

20 successful years of  
PURITY & SUSTAINABILITY

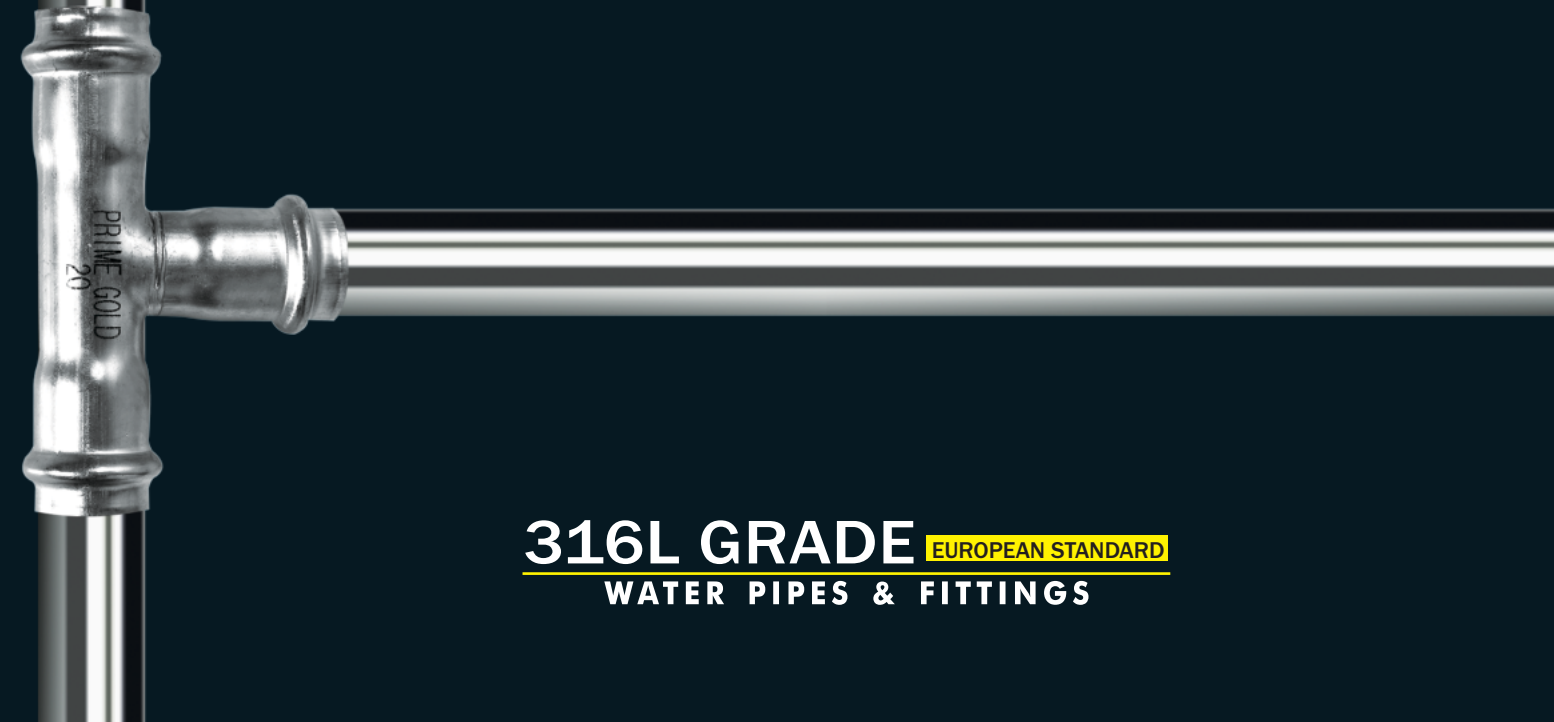


**PRIMEGOLD**  
S.S. WATER PIPES & FITTINGS

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S.S. WATER PIPES

**AVIRA INFRATECH LIMITED**

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**316L GRADE** EUROPEAN STANDARD  
WATER PIPES & FITTINGS

## Profile

Ten years of extensive Research & Development in the field of plumbing pipes in order to solve the problem of leakage, ensure seepage free walls, hygienic water flow and to control increasing pollution hazards in various industries like chemical, pharmaceutical and food & beverage environment, Sh. Pradeep Aggarwal, an Industrialist, with vast experience in the steel industry got success in the year 2004. He ushered in a new era of manufacturing /marketing and distribution of infrastructure related product Primegold S. S. Water Pipes in the Indian market. Now, stainless steel has emerged as an alloy that is increasingly preferred for several plumbing projects.

