

METAL EXPANSION JOINT PRODUCTS

MEJ

Metal bellow expansion joints are available in basic low-corr, mid-corr, and high-corr construction, and in 50#, 150# and 300# pressure ratings. Single-ply bellows are standard, but multiple ply bellows are available. Either single or dual bellows can be selected, depending on the movement ratings needed. End configurations include weld type, fixed flange, or vanstone. Accessories such as tie rods, shroud covers and internal liners can be added to fit the application. Material options include 304, 321, and 316 SS, as well as Inconel, Monel, and other special alloys. Sizes available up to 144" diameter, depending on bellows type.

EJEP

Global-Flex Mfg. EJEP Externally Pressurized Expansion Joints are a packless, maintenance free product designed for use in straight runs of pipe to accommodate large amounts of thermal expansion. Within a protective enclosure, external pressure is applied to the bellows via a gap between the internal flange and housing. This pressure keeps the bellows stable. EP Series expansion joints are available in 150# and 300# designs with either flanged or weld ends. Both single and dual bellows are available. Drain ports can be added for steam service. Sizes range from 2" to 24" diameter.

MEJ-CF

Controlled-Flexing expansion joints combine corrugated metal bellows with mated neck rings and bellows equalizing rings. Corrugation movements are equalized, even at high pressures and large axial movements. Both 150# and 300# pressure styles are available. Internal liners can be added and external shroud covers can be installed for safety. Ends include fixed or vanstone flanges and weld end style. *Series MEJ-CF Controlled-Flexing Expansion Joints* are manufactured in sizes from 3" to 24" depending on bellows pressure series.

CM/CMS

Designed to control axial movements in small diameter piping systems. *Series CM/CMS Expansion Compensators* utilize the external pressurization principal to eliminate bellows squirm. Styles are available for connection to steel piping or copper tubing. Standard end configurations are threaded, copper sweat, or flanged. Sizes range from 3/4" to 4" diameter.

PB/PBR

Series PB/PBR Bellow Pump Connectors utilize a compact face-to-face, multi-ply construction to absorb noise and vibration generated by mechanical equipment. The longer style PBR is manufactured in the same lengths as standard rubber pump connectors and can offer substantial temperature and pressure advantages over rubber connectors. PB/PBR connectors are built with stainless steel bellows and carbon steel 150# flanges and limit rods.

SERIES PG – PIPE ALIGNMENT GUIDES

To insure the proper operation of piping expansion joints, *Global-Flex Mfg. Series PG Pipe Alignment Guides* should always be installed in the system. Series PG guides help to control the motion of pipe and expansion joints, insuring that the joint is subject only to the deflection for which it was designed. Guides permit unobstructed axial movement of the pipe while restricting lateral, angular, or buckling movements. Standard spider guides are manufactured to accommodate specific amounts of movement and insulation. Additional items in this series include pre-insulated guides, pipe slides and bases, anchor clamps, baseboard fin-tube guides, baseboard anchors, and hinged series.

SPECIAL DESIGN EXPANSION JOINTS

UNIVERSAL

Universal expansion joints are built with dual bellows and are tied the entire length of the expansion joint. This type of joint is the ideal product to control large amounts of lateral motion used in 90-degree elbow direction changes. Universal expansion joints can be used in pipe runs where extensive anchoring and guiding cannot be provided.

HINGED & GIMBALED

Hinged bellow expansion joints are designed to take up angular rotation in a single plane. Slotted hinged joints will accommodate axial and angular motion in one plane. Gimbale bellows will take up angular motion in all planes. Hinged and gimbale joints are typically used in combination to absorb many different movements.

PRESSURE BALANCED

Pressure balanced expansion joints incorporate elbows with single or universal bellows. The elbow is permitted to float free of bellows thrust forces. Main anchors are not required.

SLIP-PAK

When large amounts of axial movements must be absorbed at high pressures and temperatures, packed expansion joints are a wise choice. Slip-Pak joints are internally and externally guided and are available in single or dual configurations. Long service life can be insured by re-packing while in service, Meets MIL-E-17814E specifications.

