IEJ-ISOTECH EXPANSION JOINT

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File No.: ISOIN-IEJ Date: 11/23/16

ANCHORING & GUIDE ISOTECH EXPANSION JOINTS

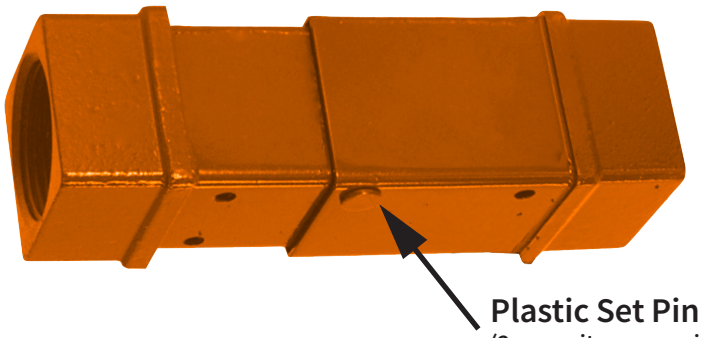
Expansion joints used in risers and radiation lines require adequate anchoring and guiding. Main anchors are necessary at the end of each straight pipe run containing a compensator, with guides installed to prevent the line from bowing, buckling or becoming misaligned because of thermal expansion or internal pressures. **Pipe hangers and rollers are not considered to be adequate as guides. Anchors should be located per the Expansion Joint Manufacturers Association (EJMA) standards, as noted on the reverse side of this sheet.** The main anchors must restrain the ends of the pipe so that all expansion is directed into the compensator. The main anchors must also withstand the end thrust force of the internal pressure, plus all other piping system loads.

Expansion joints should not be subjected to hydrostatic pressure tests beyond their rated working pressures. If a higher pressure test is required, the factory should be advised. The inside of all piping must be clean before installing and testing expansion joints. **Before the pipe lines are hydro statically tested, all anchors and pipe guides must be secured, and the plastic set pins must be removed.**

THE CONTRACTOR INSTALLING SWEAT END TYPE EXPANSION JOINTS IS ADVISED TO USE A SOFT (TIN-LEAD) SOLDER. EXCESSIVE HEAT USED TO MAKE THE SOLDER JOINT MAY HAVE A DETRIMENTAL EFFECT ON THE COMPENSATOR. THE MANUFACTURERS WARRANTY IS NULL AND VOID IF THE INSTALLING TEMPERATURE EXCEEDS 950° ON THE END FITTINGS.

The single type expansion compensator is fitted with two (2) plastic set pins that holds the bellows at an optimum installation length during shipment. The dual type expansion joints has four fasteners—two for each bellows. **After the unit has been attached to the pipes and the system properly anchored and guided, the plastic set pins must be removed**, allowing the bellows to automatically make proper allowance for expansion of the line during service (see diagram). Expansion Joints must be leak checked subsequent to installation.

Expansion joints are not designed to absorb torsional movement or stress. Subjecting a compensator to torsion of any amount may drastically affect operating life and will void the warranty.



Plastic Set Pin
(2 per unit on opposite sides compensator)

1. Leave plastic pins in place DURING installation to provide proper compression and extension movements in response to pipe thermal expansion and contraction, respectively.

2. Remove plastic pins AFTER installation is complete, but PRIOR to hydro testing.

COPPER TUBE GUIDE SPACING (Data per heating and Air Conditioning magazine, Sept. 1961)

TUBE SIZE+	4XD	14XD	Maximum Spacing for Intermediate Guides for Copper Type-M"Water Tube (feet)*		
			25 PSI	50 PSI	70 PSI
3/4"	3"	10½"	7	6	5
1"	4"	1'2"	9	8	6
1¼"	5"	1'5-½"	14	11	9
1½"	6"	1'9"	14	11	9
2"	8"	2'4"	19	14	12
2½"	10"	2'11"	23	17	15
3"	1"	3'6"	27	20	18
4"	1'4"	4'8"	31	23	21

*FOR COPPER TUPE "L" TUBING, SPACING MAY BE INCREASED BY 10%. FOR COPPER TYPE- "K" TUBING, SPACING MAY BE INCREASED BY 20%

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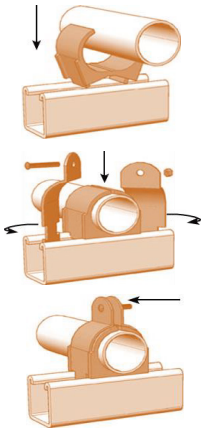
COPPER PIPE, ANCHOR AND GUIDES (CTA)



1. Anchors should be located per the Expansion Joint Manufacturers Association (EJMA) standards:

   A. At a change in direction of flow.

   B. Between two expansion joints of different sizes.

   C. At the entrance of a side branch into a main line.

   D. Where a valve is installed in a pipe run between two expansion joints.

   E. At the blind end of a pipe.

2. The anchor bracket must be mounted and secured to a solid and non-moving surface.

3. The copper anchor should be soldered to the copper tube for best results.

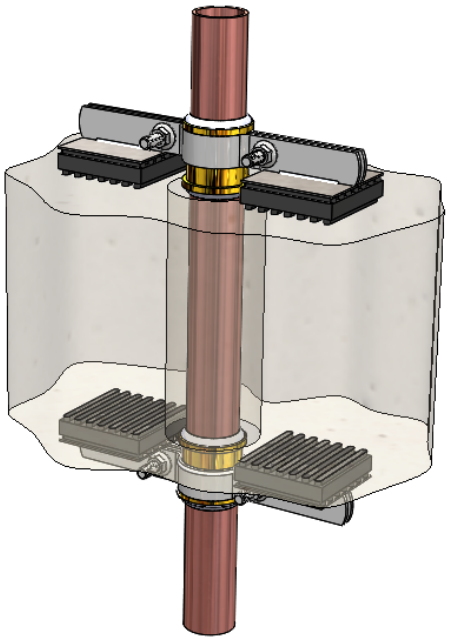


ILLUSTRATION SHOWS ANCHORS IN USE WITH COPPER PIPES

Notes:

- System design must not create torque on expansion joints. See diagram below for typical installation practices.
- Piping centerlines should be precisely aligned.
- All set pins must be removed after installation.