

EXPANSION COMPENSATORS

Expansion compensators are the perfect solution to absorb thermal expansion for smaller I.D. systems. Expansion compensators can be utilized in piping for domestic hot water, chilled water, heating water, steam and steam condensate. Expansion compensators can also be used for other equipment as indicated within the specifications, drawings and equipment schedules to compensate for thermal pipeline growth.

MATERIALS

Constructed with multi-ply Series 300 stainless steel bellows and carbon steel shroud and end fittings. Expansion compensators include an internal anti-torque device. All connections shall have ends to match the piping system.

SIZES

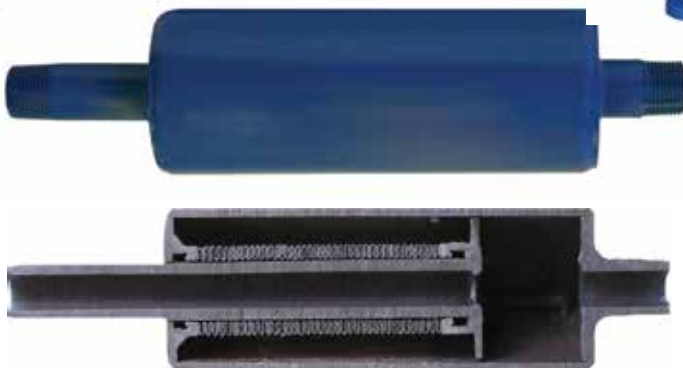
Joints have a rating of 200 PSIG working pressure and axial movements of 1 3/4" compression and 1/4" extension. Maximum temperature of 750°F. ID's 3/4" - 4"

END FITTINGS

- EXCS for copper sweat piping ends
- EXCW for welded piping ends
- EXCM for threaded piping ends
- EXCF for flanged piping ends
- EXCG for grooved piping ends

ADVANTAGES

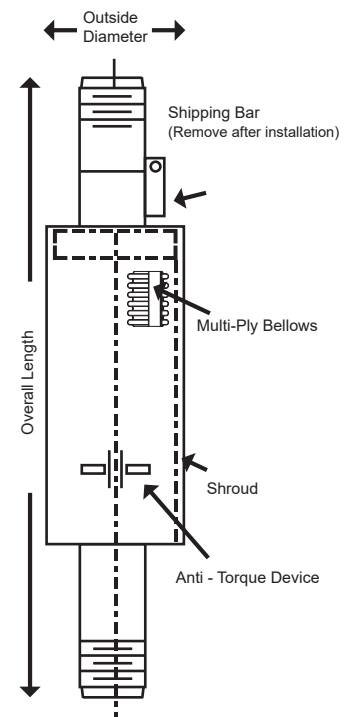
- Long life dependability
- Compact to save space
- Eliminates bellow squirm
- Requires no maintenance
- Compensates for thermal growth