RECTANGULAR

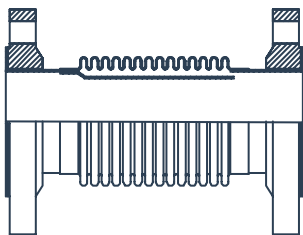
Rectangular bellows can be fabricated to take up movements in duct systems. A variety of alloys can be used to assure long life operation in high temperature conditions.

METAL EXPANSION JOINT PRODUCTS

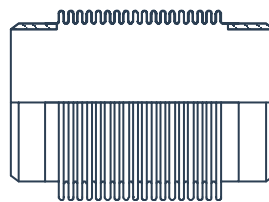
Series MEJ Bellows Expansion Joints are constructed using multi-corrugation metal bellows, and flanged or weld type end connections. Accessories such as tie rods, limit rods, flow liners, and covers can be added, depending on the application. Free-flexing expansion joints are used to control axial pipe movements that typically arise due to thermal expansion. Limited lateral offset, angular rotation and vibration isolation can also be accommodated. Mid-corrugation bellows are an economical choice when average movements are experienced. High-Corr bellows should be used to absorb greater movements. Where expected motions are greater than what a single bellows can accommodate, dual bellows with a center anchor base can be used. Bellows pressure carriers include low-pressure exhaust bellows, 50 psi, 150 psi, and 300 psi. Single-ply bellows are standard. Multi-ply bellows are well suited for those applications for low spring rate or cyclical vibration applications. Standard materials include T304, 321, and 316 stainless steel, as well as Inconel, Monel, and other alloys. Meets MIL-E-17813F Type 1, Class 1 and Class 2.



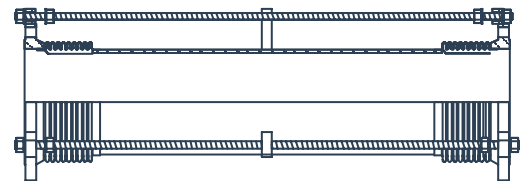
BASIC CONFIGURATIONS



FLANGE



WELD ENDS



UNIVERSAL FLANGE TIED

EJEP

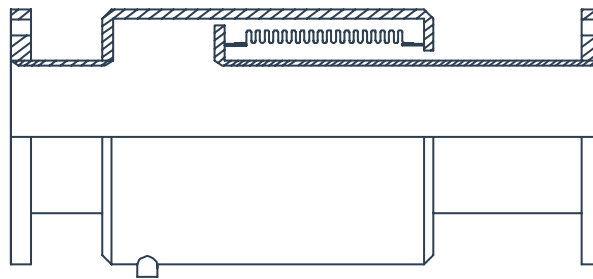
Externally pressurized expansion joints, are designed with an uncompromising standard of quality, for years of maintenance free operation in distribution pipelines conveying liquids or gases

FLANGES - To insure pressure tight sealing, raised face slip on flanges in full compliance with ANSI B 165 are standard. Flange material is either ASTM A-105 (Forged) or ASTM A36 (Plate). Lap joint flanges can be furnished as an option to permit easy alignment of bolt holes. Alloy ends are available where additional corrosion resistance may be required.

INTERNAL/EXTERNAL GUIDES - Guide rings are welded to inner end of pipe and outer cover. They are designed to provide accurate guiding of bellows as the pipeline expands or contracts. This insures bellows will not be scored or subject to movement for which it was not designed to accommodate.

COVER - Designed for full line pressure to insure in the unlikely event of a bellows failure media will not escape radically outward.

DRAIN - Provides a convenient location for installing a steam trap. May also be used to drain liquids when pipeline is shut down.



BELLOWS - Single or multiply bellows are precision formed from cylinders of deep drawn quality annealed sheet conforming to ASTM specifications. Type 304 is standard and suitable for most chloride-free applications such as steam, condensate, oil, chill water. Where chlorides may be present, Inconel 600 bellows should be specified.

