Pipe Reducer
Dimensions

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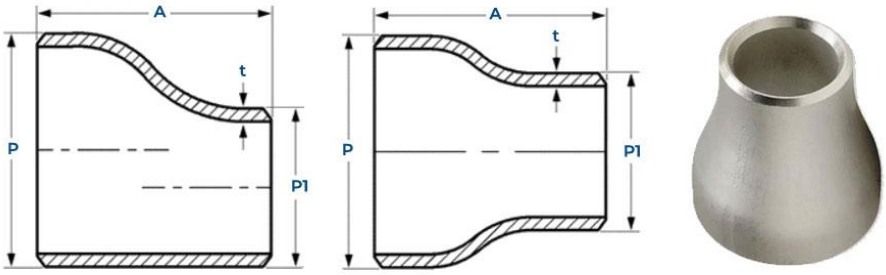
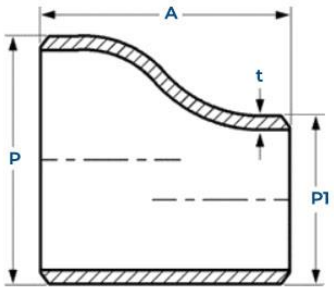
مواد الأنابيب
اكتشف السبائك والموردين المعتمدين في الشرق الأوسط

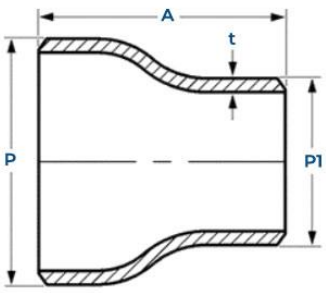


أبعاد أنبوب المخفض

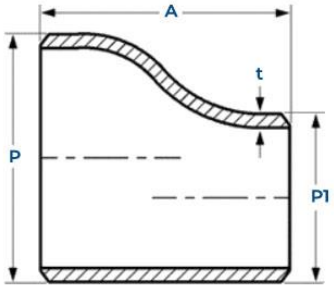
Pipe Reducer Dimensions

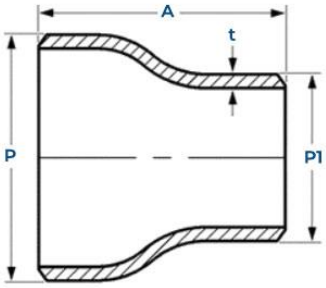
NPS	O.D. P	O.D. P1	Length A
3/4 - 1/2	26.7	21.3	38
1 - 1/2	33.4	21.3	51
1 - 3/4	33.4	26.7	51
1.1/4 - 1/2	42.2	21.3	51
1.1/4 - 3/4	42.2	26.7	51
1.1/4 - 1	42.2	33.4	51
1.1/2 - 1/2	48.3	21.3	64
1.1/2 - 3/4	48.3	26.7	64
1.1/2 - 1	48.3	33.4	64
1.1/2 - 1.1/4	48.3	42.2	64
2 - 3/4	60.3	26.7	76
2 - 1	60.3	33.4	76
2 - 1.1/4	60.3	42.2	76
2 - 1.1/2	60.3	48.3	76
2.1/2 - 1	73	33.4	89



