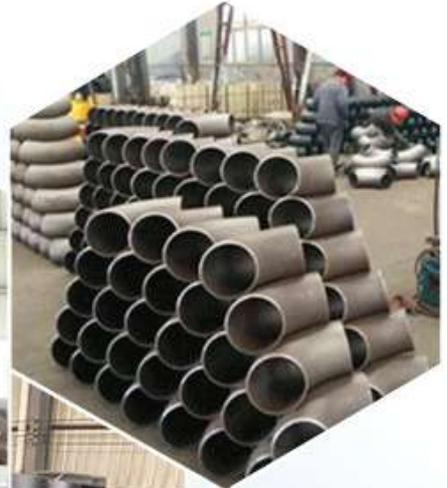




PIPE ELBOW

Dimensions



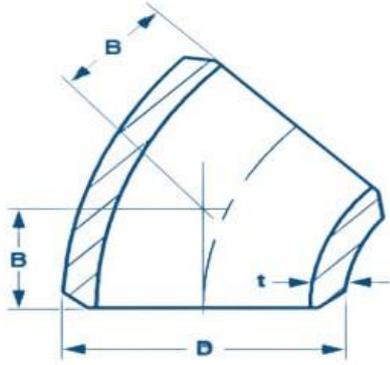
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مواد الأنابيب

اكتشف السبائك والموردين المعتمدين في الشرق الأوسط

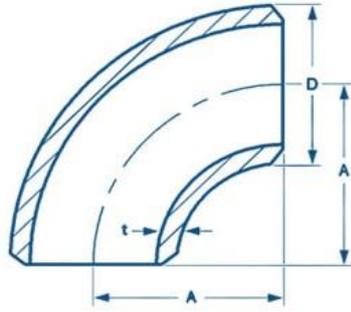
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45 درجة أبعاد الكوع الرسم البياني

45 degree elbow dimensions chart

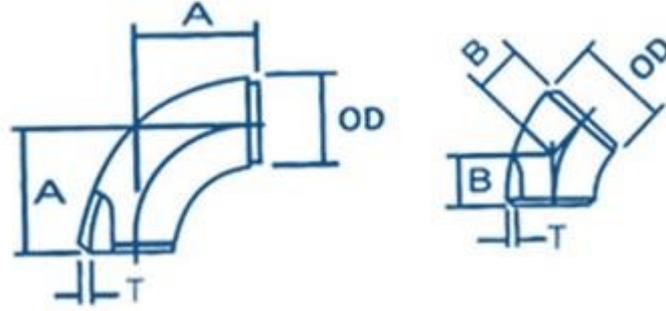
Normal Pipe Size	Outside Diameter Of (D)	45 Deg Long Radius (B)
1/2	21.3	16
3/4	26.7	19
1	33.4	22
1.1/4	42.2	25
1.1/2	48.3	29
2	60.3	35
2.1/2	73	44
3	88.9	51
3.1/2	101.6	57
4	114.3	64
5	141.3	79
6	168.3	95
8	219.1	127
10	273	159
12	323.8	190
14	355.6	222
16	406.4	254
18	457	286
20	508	318
22	559	343
24	610	381



90 درجة أبعاد الكوع الرسم البياني

90 degree elbow dimensions chart

Normal Pipe Size	Outside Diameter Of D	90 Deg Long Radius (A)
1/2	21.3	38
3/4	26.7	38
1	33.4	38
1.1/4	42.2	48
1.1/2	48.3	57
2	60.3	76
2.1/2	73	95
3	88.9	114
3.1/2	101.6	133
4	114.3	152
5	141.3	190
6	168.3	229
8	219.1	305
10	273	381
12	323.8	457
14	355.6	533
16	406.4	610
18	457	686
20	508	762
22	559	838
24	610	914

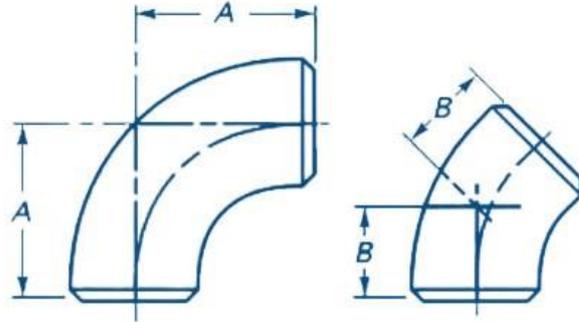


أبعاد الكوع نصف القطر القصير

Short radius elbow dimensions



Normal Pipe Size	Outer Diameter in Inch	(A) Inch	(B) Inch
1	33.4 1.32	38 1.50	22 0.88
2	60.3 2.38	76 3.00	35 1.38
3	88.9 3.50	114 4.50	51 2.00
4	114.3 4.50	152 6.00	64 2.50
5	141.3 5.56	190 7.50	79 3.12
6	168.3 6.62	229 9.00	95 3.75
8	219.1 8.62	305 12.00	127 5.00
10	273.0 10.75	381 15.00	159 6.25
12	323.8 12.75	457 18.00	190 7.50
14	355.6 14.00	533 21.00	222 8.75
16	406.4 16.00	610 24.00	254 10.00