BASE - Standard on double designs, optional on single designs. Base is designed as a support or intermediate anchor. Main anchor base designed for full pressure thrust loading is optional.

AVAILABLE - Single and double units for axial compression up to 16 inches. 150 and 300 lb design.

INTERNAL LINER - Carbon steel pipe liners standard and designed to prevent bellows fatigue failure due to flow induced vibration.

FIVE YEAR WARRANTY

Global-Flex style EJEP are warranted to be free of defects in material and workmanship under normal use and service for a period of 5 years from the date of shipment. This warranty applies only to parts which are manufactured and delivered by Global-Flex Mfg.

In the event of failure of a part due to a covered defect, Global-Flex Mfg. will repair or replace at its option the defective part at its factory located at 1580 Charles Dr., Redding, Ca. 96003. The part must be returned to the factory by and at the expense of the person claiming the benefit of the warranty. The only entity authorized to do any warranty repairs is the manufacturer.

This warranty is expressed in lieu of all other warranties, expressed or implied, including the implied warranty of fitness for a particular purpose, and of all other obligations or liabilities on the part of Global-Flex Mfg. and it neither assumes nor authorizes any other persons to assume for Global-Flex Mfg. any other liabilities in connection with the sale of the products. This warranty does not cover parts of products made by others or products or any part thereof which have been repaired or altered, except by Global-Flex Mfg. or which shall have been subjected to misuse, negligence, or accident.

Global-Flex Mfg. shall not be liable for damage or delay suffered by the purchaser regardless of whether such damages are general, special, or consequential in nature, whether caused by defective material or workmanship or otherwise or whether caused by Global-Flex Mfg. negligence regardless of the degree.

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SERIES CM/CMS

EXPANSION COMPENSATORS

DESCRIPTION & APPLICATIONS:

Series CM/CMS Expansion compensators are the most economical choice for the compensation of thermal growth in small diameter piping systems. Global-Flex expansion compensators are commonly used in HVAC systems and other systems such as steam condensate. **Series CM/CMS** Expansion Compensators are a high pressure, externally pressurized design, available in sizes from 3/4" through 4". **Style CM**, male pipe threaded is for connection to steel piping, while **Style CMS** Sweat ends are for connection to copper tubing. The 2-ply stainless steel bellows works in conjunction with an anti-torque device. All sizes permit 2" of axial motion.



DESIGN SPECIFICATIONS FOR MALE PIPE

Pipe Size Inches	Number	Pressure		Overall Length Inches	Outside Diam. Inches	Size Inches	Effective Area in Sq In	Weight lbs
		Max WP PSI	Test PSI					
1	CM-100	200	300	12-1/8	3-1/2	1	3.5	7.0
1-1/4	CM-125	200	300	14-1/8	4	1-1/4	4.8	10.2
1-1/2	CM-150	200	300	14-1/8	4-1/2	1-1/2	6.5	12.3
2	CM-200	200	300	14-1/8	4-1/2	2	7.6	13.2
2-1/2	CM-250	200	300	15-1/2	5-1/2	2-1/2	12.9	19.6
3	CM-300	200	300	15-3/16	6-1/2	3	16.1	24.4
4"	CM-400	200	300	15-3/16	7-3/32	4	24.2	27.5

DESIGN SPECIFICATIONS FOR MALE PIPE AND WELD ENDS

Pipe Size Inches	Number	Pressure		Overall Length Inches	Outside Diam. Inches	Size Inches	Effective Area in Sq In	Weight lbs
		Max WP PSI	Test PSI					
1	CMS-100	200	300	12-1/2	2-3/8	1	2.2	2.4
1-1/4	CMS-125	200	300	13-13/16	2-3/4	1-1/4	3.5	3.1
1-1/2	CMS-150	200	300	13-13/16	2-3/4	1-1/2	3.5	3.3
2	CMS-200	200	300	13-13/16	3-3/4	2	6.5	5.5
2-1/2	CMS-250	200	300	14-7/16	4-3/8	2-1/2	9.6	7.5
3t	CMS-300	200	300	14-7/16	5	3	12.9	10.0

