.013

SOT

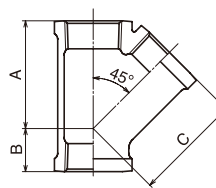


Size (Inch)	Dimension A
1/2	27.7
3/4	32.8
1	39.0
1 1/4	47.4
1 1/2	49.4
2	58.4

## Y Branches 45° Banded

Fig.014

BY45

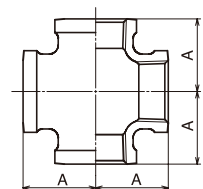


Size (Inch)	Dimension		
	A	B	C
1/2	45.4	15.5	43.4
3/4	52.1	18.5	52.1
1	61.7	21.6	61.7
1 1/4	74.2	25.9	74.2
1 1/2	83.5	29.9	83.5
2	99.8	37.1	99.8

## Cross Banded Equal

Fig.016

BCR

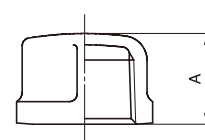


Size (Inch)	Dimension A
1/2	28.5
3/4	33.3
1	38.1
1 1/4	44.5
1 1/2	49.3
2	57.2
2 1/2	68.6
3	78.2
4	96.3

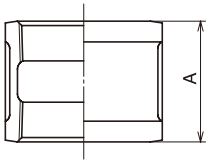
## Caps Banded

Fig.018

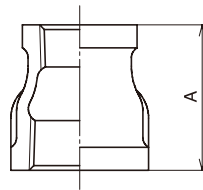
BCA



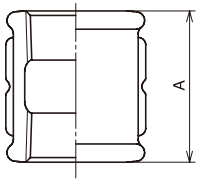
Size (Inch)	Dimension A
1/8	13.5
1/4	16.0
3/8	18.8
1/2	22.1
3/4	24.6
1	29.5
1 1/4	32.5
1 1/2	33.8
2	36.8
2 1/2	43.2
3	45.7
4	52.8

**Sockets Banded Equal With Ribs**
**Fig.020**
**BS**


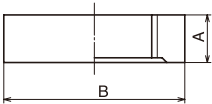
Size (Inch)	Dimension A
1/8	24.2
1/4	26.9
3/8	29.5
1/2	34.0
3/4	38.6
1	42.4
1 1/4	49.0
1 1/2	54.6
2	64.3
2 1/2	73.2
3	80.8
4	93.7
5 *	97.0
6 *	107.3

**Reducing Sockets Banded**
**Fig.022**
**BRS**


Size (Inch)	Dimension A
1/4X1/8	25.4
3/8X1/8	28.7
3/8X1/4	28.7
1/2X1/8	31.8
1/2X1/4	31.8
1/2X3/8	31.8
3/4X3/8	38.6
3/4X1/2	36.6
1X3/8	42.9
1X1/2	42.9
1X3/4	42.9
1 1/4X1/2	52.3
1 1/4X3/4	52.3
1 1/4X1	52.3
1 1/2X1/2	58.7
1 1/2X3/4	58.7
1 1/2X1	58.7
1 1/2X1 1/4	58.7
2X1/2	71.4
2X3/4	71.4
2X1	71.4
2X1 1/4	71.4
2X1 1/2	71.4
2 1/2X1	82.6
2 1/2X1 1/4	82.6
2 1/2X1 1/2	82.6
2 1/2X2	82.6
3X3/4	93.7
3X1	93.7
3X1 1/4	93.7
3X1 1/2	93.7
3X2	93.7
3X2 1/2	93.7
4X2	111.3
4X2 1/2	111.3
4X3	111.3
6X4 *	107.8

**Sockets Right & Left Hand Threads With \***
**Fig.020A**
**EBS**


Size (Inch)	Dimension A
3/8	31.2
1/2	36.0
3/4	40.9
1	46.4
1 1/4	51.2
1 1/2	56.2
2	60.9

**Locknuts**
**Fig.024**
**LN**


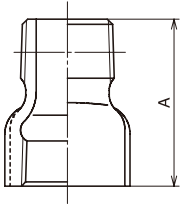
Size (Inch)	Dimension	
	A	B
1/2	7.9	30.0
3/4	8.6	36.3
1	9.7	44.5
1 1/4	10.7	53.3
1 1/2	11.9	59.7
2	13.5	73.2
2 1/2	15.0	88.9
3	17.0	108.5
4	20.3	136.7

