

# Reducing Elbow Dimensions



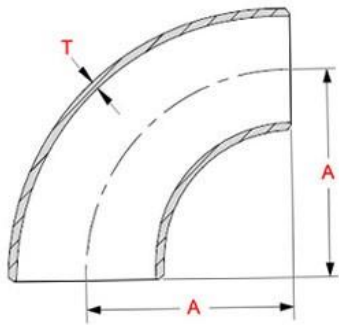
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مواد الأنابيب

اكتشف المصنّعات والموردين المعتمدين في الشرق الأوسط

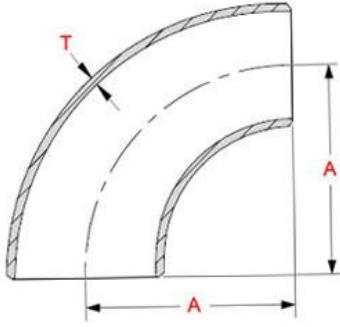
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## تقليل أبعاد الكوع

Reducing elbow dimensions

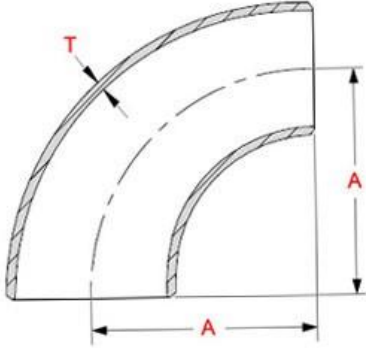
| NPS       | Outside Diameter at bevel |           | Center to End<br>A |
|-----------|---------------------------|-----------|--------------------|
|           | Large End                 | Small End |                    |
| 4 - 3     | 114,3                     | 88,9      | 152                |
| 4 - 2.1/2 | 114,3                     | 73        | 152                |
| 4 - 2     | 114,3                     | 60,3      | 152                |
| 5 - 4     | 141,3                     | 114,3     | 190                |
| 5 - 3.1/2 | 141,3                     | 101,6     | 190                |
| 5 - 3     | 141,3                     | 88,9      | 190                |
| 5 - 2.1/2 | 141,3                     | 73        | 190                |
| 6 - 5     | 168,3                     | 141,3     | 229                |
| 6 - 4     | 168,3                     | 114,3     | 229                |
| 6 - 3.1/2 | 168,3                     | 101,6     | 229                |
| 6 - 3     | 168,3                     | 88,9      | 229                |



## تقليل أبعاد الكوع

### Reducing elbow dimensions

| NPS     | Outside Diameter at bevel |           | Center to End<br>A |
|---------|---------------------------|-----------|--------------------|
|         | Large End                 | Small End |                    |
| 8 - 6   | 219,1                     | 168,3     | 305                |
| 8 - 5   | 219,1                     | 141,3     | 305                |
| 8 - 4   | 219,1                     | 114,3     | 305                |
| 10 - 8  | 273                       | 219,1     | 381                |
| 10 - 6  | 273                       | 168,3     | 381                |
| 10 - 5  | 273                       | 141,3     | 381                |
| 12 - 10 | 323,8                     | 273       | 457                |
| 12 - 8  | 323,8                     | 219,1     | 457                |
| 12 - 6  | 323,8                     | 168,3     | 457                |
| 14 - 12 | 355,6                     | 323,8     | 533                |
| 14 - 10 | 355,6                     | 273       | 533                |
| 14 - 8  | 355,6                     | 219,1     | 533                |
| 16 - 14 | 406,4                     | 355,6     | 610                |
| 16 - 12 | 406,4                     | 323,8     | 610                |
| 16 - 10 | 406,4                     | 273       | 610                |