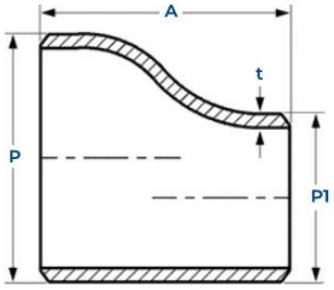


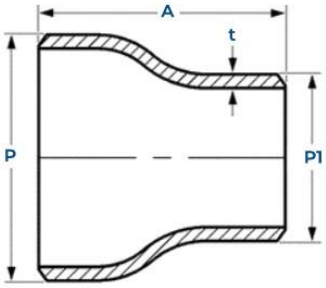
NPS	O.D. P	O.D. P 1	Length A
2.1/2 - 1.1/4	73	42.2	89
2.1/2 - 1.1/2	73	48.3	89
2.1/2 - 2	73	60.3	89
3 - 1.1/4	88.9	42.2	89
3 - 1.1/2	88.9	48.3	89
3 - 2	88.9	60.3	89
3 - 2.1/2	88.9	73	89
3.1/2 - 1.1/4	101.6	42.2	102
3.1/2 - 1.1/2	101.6	48.3	102
3.1/2 - 2	101.6	60.3	102
3.1/2 - 2.1/2	101.6	73	102
3.1/2 - 3	101.6	88.9	102
4 - 1.1/2	114.3	48.3	102
4 - 2	114.3	60.3	102
4 - 2.1/2	114.3	73	102



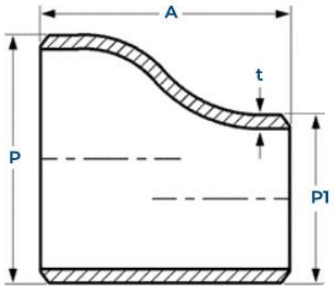


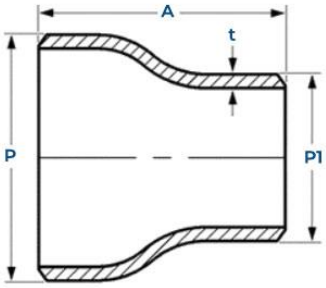
NPS	O.D. P	O.D. P 1	Length A
4 - 3	114.3	88.9	102
4 - 3.1/2	114.3	101.6	102
5 - 2	141.3	60.3	127
5 - 2.1/2	141.3	73	127
5 - 3	141.3	88.9	127
5 - 3.1/2	141.3	101.6	127
5 - 4	141.3	114.3	127
6 - 2.1/2	168.3	73	140
6 - 3	168.3	88.9	140
6 - 3.1/2	168.3	101.6	140
6 - 4	168.3	114.3	140
6 - 5	168.3	141.3	140
8 - 3.1/2	219.1	101.6	152
8 - 4	219.1	114.3	152
8 - 5	219.1	141.3	152



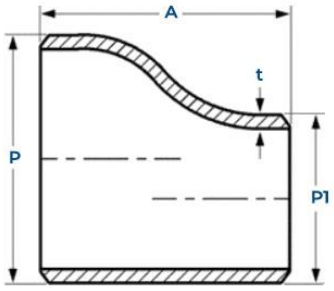


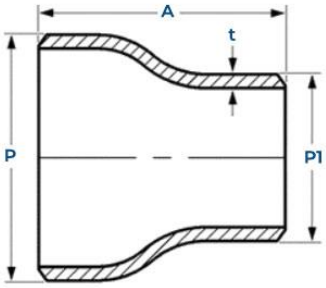
NPS	O.D. P	O.D. P 1	Length A
8 - 6	219.1	168.3	152
10 - 4	273	114.3	178
10 - 5	273	141.3	178
10 - 6	273	168.3	178
10 - 8	273	219.1	178
12 - 5	323.9	141.3	203
12 - 6	323.9	168.3	203
12 - 8	323.9	219.1	203
12 - 10	323.9	273	203
14 - 6	355.6	168.3	330
14 - 8	355.6	219.1	330
14 - 10	355.6	273	330
14 - 12	355.6	323.9	330
16 - 8	406.4	219	356
16 - 10	406.4	273	356



