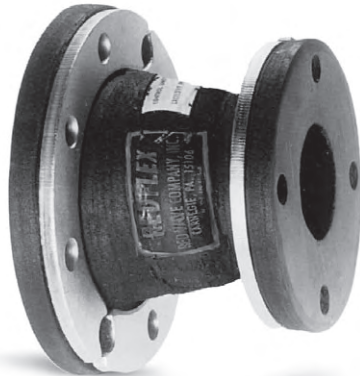
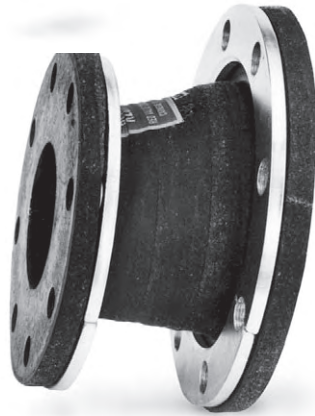


# Redflex® R-4 & R-5 Reducers

- ▶ Connects unequal pipe sizes
- ▶ Reduces vibration and noise
- ▶ Non-corrosive
- ▶ Shock resistant
- ▶ Made in U.S.A.



R-4



R-5

Red Valve Company's Redflex® Concentric and Eccentric Reducers can be used as pipe reducers or increasers, flexible connectors, or vibration and noise reducers. These reducers are designed to replace metal reducers used on pipelines from pumps, compressors, and other equipment. Like Redflex® pipe, elbows, and other flexible connectors, they prevent damage to equipment and compensate for minor misalignments.

The inner lining of the reducer is natural rubber, Chlorobutyl, Buna-N, Hypalon®, or Viton®. The body is constructed of multiple plies of strong Nylon fabric impregnated with rubber or synthetic compounds. Steel wire is embedded in the body of the reducer for additional strength. A protective cover of natural or synthetic rubber provides resistance to deterioration from weather and ozone. A Neoprene cover is normally used.

A special high-temperature construction is available for temperatures up to 400°F.

Red Valve Company manufactures concentric reducers to meet your exact piping needs. The flanges are designed to meet ANSI Class 125 drilling. Split steel rings must be installed on the inside of the flange.

As with standard expansion joints, when piping is not anchored, control units must be used with the reducer joint to prevent over-elongation.

Dimensions of the R-4 Reducers correspond to dimensions of the J-10 Concentric Expansion Joints. For dimensions, please refer to the chart on page 11. Dimensions of the R-5 Reducers correspond to dimensions of the J-11 Eccentric Expansion Joints. For dimensions, please refer to the chart on page 13.

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## Materials of Construction

### ▶ ELASTOMERS

Pure Gum Rubber, Neoprene, Hypalon®, Chlorobutyl, Buna-N, EPDM, and Viton®

### ▶ CONTROL RODS

Galvanized Steel, Stainless Steel

### ▶ RETAINING RINGS

Galvanized Steel, Stainless Steel

### ▶ WORKING PRESSURE

50 psi in all sizes — Higher pressures, consult factory

# J-10 Expansion Joints

- ▶ **Connects unequal pipe sizes with equal centerlines**
- ▶ **Absorbs thermal expansion and contraction**
- ▶ **Eliminates vibration and noise**
- ▶ **Noncorrosive**
- ▶ **Shock resistant**
- ▶ **Made in U.S.A.**



Red Valve Company's J-10 Concentric Reducer provides all of the benefits of a Redflex® Expansion Joint, with the ability to mate unequal size pipes. J-10 Concentric Reducers can be used as pipe reducers or increasers, expansion joints, flexible connectors and vibration eliminators. These tapers were designed to replace metal reducers in the pipeline. They are available in single, double, and triple arches, in either open or filled models. The multiple arches are used in applications where expansion or contraction will occur. The advantage to the all-rubber J-10 Reducers over metal reducers is the flexibility and durability of the elastomer. Filled reducers are usually used on slurry and abrasive applications to prevent the collection of material which can settle in the arches.

The Redflex® J-10 Concentric Reducer eliminates noise and isolates vibration in the pipeline, reduces stress, eliminates electrolysis and protects against start-up surges. Concentric reducers save installation space and reduce costs.

Red Valve Company manufactures concentric reducers to meet your exact piping needs. A complete chart of standard dimensions are listed on the next page. The flanges are designed to meet ANSI Class 125 drilling. J-10 Reducers are available in a variety of elastomers to satisfy the chemical compatibility and temperature of the process fluid.