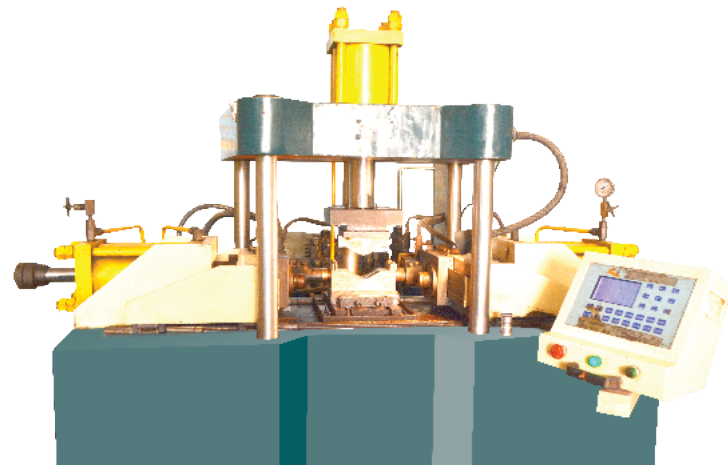
Primegold 316L European Standard Grade Stainless Steel Pipe is one of the most hygienic pipes from the standpoint of water

plumbing and environment as well. It is lightweight and can be used anywhere. Moreover it is strong enough to handle any pressure and offers easiest food grade approved plumbing.

Further, Primegold Pipes have lower friction as compared to cement lined or corroded carbon steel pipes ensuring less loss of water pressure along the pipeline. This provides an opportunity to diminish the internal diameter of the pipe and save capital cost. This is also a reason for a lower adhesion of deposits as well as lower bacteria colonization. It is also tolerant to high flow rates.