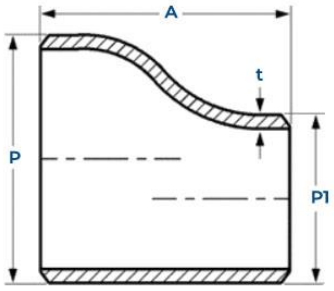


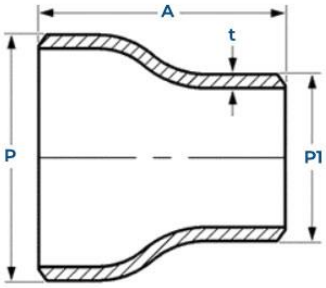
NPS	O.D. P	O.D. P1	Length A
16 - 12	406.4	323.9	356
16 - 14	406.4	355.6	356
18 - 10	457	273	381
18 - 12	457	323.9	381
18 - 14	457	355.6	381
18 - 16	457	406.4	381
20 - 12	508	323.9	508
20 - 14	508	355.6	508
20 - 16	508	406.4	508
20 - 18	508	457	508
22 - 14	559	355.6	508
22 - 16	559	406.4	508
22 - 18	559	457	508
22 - 20	559	508	508
24 - 16	610	406.4	508



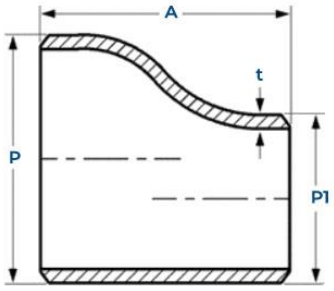


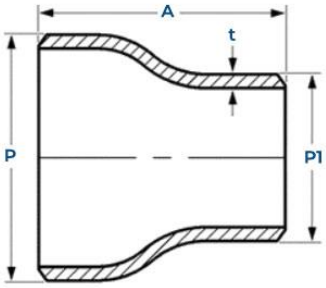
NPS	O.D. P	O.D. P1	Length A
24 - 18	610	457	508
24 - 20	610	508	508
24 - 22	610	559	508
26 - 18	660	457	610
26 - 20	660	508	610
26 - 22	660	559	610
26 - 24	660	610	610
28 - 18	711	457	610
28 - 20	711	508	610
28 - 24	711	610	610
28 - 26	711	660	610
30 - 20	762	508	610
30 - 24	762	610	610
30 - 26	762	660	610
30 - 28	762	711	610



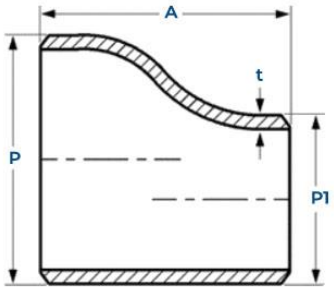


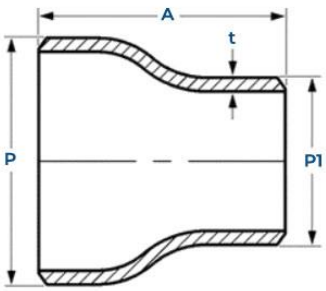
NPS	O.D. P	O.D. P 1	Length A
32 - 24	813	610	610
32 - 26	813	660	610
32 - 28	813	711	610
32 - 30	813	762	610
34 - 24	864	610	610
34 - 26	864	660	610
34 - 30	864	762	610
34 - 32	864	813	610
36 - 24	914	610	610
36 - 26	914	660	610
36 - 30	914	762	610
36 - 32	914	813	610
36 - 34	914	864	610
38 - 26	965	660	610
38 - 28	965	711	610





NPS	O.D. P	O.D. P 1	Length A
38 - 30	965	762	610
38 - 32	965	813	610
38 - 34	965	864	610
38 - 36	965	914	610
40 - 30	1016	762	610
40 - 32	1016	813	610
40 - 34	1016	864	610
40 - 36	1016	914	610
40 - 38	1016	965	610