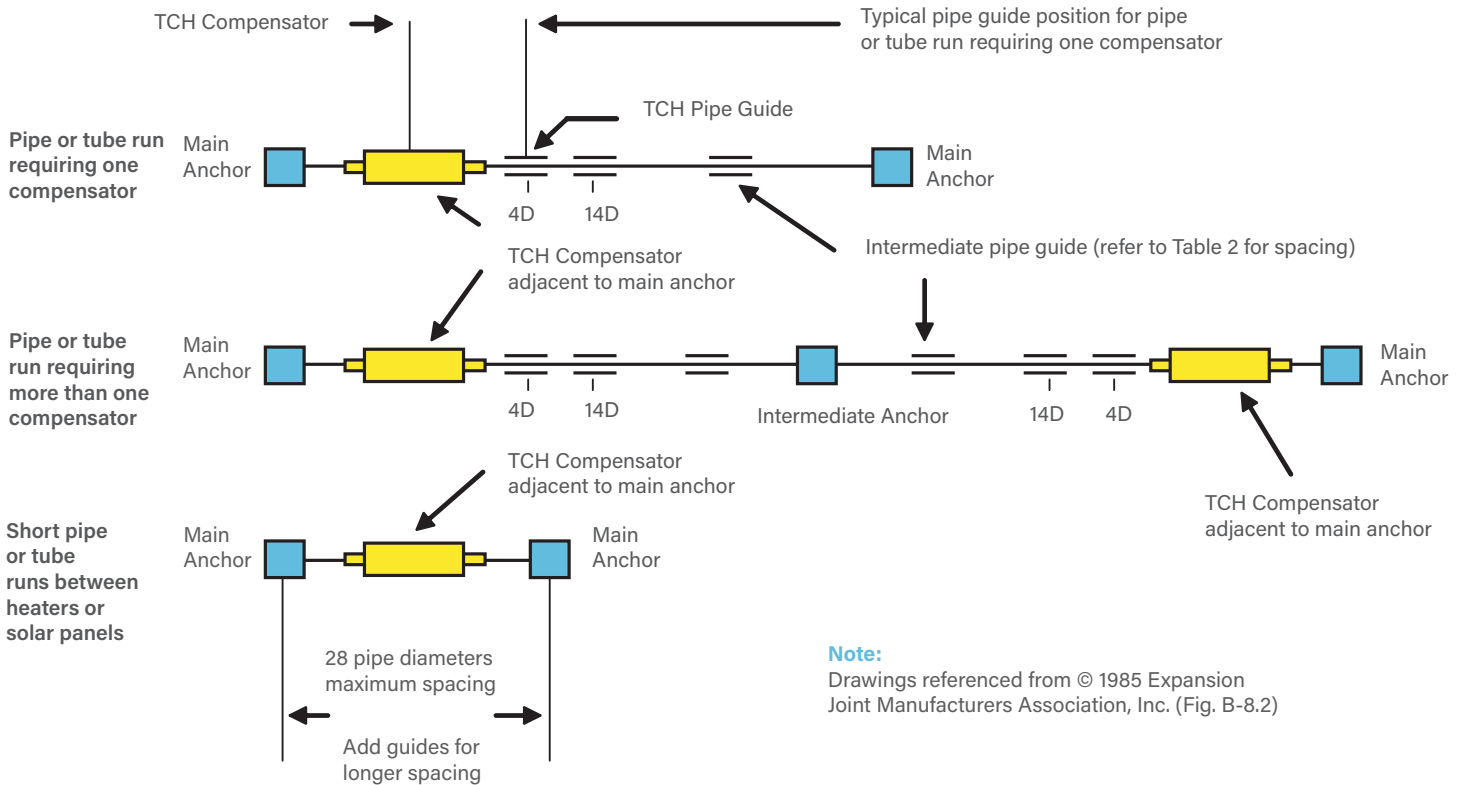
Cross Section

APPLICATIONS

- Vertical Risers
- Return and Supply Lines
- Heating and Cooling Systems
- Steam and Steam Condensate
- Heating and Chilled Water Systems



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Note:
 Drawings referenced from © 1985 Expansion Joint Manufacturers Association, Inc. (Fig. B-8.2)

TABLE 1 THERMAL EXPANSION

Linear thermal expansion of pipe and tube per 100 feet between 70°F and tabulated temperature.

Saturated Steam Pressure	Temperature		Copper Tube	Carbon Steel Pipe
	DEG F	DEG C		
Vacuum (inches of mercury)	-200	-129	-2.85	
	-150	-101	-1.81	
	-100	-73	-1.81	
	-50	-46	-1.32	-0.84
	0	-18	-0.75	-0.49
	25	-4	-0.47	-0.32
	29.7	32	0	-0.39
	29.6	50	10	-0.19
	29.2	70	21	0
	28.0	100	38	0.38
	26.0	125	52	0.66
	22.4	150	66	0.94
	16.3	175	80	1.23
	6	200	93	1.51
	0	212	100	1.65
	Pressure PSIG	4	225	1.80
5		250	2.09	1.40
31		275	2.38	1.61
52		300	2.67	1.82
82		325	2.97	2.04
120		350	3.27	2.26
150		358	3.37	2.33
169		375	3.57	2.48
232		400	3.88	2.70
300		417	4.09	2.86
311		425	4.18	2.93
407		450	4.48	3.16
525		475	4.79	3.39
666		500	5.09	3.62

TABLE 2 INTERMEDIATE PIPE SPACING

(Center to Center, Feet)

Nominal Size		Pressure (PSIG)				
		50	75	100	150	200
Model EXC-M,W,G,F Sch. 40 Carbon Steel Pipe	¾"	7.7	7.3	6.9	6.3	5.8
	1	11.9	11.0	10.3	9.2	8.4
	1 ¼"	16.3	14.7	13.5	11.7	10.5
	1 ½"	19.4	17.2	15.6	13.4	11.9
	2"	26.8	23.2	20.7	17.5	15.4
	2 ½"	31.3	27.5	24.8	21.2	18.8
	3"	38.8	33.5	29.9	25.2	22.0
	4"	47.7	40.7	36.4	30.8	27.0
	¾"	2.4	2.3	2.2	2.1	1.9
	1"	4.0	3.7	3.5	3.2	2.9
Model EXCS Copper Tubing	1 ¼"	5.7	5.2	4.9	4.3	3.0
	1 ½"	7.5	6.8	6.2	5.4	4.9
	2"	10.0	9.0	8.3	7.2	6.5
	2 ½"	13.9	12.2	10.9	9.4	8.3
	3"	16.8	14.7	13.2	11.2	9.9