

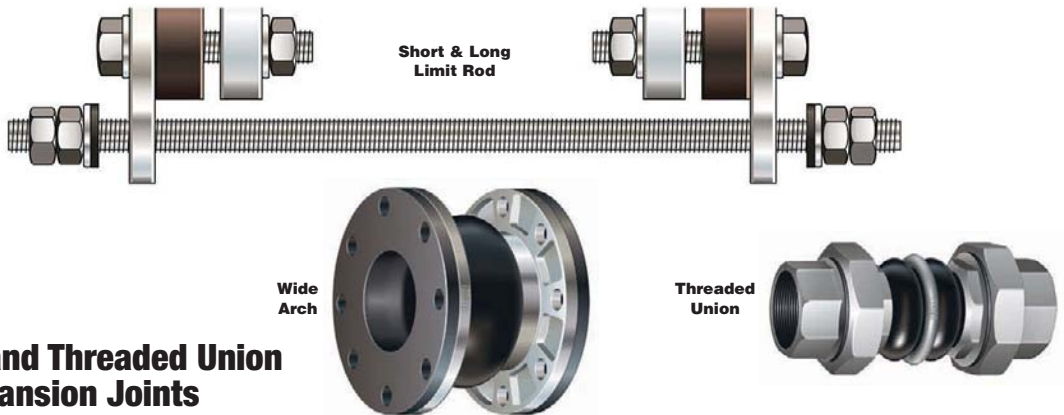
Molded Expansion Joints

- Max. pressure (Drilled): 225 psi at 72°F
- Max. pressure (Flanged): 231 psi

Flexible, nonmetallic joints absorb pipe movement/stress to reduce system noise and extend system life. Models can also absorb water pulsation and minimize water hammer. Single Sphere models help prevent piping system damage by absorbing contraction and elongation movement caused by temperature variances. The floating flanges ease installation. Double Sphere models help prevent piping system damage by absorbing greater contraction, elongation, and angular movement than single sphere models. Also act as a good electrical insulator. Corrosion-resistant plated carbon steel flanges rotate for quick installation. Neoprene connectors are tapped to ANSI 125/150 drilling. All joints are ideal for use in HVAC, petrochemical, industrial piping, power generating, marine service, pulp and paper, water and wastewater, and pollution control applications.



Pipe Size	Outside Dia.	Bolt Holes	Bolt Hole Size	Temp. Range	Vacuum	Flange Thickness (in.)	Single Sphere EPDM		Double Sphere EPDM		Single Sphere Neoprene		Double Sphere Neoprene		
							Overall Length (in.)	Item No.	Overall Length (in.)	Item No.	Overall Length (in.)	Item No.	Overall Length (in.)	Item No.	
Drilled															
1"	4 1/4"	4	1/2 in	-13	-50 to 230°F	26" Hg @ 72°F	0.55	6	1CZD9	6	1CZD2	—	—	—	—
1 1/2"	5"	4	1/2 in	-13	-50 to 230°F	26" Hg @ 72°F	0.55	6	1CZE1	6	1CZC9	7	1CZF8	7	1CZE9
2"	6"	4	5/8 in	-11	-50 to 230°F	26" Hg @ 72°F	0.63	6	1CZE2	6	1CZD1	7	1CZF9	—	—
2"	6"	4	3/4 in	-50 to 230°F	26" Hg @ 72°F	26" Hg @ 72°F	0.63	—	—	—	—	—	7	1CZF1	
2 1/2"	7"	4	5/8 in	-11	-50 to 230°F	26" Hg @ 72°F	0.71	6	1CZE3	6	1CZD3	7	1CZG1	7	1CZF2
3"	7 1/2"	4	5/8 in	-11	-50 to 230°F	26" Hg @ 72°F	0.71	6	1CZE4	6	1CZD4	7	1CZG2	7	1CZF3
4"	9"	8	5/8 in	-11	-50 to 230°F	26" Hg @ 72°F	0.71	6	1CZE5	6	1CZD5	9	1CZG3	9	1CZF4
5"	10"	8	3/4 in	-10	-50 to 230°F	26" Hg @ 72°F	0.79	6	1CZE6	6	1CZD6	9	1CZG4	9	1CZF5
6"	11"	8	3/4 in	-10	-50 to 230°F	26" Hg @ 72°F	0.87	6	1CZE7	6	1CZD7	9	1CZG5	9	1CZF6
8"	13 1/2"	8	3/4 in	-10	-50 to 230°F	26" Hg @ 72°F	0.87	6	1CZE8	6	1CZD8	13	1CZG6	13	1CZF7
Flanged															
1"	—	4	0.63 in	170°F	26" Hg @ 72°F	26" Hg @ 72°F	0.55	—	—	—	—	—	6	45RF83	
1 1/2"	—	4	0.63 in	210°F	26" Hg @ 72°F	26" Hg @ 72°F	0.55	—	—	5 in	45RF85	—	—	6	45RF84
1 1/4"	—	4	0.63 in	170°F	26" Hg @ 72°F	26" Hg @ 72°F	0.63	—	6	45RF81	—	—	—	6	45RF84
1 1/4"	—	4	0.63 in	210°F	26" Hg @ 72°F	26" Hg @ 72°F	0.63	6	45RF82	—	—	6	45RF86	—	—
10"	—	12	1 in	170°F	10" Hg @ 72°F	10" Hg @ 72°F	0.91	8	45RF77	—	—	—	—	8	45RF87
10"	—	12	1 in	210°F	10" Hg @ 72°F	10" Hg @ 72°F	0.91	8	45RF79	—	—	8	45RF89	—	—
12"	—	12	1 in	170°F	3" Hg @ 72°F	3" Hg @ 72°F	0.95	8	45RF78	—	—	—	—	8	45RF88
12"	—	12	1 in	210°F	3" Hg @ 72°F	3" Hg @ 72°F	0.95	8	45RF80	—	—	8	45RF90	—	—