Piping systems must be anchored when using concentric reducers. Standard control rods cannot be used to prevent overextension or elongation. This is particularly of concern in larger diameter sizes, over 12", where the smaller end joint control rods have a lever effect. Special design control rods with backup plates may need to be engineered.

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## Materials of Construction

### ▶ ELASTOMERS

Pure Gum Rubber, Neoprene, Hypalon®, Chlorobutyl, Buna-N, EPDM, and Viton®

### ▶ CONTROL RODS

Galvanized Steel, Stainless Steel

### ▶ RETAINING RINGS

Galvanized Steel, Stainless Steel

### ▶ WORKING PRESSURE

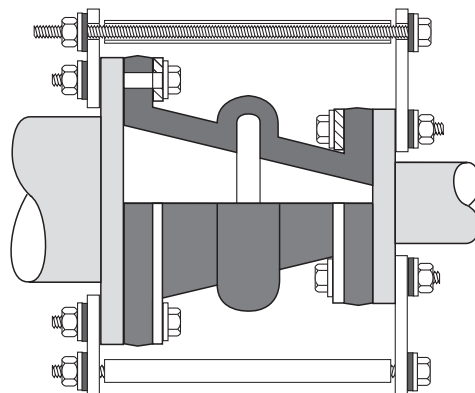
Standard pressure rating: 50 psi  
High pressure rating: 75 psi