### Preview

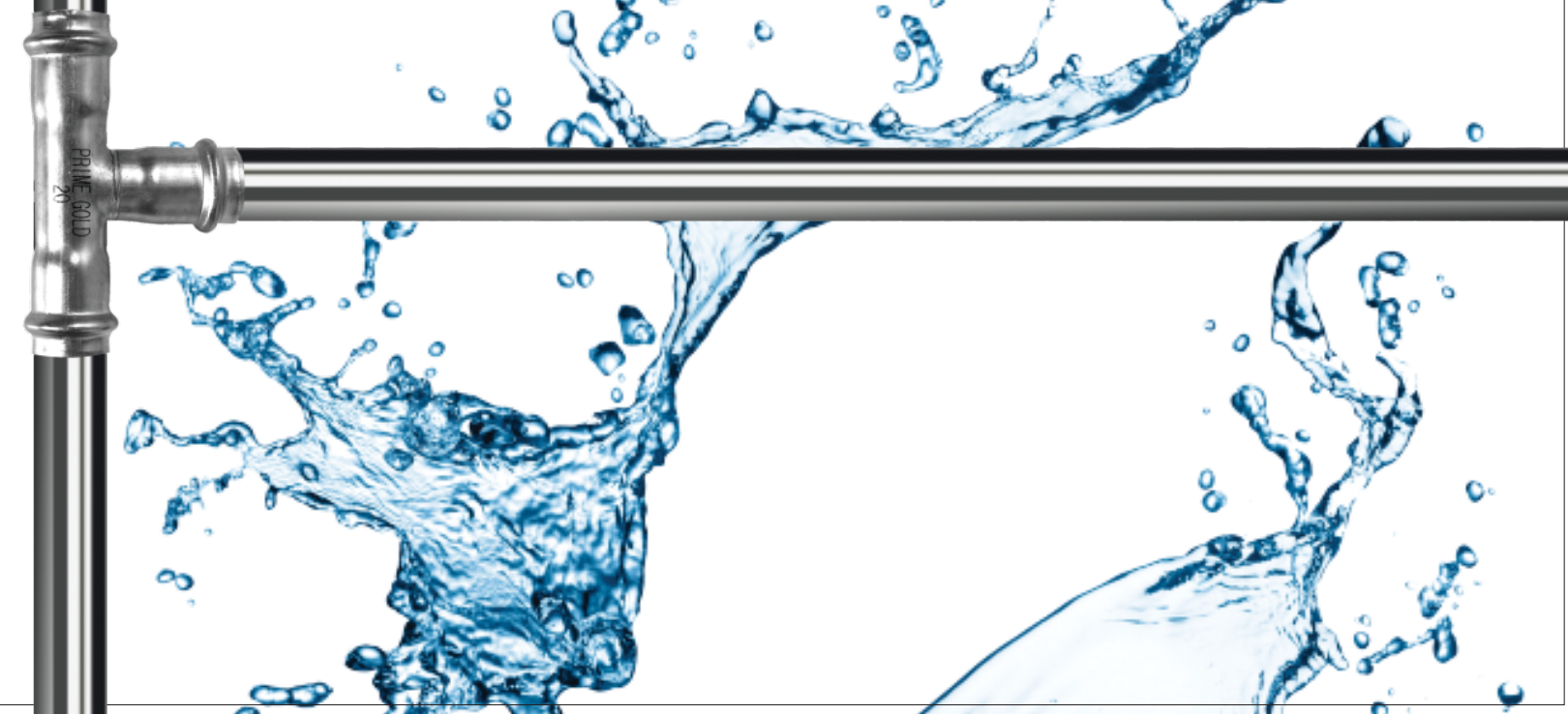
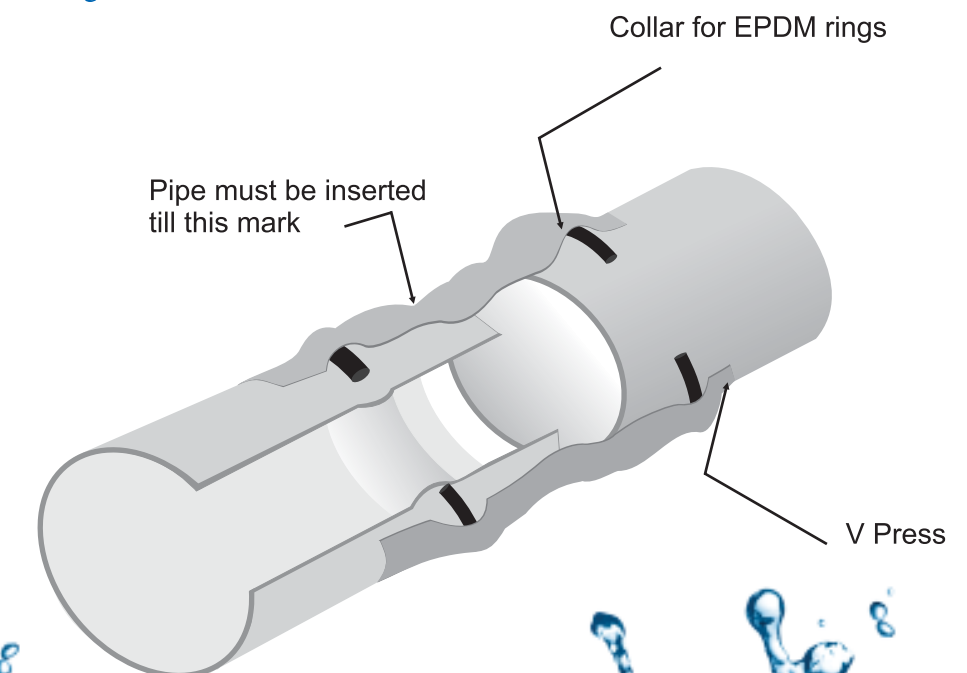
- Primegold Stainless Steel Plumbing System
- Advantages of Primegold Stainless Steel Integrated Plumbing System
- Pipe & Fitting Range
- Certification
- Properties of Primegold Steel Pipes
- Application of Primegold Stainless Steel Plumbing System
- Comparison of Various Plumbing Materials
- 316L European Standard Grade Fittings & Crimping Tools
- 316L European Standard Fitting Dimension



## Primegold Stainless Steel Plumbing System Grade 316L European Standard

The integrated plumbing system consists of Stainless Steel Pipes and Fittings for distribution of water in various segments namely residential, commercial, industrial etc. It is available in all normal sizes used in Indian market.