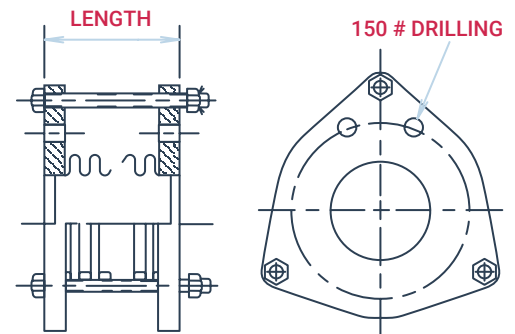
Style PB & PB-R

Multi Ply Bellows Pump Connectors

Global-Flex Mfg. Series BP & PB-R Bellows Pump Connectors are designed to absorb noise and vibration generated by mechanical equipment. In addition, these compact length connectors will take-up axial and lateral motion. Series **PB** connectors utilize a highly flexible multi-ply Type 304 stainless steel bellows construction for greater movement absorbing abilities a pump connectors, and can offer substantial temperature and pressure and longer life. The longer Style **PB-R** is manufactured in the same lengths as standard rubber pump connectors, and can offer substantial temperature and pressure advantages Special 150# ANSI flanges and limit rods are carbon steel. Sizes range from 2" to 14" diameter.

FEATURES:

- T-304 2-Ply Construction
- AISI-1020 Tie Rods
- Noise and Vibration dampening
- ANSI 150 Carbon Steel Flanges
- Compression Sleeves (304) SS
- High pressure ratings 225 PSIG
- Temperature Rating up to 750 F
- Rated for Full Vacuum



Global-Flex Part No.	Size Inch	Length Inch	Flange O.D.	Bolt Cir Dia.	No of Bolt Holes	Bolt Hose Dia.	Bellows		Working Pressure	Axial Comp	Axial Ext	Lateral	Weight
							No. Ply	Material					
PB-200	2	4-3/8	6	4.75	4	.75	2	T304	225	.50	.125	.125	14
PB-250	2-1/2	4-3/8	7	5.5	4	.75	2	T304	225	.50	.125	.125	16
PB-300	3	4-3/8	7.5	6.0	4	.75	2	T304	225	.50	.125	.125	20
PB-400	4	4-5/8	9	7.5	8	.75	2	T304	225	.50	.125	.125	28
PB-500	5	4-7/8	10	8.5	8	.875	2	T304	225	.50	.125	.125	34
PB-600	6	5.0	11	9.5	8	.875	2	T304	225	.50	.125	.125	43
PB-800	8	5-7/8	13.5	11.75	8	.875	2	T304	225	.50	.125	.125	63
PB-1000	10	6-1/4	16	14.25	12	1	2	T304	225	.50	.125	.125	93
PB-1200	12	6-5/8	19	17	12	1	2	T304	225	.50	.125	.125	120
PB-R-200	2	6	6	4.75	4	.75	2	T304	225	1.0	.125	.125	14
PB-R-250	2-1/2	6	7	5.5	4	.75	2	T304	225	1.0	.125	.125	16
PB-R-300	3	6	7.5	6.0	4	.75	2	T304	225	1.0	.125	.125	20
PB-R-400	4	6	9	7.5	8	.75	2	T304	225	1.0	.125	.125	28
PB-R-500	5	6	10	8.5	8	.875	2	T304	225	1.0	.125	.125	34
PB-R-600	6	6	11	9.5	8	.875	2	T304	225	1.0	.125	.125	43
PB-R-800	8	6	13.5	11.75	8	.875	2	T304	225	1.0	.125	.125	63
PB-R-1000	10	8	16	14.25	12	1	2	T304	225	1.0	.125	.125	93
PB-R-1200	12	8	19	17	12	1	2	T304	225	1.0	.125	.125	120

