Easyflex™ Expansion Joints for Busduct Applications

VibraSystems

Flexible connectors are used in ducting systems to reduce vibration transmission, shock and accommodate thermal movements with minimum stress to the ductwork. Since pressure requirements in ducts are very low compared to piping systems, they are manufactured in lighter construction to be more responsive to the reduced stiffness of sheet metal ducting. Designs are always airtight to prevent particle intake or leakage.

These products come in many configurations as no standard design can meet the varied scope, service or connection requirements. They can be round, square, rectangular, round on one end and square on the other and even "T" or "L" shaped. Concentric and Eccentric Reducers are common and custom made designs can be made to offset or compensate for older misaligned heavy ducting systems. The common characteristics are flexibility and long life. Motion requirements are met with single and multiple arches and by varying the face to face length.

Materials

Sometimes the duct joints are in all rubber with no reinforcement, but the most common construction is natural rubber or synthetic liner, plies of rubber impregnated tyre cord or fabric and a rubber cover. When pressure or vacuum conditions are extreme, wire of steel ring reinforcement is used as well.

Polymers available are Natural Rubber, EPDM, SBR, Neoprene, Butyl, Hypalon, Nitrile, Silicone and Viton. Reinforcement may be square woven fabric but more commonly Nylon, Polyester or Kevalr tyre cord.

These Bellows can also be in Aluminum for Busduct Applications in Round and Rectangular Configuration.

Connections

Duct joints can be slip-ons retained by lightweight or heavy banding. Most of them are flanged and we can work to your requirements. We can supply the steel back up flanges in individual pieces in carbon steel, stainless steel, aluminum or any other material as per requirement. Carbon steel is normally painted, but can be hot dip galvanized or electroplated.

Liners

When temperatures are very high or the gases contain particle concentrations that tend to build up, carbon or stainless steel liners are often used. These liners pass through the duct connector and enter the adjacent ducting system to minimize damage and to increase the service / cycle life of the duct connector.

Different Type of Busduct Bellows

- Due to policy of continual improvement, the specifications are subject to change without prior notice.
- Measurements are subject to 5% tolerance.
- To achieve good results do not over load
- Compliance - As per FSA Standards USA.

Easyflex™ Expansion Joints for Busduct Applications

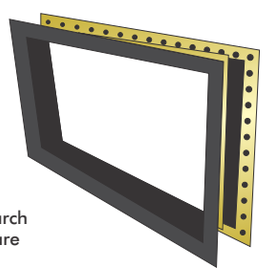
VibraSystems

Technical Features

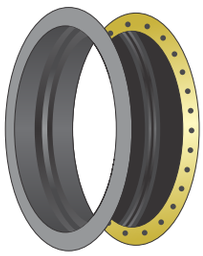
- Custom designed square, rectangular, round Integral moulded flange design
- Maximum Operating Pressure 8" W.C.
- Test Pressure 12" W.C.
- Type
- Rectangular Flange Bellow
- Circular Flange Bellow
- Slip on Type Round Bellow
  Rubber Sleeve Typical Material Properties
- Material EPDM / Neoprene
- Hardness 40 – 50 Shore A
- Elongation at Break 350% (Min.)
- Tensile Strength before Ageing 70 kg / cm^2 (Min.)
- Insulation Resistance at 1000 Kv 50 Mega Ohms. (Min)

Applications

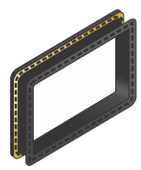
- Bus Ducts Fan Connectors Cement Industries
- Engineering Goods
- Textile Industries
- Steel Industries
- Power Plants
- Pipe Chutes
- Forced Draft Lines
- Air, Water Slurry
- Purification Plant
- Flue Gas Systems
- Hot Gases Pipe Wall Seals
- Ventilation Systems
- Industrial Process Ducts
- Chemical Plants
- Petrochemical Plants
- Plant Construction
- Power Stations
- Combustion Gas Desulphurization Plants



Single or multiple arch rectangular or square duct connector

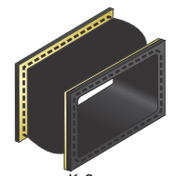


Single or multiple arch round duct connector

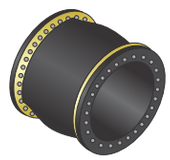


K-1

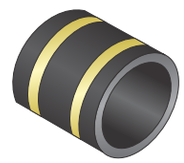
K-2



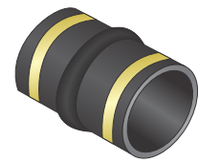
K-3



K-4



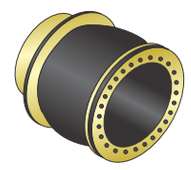
K-5



K-6

K-7

K-8



K-9

- Due to policy of continual improvement, the specifications are subject to change without prior notice.
- Measurements are subject to 5% tolerance.
- To achieve good results do not over load
- Compliance - As per FSA Standards USA.