أبعاد الكوع نصف القطر الطويل

long radius elbow dimensions

Normal Pipe Size	Outer Diameter in Inch	(A) Inch	(B) Inch
1	33.4 1.32	38 1.50	22 0.88
2	60.3 2.38	76 3.00	35 1.38
3	88.9 3.50	114 4.50	51 2.00
4	114.3 4.50	152 6.00	64 2.50
5	141.3 5.56	190 7.50	79 3.12
6	168.3 6.62	229 9.00	95 3.75
8	219.1 8.62	305 12.00	127 5.00
10	273.0 10.75	381 15.00	159 6.25
12	323.8 12.75	457 18.00	190 7.50
14	355.6 14.00	533 21.00	222 8.75
16	406.4 16.00	610 24.00	254 10.00
18	457.0 18.00	686 27.00	286 11.25
20	508.0 20.00	762 30.00	318 12.50
22	559.0 22.00	838 33.00	343 13.50
24	610.0 24.00	914 36.00	381 15.00



أنواع كوع الأنابيب القياسي

Types of standard pipe elbow



Pipe elbow types based in direction angle



45 Degree Elbow



90 Degree Elbow



180 Degree Elbow



Long Radius Elbow



Short Radius Elbow



1D Elbow



2D Elbow



3D Elbow



5D Elbow



أنواع كوع الأنبوب القياسي

Types of standard pipe elbow



8D Elbow



SCH 10 Elbow



SCH 20 Elbow



SCH 40 Elbow



SCH 60 Elbow



SCH 80 Elbow



SCH 120 Elbow



SCH 160 Elbow



SCH 180 Elbow

How are steel pipe elbow sizes measured?

You will likely use an elbow fitting to introduce a change of direction in the piping. It gets installed between two tubes to bring a directional difference. Steel pipe elbow sizes get



measured in inches based on the nominal pipe size. Three main criteria affect the size selection: available space, budget, and pressure drop.

A long radius fitting is 1.5 times the nominal size. A steel pipe elbow with a radius over 1.5 times also gets applied to transport slurries and chemicals. Similarly, short radius fittings equal the pipe size.

You have to calculate the minimum thickness to match the internal pressure based on the radius, the outside pipe diameter, and the stress value for the material. The constants include a weld joint strength reduction factor, a standard coefficient, and a quality factor. You can find them in a pipe elbow size chart.

How many types of pipe elbows exist?

Elbows of different kinds vary in the degree of change required in the tubing. The most common angles are 90, 45, and 180. You can also find 22.5-degree fittings. Some unique connections may need 60 or 120 degrees.

You can get different elbows based on the length, radius, and material used for manufacturing, like stainless steel and carbon steel. Different schedules, like an sch 10 pipe elbow, relate to the thickness of the piping.

Elbows also get categorized based on how the ends are machined or the connection type. For example, you can use butt welding fittings, socket welded, or threaded elbows. If you use pipes of different sizes, the fitting is called a reducer or reducing elbow.

Classified pipe elbow dimensions by direction angle

Elbows get classified into three main groups based on the change required in the direction. A 45-degree elbow allows a curve of 45°. It offers low friction and works with low pressure. A 45 degree elbow dimensions chart gets frequently used in chemical pipelines, agriculture, air conditioning pipelines, etc.



On the other hand, a 90-degree elbow lets you change the direction by 90°. It is also called a vertical elbow and connects hoses to pumps, valves, and other components.

You can also use a 180-degree fitting to implement a directional change of 180°. It cannot handle much pressure and generally gets restricted to low-turbulence systems.

How can you calculate 90 degree elbow dimensions?

Vertical elbows change the direction by 90 degrees and are generally preferred to connect hoses to valves, pumps, drains, etc. You will find a 90 degree pipe elbow in many hydraulic applications. Short-radius ones get used when you have less space to work.

The first step to calculate 90 degree elbow dimensions is to measure the center line connecting one end to the opposite face. It is the center-to-face distance. It equals 1.5 times the nominal pipe size for a long-radius fitting. In the case of a short radius connection, it equals the nominal pipe size.

The minimum tolerance of the fitting relates to the wall thickness. It gets dictated by the standards followed by the manufacturer. Likewise, the maximum tolerance gets specified at the ends of the fitting.

What is the difference between Schedule 20 and SCH 40 45 degree elbow dimensions?

The two schedules refer to different classes of pipes based on the thickness of the wall. The schedule number tells you the thickness of the pipe wall, where a higher number implies a thicker wall. Schedule 20 pipes display corrosion resistance and are suitable for operating under low pressure.