### ▶ VACUUM RATING

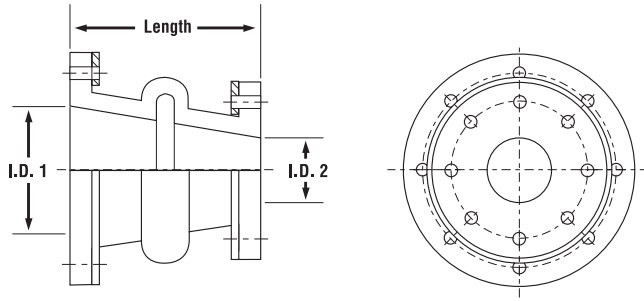
15 in. Hg

Full Vacuum Available

Control Rod Configuration



# J-10 Dimensions



## Dimensions and Movement J-10 Concentric Reducers

Joint Size I.D. 1 x I.D. 2 x Length	Open Arch Movement Capability: From Neutral Position						Filled Arch Movement Capability: From Neutral Position					
	Axial Compress	Axial Extend	Lateral Deflect	Angular Deflect	Degrees Torsion	Thrust Factor	Axial Compress	Axial Extend	Lateral Deflect	Angular Deflect	Degrees Torsion	Thrust Factor
*2 x 1 x 6	1/2"	1/4"	1/2"	18.4°	3°	12.69	1/4"	1/8"	9/32"	9.5°	1.8°	3.14
*2 x 1-1/2 x 6	1/2"	1/4"	1/2"	15.9°	3°	14.32	1/4"	1/8"	9/32"	8.1°	1.8°	3.14
2-1/2 x 2 x 6	1/2"	1/4"	1/2"	12.5°	3°	17.87	1/4"	1/8"	9/32"	6.4°	1.8°	4.97
3 x 1 x 6	1/2"	1/4"	1/2"	12.5°	3°	17.87	1/4"	1/8"	9/32"	6.4°	1.8°	7.06
3 x 2 x 6	1/2"	1/4"	1/2"	11.3°	3°	19.79	1/4"	1/8"	9/32"	5.7°	1.8°	7.06
4 x 2 x 6	1/2"	1/4"	1/2"	9.5°	3°	23.92	1/4"	1/8"	9/32"	4.8°	1.8°	12.57
4 x 2-1/2 x 6	1/2"	1/4"	1/2"	8.8°	3°	26.15	1/4"	1/8"	9/32"	4.4°	1.8°	12.57
4 x 3 x 6	1/2"	1/4"	1/2"	8.2°	3°	28.46	1/4"	1/8"	9/32"	4.1°	1.8°	12.57
5 x 4 x 6	1/2"	1/4"	1/2"	6.4°	3°	38.70	1/4"	1/8"	9/32"	3.2°	1.8°	19.63
6 x 3 x 6	1/2"	1/4"	1/2"	6.4°	3°	38.70	1/4"	1/8"	9/32"	3.2°	1.8°	28.27
6 x 4 x 6	1/2"	1/4"	1/2"	5.7°	3°	44.41	1/4"	1/8"	9/32"	2.9°	1.8°	28.27
6 x 5 x 6	1/2"	1/4"	1/2"	5.2°	3°	50.51	1/4"	1/8"	9/32"	2.6°	1.8°	28.27
8 x 4 x 6	3/4"	3/8"	1/2"	7.1°	3°	63.49	3/8"	3/16"	9/32"	3.6°	1.8°	50.27
8 x 5 x 6	3/4"	3/8"	1/2"	6.6°	3°	70.76	3/8"	3/16"	9/32"	3.6°	1.8°	50.27
8 x 6 x 6	3/4"	3/8"	1/2"	6.1°	3°	78.42	3/8"	3/16"	9/32"	3.1°	1.8°	50.27
10 x 6 x 8	3/4"	3/8"	1/2"	5.3°	3°	94.90	3/8"	3/16"	9/32"	2.8°	1.8°	78.54
10 x 8 x 6	3/4"	3/8"	1/2"	4.8°	3°	112.95	3/8"	3/16"	9/32"	2.4°	1.8°	78.54
12 x 6 x 12	3/4"	3/8"	1/2"	4.8°	3°	113.10	3/8"	3/16"	9/32"	2.4°	1.8°	
12 x 8 x 10	3/4"	3/8"	1/2"	4.3°	3°	132.57	3/8"	3/16"	9/32"	2.2°	1.8°	
12 x 10 x 8	3/4"	3/8"	1/2"	3.9°	3°	153.76	3/8"	3/16"	9/32"	1.9°	1.8°	
14 x 8 x 14	3/4"	3/8"	1/2"	3.9°	2°	177.09	3/8"	3/16"	9/32"	1.9°	1.2°	
14 x 10 x 8	3/4"	3/8"	1/2"	3.6°	2°	201.46	3/8"	3/16"	9/32"	1.8°	1.2°	
14 x 12 x 8	3/4"	3/8"	1/2"	3.3°	2°	277.40	3/8"	3/16"	9/32"	1.7°	1.2°	
16 x 8 x 12	3/4"	3/8"	1/2"	3.3°	2°	227.40	3/8"	3/16"	9/32"	1.7°	1.2°	
16 x 12 x 8	3/4"	3/8"	1/2"	3.1°	2°	254.91	3/8"	3/16"	9/32"	1.5°	1.2°	
16 x 14 x 8	3/4"	3/8"	1/2"	2.9°	2°	283.99	3/8"	3/16"	9/32"	1.4°	1.2°	
18 x 12 x 12	3/4"	3/8"	1/2"	2.9°	1°	283.99	3/8"	3/16"	9/32"	1.4°	.6°	
18 x 14 x 8	3/4"	3/8"	1/2"	2.7°	1°	314.65	3/8"	3/16"	9/32"	1.3°	.6°	
18 x 16 x 8	3/4"	3/8"	1/2"	2.6°	1°	346.88	3/8"	3/16"	9/32"	1.3°	.6°	
20 x 10 x 20	3/4"	3/8"	1/2"	2.9°	1°	283.99	3/8"	3/16"	9/32"	1.4°	.6°	
20 x 14 x 12	3/4"	3/8"	1/2"	2.9°	1°	283.99	3/8"	3/16"	9/32"	1.4°	.6°	
20 x 16 x 10	3/4"	3/8"	1/2"	2.9°	1°	283.99	3/8"	3/16"	9/32"	1.4°	.6°	
20 x 18 x 8	3/4"	3/8"	1/2"	2.9°	1°	283.99	3/8"	3/16"	9/32"	1.4°	.6°	
24 x 18 x 12	3/4"	3/8"	1/2"	2.9°	1°	283.99	3/8"	3/16"	9/32"	1.4°	.6°	
24 x 20 x 12	3/4"	3/8"	1/2"	2.9°	1°	283.99	3/8"	3/16"	9/32"	1.4°	.6°	
30 x 20 x 18	3/4"	3/8"	1/2"	2.9°	1°	283.99	3/8"	3/16"	9/32"	1.4°	.6°	
30 x 24 x 10	3/4"	3/8"	1/2"	2.9°	1°	283.99	3/8"	3/16"	9/32"	1.4°	.6°	

\*Filled Arch Only

Other sizes available, consult factory.

