Pressure loss in pipe

Flowing media in pipes causes pressure loss, and energy loss with the piping system. the inportant factor for the calculation of the extent of the pressure loss in a piping system are as follows:

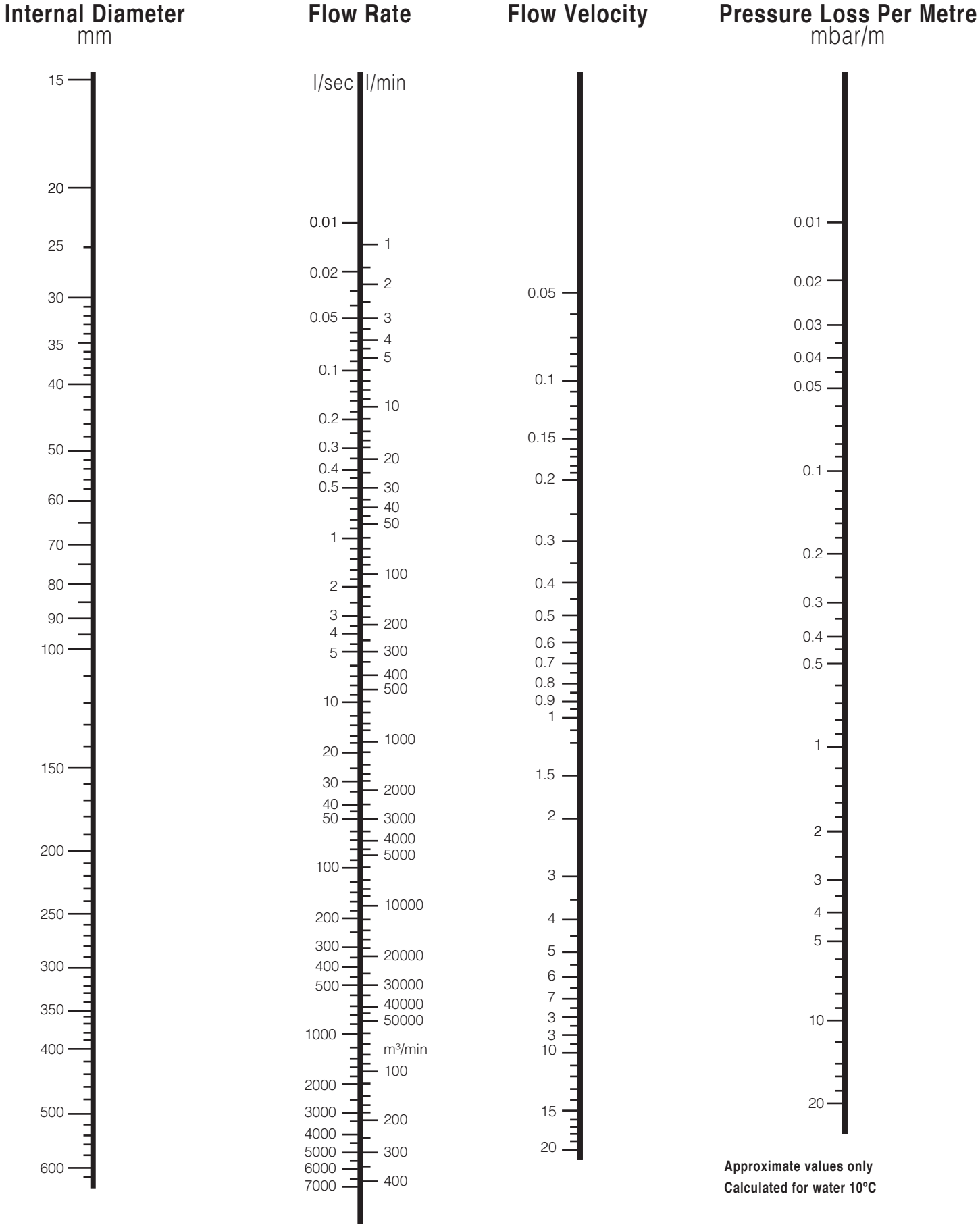
- pile length
- pipe cross section area
- roughness of the pipe surface
- the gromentry of fittings and joints
- the viscosity and density of the following medium

The total pressure loss in a piping system is the result of the sum of all the individual pressure losses above. By using
simple calculation methods, it is possible to quite accurately forcast the total system pressure loss. However, it is usually necessary only to approximate this value using the flow nomogram on the followiny page.

To calculate pressure drope using the flow nomogram:

1. Note the internal diameter in millimeters of the pipe being considered.
2. Mark this deameter on the scale headed “internal Diameter”
3. Mark the required flow rate in litres per second on the scale headed “Flow Rate”
4. Draw a straight line to connect these two points and exend this through the next two scales.
5. The velocity of flow in meters per second can be read at the point where the line intersects the scale headed “Flow Velocity”
6. The frictional pressure drop in mbar per metre can be read at the point where the line intersects the scale headed “pressure Loss Per Metre”

Flow Nomogram



Approximate values only
Calculated for water 10°C