# Available Items and Sizes, Standard Class 150.

## Extension Pieces Banded \*

Fig.025

X

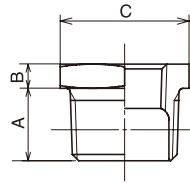


Size (Inch)	Dimensions A
3/8	35.2
1/2	43.2
3/4	49.7
1	56.8
1 1/4	62.3
1 1/2	66.9
2	72.3

## Bushings

Fig.026

BU

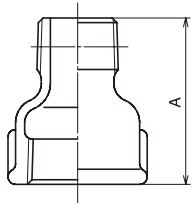


Size (Inch)	Dimensions		
	A	B	C
1/4X1/8	11.2	3.6	16.3
3/8X1/8	12.2	4.1	17.3
3/8X1/4	12.2	4.1	17.3
1/2X1/8	14.2	4.8	22.1
1/2X1/4	14.2	4.8	22.1
1/2X3/8	14.2	4.8	22.1
3/4X1/8	16.0	5.6	29.2
3/4X1/4	16.0	5.6	29.2
3/4X3/8	16.0	5.6	29.2
3/4X1/2	16.0	5.6	29.2
1X1/8 *	20.2	7.5	39.0
1X1/4 *	20.2	7.5	39.0
1X3/8 *	22.5	7.7	39.0
1X1/2	19.1	6.4	36.1
1X3/4	19.1	6.4	36.1
1 1/4X1/2 *	22.1	9.1	47.5
1 1/4X3/4	20.3	7.1	44.7
1 1/4X1	20.3	7.1	44.7
1 1/2X3/8 *	25.3	10.0	55.8
1 1/2X1/2 *	25.5	10.0	55.8
1 1/2X3/4 *	25.7	10.0	55.8
1 1/2X1	21.1	7.9	50.8
1 1/2X1 1/4	21.1	7.9	50.8
2X3/8 *	27.6	11.8	65.0
2X1/2 *	27.2	12.2	65.2
2X3/4 *	27.3	11.9	64.8
2X1 *	27.3	11.7	64.3
2X1 1/4	22.4	8.6	63.0
2X1 1/2	22.4	8.6	63.0
2 1/2X3/4 *	31.1	11.6	82.1
2 1/2X1 *	31.1	11.6	82.6
2 1/2X1 1/4 *	30.9	11.0	82.1
2 1/2X1 1/2	27.2	11.2	68.1
2 1/2X2	27.2	9.4	75.7
3X1 *	35.0	12.7	98.0
3X1 1/4 *	35.0	12.7	98.0
3X1 1/2 *	35.0	12.7	98.0
3X2	28.7	12.2	83.3
3X2 1/2	28.7	10.2	98.0
4X1 *	39.7	15.1	123.0
4X1 1/4 *	40.0	14.8	123.3
4X1 1/2 *	40.0	15.4	123.3
4X2 *	40.0	14.9	123.0
4X2 1/2 *	40.6	14.5	123.3
4X3	31.0	12.7	117.3
5X2 *	58.6	15.1	149.0
5X3 *	58.6	15.9	147.5
5X4	33.3	12.7	147.1
6X3 *	66.4	20.0	177.5
6X4 *	66.4	18.6	178.3
6X5	35.6	16.0	179.1

## Sokets Reducing Male & Female \*

Fig.025A

MFS

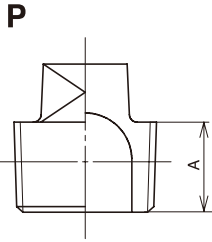


Size (Inch)	Dimensions A
1/2X3/8	43.6
3/4X1/2	49.3
1X3/4	56.5
1 1/4X1/2	59.4
1 1/4X1	61.5
1 1/2X3/4	61.6
1 1/2X1	61.8
1 1/2X1 1/4	64.6
2X1	69.9
2X1 1/4	70.1
2X1 1/2	71.6



**Plugs Plain**

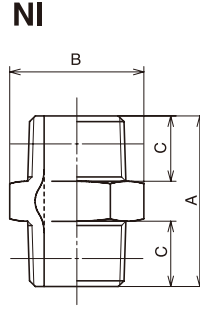
**Fig.028**



Size (Inch)	Dimensions	
	A	
1/4	11.2	
3/8	12.2	
1/2	14.2	
3/4	16.0	
1	19.1	
1 1/4	20.3	
1 1/2	21.1	
2	22.4	
2 1/2	27.2	
3	28.7	
4 *	31.0	