# J-11 Expansion Joints

- ▶ **Connects unequal pipe sizes with offset centerlines**
- ▶ **Absorbs thermal expansion and contraction**
- ▶ **Eliminates vibration and noise**
- ▶ **Noncorrosive**
- ▶ **Shock resistant**
- ▶ **Made in U.S.A.**



Red Valve Company's J-11 Eccentric Reducer provides all of the benefits of Redflex® Expansion Joint line with the ability to mate unequal size pipes. Red Valve Company's J-11 Eccentric Reducers can be used as pipe reducers or increasers, expansion joints, flexible connectors and vibration eliminators. These tapers were designed to replace metal reducers in the pipeline. They are available in single, double, and triple arches, in either open or filled models. The multiple arches are used in applications where expansion or contraction will occur. The advantage to the all-rubber J-11 Reducers over metal reducers is the flexibility and durability of the elastomer. Filled reducers are usually used on slurry and abrasive applications to prevent the collection of material which can settle in the arches.

The Redflex® J-11 Eccentric Reducer eliminates noise and isolates vibration in the pipeline, reduces stress, eliminates electrolysis and protects against start-up surges. Eccentric reducers save installation space and reduce costs.

Red Valve Company manufactures eccentric reducers to meet your exact piping needs. A complete chart of standard dimensions are listed on the next page. The flanges are designed to meet ANSI Class 125 drilling. J-11 Reducers are available in a variety of elastomers to satisfy the chemical compatibility and temperature of the process fluid.

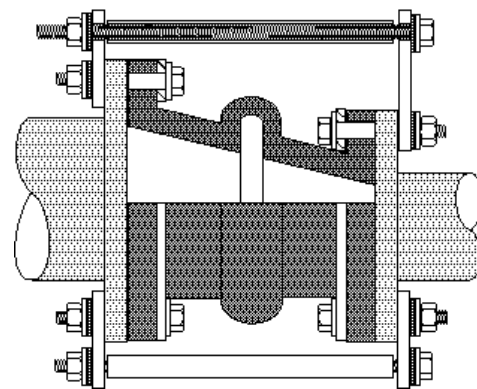
Piping systems must be anchored when using eccentric reducers. Standard control rods cannot be used to prevent overextension or elongation. This is particularly of concern in larger diameter sizes, over 12", where the smaller end joint control rods have a lever effect. Special design control rods with backup plates may need to be engineered.

## 12

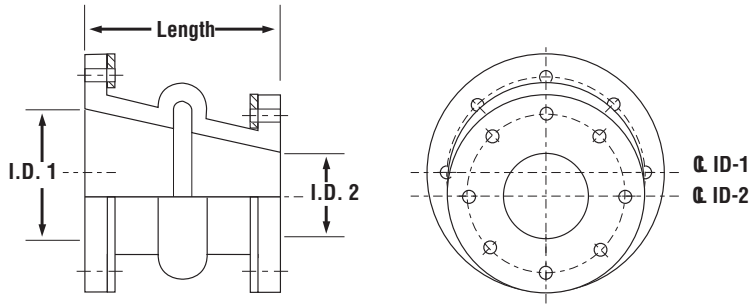
### Materials of Construction

- ▶ **ELASTOMERS**  
Pure Gum Rubber, Neoprene, Hypalon®, Chlorobutyl, Buna-N, EPDM, and Viton®
- ▶ **CONTROL RODS AND RETAINING RINGS**  
Galvanized Steel, Stainless Steel
- ▶ **WORKING PRESSURE**  
Standard pressure rating: 50 psi  
High pressure rating: 75 psi
- ▶ **VACUUM RATING**  
15 in. Hg  
Full vacuum available