PIPE ALIGNMENT GUIDES SERIES PG

SPECIAL APPLICATIONS PRODUCTS



PGL LIGHT GUIDES
For low Pressure applications



Extra Travel



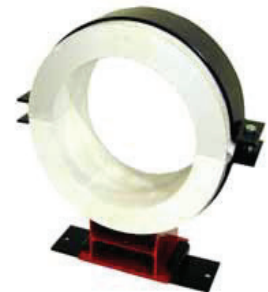
ANCHOR CLAMPS



**BASEBOARD
FIN-TUBE GUIDE**



BASEBOARD ANCHOR



**PRE-INSERTED
PIPE HANGER INSERT**



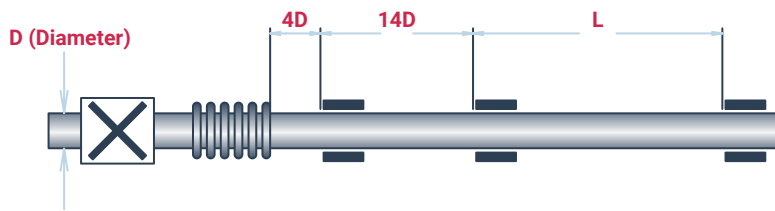
257 Series

*CONTACT GLOBAL-FLEX MFG FOR SPECIFIC INFORMATION ON SIZE,
DIMENSIONS, AND APPLICATIONS FOR THESE PRODUCTS*

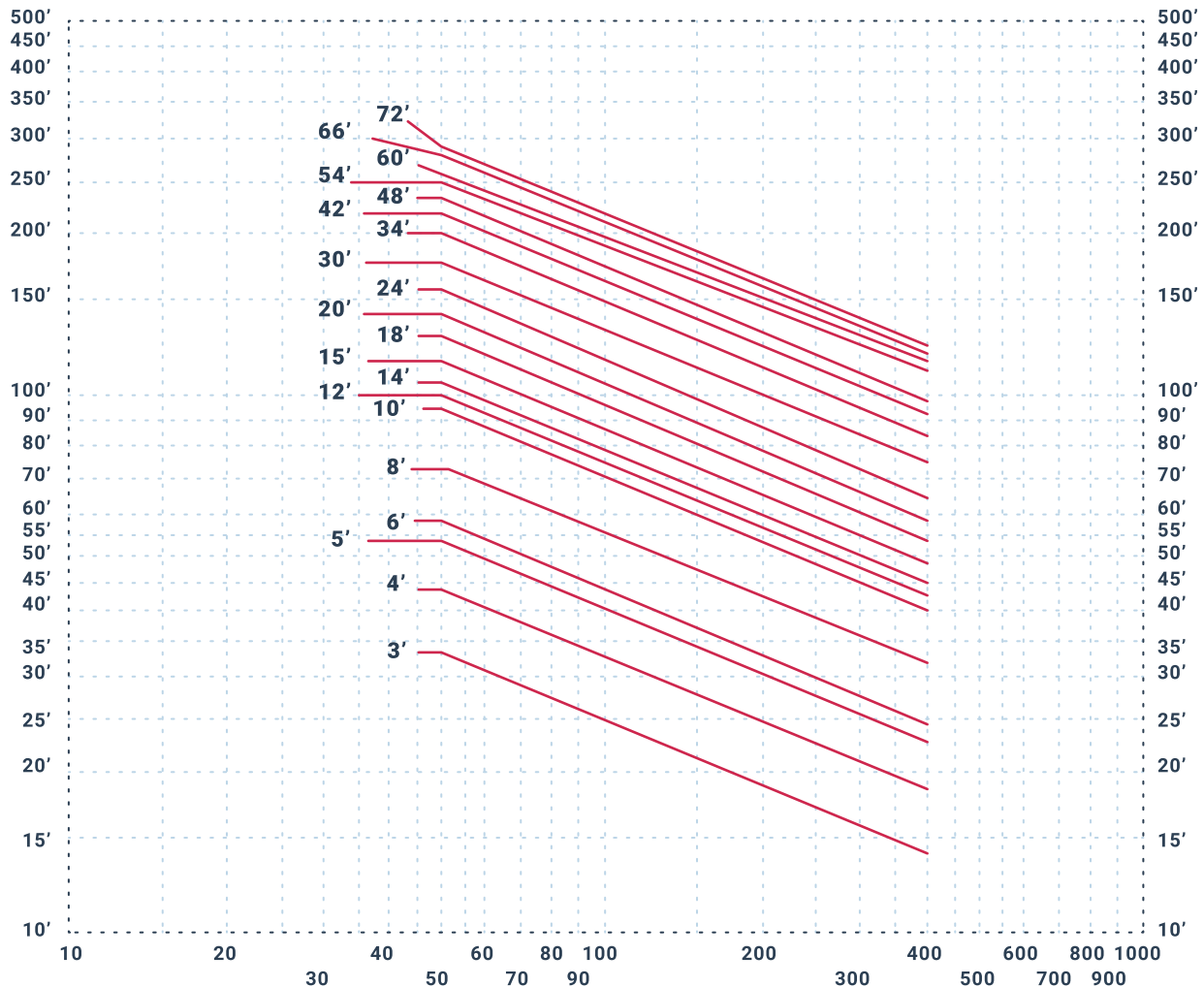
PIPE ALIGNMENT GUIDES SERIES PG

RECOMMENDATION FOR PLACEMENT

It is recommended that an expansion joint be located as near to an anchor as possible. The first guide should be located within **4 pipe diameters** of the expansion joint. The **second guide** should be located within **14 pipe diameters** of the expansion joint. The remaining intermediate guides are placed at the approximate distance shown in the INTERMEDIATE GUIDE SPACING CHART.



MINIMUM GUIDE SPACING



DESCRIPTION & APPLICATIONS:

UNIVERSAL

The universal design consists of dual bellows which are tied the entire length of the expansion joint. Universal expansion joints are typically used to accommodate large amounts of lateral motion. When they are used in conjunction with 90 degree piping direction changes, they can be used in pipe runs where extensive anchoring and guiding cannot be provided. Force required to offset is low provided adequate length is available. As the length between the bellows increases, the spring rate decreases.

HINGED & GIMBALED

