

Calculation of the Axial compensator

Initial data

L 50 m	Pipeline length	90 °C	Maximum temperature
DN 80 mm	Nominal diameter	15 °C	Minimum temperature
Steel	Pipe material	PN 6 bar	Nominal pressure

Calculation results

0.013 [Steel]

Coefficient of linear thermal expansion

$$0.013 * 50 [m] * (90 - 15) [°C] = 49 [mm]$$

Calculated thermal elongation of the pipeline section

$$49 [mm] / 40 [mm] = 2 [pcs]$$

Required number of compensators with compensating ability:
40 [mm]

15 °C => 50.000 m



90 °C => 50.049 m



6.1 m Maximum span calculated based on deflection

4.0 m Recommended span between movable supports on a straight section

2.7 m Recommended span for sections before and after a turn and between supports closest to the turn

2.0 m Recommended span for the last two sections on each side of an axial compensator