### V Press Fittings



# Advantages of Primegold Stainless Steel Integrated Plumbing System

## Corrosion Resistant

Primegold Stainless Steel is corrosion resistant steel. Corrosion is phenomenon as per oxide film theory whereby a thin, stable oxide film with passive coating is formed on the surface of a metal which protects from corrosion, while other plumbing systems like GI system are faster corroding with heavy re-installation costs and minimum service life on the other hand Stainless Steel continues to serve for several years.

## Hygienic

Using Primegold S. S. Water Pipe ensures water quality of portable water which gets compromised by using non food grade plumbing system.

## Minimum Maintenance

Once Primegold Stainless Steel Pipes is installed in the building, users will be free of heavy maintenance because it is designed for a minimum 100 years of service with minimum maintenance.

Primegold Stainless Steel Pipes, fitting and tools provide advantages to the user like easy installation in place of restricted accessibility in few seconds because of crimping tools, saves time and money, installation is very fast and durable.

## Easy Installation

Due to hydraulic or electro-mechanical pressing tools, installation of Stainless Pipe and Fittings are easy. No welding or threading of the pipe is require for installation.

## Weight

With the help of press fitting tools, pipes are joined by pressing instead of threaded joints. So, thickness of the wall is reduced. Stainless Steel Pipe is made up of high strength material, therefore is able to hold up more stress than G.I. In addition to this, the corrosion resistance of stainless steel significantly increases the life of the system.

## Earthquake Resistant

Earthquake programme conducted by Japanese Stainless Steel Association's (JSSA) on a structure to stimulate earthquake found Stainless Steel bears up earthquakes.

## Life

Stainless Steel plumbing system are in harmony with nature, conserve energy, and easy in maintenance. As per the \*CBRI report Primegold Stainless Steel Pipes has more than 100 years life with minimum maintenance.

## Tolerate High Pressure of Liquids and Gasses

Stainless Steel Pipe is made-up of high strength material which can take the pressure upto 16 bars.

## Smoother Bore

Due to low coefficient of friction, it provides lower pumping cost and almost insignificant loss of pressure.

## No Risk of Fire

Without using any fire protection stainless steel pipes can be installed in fire risk areas, because it is non-flammable.

## Environmental Benefit

Supply of water through stainless steel is quality wise better for drinking because stainless steel is corrosion free and will not cause contamination.

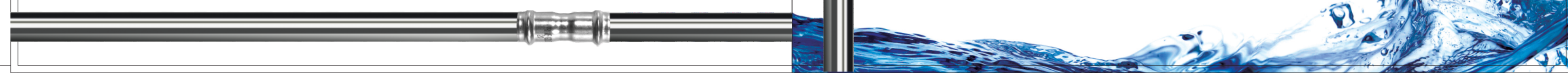
## Recyclable

It is easily recycled and their alloy content is highly valued. For the recycling process ferrous material are used, which produce on an average 60% recycled content.

## Length

Primegold Stainless Steel Pipes are available in Indian market in a comfortable length of 3 meters.

\* as compared to G.I pipes



# Pipe and Fitting Range

Size	OD (in mm)	Pipe Thickness (in mm)	Fitting Thickness (in mm)
1/2"	15.00	1.00	1.50
3/4"	22.00	1.20	1.50
1"	28.00	1.20	1.50
1 1/4"	35.00	1.50	1.50
1 1/2"	42.00	1.50	1.50
2"	54.00	1.50	1.50
2 1/2"	76.10	2.00	2.00
3"	88.90	2.00	2.00

\* Pipe as per European Standard



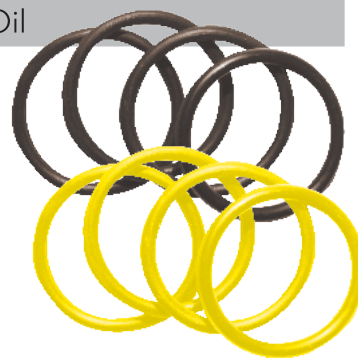
## EPDM detail for Water Plumbing\*

Material	Percentage	Function
EPDM Rubber	32.00%	
Filling (Calcium Carbonate)	16.00%	Stabilize, avoid D-shaper of rubber
Reinforce (N330, N550)	31.20%	Provide crack resistance
Softener (Paraffine Oil No.-300)	15.20%	Avoiding penetration due to moisture
Accelerator	01.12%	Provide high physical property
Vulcanizer	00.64%	Provide weather resistance and ageing resistance
Other	03.84%	To give shape
<b>Total</b>	<b>100.00%</b>	