In applications where only angular movement is to be allowed, hinged and gimbaled expansion joints are the solution. Hinged joints are designed to take up angular motion in a single plane. Slotted hinge expansion joints permit axial movement through use of a slot, and require main anchors. Gimbaled bellows will allow angular motion in all planes. Hinged and gimbaled joints are commonly used in combination to absorb various movements.

PRESSURE BALANCED

An elbow style expansion joint designed for applications involving 90-degree change in direction and applications where main anchors cannot be placed in the system. The elbow is permitted to float free of bellows thrust forces. Either single or dual bellows pressure balanced is available. In-line pressure balanced expansion joints are constructed for axial applications of straight runs of pipe that cannot provide main anchors to react to the pressure thrust of the expansion joint.

RECTANGULAR

Rectangular metallic bellows expansion joints are fabricated to absorb vibration and thermal movements in duct systems. High profile, low spring-rate corrugations will allow for large amounts of movement in short face-to-face designs. Flanges can be either internal or external. A variety of alloys can be used to assure trouble-free operation in high temperature conditions. Axial, lateral, and angular movement can all be accommodated. Similar, low-pressure bellows are also manufactured for circular duct systems.

Global  Flex Mfg.

MEJ NOTE PAD

SIZE

TEMPERATURE

APPPLICATION

MEDIUM

PRESSURE

ENDS

DELIVERY

A Required Axial
Compression/Extension

L Required Lateral
Movement