

Flexonics Corporation

Subsidiary of CALUMET & HECLA, INC.

1329 South Third Avenue

Maywood, Illinois

DISTRICT OFFICES

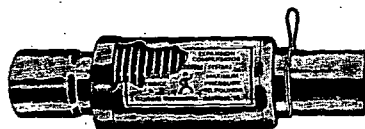
ATLANTA BOSTON CINCINNATI CLEVELAND DETROIT FT. WORTH KANSAS CITY
LOS ANGELES MEMPHIS MILWAUKEE NEW YORK PHILADELPHIA ST. LOUIS SAN FRANCISCO
IN CANADA: FLEXONICS CORPORATION OF CANADA, LTD., BRAMPTON, ONTARIO

FLEXONICS EXPANSION COMPENSATORS FOR STEAM AND HOT WATER HEATING SYSTEMS

Model L for pressures to 60 psig

Flexonics Model L Expansion Compensators offer a remarkably simple, sure, and low-cost way to take up pipe and tubing expansion in low-pressure steam and hot water heating systems. Engineered to outlast the building, with 2-ply phosphor bronze Flexonics Bellows, drawn brass protective shroud, copper tubing ends. Specially designed for use with finned convectors, baseboard systems, radiators, and supply and return lines.

Sizes from 3/4 in. through 2 in. Suitable for temperatures from -60 F to 250 F, and for pressures up to 60 psig. A single unit will handle motion up to 3/4 in. (1/2 in. compression, 1/4 in. extension). Sweat tubing ends are standard; female threaded adapters are available.

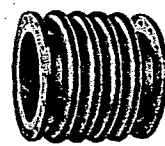


Sizes and Dimensions (Model L)

Tube Size (in.)	Overall Length, in.		Max. O. D., in.	
	Sweat Ends	Female Threaded Ends	Sweat Ends	Female Threaded Ends
3/4	8	8 1/2	1 1/4	1 1/4
1	8 1/2	9 1/2	1 3/4	1 3/4
1 1/4	9 1/2	10 1/2	2 1/4	2 1/4
1 3/4	10 1/2	11 1/2	2 3/4	2 3/4
2	11 1/2	12 1/2	3	3 1/4

FLEXONICS EXPANSION JOINTS FOR POWER AND PROCESS PIPING

For medium and high pressure piping, Flexonics offers a complete line of corrugated expansion joints in free-flexing and controlled flexing types. Free-flexing units are available in standard sizes from 3 in. to 48 in. ID, for pressures to 30 psi, temperatures to 850 F. Designed for expansion travel up to 3 3/4 in. per unit. Controlled-flexing units are available in standard sizes from 3 in. to 48 in. ID, for pressures to 300 psi, temperatures to 850 F. Designed for expansion travel up to 7 1/2 in. per unit. Both free-flexing and controlled flexing types are available with flanged or welding ends.



Flexonics Free-Flexing Expansion Joint



Flexonics Controlled-Flexing Expansion Joint

Model H for pressures to 175 psig

Flexonics Model H Expansion Compensators, inch for inch, are the lowest-cost way to absorb pipe motion. Designed primarily for risers in high pressure steam and hot water heating systems, but with wide application in all kinds of piping jobs. 2-ply stainless steel Flexonics Bellows. Welded steel housing. Also Model HS (all stainless steel) and Model HB (all bronze).

Sizes 3/4 in. through 3 in., with screw, weld, union, or flanged ends (also sweat ends in bronze). For temperatures from -60 F to 750 F. Each unit handles motion up to 2 in. (1 1/4 in. compression, 1/4 in. extension). Engineered to outlast the piping system you install it in.

Table below gives data for Models H and HS Expansion Compensators. Model HB is made in same nominal sizes, for somewhat lower pressures.



Sizes and Dimensions (Models H and HS)

Pipe Size (in.)	O/A Length (in.)	Max. O. D. (in.)	Working Press (psi)	Unit Wt. (lb.)
3/4	11 1/2	2 1/4	175	2.6
1	11 1/2	2 1/2	175	2.8
1 1/4	14 1/2	3 1/4	150	7.7
1 3/4	14 1/2	3 1/2	150	8.0
2	14 1/2	4 1/4	150	10.3
2 1/4	15 1/2	5	150	13.7
3	15 1/2	5 1/4	150	17.4



KEFLEX MANUFACTURING DIVISION
U. S. FLEXIBLE METALLIC TUBING CO.
Since 1905

General Offices—63 Main St., San Francisco 5, Calif.

