

**General:** The Metra Pak is a packed expansion joint that features a slip that moves through packing and a packing cylinder to allow repacking while in service.

**Application:** The Metraflex Metra Pak has been designed for the specific service conditions, if application differs from information on tag, please notify factory

### Precautions:

1. Pipe and Metra Pak joint must be properly aligned.
2. The packed / slip type expansion joint is designed to accommodate axial movement only. Misalignment due to improper installation or anchor or guide failure can result in joint leakage due to uneven packing wear, slip damage or slip binding. Proper attention paid to installation and operating procedure will assure a long trouble-free life.
3. Protect the slip at all times. A smooth slip is essential to prevent leakage
4. Joint must be installed with the packing cylinders accessible

**Startup Packing Adjustment:** When the expansion joints are packed at the factory, the packing is pressed into the stuffing box under cold conditions. Most packings will compress further under heat. Therefore it is imperative, if there is any leakage, that additional packing be injected right away until the leaks stop.

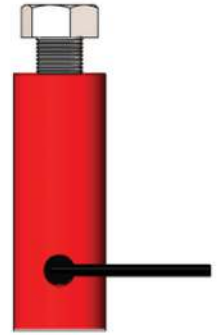
Newly installed packed joints should closely monitored for leaks

### Packing Injection:

During normal operation, the shut off valve should be in the off position, with the pin handed perpendicular to the packing cylinder. Confirm that the shut off valve is in the closed position. Remove the packing bolt from the packing cylinder. Insert the packing plug into the packing cylinder. Reinstall the packing bolt until it is snug against the packing plug. Open the shut off valve and continue to tighten the packing bolt until it bottoms out. Turn off the shut off valve.

### Maintenance

1. Slip Maintenance – The slip has a hard, corrosion resistant, highly polished surface which slides through the packing. To extend the life of the slip, the slip should be cleaned periodically. Remove any residue or dirt from the slip. Care must be taken to not scratch the or score the slip.
2. Leak Monitoring – It is very important that any leakage through the packing be stopped immediately. If the leak is allowed to continue it may cut channels through both the packing and the slip, possibly requiring the slip and packing to need to be replaced.
3. Inspection – alignment guides, pipe supports, anchors and the expansion joint itself should be inspected annually for proper operation. It is also suggested that the expansion joint be inspected during shut down and start up cycle.



SHUT OFF VALVE  
OFF POSITION



SHUT OFF VALVE  
OPEN POSITION

Nominal Size (NPS)	First Guide Spacing (feet)(1)	Intermediate Guide Spacing (feet)(2)					Support Spacing(3)	
		100 psig	150 psig	200 psig	300 psig	400 psig	Water (feet)	Gas (feet)
2	2	12	11	11	10	9	10	13
2 1/2	2 1/2	16	15	14	13	12	11	14
3	3	20	18	17	15	14	12	15
4	4	25	23	21	19	17	14	17
5	5	31	28	26	23	20	16	18
6	6	37	34	31	27	24	17	21
8	8	49	43	39	34	30	19	24
10	10	61	53	48	41	36	22	27
12	12	70	61	54	46	41	23	30
14	14	74	64	57	49	43	25	32
16	16	81	70	62	53	46	27	35
18	18	88	75	67	56	50	28	37
20	20	94	80	71	60	53	30	39
24	24	105	90	79	66	58	32	42
1	2	3	4	5	6	7	8	9