Nominal Pipe Size	1/2 to 2.1/2	3 to 3.1/2	4	5 to 8
Outside Diameter at Bevel (P)	+ 1.6 - 0.8	1.6	1.6	+ 2.4 - 1.6
Inside Diameter at End	0.8	1.6	1.6	1.6
Overall Length (A)	2	2	2	2
Nominal Pipe Size	10 to 18	20 to 24	26 to 30	32 to 48
Outside Diameter at Bevel (P)	+ 4 - 3.2	+ 6.4 - 4.8	+ 6.4 - 4.8	+ 6.4 - 4.8
Inside Diameter at End	3.2	4.8	+ 6.4 - 4.8	+ 6.4 - 4.8
Overall Length (A)	2	2	5	5
Wall Thickness (t)	Not less than 87.5% of Nominal Wall Thickness			

How can you fit a pipe reducer?

These fittings get employed in that need to reduce the pipe size. A steel pipe reducer allows a change in the size of the piping to cater to flow requirements. Installing them without mistakes is essential to guarantee leak-tight performance and overall system integrity. The technique used for fitting them will depend on the material of the reducer and the pipes.

First, the reducer gets fitted on both pipes. Concentric reducer dimensions sch 40 are symmetric and straightforward to install. But if you use an eccentric reducer, you must check that the bottom lines up. You can orient it with the flat side up or down - based on what is transmitted (liquids or vapours).

You can fit a reducer via butt welding if you use metallic material like stainless steel, for instance, a schedule 80 pipe reducer. However, if you use PVC, you can use glue. Some installations use crimping and push-to-fit approaches.

How to calculate the surface area of pipe reducer dimensions?

These fittings comprise the following metrics: the wall thickness, the height of the reducer, and the outer diameter. Calculating the surface area lets you estimate the design requirements for the installation. A pipe reducer size chart will also allow you to optimize your budget and performance.

You can calculate the surface area of the piping using the below formula. Here, the circumference gets calculated by multiplying the inside diameter with π.

Surface area = circumference of the pipe x length

Once you calculate the surface area of the pipe, you can estimate the area of the reducer you will need to adjust the length.

How can you find the centerline of the eccentric reducer?

Eccentric reducers have mismatched centre lines to reduce the pipe at the side. The centerline of a pipe reducer depicts the symmetry maintained around the fitting. However, these components are not symmetrical. Users can orient an eccentric pipe reducer with the flat side upwards or downwards for horizontal lines.

You can calculate eccentricity with the following formula, where the ID stands for the inner diameter. An eccentric reducer size chart shows you the required measurements.

Eccentricity = (ID of big end – ID of small one)/2

These pipe reducers get regularly used in setups where air and fluids are transmitted. Installing them can prevent air traps that can otherwise affect the performance.

What is the difference between concentric reducer dimensions and eccentric reducer dimensions?

Many industrial applications need fittings to control the flow in the tubing. A concentric pipe reducer is cone-shaped and reduces the pipe at the centre. Here, the centre lines match. You can also use pipe reducers of eccentric type.

An eccentric pipe reducer has mismatched centre lines and reduces the pipe at the side. Their dimensions depend on the outside diameters, lengths, and wall thickness.

Eccentric reducer dimensions get estimated with the smaller outlet off the centerline from the larger end. This design lets it align with one side of the inlet. But concentric reducer dimensions are different. The pipe ends may have the same bore size or be different. Ultimately, it will depend on the specification provided by the user.

How do you find the pipe reducer size?

These components fit in applications where you need to reduce the piping to adjust the flow requirements. Finding the required size lets you select the optimum pipe reducers for your specifications. The size depends on the outside diameter, length, and wall thickness. You can use a concentric reducer dimensions pdf to estimate the sizes for your specific need.

To find the pipe reducer size, you need to calculate the outside measurement for a male pipe and the inside one for a female. Measuring the outer diameter (OD), inner diameter (ID), and height (H) will let you get the concentric reducer dimensions inches. You can get the equivalent length of a reducer using the below formula. Here, D is the pipe diameter, f is the Fanning friction factor, and K denotes the extra friction loss:

Equivalent length = K × (D/4f)

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