Natural gas flow calculation #2 – Maximum flow rate

Task: Calculate the maximum natural gas flow through a pipe with nominal diameter of 3/4 inch and a length of 200 m. The available pressure from pipeline from which the pipeline starts is 500 mbar gauge. Pipeline is connected with the gas train that requires 200 mbar gauge pressure for operation. The internal roughness of the pipe surface is 0.01 mm. The pipeline has 6 pipe elbows 90 degrees and a radius of 1.5 D. The natural gas temperature is 15 OC.

Solution: Flow rate is: 27 Sm3/h