## تقليل أبعاد الكوع

Reducing elbow dimensions

| NPS     | Outside Diameter at bevel |           | Center to End<br>A |
|---------|---------------------------|-----------|--------------------|
|         | Large End                 | Small End |                    |
| 18 - 16 | 457                       | 406,4     | 686                |
| 18 - 14 | 457                       | 355,6     | 686                |
| 18 - 12 | 457                       | 323,8     | 686                |
| 18 - 10 | 457                       | 273       | 686                |
| 20 - 18 | 508                       | 457       | 762                |
| 20 - 16 | 508                       | 406,4     | 762                |
| 20 - 14 | 508                       | 355,6     | 762                |
| 20 - 12 | 508                       | 323,8     | 762                |
| 20 - 10 | 508                       | 273       | 762                |
| 24 - 22 | 610                       | 559       | 914                |
| 24 - 20 | 610                       | 508       | 914                |
| 24 - 18 | 610                       | 457       | 914                |
| 24 - 16 | 610                       | 406,4     | 914                |
| 24 - 14 | 610                       | 355,6     | 914                |
| 24 - 12 | 610                       | 323,8     | 914                |



## تفاوتات الأبعاد لتقليل كوع الأنبوب

### Dimensional tolerances of reducing pipe elbow

|                               |   |              |                |
|-------------------------------|---|--------------|----------------|
| NPS                           | 1/2 to 2.1/2                                  | 3 to 3.1/2   | 4              |
| O.D. at Bevel                 | + 1.6<br>- 0.8                                | 1.6          | 1.6            |
| I.D. at End                   | 0.8   | 1.6          | 1.6            |
| Center to End Long Radius (A) | 2   | 2            | 2              |
| NPS                           | 5 to 8  | 10 to 18     | 20 to 24       |
| O.D. at Bevel                 | + 2.4<br>- 1.6                                | + 4<br>- 3.2 | + 6.4<br>- 4.8 |
| I.D. at End                   | 1.6   | 3.2          | 4.8            |
| Center to End Long Radius (A) | 2   | 2            | 2              |
| Wall Thickness (T)            | Not less than 87.5% of Nominal Wall Thickness |              |                |

#### Sizes :

Buttweld ½" NB to 120"

Seamless ½" to 24"

Welded ½" to 120"

Thickness : SCH 5 - SCH 160 XXS

Material : Super Duplex, Stainless, Steel, Copper,  
Carbon Steel, Titanium, Alloy Steel

Standards: ASME B16.9

Production : Heat treated and machined

Coating : Anti-rust Paint/ Zinc Plated





## 90 درجة تخفيض وزن الكوع الرسم البياني

### 90 degree reducing elbow weight chart

| NPS         | Pound | Kilograms |
|-------------|-------|-----------|
| 2-1.1/2     | 1.3   | 0.59      |
| 2-1.1/4     | 1.2   | 0.54      |
| 2-1         | 1.1   | 0.5       |
| 2-3/4       | -     | -         |
| 2.1/2-2     | 2.45  | 1.11      |
| 2.1/2-1.1/2 | 2.2   | 1         |
| 2.1/2-1.1/4 | 2.1   | 0.95      |
| 2.1/2-1     | -     | -         |
| 3-2.1/2     | 4.15  | 1.88      |
| 3-2         | 3.5   | 1.59      |
| 3-1.1/2     | 3.2   | 1.45      |
| 3-1.1/4     | -     | -         |
| 3.1/2-3     | 6     | 2.72      |
| 3.1/2-2.1/2 | 5.4   | 2.45      |



## 90 درجة تخفيض وزن الكوع الرسم البياني

### 90 degree reducing elbow weight chart

| NPS         | Pound | Kilograms |
|-------------|-------|-----------|
| 3.1/2-2     | 4.5   | 2.04      |
| 3.1/2-1.1/2 | -     | -         |
| 3.1/2-1.1/4 | -     | -         |
| 4-3.1/2     | 8.2   | 3.72      |
| 4-3         | 7.5   | 3.4       |
| 4-2.1/2     | 10.5  | 4.76      |
| 4-2         | 5.95  | 2.7       |
| 4-1.1/2     | -     | -         |
| 5-4         | 13.1  | 5.94      |
| 5-3.1/2     | 12.2  | 5.53      |
| 5-3         | 11.4  | 5.17      |
| 5-2.1/2     | 10.5  | 4.76      |
| 5-2         | -     | -         |