**Nipples Equal \***

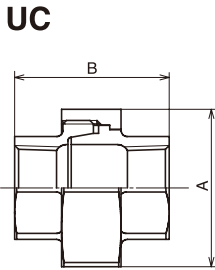
**Fig.032**



Size (Inch)	Dimension		
	A	B	C
1/8	32.0	14.0	11.0
1/4	34.0	17.0	12.0
3/8	36.0	21.0	13.0
1/2	45.0	26.0	18.5
3/4	48.0	31.0	19.5
1	53.0	38.0	21.5
1 1/4	56.0	46.0	23.0
1 1/2	60.0	54.0	24.0
2	70.0	69.0	29.0
2 1/2	76.0	80.0	29.5
3	84.0	95.0	33.5
4	95.0	120.0	38.5
5	110.0	145.0	44.0
6	116.0	170.0	46.0

**Unions Taper Seat Iron to Iron Female \***

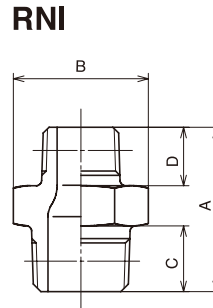
**Fig.031A**



Size (Inch)	Dimension	
	A	B
1/4	31.0	40.0
3/8	37.0	43.0
1/2	42.0	46.5
3/4	49.0	50.5
1	59.0	57.0
1 1/4	69.0	64.0
1 1/2	78.0	69.5
2	93.0	76.5
2 1/2	112.0	85.0
3	127.0	94.0
4	158.0	113.0

**Nipples Reducing \***

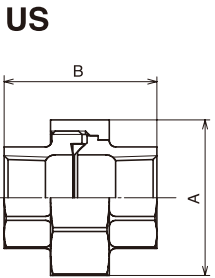
**Fig.032A**



Size (Inch)	Dimension			
	A	B	C	D
3/8X1/4	38.0	21.0	14.5	13.5
1/2X1/4	42.5	26.0	18.5	14.0
1/2X3/8	43.0	26.0	18.5	14.5
3/4X3/8	43.2	32.3	18.7	13.5
3/4X1/2	47.0	32.0	19.0	17.0
1X1/2	52.0	38.0	22.0	18.0
1X3/4	53.0	38.0	22.0	19.0
1 1/4X3/4	56.0	46.0	23.5	20.5
1 1/4X1/2	52.0	46.0	22.0	18.0
1 1/4X1	59.0	46.0	23.0	24.0
1 1/2X1/2	63.0	54.0	23.0	20.0
1 1/2X1	60.0	54.0	23.0	24.0
1 1/2X1 1/4	68.0	54.0	23.0	23.0
2X1	68.0	63.0	27.5	25.0
2X1 1/4	70.5	63.0	27.5	25.0
2X1 1/2	70.0	63.0	27.5	27.0
2 1/2X1 1/2	68.0	80.0	28.0	23.0
2 1/2X2	70.0	80.0	28.0	25.0
3X2	86.0	95.0	40.0	29.0
3X2 1/2	77.0	95.0	32.0	28.0
4X2	80.0	120.0	37.0	25.0
4X3	87.0	120.0	37.0	32.0

**Unions Brass to Iron Seat Female**

**Fig.031B**



Size (Inch)	Dimension	
	A(min.)	B(min.)
1/2	37.0	43.5
3/4	43.5	49.5
1	52.5	52.5
1 1/4	63.5	57.5
1 1/2	71.5	61.0
2	86.5	70.0
2 1/2	104.5	82.0
3	120.5	89.0
4	152.5	98.0

\* Item based on our own specification.

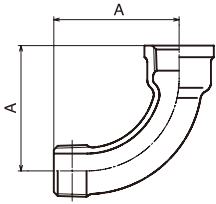


# Available Items and Sizes, Standard Class 150.

**Bends 90° Bended Male & Female \***

**Fig.033B**

**BMBE**

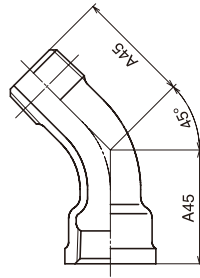


Size (Inch)	Dimensions A
3/8	45.3
1/2	51.8
3/4	65.8
1	82.6
1 1/4	101.2
1 1/2	115.9
2	141.5
2 1/2	173.0
3	206.1
4	260.0