Control Rod Configuration



# J-11 Dimensions



## Dimensions and Movement J-11 Eccentric Reducers

Joint Size I.D. 1 x I.D. 2 x Length	Open Arch Movement Capability: From Neutral Position						Filled Arch Movement Capability: From Neutral Position					
	Axial Compress	Axial Extend	Lateral Deflect	Angular Deflect	Degrees Torsion	Thrust Factor	Axial Compress	Axial Extend	Lateral Deflect	Angular Deflect	Degrees Torsion	Thrust Factor
*2 x 1 x 6	1/2"	1/4"	1/2"	18.4°	3°	12.69	1/4"	1/8"	9/32"	9.5°	1.8°	3.14
*2 x 1-1/2 x 6	1/2"	1/4"	1/2"	15.9°	3°	14.32	1/4"	1/8"	9/32"	8.1°	1.8°	3.14
3 x 2 x 6	1/2"	1/4"	1/2"	11.3°	3°	19.79	1/4"	1/8"	9/32"	5.7°	1.8°	7.06
4 x 2 x 6	1/2"	1/4"	1/2"	9.5°	3°	23.92	1/4"	1/8"	9/32"	4.8°	1.8°	12.57
4 x 2-1/2 x 6	1/2"	1/4"	1/2"	8.8°	3°	26.15	1/4"	1/8"	9/32"	4.4°	1.8°	12.57
4 x 3 x 6	1/2"	1/4"	1/2"	8.2°	3°	28.46	1/4"	1/8"	9/32"	4.1°	1.8°	12.57
6 x 3 x 6	1/2"	1/4"	1/2"	6.4°	3°	38.70	1/4"	1/8"	9/32"	3.2°	1.8°	28.27
6 x 4 x 6	1/2"	1/4"	1/2"	5.7°	3°	44.41	1/4"	1/8"	9/32"	2.9°	1.8°	28.27
6 x 5 x 6	1/2"	1/4"	1/2"	5.2°	3°	50.51	1/4"	1/8"	9/32"	2.6°	1.8°	28.27
8 x 4 x 8	3/4"	3/8"	1/2"	7.1°	3°	63.49	3/8"	3/16"	9/32"	3.6°	1.8°	50.27
8 x 5 x 8	3/4"	3/8"	1/2"	6.6°	3°	70.76	3/8"	3/16"	9/32"	3.6°	1.8°	50.27
8 x 6 x 6	3/4"	3/8"	1/2"	6.1°	3°	78.42	3/8"	3/16"	9/32"	3.1°	1.8°	50.27
10 x 6 x 8	3/4"	3/8"	1/2"	5.3°	3°	94.90	3/8"	3/16"	9/32"	2.8°	1.8°	78.54
10 x 8 x 8	3/4"	3/8"	1/2"	4.8°	3°	112.95	3/8"	3/16"	9/32"	2.4°	1.8°	78.54
12 x 6 x 16	3/4"	3/8"	1/2"	4.8°	3°	113.10	3/8"	3/16"	9/32"	2.4°	1.8°	113.10
12 x 8 x 8	3/4"	3/8"	1/2"	4.3°	3°	132.57	3/8"	3/16"	9/32"	2.2°	1.8°	113.10
12 x 10 x 8	3/4"	3/8"	1/2"	3.9°	3°	153.76	3/8"	3/16"	9/32"	1.9°	1.8°	113.10
14 x 8 x 10	3/4"	3/8"	1/2"	3.9°	2°	177.09	3/8"	3/16"	9/32"	1.9°	1.2°	153.94
14 x 10 x 12	3/4"	3/8"	1/2"	3.6°	2°	201.46	3/8"	3/16"	9/32"	1.8°	1.2°	153.94
14 x 12 x 8	3/4"	3/8"	1/2"	3.3°	2°	277.40	3/8"	3/16"	9/32"	1.7°	1.2°	153.94
16 x 10 x 12	3/4"	3/8"	1/2"	3.3°	2°	227.40	3/8"	3/16"	9/32"	1.7°	1.2°	201.06
16 x 12 x 14	3/4"	3/8"	1/2"	3.1°	2°	254.91	3/8"	3/16"	9/32"	1.5°	1.2°	201.06
20 x 16 x 12	3/4"	3/8"	1/2"	2.9°	1°	283.99	3/8"	3/16"	9/32"	1.4°	.6°	254.47
24 x 12 x 20	3/4"	3/8"	1/2"	2.9°	1°	283.99	3/8"	3/16"	9/32"	1.4°	.6°	254.47
24 x 18 x 10	3/4"	3/8"	1/2"	2.9°	1°	283.99	3/8"	3/16"	9/32"	1.4°	.6°	254.47
24 x 20 x 16	3/4"	3/8"	1/2"	2.9°	1°	283.99	3/8"	3/16"	9/32"	1.4°	.6°	254.47
30 x 20 x 24	3/4"	3/8"	1/2"	2.9°	1°	283.99	3/8"	3/16"	9/32"	1.4°	.6°	254.47
30 x 24 x 22	3/4"	3/8"	1/2"	2.9°	1°	283.99	3/8"	3/16"	9/32"	1.4°	.6°	254.47

\*Filled Arch Only

Longer face-to-face or size not listed, consult factory.