## Other EPDM Detail\*

Material	Colour	Temp.	Function	Usage
Fluororubber	Brown	-30°C -170°C	16	Steam high temperature hot water
HNBR	Yellow	-40°C -150°C	16	Gas Fuel Oil



## Crimping Tool

Height	: 203mm
Length	: 395 mm
Width	: 81 mm
Weight	: 3 kg
Compression Range	: 54mm



\* Prior Information required for special purpose EPDM

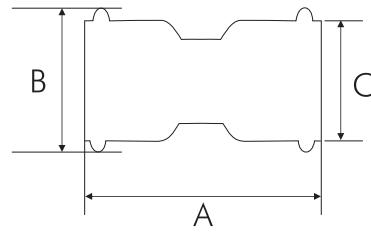
\*Suitable for Drinking water as per IS 10500  
Maximum Chloride level upto 1000 ppm

# Comparison of Various Plumbing Materials

Parameter	GI	PPR	CPVC	COMPOSITE	COPPER	S.S	Why SS is better
Corrosion Resistance	1	5	5	5	4	5	Stainless Steel grades 316L European Standard have better corrosion resistance. Even copper has Green corrosion of Copper Sulphate which is poisonous.
Hygiene	1	3	3	4	4	5	"Food Grade, Recommended for Drinking water, Food & Pharma equipment"
Maintenance Free Life	1	3	2	1	3	5	Minimum replacement costs
Enhances Building Life	1	3	3	1	4	5	Negligible leakage, hence least damage to building
Strength of Pipes	4	2	1	1	3	5	Stainless Steel is the strongest among competing materials
Ease of Installation	2	2	3	3	2	5	Fast installation with low skill worker
Earthquake Proof	3	2	2	5	3	5	Withstands the vibrations and shocks due to its ductile nature
Cleanability	1	2	2	2	4	5	Lowest deposit buildup due to smooth surface
Food Grade	1	2	2	2	4	5	Meets all food grade standards
High Temperature Application	3	1	1	1	4	5	Retains strength at high temperature
Low Temperature Application	3	1	1	1	3	5	Is not brittle at low temperature, unlike Plastic or G.I
Fire Resistant	4	1	1	1	3	5	Withstands High Temperature
Experience of Usage	5	1	1	1	5	5	Worldwide usage experience of 30-40 years
Outside Painting Required	1	5	5	5	5	5	No need of Painting
Deposition of Algae	2	1	1	2	3	5	Smooth surface prevents algae buildup
Blockage Problem	1	2	2	2	4	5	No deposit buildup hence no blockage
Damage due to Drilling	4	1	1	1	4	5	Strongest material doesn't get damaged due to drilling
High Flow Rate of Water	2	3	3	2	3	5	Smooth and Wear resistant at High Flow rate
Low Roughness (less scaling)	1	3	3	2	4	5	Smooth surface prevents deposition
Usage in Public Building	1	1	1	1	2	5	Strong material not easily gets damaged
Wear Resistant	1	1	1	1	1	5	Not effected by sand or high flow rate
Joint Assurance System	3	1	1	1	2	5	"No welding or Solution joining. Permanent Mechanical joint checked for each joint by gauge"
Saves Pumping Energy	1	3	3	2	4	5	Smooth surface need less electricity
Water Quality affect	1	5	5	5	4	5	No change in water quality during storage
Pressure Rating	3	2	1	1	3	5	Highest design pressure rating of 25 bar
Joint Strength	2	1	1	1	2	5	Press fit joint has fool proof and high strength joint
Application Range	3	2	2	2	4	5	Used for Air, Water & many Gases
Less conduiting (Jhiri) Requirement	2	1	1	3	3	5	As pipe dia is less
High Wall Strength	3	1	1	3	3	5	Less Brick cutting for piping retains its strength
Saving in Labour Cost	1	4	5	5	1	5	Fast installation with low skill worker
Saving in Installation Time	1	3	3	5	1	5	Fast to install (approx 1/3rd time of G.I Piping)
Application in High Rise Building	3	2	2	2	4	5	Not affected by Vibration and Wind Speeds
Reduces Space requirement Shafts	2	1	1	2	3	5	Since lower dia is possible, saving in Shaft sizes possible
Life Cycle Cost	1	3	3	1	4	5	Lowest life cycle cost
Equivalent ID (NB sizes shown)	1/2"	1"	1"	1"	1/2"	1/2"	Plastics are commonly denoted by OD sizes
Low Diameter possible (eg. OD)	3/4"	1"	1"	1"	1/2"	1/2"	High flow rates, less deposits, allow for use of low diameter
Cost Index (G.I = 100%),incl. Labour	100	90	80	110	200	140	Slightly more than G.I and others
Total 5* Ratings	1	3	4	6	2	34	Highest rating in most parameters

