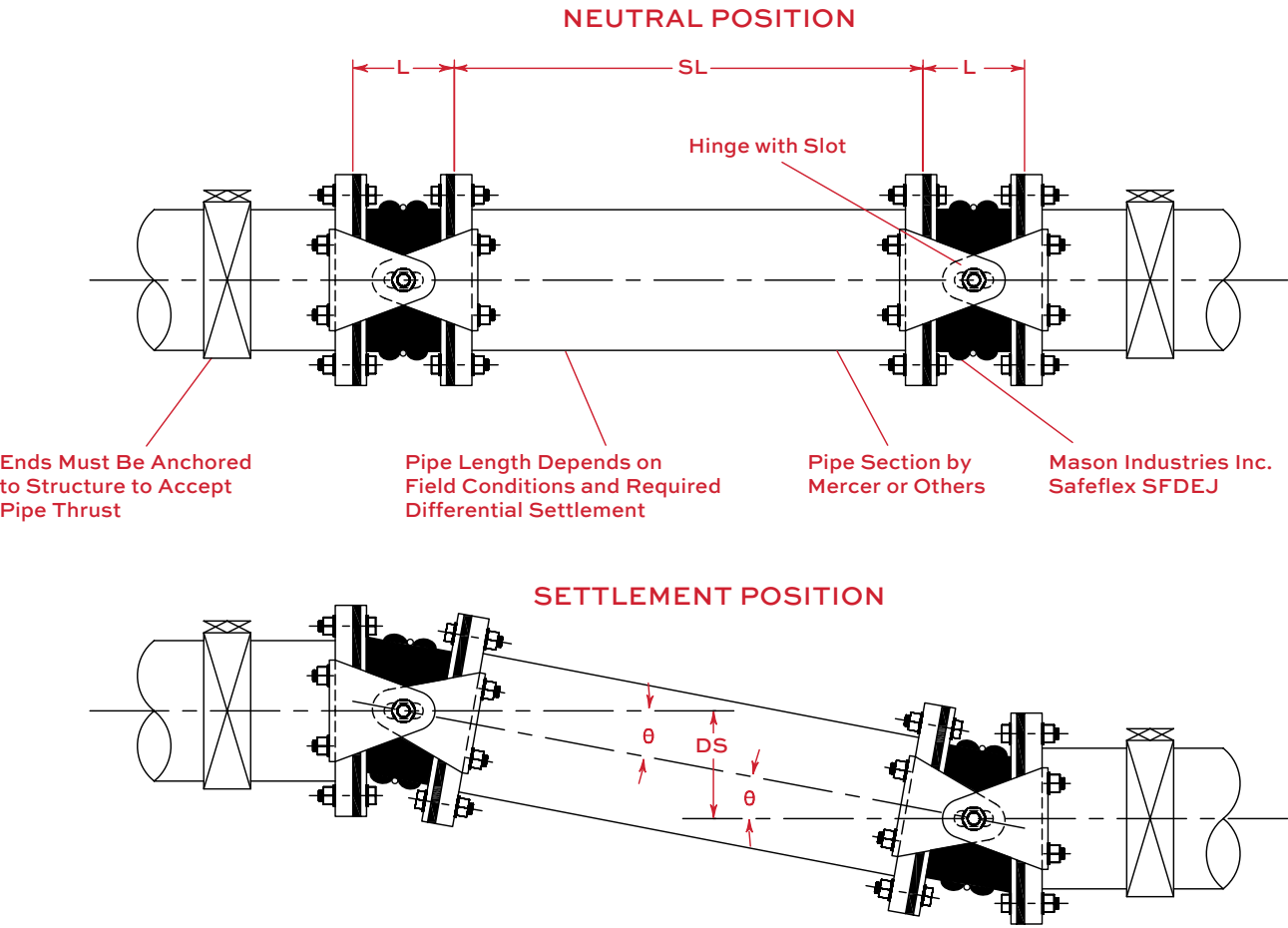


# SAFEFLEX SFDEJ-HE HINGED EXPANSION JOINTS



## CALCULATIONS

The minimum spool length ( $SL$ ) based on a specified differential settlement ( $DS$ ) would be:

$$SL = \left( \frac{DS}{\tan \theta} \right) - L$$

Example:

For a required  $DS$  of 12" on a 10" pipe line:  $DS = 12"$ ,  $L = 8"$ ,  $\tan \theta = .23$

$$SL = \left( \frac{12"}{.23} \right) - 8" = 52.2" - 8" = 44.2"$$

The allowable differential settlement based on a given spool length would be:

$$DS = (SL + L) \tan \theta$$

Example:

For a spool length of 24" on a 4" pipe line:  $SL = 24"$ ,  $L = 7"$ ,  $\tan \theta = .55$

$$DS = (24" + 7") .55 = (31") .55 = 17.1"$$

Check with factory to verify calculations, generally maximum differential settlement not to exceed 12".

## SAFEFLEX SFDEJ-HE

Pipe Size (in)	Allowable Angular $\theta$ Displacement	Tan $\theta$	Length L (in)
1 1/2	30°	0.58	7
2	30°	0.58	7
2 1/2	30°	0.58	7
3	30°	0.58	7
4	29°	0.55	7
5	24°	0.45	7
6	20°	0.36	7
8	15°	0.27	8
10	13°	0.23	8
12	11°	0.19	8
14	10°	0.18	10

The hinged configuration may be used with Mercer Series 450 and 500 expansion joints as well. Contact Mercer for more information.

## SPECIFICATION

Offset shall be accomplished by the angular motion of a double sphere expansion joint bolted to each end of an intermediate steel pipe. Bracket each expansion joint with hinged steel connections. Hinges shall have a pin in a slot on both sides.

The piping on each end of the assembly must be securely anchored to accept a thrust of 1.5 times the operating pressure multiplied by the projected area of the pipe.

Specifications for the expansion joints shall be as Mason Industries Safeflex **SFDEJ**. The complete hinged assembly shall be Safeflex **SFDEJ-HE** as manufactured by Mason Industries Inc.