## 90 درجة تخفيض وزن الكوع الرسم البياني

### 90 degree reducing elbow weight chart

| NPS     | Pound | Kilograms |
|---------|-------|-----------|
| 6-5     | 20.7  | 9.39      |
| 6-4     | 18.4  | 8.35      |
| 6-3.1/2 | 17.3  | 7.85      |
| 6-3     | 16.4  | 7.44      |
| 6-2.1/2 | -     | -         |
| 8-6     | 39.2  | 17.78     |
| 8-5     | 35.5  | 16.1      |
| 8-4     | 32.4  | 14.7      |
| 8-3.1/2 | -     | -         |
| 10-8    | 71.2  | 32.3      |
| 10-6    | 61.2  | 27.76     |
| 10-5    | 56.7  | 25.72     |
| 10-4    | -     | -         |
| 12-10   | 111.5 | 50.58     |
| 12-8    | 96.5  | 43.77     |
| 12-6    | 84.7  | 38.42     |





## أنواع تصغير الكوع

Types of reducing elbow



Reducing Elbow  
Pipe Fittings



90 Degree Reducing  
Elbow



Copper Reducing Elbow



Stainless Steel  
Reducing Elbow



45 Degree Reducing  
Elbow



135 Degree Reducing  
Elbow



180 Degree Reducing  
Elbow



Reducing Pipe Elbow



90 Degree Silicone  
Reducing Elbow



## Features Of Reducing Elbow Pipe Fittings

عوكلا ريساوم نم دحلا تازيم

1. High Quality
2. Defect free
3. Long Lasting in nature
4. Precise dimension
5. Perfect finish
6. High temperature resistance
7. Easy and fast installation



## What is reducing elbow?

Your industrial application may require you to connect pipes of different sizes. Reducing elbow pipe fittings can accomplish this. They resemble a reducing piece and an elbow, hence the name. These connections are helpful as they eliminate the need for a reducer and minimize the need for welding. They often get preferred over using a regular elbow with a reducer.

Using a reducing pipe elbow helps limit the resistance to the flow and makes the system less turbulent. In the long run, it lowers the risk of erosion and the pressure from dropping suddenly. It gets commonly used in chemical processing, solar energy facilities, and compressed gas pipelines. You can have multiple reducing elbow sizes.

## What is the outside diameter in reducing elbow dimensions?

Measuring the dimensions is critical for finding the best fitting. You need three metrics for 90 degree elbow dimensions: the outer diameter, the inside diameter, and the centerline radius. The former refers to the diameter measured at the beveled end.

The dimensions vary based on the size, angle etc. For example, a 135 degree reducing elbow can also get manufactured.



You can calculate the centerline radius by measuring from the center of the fitting to the point where the degrees of the bend lines intersect. For instance, suppose you use a 180 degree reducing elbow with a long radius. The centerline radius will equal 1.5 times the thickness of the nominal pipe. In the case of a 90 degree silicone reducing elbow, the diameter equals the nominal pipe thickness.

### Is a 90 degree reducing elbow used to deflect water?

Vertical elbows get commonly used in several fluid-based applications. A 90 degree reducing elbow lets you change the direction of the flow by the corresponding angle. It is suitable for deflecting water in hydraulic applications. You will frequently see these fittings in hot and cold water supply lines for buildings and drinking water systems. The best part is it can work for both pure and mineral water. Pipelines for swimming pools and agricultural systems also employ these fittings.

The most significant advantages of these elbows are heat insulation, quick installation, and leak-tight performance. Elbows used for deflecting water must also be able to withstand varying pressures and resist corrosion. Hence, a stainless steel reducing elbow gets favored for its stability. However, copper and brass also get used.

### What is the purpose of 45 degree reducing elbow?

Reducing elbows can permit directional changes based on the application. A 45 degree reducing elbow is regular in sewage pipes and other components in the plumbing system. It introduces a directional curve of 45 degrees or a quarter bend. You will use these fittings to effect a flow change in industrial pipelines, air conditioning networks, and the agricultural sector.

These elbow fittings can get manufactured from different materials based on the requirement. A copper reducing elbow is standard. The threading style may also differ. For example, you can have NPT threads on both ends to connect male-threaded pipes.

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