Easyflex™ Round Duct Expansion Joints

VibraSystems

KANWAL also offers a wide variety of round expansion joints designed for use on low pressure round ducting system with a maximum pressure to 10 psi.

Round Ducting Joints are often utilized in lightweight air handing system such as Precipitators/ Scrubbers, Fans and Big Blowers to absorb vibration, thermal movement and misalignments.

This type of expansion joint is available in a variety of material configurations such as Neoprene, EPDM, Chlorobutyl, Hypalon* or Viton* elastomers with Nylon, Kevlar* or polyester tyre cord reinforcement.

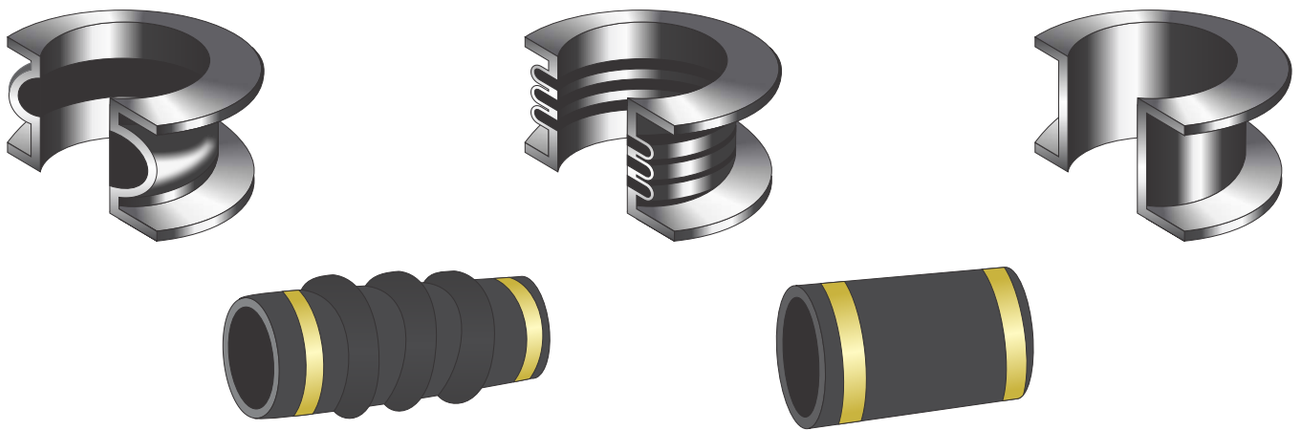
Flanged style of ducting expansion joints are drilled to customers specifications. Round Duct Expansion Joints can also be manufactured with a slip-on connection where no mating flange exists. The joint is manufactured to the exact outside diameter of the duct, and simply slipped onto the pipe. Stainless steel/carbon steel bands hold the joint securely in place.

Materials of construction

Elastomers

Pure Gum Rubber, Neoprene, Hypalon* Chlorobutyl, Buna - N, EPDM, and Viton* and Silicone.

- Lightweight construction
- Maximum flexibility
- Absorbs vibrations
- Abrasion resistant
- As per customer requirement
- Multiple Arches
- Accommodates Greater Movement
- Flanged / Pipe end Designs



Maximum movement capabilities in inches

Movement at shown Face-to -Face	6" Face-to-Face			9" Face-to-Face			12" Face-to-Face			16" Face-to-Face		
	Axial Compress	Axial Extension	Lateral Defect	Axial Compress	Axial Extension	Lateral Defect	Axial Compress	Axial Extension	Lateral Defect	Axial Compress	Axial Extension	Lateral Defect
	1.5"	0.5"	1"	3"	1"	2"	4"	1"	2.5"	6"	1"	3"

* Movement Capability depends on the number of arches.

- Due to policy of continual improvement, the specifications are subject to change without prior notice.
- Measurements are subject to 5% tolerance.
- To achieve good results do not over load fitting more than designed parameters as per drawing / catalogue.
- Compliance - As per FSA Standards USA.