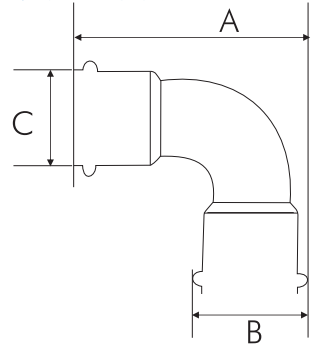


### Socket



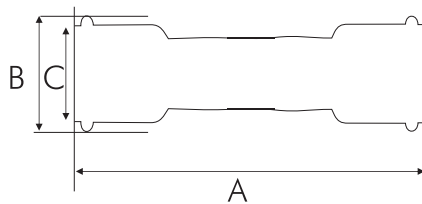
Size	A	B	C
1/2"	53.50	23.00	18.50
3/4"	57.40	31.40	25.70
1"	58.50	37.40	31.60
1 1/4"	67.50	44.60	38.80
1 1/2"	78.30	53.40	45.70
2"	92.40	65.50	58.00

### A 90° Elbow



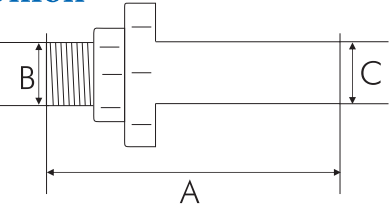
Size	A	B	C
1/2"	55.00	23.00	18.50
3/4"	77.00	31.40	25.70
1"	92.00	37.40	31.60
1 1/4"	109.00	44.60	38.80
1 1/2"	142.00	53.40	45.70
2"	175.00	65.50	58.00

### Slip Socket



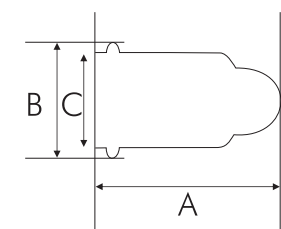
Size	A	B	C
1/2"	79.50	23.00	18.50
3/4"	87.50	31.40	25.70
1"	100.00	37.40	31.60
1 1/2"	119.00	44.60	38.80

### Union



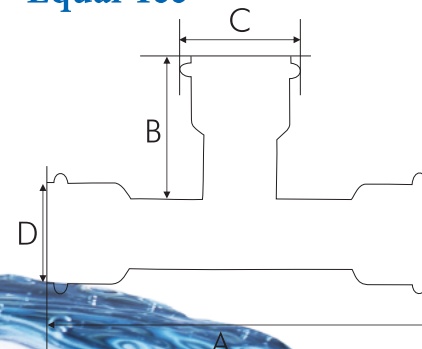
Size	A	B	C
1/2"	120.50	21.00	15.00
3/4"	143.00	26.00	22.00
1"	150.00	33.00	28.00
1 1/4"	159.00	41.00	35.00
1 1/2"	163.00	47.00	42.00
2"	168.00	59.50	54.00