**Bends 45° Bended Male & Female \***

**Fig.033C**

**BMBE45**

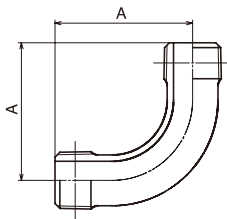


Size (Inch)	Dimensions A
1/2	38.7
3/4	45.4
1	55.8
1 1/4	63.5
1 1/2	70.4
2	86.3
2 1/2	100.0
3	115.0
4	145.0

**Bends 90° Male \***

**Fig.035**

**OBE**

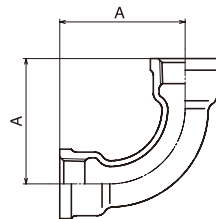


Size (Inch)	Dimension A
1/2	52.4
3/4	66.1

**Bends 90° Bended Female \***

**Fig.036B**

**BIBE**

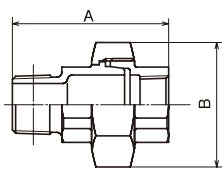


Size (Inch)	Dimension A
3/8	44.0
1/2	52.0
3/4	65.0
1	82.6
1 1/4	100.7
1 1/2	115.9
2	140.0
2 1/2	171.5
3	205.0
4	260.0

**Unions Taper Seat Male Female \***

**Fig.040A**

**MUC**

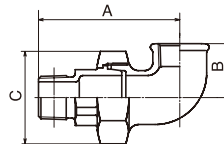


Size (Inch)	Dimension	
	A	B
3/8	57.5	37.0
1/2	65.0	42.0
3/4	71.5	49.0
1	80.8	59.0
1 1/4	90.8	69.0
1 1/2	96.5	78.0
2	107.5	93.0
2 1/2	119.8	112.0
3	131.7	127.0

**Union Elbows Taper Seat Male & Female \***

**Fig.043A**

**MULC**

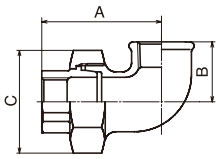


Size (Inch)	Dimension		
	A	B	C
1/2	78.5	27.0	42.0
3/4	87.0	33.0	49.0
1	98.3	38.0	59.0
1 1/4	110.3	45.0	69.0
1 1/2	122.0	50.0	78.0
2	136.5	58.0	93.0

**Unions Elbow Taper Seat Female \***

**Fig.040A**

**ULC**

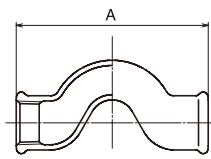


Size (Inch)	Dimension		
	A	B	C
1/2	60.5	27.0	42.0
3/4	66.5	33.0	49.0
1	74.8	38.0	59.0
1 1/4	83.8	45.0	69.0
1 1/2	95.5	50.0	78.0
2	106.0	58.0	93.0

**Crossovers, Equal \***

**Fig.050**

**NOS**



Size (Inch)	Dimension A
1/2	93.2
3/4	112.8
1	141.6

\*Item based on our own specification.

## Outline for Standard Class 300.

**Pressure - Temperature Ratings**

Maximum Working Pressure for Class 300lbs, Bar				
Temperature(°C)	1/4 - 1	1 1/4 - 2	2 1/2 - 3	Unions
-29 to 66	137.9	103.4	69.0	41.4
100	119.6	90.5	61.5	37.5
125	106.4	91.1	56.1	34.6
150	93.1	71.8	50.7	31.7
175	79.9	62.5	45.2	28.9
200	66.6	53.1	39.8	26.0
225	53.4	43.8	34.3	23.1
250	40.1	34.5	28.9	20.3
275	26.9	25.2	23.4	17.4
288	20.7	20.7	20.7	15.9

**Available Items**

Fig.	Name and abbreviation	Size (Inch)
650	90° Elbows	HBL 1/2 - 5
652	45° Elbows	HBL45 1/2 - 5
653	90° Street Elbows	HSL 1/2 - 3
654	Tees	HBT 1/2 - 4
655	Reducing Tees	HBRT 3/4X1/2-2X1 1/2
656	Sockets	HBS 1/2 - 3
657	Reducing Sockets	HBRS 3/4X1/2-2X1 1/2
658	Caps	HBCA 1/2 - 3
659	Bushing	HBU 3/4X1/2-4X3
661	Union Brass to Iron Seat Female	HUS 1/2 - 3

For further details, please contact us.