Factories—Los Angeles—San Francisco

Sales Offices—Agents in Principal Cities of U. S. and Canada

KEFLEX QUADRA-SIDE EXPANSION COMPENSATORS FOR STEAM AND HOT WATER HEATING SYSTEMS USED WITH CONVECTOR AND FIN TUBE BASEBOARD RADIATION UNITS IN SCHOOLS, HOSPITALS, OFFICES AND COMMERCIAL INSTALLATIONS

Type 7Q, Square brass telescoping case protects laminated stainless steel bellows from torsion, squirm, misalignment and external damage. Compensators are used in high and low pressure hot water supply lines, risers and for baseboard radiation. Extra flexibility provides maximum cyclic life. Units are very compact and rugged. Sizes 3/4 in. thru 3 in. Pressures to 300 psi. Temperatures to 800 F. Traverse: Single Units, total 2 in. (1 1/4 in. compression, 1/2 in. extension). Dual units available.
Type 11-QT. Has heavy square telescoping case and laminated stainless steel bellows. For use in risers and with baseboard radiation. Test pressure 150 psi, working pressure 100 psi, temperatures to 300 F. Traverse: Total 1 in. (3/4 in. compression, 1/4 in. extension).

TYPE 7Q WITH BRASS FEMALE
THREADED ENDS
Working Press. 300 PSI Maximum
Temp. 800 F



TYPE 7Q-T WITH COPPER TUBE ENDS
Maximum Press. 250 PSI Maximum
Temp. 350 F



TYPE 11Q-T WITH COPPER TUBE ENDS
Maximum Press. 100 PSI Maximum
Temp. 350 F



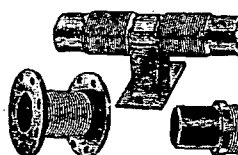
Nom. I.P.S.	Overall Length	Max. O.D.	Wt. #
3/4" 1.00"-1.125"	6.50"	1.50"	3
1.00"	6.50"	1.50"	4
1.25"	8.50"	2.00"	5
1.50"	10.50"	2.50"	8
2.00"	12.50"	3.00"	9

To Fit Copper Tubing		Overall Length	Max. O.D.	Wt. #
Nominal I.D.	Actual O.D.			
3/4"	1"	6.50"	2.00"	1 1/2
1"	1 1/4"	6.50"	2.00"	1 3/4
1 1/4"	1 3/4"	6.50"	2.00"	1 1/2
1 3/4"	2"	9.00"	2.50"	2 1/2
2"	2 1/4"	10.00"	3.00"	4 1/2
2 1/4"	2 3/4"	10.75"	3.50"	5 1/2

To Fit Copper Tubing			Overall Length	Max. O.D.	Wt. #
Normal I.D.	Actual O.D.				
¾"	¾"	4.50"	1.50"	1¼	
1"	1¼"	4.50"	1.50"	1¼	
1¼"	1¾"	4.50"	1.75"	1½	
1½"	1¾"	4.50"	2.25"	3	

EXPANSION JOINTS—VIBRATION ABSORBERS—FLEXIBLE CONNECTIONS—PIPE GUIDES

Modified Types, in addition to those described below, are available for special conditions requiring higher pressure, temperature, or combination deflections. Force Required to Compress Keflex Expansion Joints Their Full Rated Traverse is Usually Less Than 100 lbs., Total



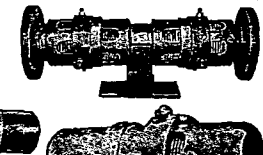
KEFLEX EXPANSION JOINTS

Corrugated, Packless Type
For Steam and Hot Water Heating Systems and Process Piping.

Laminated stainless steel bellows with internal liner guides and stainless steel contour control rings. Weld ends, or flanges. Outside shrouds and intermediate anchor bases available. Sizes 2 in. through 48 in. Pressures 70 to 450 psi. Temperatures to 800 F. Furnished for various required traverses.

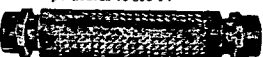


KEFLEX-MAVE TYPE M
Fabricated Steel Pipe Guides for Concentric Guiding of Pipe Lines.
Special Insulated Guides Are Available For Chilled Water.



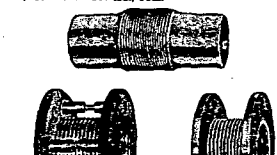
KEFLEX-KETROL CONTROLLED
EXPANSION JOINTS

Positive Protection Against Torsion. For Use In Pipe Lines To Compensate For Expansion And Contraction. Shroud has intermeshing fingers providing concentric guiding and protection against squirm, torsion, and external damage to laminated stainless steel bellows. Designed for high pressure, high temperature hot water service. Movement is controlled by limit stops. Sizes 2 in. through 48 in. Pressures to 450 psi and temperatures to 800 F.



FLEXIBLE "BMH" Connectors

Branded Bronze Metal Hose assemblies made in standard lengths. Usually used as flexible connectors on pumps and other mechanical equipment for heating and air conditioning service. Available with threaded male ends, flanges, and copper tube sweat ends.



KEFLEX FLEXIBLE CONNECTORS
AND VIBRATION ABSORBERS

To absorb vibration from pumps, chillers, and compressors. Serves to relieve stress on pump volute when piping is misaligned.

Extra flexibility of laminated stainless steel construction produces long cyclic life. Compact units save space and are easy to install. Available with or without tie rods. Sizes 2 in. through 48 in. Pressures to 450 psi and temperatures to 800 F.



"USF" BRONZE VIBRATION
ABSORBERS