Wide Arch and Threaded Union Molded Expansion Joints

Use to help reduce vibration and dampen sound transmission. Meet ANSI B16.5.

SHORT AND LONG LIMIT ROD

This assembly consists of 2 control rods (tie rods) placed across an expansion joint from flange to flange to help prevent damage caused by excessive pipe movement. Designed to only limit extension movement. Flanged connection.

Pipe Size	Outside Dia.	Bolt Holes	Bolt Hole Size	Flange Thickness	Short Limit Rod Item No.	Long Limit Rod Item No.
1 in	8 3/8 in	2	5/8 in	0.43 in	45NE92	45NF05
1 1/4 in	9 3/4 in	2	5/8 in	0.43 in	45NE93	45NF06
1 1/2 in	9 7/8 in	2	5/8 in	0.43 in	45NE94	45NF07
2 in	11 1/4 in	2	3/4 in	0.43 in	45NE95	45NF08
2 1/2 in	12 1/4 in	2	3/4 in	0.43 in	45NE96	45NF09
3 in	13 1/4 in	2	3/4 in	0.43 in	45NE97	45NF10
4 in	13 1/2 in	2	3/4 in	0.43 in	45NE98	45NF11
5 in	14 1/2 in	2	7/8 in	0.43 in	45NE99	45NF12
6 in	15 1/2 in	2	7/8 in	0.43 in	45NF01	45NF13
8 in	—	2	7/8 in	0.43 in	45NF02	45NF14
10 in	21 3/8 in	2	1 in	0.75 in	45NF03	45NF15
12 in	—	2	1 in	0.75 in	45NF04	45NF16

WIDE ARCH

- Max. pressure: 150 psi
- Temp. range (EPDM): -50° to 240°F
- Temp. range (Neoprene): -50° to 212.5°F
- Vacuum: 15" Hg at 72°F

Feature a larger arch and allow for greater movement and lower spring rate than traditional spool-type rubber expansion joints. Flanged connection.

THREADED UNION

- Max. pressure: 150 psi
- Temp. range: - 50° to 194°F
- Vacuum: 26" Hg at 72°F

Designed to absorb thermal movement, offset, and misalignment in most piping systems, and to protect piping from start-up vibration and system surges. The neoprene or EPDM body eliminates metal-to-metal contact and helps prevent electrolytic action. Tapped holes connection.

Pipe Size	Outside Dia.	Bolt Holes	Bolt Hole Size	Overall Length	Flange Thickness	Wide Arch		Threaded Union				
						EPDM Item No.	Neoprene Item No.	EPDM Item No.	Neoprene Item No.	Galvanized Item No.		
2 in	6 in	4	3/4 in	6 in	0.75 in	45NE58	45NE67	1/2 in	8 in	45NE76	45NE84	—
2 1/2 in	7 in	4	3/4 in	6 in	0.87 in	45NE59	45NE68	3/4 in	8 in	45NE77	45NE85	—
3 in	7 1/2 in	4	3/4 in	6 in	0.93 in	45NE60	45NE69	1 in	8 in	45NE78	45NE86	—
4 in	9 in	8	3/4 in	6 in	0.93 in	45NE61	45NE70	1 1/4 in	8 in	45NE79	—	45NE87
5 in	10 in	8	3/4 in	6 in	0.93 in	45NE62	45NE71	1 1/2 in	8 in	45NE80	45NE88	—
6 in	11 in	8	3/4 in	6 in	1 in	45NE63	45NE72	2 in	8 in	45NE81	45NE89	—
8 in	13 1/2 in	8	3/4 in	6 in	1.12 in	45NE64	45NE73	2 1/2 in	9.6 in	45NE82	45NE90	—
10 in	16 in	12	1 in	8 in	1.18 in	45NE65	45NE74	3 in	9.6 in	45NE83	45NE91	—
12 in	19 in	12	1 in	8 in	1.25 in	45NE66	45NE75	—	—	—	—	—