

Flexonics

Division of CALUMET & HECLA, INC.

292 E. Devon Avenue

DISTRICT OFFICES

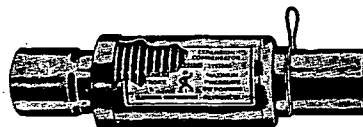
ATLANTA BOSTON CINCINNATI CLEVELAND DALLAS DENVER DETROIT KANSAS CITY
LOS ANGELES MEMPHIS MILWAUKEE NEW YORK PITTSBURGH ST. LOUIS SAN FRANCISCO
IN CANADA: FLEXONICS CORPORATION OF CANADA, LTD., BRAMPTON, ONTARIO

Bartlett, Illinois

FLEXONICS EXPANSION COMPENSATORS FOR STEAM AND HOT WATER HEATING SYSTEMS

Model L for pressure 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 -60F to 250F, and for pressures up to 60 psig. A single unit will handle motion up to 1/2 in. (1/2 in. compression, 1/2 in. extension). Sweat tubing ends are standard; female threaded adapters are available.

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 -60F to 750F. Each unit handles motion up to 2 in. (1 1/2 in. compression, 1/2 in. extension.) Engineered to outlast the piping system you install it in.

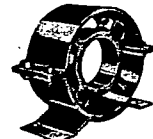


Data above are for Model H and HS Expansion Compensators. Model HB is made in same nominal sizes, for somewhat lower pressures.

FLEXONICS EXPANSION JOINTS FOR POWER AND PROCESS PIPING

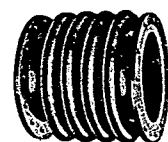
For medium and high pressure piping, Flexonics offers a complete line of corrugated expansion joints in free-flexing and controlled flexing types. Free-flexing units are available in standard sizes from 3 in. to 48 in. ID, for pressures to 30 psi, temperatures to 850F. Designed for expansion travel up 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 850F. 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.

PIPE GUIDES and SUPPORTS



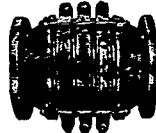
Flexonics Pipe Alignment Guides help insure long service life of expansion joints through positive guiding. Available for pipe from 3/4" to 24" nominal size. All steel construction. Spider provides insulation clearance.

Flexonics Roller Pipe Supports are designed to match the Pipe Alignment Guides in dimension from mounting surface to pipe center line, for easiest installation. All steel construction; clearance provided for full insulation; in stock for pipe sizes 3/4" to 14"; larger on special order.



Flexonics Free-Flexing Expansion Joint

Flexonics Controlled-Flexing Expansion Joint



FLEXONICS FLEXIBLE CONNECTORS

Connect pumps and compressors with Flexonics Flexible Connectors. Reduce noise by absorbing vibration; simplify installation by eliminating need for accurate alignment; protect equipment from pipeline stresses.

Manufactured from Flexonics Rex-Weld Metal Hose, in pipe sizes from 3/4" to 14", with standard lengths from 11" to 64 1/2". Standard fittings are threaded nipples, hex nipples, welding nipples, and flanges. Sizes to 4" are bronze; 5" to 14" are hot dip galvanized steel.

Pressure ratings from 75 psi (for 14" size) to 500 psi (for 3/4" size). Maximum temperature 450F.

Also other metals and other sizes on special order.



U.S. Reg. T.M.

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 1/2 in. compression, 1/2 in. extension). Dual units available. Union ends available.

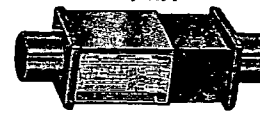
Type 11-QT. Has heavy square telescoping case and laminated stainless steel bellows. For use in risers and with baseboard radiation. Test pressure 150 psi, working pressure 100 psi, temperatures to 300 F. Traverse: Total 1 in. (3/4 in. compression, 1/4 in. extension).

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



Pat. Pend.

TYPE 7Q-T WITH COPPER TUBE ENDS
Maximum Pres. 200 PSI Maximum
Temp. 300 F



Pat. Pend.

TYPE 11Q-T WITH COPPER TUBE ENDS
Maximum Pres. 100 PSI Maximum
Temp. 300 F



Pat. Pend.

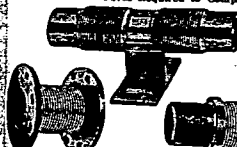
Nom. I.P.S.	Overall Length	Max. O.D.	Wt. #
1.00"-1.25"	6.50"	3.00"	2
1.50	6.50	2.50	4
2.00	6.50	3.00	5
1.50	6.50	3.50	6
3.00	6.50	4.00	9

Nominal I.D.	Actual O.D.	Overall Length	Max. O.D.	Wt. #
1/4"	1/4"	6.50"	2.00"	1 1/2
1/2"	1/2"	6.50	2.00	1 1/2
3/4"	3/4"	6.50	2.00	1 1/2
1"	1"	9.00	2.50	1 1/2
1 1/4"	1 1/4"	10.00	3.00	4 1/2
1 1/2"	1 1/2"	10.75	3.50	5 1/2
2"	2"	11.50	4.00	8 1/2

Normal I.D.	Actual O.D.	Overall Length	Max. O.D.	Wt. #
1/4"	1/4"	4.50"	1.50"	1 1/2
1/2"	1/2"	4.50	1.50	1 1/2
3/4"	3/4"	4.50	1.75	1 1/2
1"	1"	4.50	2.25	3 1/2
1 1/4"	1 1/4"	4.50	2.75	4

EXPANSION JOINTS—VIBRATION ABSORBERS—FLEXIBLE CONNECTIONS—PIPE GUIDES

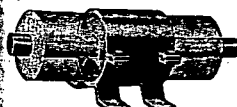
Modified Types, in addition to those described herein, are available for special conditions requiring higher pressures, temperatures, or combination deflections. Force Required to Compress Keflex Expansion Joints Their Full Rated Traverse is Usually Less Than 100 lbs., Total



KEFLEX EXPANSION JOINTS

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

Laminated stainless steel bellows with internal linear guides and stainless steel conical 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 travel.



KEFLEX-MAVE TYPE M

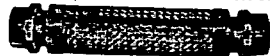
Fabricated Steel Pipe Guides for Concentric Guiding of Pipe Lines.
Special Insulated Guides Are Available For Chilled Water.



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

Braided 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