Natural gas flow calculation #1 – Pressure drop

Task: Calculate the pressure drop generated by the natural gas at a flow rate of 200 Sm3/h through a pipe with nominal diameter of 2 inch and a length of 200 m. The gas temperature is 5 OC, the surface roughness of the pipeline is 0.02 mm. Along the pipeline are 5 elbows R=1.5D, 90O. Pressure on the pipeline start is 2 bar gauge.

Solution: Pressure drop is: 59.6 mbar