Schedule 40 or an sch 40 pipe elbow is thicker and suitable for higher pressures. You will often find them used with elbow fittings of 45 degrees. A schedule 40 90 degree elbow is used across hydraulic applications.



Note that pipes with the same schedule number may have different wall thicknesses. You can use the appropriate size for your requirement to get the optimum performance, for instance, a schedule 80 45 degree elbow.

What Are ID and OD in short radius elbow?

The elbow radius refers to the curvature. A short radius elbow has a center-to-end dimension that equals the radius of the piping. It gets commonly employed in low-pressure applications and incorporates two critical measurements. The ID refers to the Inside Diameter of the pipe. Contrastingly, the OD implies the Outside Diameter and gets measured at the bevel. These metrics calculate the dimensions of the fitting required for the application.

The nominal pipe size or NPS depicts the approximate ID. So, when the schedule number changes, the ID gets affected, but the OD does not. Accurate measurement is essential to find the suitable component for your requirement.

Are long radius elbow and long radius bend the same?

No. The two terms sometimes get used interchangeably, but they are not identical. A long radius elbow measures more than the diameter of the tube. It works best in high-pressure installations. These elbows get engineered to get screwed, welded, etc., to the piping. You can use customized fittings for different directional changes, like 60-degree.

In contrast, a long radius bend implies an offset or a directional change made by a bending machine. It does not involve an engineering definition of the direction or the degree. You can implement a hot or cold bend to reduce the cost.

While elbows get frequently used in hydraulics, pipe bends get favored when the pressure drop is significant.

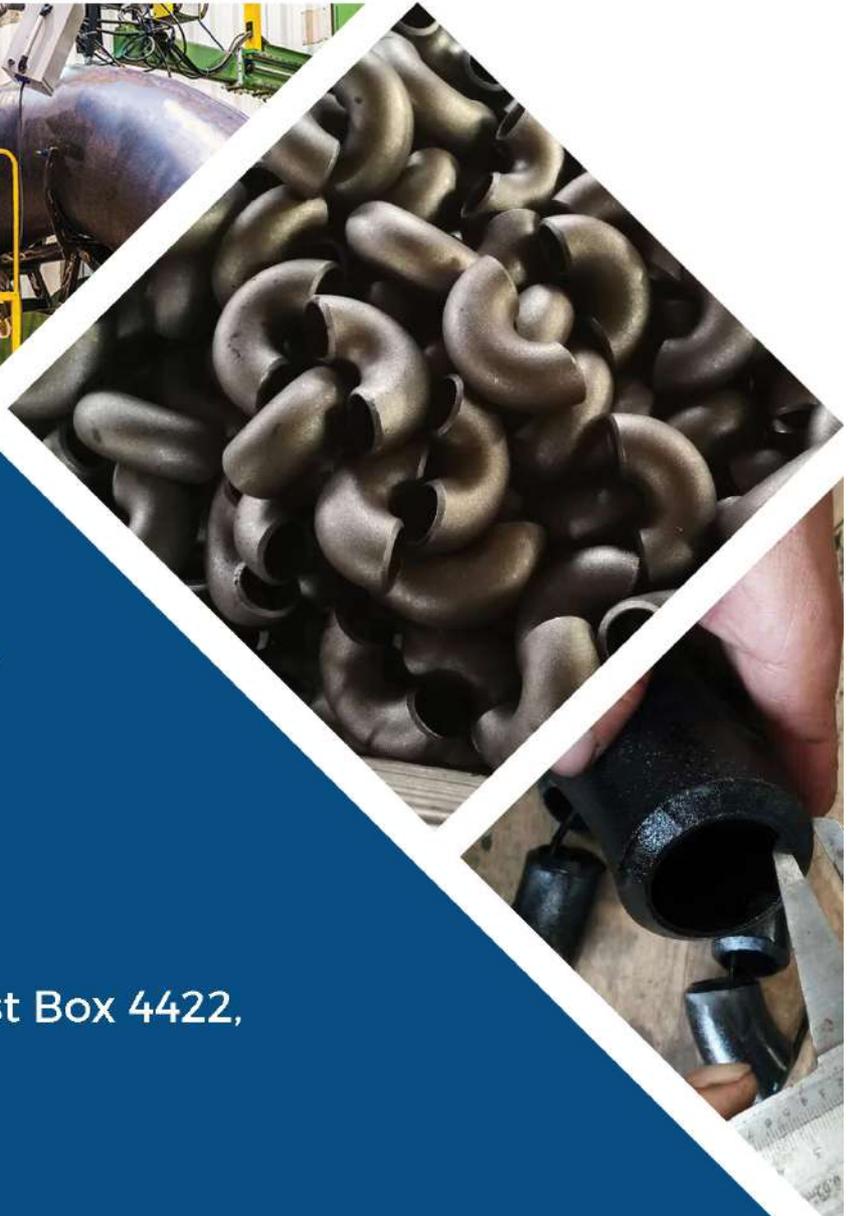
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