### Cap



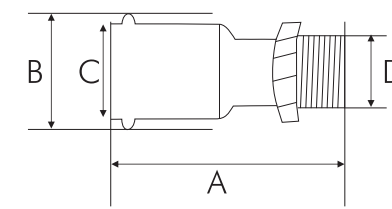
Size	A	B	C
1/2"	49.00	23.00	18.50
3/4"	38.00	31.40	25.70
1"	40.00	37.40	31.60
1 1/4"	44.60	44.60	38.80
1 1/2"	54.00	53.40	45.70
2"	62.00	65.50	58.00

### Equal Tee



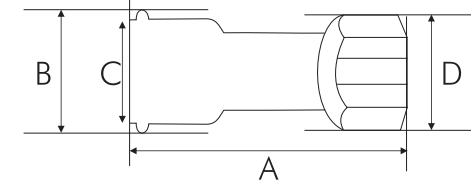
Size	A	B	C	D
1/2"	82.60	37.50	23.00	18.50
3/4"	88.20	41.00	31.40	25.70
1"	100.00	40.80	37.40	31.60
1 1/4"	117.60	43.80	44.60	38.80
1 1/2"	139.80	50.70	53.40	45.70
2"	184.00	54.00	65.50	58.00

### Male Adaptor



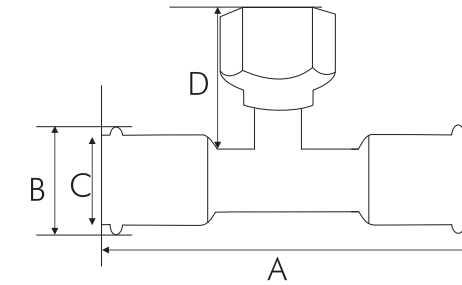
Size	A	B	C	D
1/2"	53.00	23.00	18.50	21.00
3/4"	55.50	31.40	25.70	26.00
1"	61.20	37.40	31.60	33.00
1 1/4"	80.00	44.60	38.80	41.50
1 1/2"	80.00	53.40	45.70	47.00
2"	94.50	65.50	58.00	59.50

### Female Adaptor



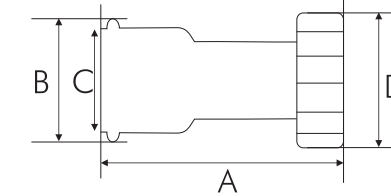
Size	A	B	C	D
1/2"	48.80	23.00	18.50	27.60
3/4"	67.30	31.40	25.70	34.20
1"	58.00	37.40	31.60	41.20
1 1/4"	75.60	44.60	38.80	57.60
1 1/2"	77.50	53.40	45.70	68.60
2"	102.00	65.50	58.00	80.50

### Branch Tee Female Outlet



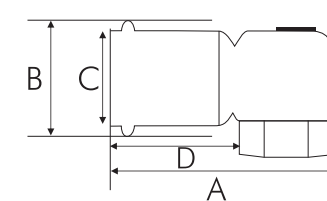
Size	A	B	C	D
1/2"	82.20	23.00	18.50	24.00
3/4"	88.20	31.40	25.70	33.20
1"	99.80	37.40	31.60	32.80

### Valve Connector



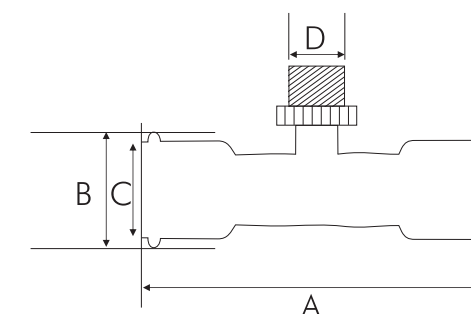
Size	A	B	C	D
1/2"	57.40	23.00	18.50	28.20
3/4"	53.50	31.40	25.70	34.50
1"	59.00	37.40	31.60	41.00
1 1/4"	67.70	44.60	38.80	51.00
2 1/2"	64.70	31.40	25.70	28.00

### 90° Female Elbow Short



Size	A	B	C	D
1/2"	63.70	23.00	18.50	34.00
3/4"	63.00	31.40	25.70	35.00
1"	83.00	37.40	31.60	40.00

### Branch Tee Male Outlet



Size	A	B	C	D
1/2"	81.50	23.00	18.50	26.00
3/4"	90.20	31.40	25.70	34.00
1"	99.80	37.40	31.60	35.00
2 1/2"	88.00	31.40	25.70	31.00